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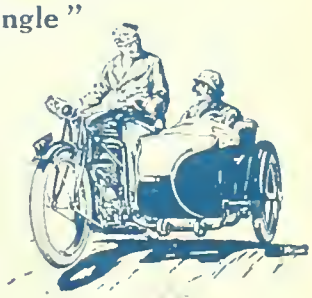
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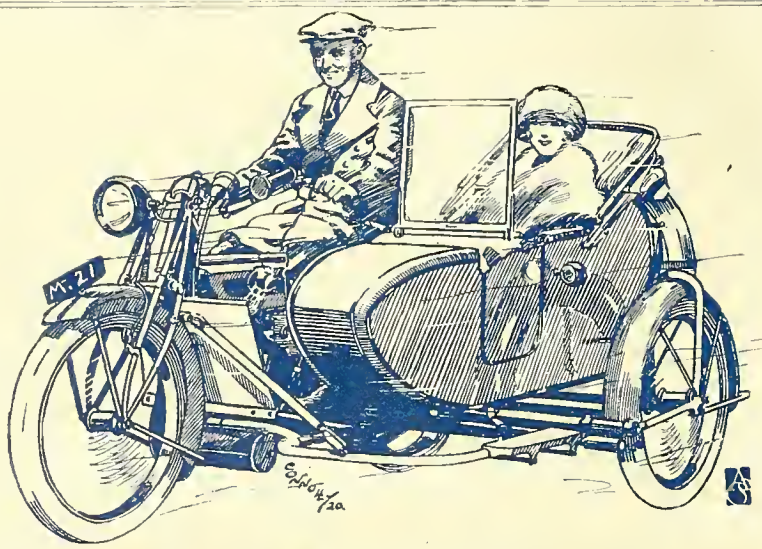
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The A.C.U. and the Cycle Car.

AS recorded in our issue for December 23rd a movement is afoot to transfer the cycle car once again to the control of the Auto Cycle Union. It will be recalled that prior to the war the cycle car type of vehicle was under the wing of the motor cycle body, but, owing to the lack of proper definition, the type developed into the light car, and so brought about the post-war decision to make a clean cut between cars and motor cycles, by making the deciding factor the number of wheels. This, it has been proved, was a little too sweeping, and the last car shows revealed the absurdity of terming a four-wheeled motor cycle a car, and so giving its manufacturer no option but to exhibit his miniature air-cooled four-wheeler with the cars; while three-wheeled cars were staged at the motor cycle exhibition.

Further, there is the question of taxation, which compels the owner of a buckboard to pay on the £1 per horse-power rate, while three-wheeled cars up to 8 cwt. are only subject to a flat rate tax equal to that on a motor cycle with sidecar.

Again, since the R.A.C. has had control of the four-wheeled cycle cars, *it has done nothing to encourage their development*, and, if the truth be admitted, a body interested in vehicles which cost from £500 to £5,000 cannot be expected to be enthusiastic concerning a type which is to all intents and purposes a rearranged motor cycle.

The R.A.C. and Cycle Cars.

That the cycle car as a type deserves encouragement is patent to motor cyclists: that it needs developing carefully is equally plain. In the hands of the R.A.C. it is expected to compete on level terms with fully developed cars; with the A.C.U. as its sponsors it could be developed side by side with the class of machine with which it is intended to compete, *e.g.*, the sidecar.

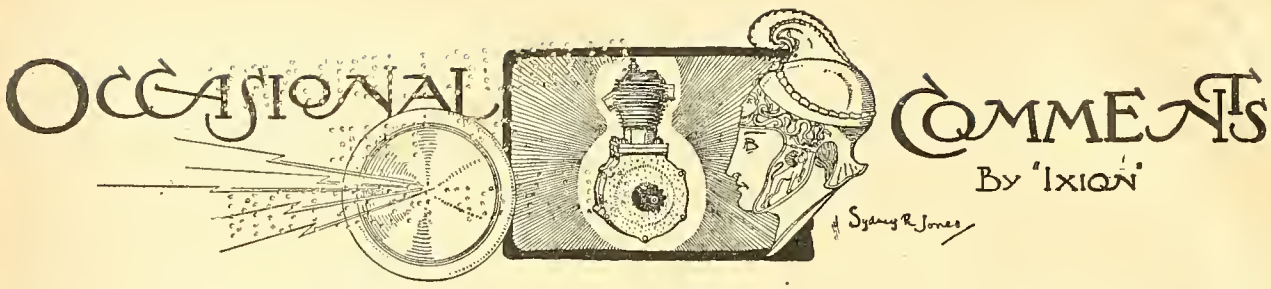
To justify their existence, small light four-wheelers must prove themselves to be at least the equal, on the score of economy and reliability, of modern sidecar machines and three-wheeled runabouts. For cycle cars to compete among themselves would prove nothing to the prospective buyers they are intended to satisfy; the only way to prove their capabilities is to allow them to compete side by side with all types of economical passenger machines. Whether three, four, or six wheels are used does not matter so long as "costs"—first cost and running costs—represent the governing factor.

In some of the earlier Six Days Trials, notably in 1913, for instance, great interest was aroused by the inclusion of a cycle car class; the performances of the few which were then able to enter were decidedly informative, and, provided that proper limitations as to type were fixed, the makers of genuine go-anywhere light four-wheelers would have better scope in the A.C.U. trials for a convincing public demonstration of their machines than they have at present under R.A.C. control.

A Proper Definition Wanted.

Everything considered, there appears every reason why the Auto Cycle Union should have the control of cycle cars *provided a proper definition is arrived at*. It is our firm opinion that weight must be one important factor, and since three-wheeled cycle cars are limited for taxation purposes to 8 cwt. unladen, this weight would provide a convenient line of demarcation. In addition, it would be necessary to limit engine capacity, and in this connection 1,100 c.c. seems to meet all requirements when applied in conjunction with a weight limit. Incidentally, this practically lines up with the definition of the International Federation of Motor Cycle Clubs, of which the A.C.U. is a member, the F.I.C.M. definition including 350 kilogrammes, or 770 lb., and 1,100 c.c. engine capacity. Abroad, cycle cars conforming to these two limits are taxed as motor cycles, and who knows but that with the cycle car again accepted as an alternative to the motor cycle our own revenue authorities will not take the same commonsense view?

An Index to the advertisements in this issue will be found on the page facing the back cover.



Prospects for 1921.

IN spite of the tightness of money and slack trade all round, 1921 promises to be a great year for motor cycles. Trade may recover sufficiently by the summer to restore the prospect of considerable purchases by the better paid artisans, especially by the young bachelors among them. Whether that happens or not, lots of people who intended to buy cars cannot afford to do so in these days of heavy taxation, and thousands of owners will step down from the car-owning class into our ranks. I quite expect that the motor car industry is in for a poorish time; but I hope for something approaching a boom year in the motor cycle industry.

Develop the Cycle Car.

IT follows that the cycle car has a unique opening. In 1914 the cycle car was outflanked on one wing by the motor cycle and on the other by the light car. When you could buy a sidecar *de luxe* for £125 and a 10 h.p. water-cooled four-cylinder car for £175, the cycle car had no room to develop. In 1920 a big outfit cost rather over £200, and a light car was listed at £500 or so. This gap left the cycle car a range of £300 in which to spread itself. The G.N. and the Morgan were about the only cycle cars which were ready. The R.A.C. and the A.C.U.—controlling four and three-wheeled cycle cars respectively—could do nothing much to develop or advertise either type, for the simple reason that the trade could not furnish entries for any trial which might have been held. So the public adopted a somewhat cynical and sceptical attitude towards all new cycle cars. 1921 ought to see a really colossal trial of cycle cars. The London-Exeter is symptomatic. It attracted over thirty cycle car entries, although the New Hudson three-wheelers and other newcomers were not ready for it. Now if I were seeking to market a new cycle car, I should rather funk the Exeter run. It is a stunt which tests the driver enormously, and allows his shortcomings (if any) to overshadow the intrinsic excellence of a machine. If a trial so unattractive to a wise sales manager, held before the season has commenced, and before the factory has got into its stride, can draw thirty odd entries, how many can we reckon upon for a rationally organised cycle car Six Days next summer? Let us hope that the R.A.C. and A.C.U. will agree together to render such an event possible.

A Muggy Christmas.

I LEARN from a thoroughly sodden colleague that the London-Exeter men experienced a sloppy trip once again. For myself I spent what the locals call a "whisht" Christmas. In lieu of the iron earth and frost-bediamonded hedges which figure on Christmas cards, the temperature out of doors was about equal to that of an air-cooled cylinder at 500 r.p.m. Rain fell steadily, and the walls of the house streamed with moisture inside and out. In lieu of the historic Yule fare our mournful party sat down to stewed rabbit and barley-water. Why, do you ask? Have I had the sack? Not yet. I am saving up to pay the licence duty on my stud of motor cycles. That is why I call it a muggy Christmas. We are mugs to let the bureaucrats wipe their feet on us. [Please excuse "Ixion." We happen to know he has seized up his gear box through forgetting to oil it; and he is always peevish when he has done something silly.—ED.]

Steady Prices.

THE fact that prices are becoming stabilised will help the trade more than anything else; a *steady* price is every bit as desirable as a *low* price. The other day I went out to lunch. *En route* I stopped at a garage to buy petrol, and congratulated the proprietor that his stock was so small, illustrating as a contrast the sixteen obsolete cars which I had seen in another garage, all taken in part payment for 1920 cars, and all practically unsaleable except as "junk." The proprietor pulled a wry face. "Yes, that new 1920 sidecar outfit is all I have in; but I've dropped £18 on her already, for her retail price was reduced at the Show to less than I paid for her wholesale." I arrived at my host's for lunch to find him the unhappy owner of two small cars, the prices of which had been reduced £55 and £125 respectively since he bought them. That sort of thing is just about over now, thank goodness. It makes people hesitate to buy, it engenders colossal depreciations, and it breeds bad blood all round. Announcements like the G.N.—"Our price cannot be reduced, and will not be reduced"—make for all-round confidence in trading.

Lubrication Again.

I AM glad to have the support of such an authority as Mr. Batten in my complaints about most of the current lubrication systems. Expert motor cyclists are undoubtedly quite content with the drip feed and the hand pump. But the experts hardly number more than 500 or so, and there are considerably over 100,000 motor cyclists. The vast majority hate the eternal fiddling which any rider-controlled system of lubrication implies. Such systems are tiresome enough on a single; they want attention whenever the load varies—15 m.p.h. through a town, 45 m.p.h. along a flat straight, 20 m.p.h. over a twisting road under trees, 30 m.p.h. up a steep grade—every

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

change of circumstance calls for a variation of the oil control. The setting which is right when you start out with a cold tank may be wrong when the 'bus has warmed up a bit. The setting which is right with one grade of oil is wrong with another grade. The setting which is correct in the blaze of the noon-day sun is false when night brings down the frost. On a twin-cylinder matters are even worse. In, perhaps, a majority of such engines the oiling is always unequal, as between the cylinders; a slight error of judgment in either direction leads to sooting up the plug of the lucky cylinder, or starving the piston of the unlucky cylinder. Most motor cyclists are "eternally fiddling" with their oil supply, and hate the job. All car owners dismiss the lubrication from their mind for the rest of the day, after they have once verified the supply prior to starting out.

Hope for the Future.

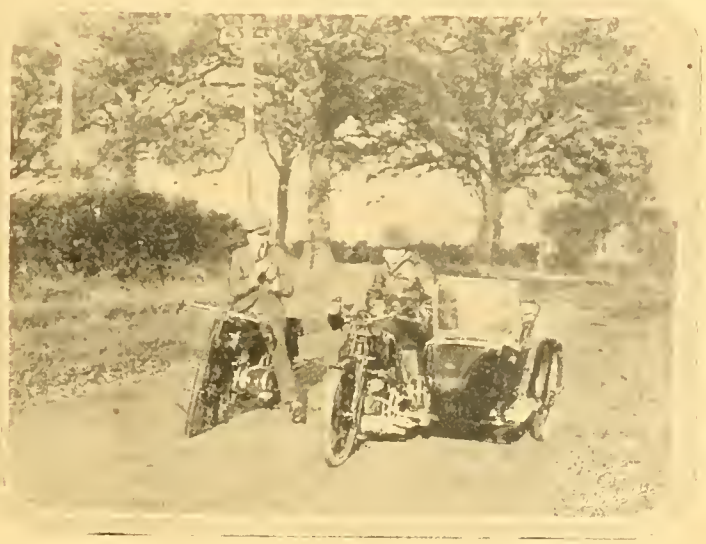
UNTIL quite recently it was certainly impossible for designers to offer motor cyclists an out-of-sight and out-of-mind oiling system, for engines wouldn't stand it. Phosphor bronze bushes—and those on the small side, especially where the big ends of twins were concerned—tended to get too hot. Pistons and cylinders of pre-war design were often subject to appreciable distortion. Successful firms hesitated to face the risk and expense of altering a saleable model. Floods of cold oil were useful in camouflaging several crudities of design, and in obtaining good results from cheap methods of manufacture.

Then the aero engine taught us how to reduce the possibilities of distortion. Ball and roller bearings came into more extended use. When I first tried the original 3 h.p. A.B.C. experimental machine, I put the point to Mr. Bradshaw. He agreed in principle, and promised to fit sump oiling, sufficient for a month's riding. He has never confessed why he changed his mind, and finally adopted the drip on his first post-war machine. But the Zenith stand at Olympia showed that he has been reconverted. In pre-war days "oil-cooling" was a term of reproach; if Mr. Bradshaw succeeds in his campaign for exalting it into a merit instead of a crime, hand-controlled oiling will die. In the meantime I denounce it from the standpoint of practical convenience.

An Object Lesson.

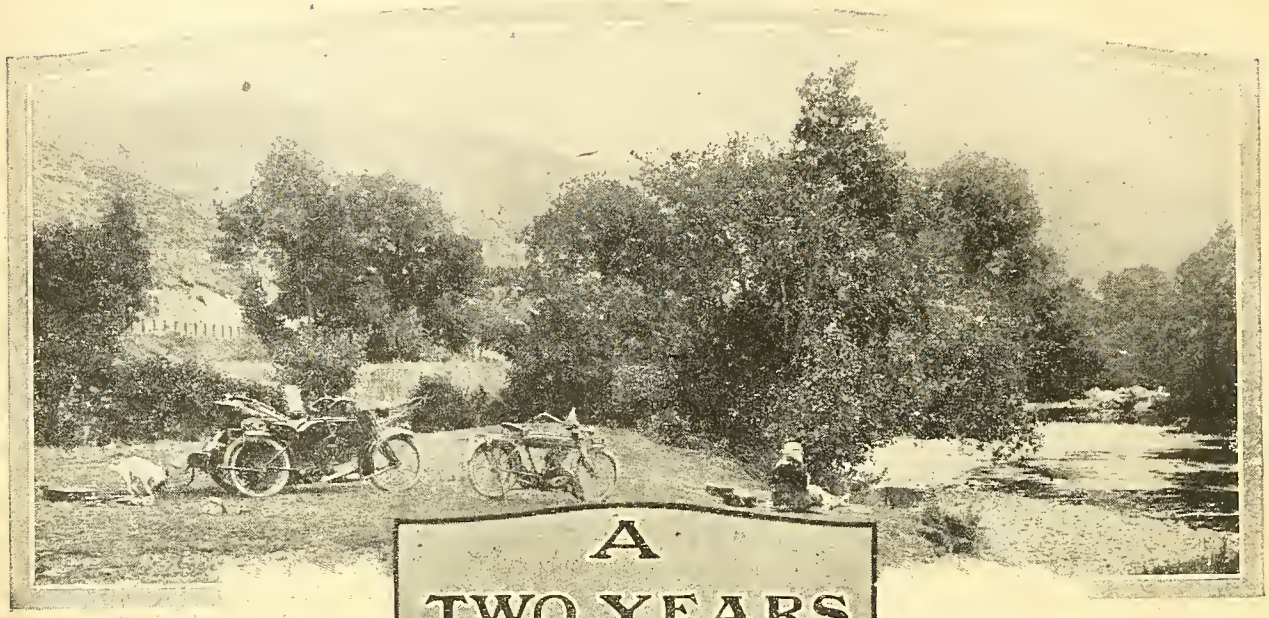
NOT long ago, on a very cold and frosty night, I was driving one of the few twin-cylinders which is fitted with a separate drip for each cylinder. It was bitterly cold, and I had arrayed myself in seven changes of raiment, and toasted myself brown before a great fire ere I started out. I had previously run the engine free in my garage, and adjusted the oil feeds perfectly. Within five miles a plug oiled up. It was pitch dark and I had no inspection lamp. I hastily put in a clean plug, which oiled up some five miles further on. Having no other spare, I was now compelled to clean one of the dirty plugs, and eke to identify the cause of my troubles. Not being a novice I was able to achieve this task fairly rapidly, in spite of the darkness; and in ten minutes I was on my way again. A novice would never have reached his destination under the circumstances. But it is humiliating to reflect that such a *contretemps* could not possibly befall any car on the road, except as the result of piston ring trouble, which is naturally very uncommon.





NATURE'S TRANSFORMATION SCENES.

A study in contrasts. The lower picture depicts a Brough rider and the driver of a big Rex outfit on the road at the beginning of December. The former wears no coat, and both enjoy the sunshine amid the autumn leaves. Then comes the December snow, changing dark greens and browns to white, and, as shown in the upper picture, the sidecar driver hurries on his way.



A TWO YEARS TEST

Over 10,000 Miles without a Roadside Adjustment. Experiences with Two A.J.S. Outfits in England, Scotland and Wales.

TWO years ownership of anything, whether the object be animate or inanimate, enables one to form a pretty accurate conception of its good and bad points. To the man who has ridden motor cycles for fifteen years or more, two months would be more than ample time in which to detect evil points in design or manufacture; and bad design and material in motor cycles are abominations indeed. So to find the same make of machine in the garage after twenty-four months of motor cycling is a sufficient indication of the high esteem in which I now hold this particular motor cycle.

Taking Over.

On a biting cold day in the early part of 1919 delivery was taken of one of the first A.J.S. outfits installed with the Magdyno lighting and ignition, and a rough ride home from the makers in the darkness of a late winter's night was a foretaste of the most pleasurable two years' riding I have ever experienced.

The outstanding feature of the A.J.S., without doubt, is its absolute reliability. On starting out I can always depend that my journey will be completed without a mechanical stoppage of any description. Tyre troubles are inevitable, but I have been singularly immune, taking into consideration the fact that a spare wheel is not carried. My contention is that, as the wheels are so easily detachable, it is unnecessary to carry a spare wheel for thousands of miles on the off-chance of requiring it once or twice. If a spare wheel is utilised, the puncture must eventually be repaired; and it is a peculiar but recognised fact that punctures often come in batches. A spare tube is always carried, and can be inserted in practically the same time that it takes to change a wheel. Seven years' experience with detachable wheels fully confirms my views, however unusual they may be considered.

The smooth running A.J.S. is exceedingly light on tyres, and 3,000-4,000 is the average mileage obtained on the back cover.

Up to the time of writing not a single puncture has occurred during the 5,600 miles covered this year, and only one was experienced last year, although 7,000 miles were registered.

A noticeable feature is that the tread of all the covers wears evenly on the centre, proving the perfect alignment of the sidecar.

We frequently hear of a rider becoming so attached to a particular machine that he keeps it several seasons. But the craving to test new productions always prevented me from becoming obsessed with the merits of one make of machine. There is always a temptation, however, when the time comes, to select the mount for the coming year to "have a change," no matter how well the past machine may have behaved. Although the 1919 A.J.S. served me as no other machine had done, there was a sneaking desire to try out another make. But, even so, I once more found myself with the familiar black and gold outfit, and I willingly admit the year's riding has amply justified the decision.

A Heavy Haul.

The later model is only different in one or two minor details, but the engine is more powerful, is a magnificent climber, and will haul a good load up a stiff gradient on top gear in a way no 8 h.p. engine I have previously possessed would do. Considering the cubic capacity of the engine is 749 c.c. only, this must point to exceptional efficiency.

To illustrate the power of this machine, the following incident that occurred during the summer may be related. On one excursion we had occasion to descend the Sychnant Pass, near Conway, and noticed a coupé

A Two Years' Test.—

light car stranded on the roadside about half-way up the hill. Returning three hours later, it was still there, and we pulled up to see if any assistance was required. It transpired that the trouble was such that could only be remedied in a garage. Though the owner had appealed to several passing motorists, he had been unable to obtain assistance to get him into Conway.

An offer to make the attempt was eagerly accepted, but there were grave doubts in my mind as to the ability of a 5-6 h.p. sidecar to haul a car up this stiff gradient. A rope was procured, and, to my surprise, the machine started off apparently without an effort, and completed the task into Conway. The engine showed no signs of over-heating, and the incident gives a good indication of the power developed.

Springing and general finish of the sidecar are good, and there are none of the annoying rattles and noises so often heard when one strikes a pot-hole. A point which generally attracts attention is the mud-guarding, and in practice it is specially efficient.

On the 1920 model a single-lever Amac carburetter was fitted, and it seems to suit the engine very well. The consumption has not been less than 50 m.p.g., but with the class of spirit we get in these days it may be considered a fair average. With this carburetter the engine will just tick over, and gives an increase in speed throughout the whole range of the throttle opening, the acceleration being remarkably rapid. It appears to be very sensitive to impurities in the petrol, and the presence of a trace of water in the carburetter has a choking effect. The cleaning out of the filter and carburetter at once removes the trouble.



SIDECARING IN ENGLAND, SCOTLAND, AND WALES.

(1) The roof of Central Wales—the A.J.S. on the mountain road near Berwyn mountain.

(2) On the banks of a famous salmon river—the Tweed.

(3) The heights of Malvern, overlooking the great plain of England.

No matter how silent an engine is when new, tappet and other noises often develop after a few thousand miles' running. Not so with the A.J.S. It is as quiet and sweet running as when first delivered; and it is noted as a silent machine. The wheel bearings, too, bave stood up to their work splendidly. I usually expect the front wheel bearings to go, sooner or later, owing to the side thrust, but no trouble has arisen on either machine, and, speaking from memory, they were only adjusted once.

The gear box and clutch have required no attention, the gear change being silent, and the clutch smooth.

A word regarding the Lucas Magdyno lighting set, with which both these machines were fitted, is necessary in justice to the manufacturers. For two years of constant use, under varying conditions, this lighting set has given unbounded satisfaction—on no occasion has it failed or caused a moment's anxiety. Several night rides in torrents of rain have been undertaken, but neither the lighting nor ignition apparatus has

A Two Years' Test.—

suffered in the least degree, an excellent testimonial to the weatherproof qualities of the Magdyno, and the effective insulation of the various leads to the accumulators and lamps.

After nine months' use the plates in the accumulator appear to be in finer condition than any that I have ever had in use for a similar period.

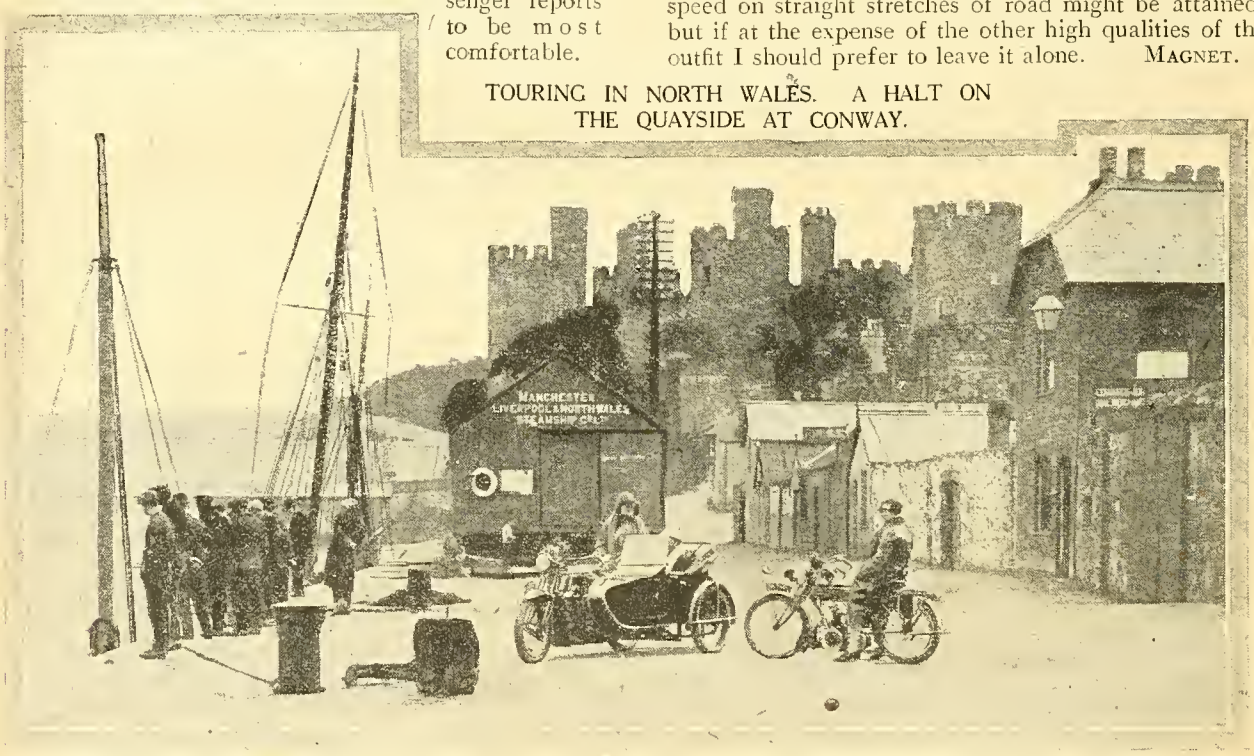
The amount of distilled water necessary to make up for loss by evaporation was only about a teaspoonful in each cell, and the top of the accumulator was perfectly dry, there being no loss of acid by spilling. This is rather remarkable when one considers the amount of vibration encountered owing to the present state of some of the roads. At the same time it speaks well for the design of the accumulator, and also for the springing of the sidecar, which the regular passenger reports to be most comfortable.

It will be noted from the illustrations that the head lamp is carried on the fork and not on the handle-bar. Here again theory had been proved wrong, and the makers of the machine assured me that the lamp filament would not stand the vibration. During the two years with the Lucas and four years' previous experience with another make, no breakage of filament has occurred when the lamps have been carried in this position.

In conclusion, no machines have given less trouble than these two A.J.S. outfits. After an extensive use of any particular machine it is usually possible to find some points where improvements might be suggested, but with the exception of a desire for slightly higher h.p. and consequently higher gear, I fail to find any point I could criticise.

With a larger engine on long journeys a higher speed on straight stretches of road might be attained, but if at the expense of the other high qualities of the outfit I should prefer to leave it alone. MAGNET.

TOURING IN NORTH WALES. A HALT ON THE QUAYSIDE AT CONWAY.



MIDWAY STANDS: Some of their Advantages and Disadvantages.

THOUGH there is a good deal to be said in favour of midway stands, this position, nevertheless, has its drawbacks, chief among which is that it is difficult to bring into operation. One of my mounts is fitted with a stand placed just abaft the crank case, and, with the machine resting upon it, the rear wheel is clear of the ground, while the front wheel rests almost unloaded, *i.e.*, the stand practically supports the entire weight of the machine; while the average rear wheel stand supports rather over half the weight of the machine. Note, then, that in hoisting a motor cycle on to a midway stand, one is wrestling with a much greater dead weight than if the stand occupies the usual position.

Another disadvantage of the midway stand is that it is awkward to get at—that is, if it be of the spring-up variety. One has to reach forward with one foot in order to scotch the stand, which is a most uncomfortable and unnatural position when, at the same time, a physical effort is required to hoist the machine backwards and upwards.

I consider that the advantages of the midway stand are rather outweighed by its disadvantages unless—and this is the crux of the whole matter—it were so designed as to be brought into operation by the pushing down of a lever with the foot.

Alternatively the P. and M. method is quite satisfactory—a midway stand which entirely supports the front wheel in addition to the ordinary back wheel stand. This is a much better arrangement than the separate front wheel stand, which is in the way when tyre repairs are necessary.

Summing up, then, the further forward a stand is the more weight it has to carry, which is in its favour, except that, unless special provision be made, it enhances the difficulties mentioned. H.M.B.

PER ARDUA AD—EXETER.

The 1920 M.C.C. London-Exeter-London Run, December 27th and 28th.

Retrospective Impressions of the Double Journey.



The leaders of the London-Exeter Twenty-four Hours Christmas Run of the M.C.C.—P. W. Moffatt (3½ Douglas) and H. Karslake (5 Brough). Though competing, these two intrepid motor cyclists acted as travelling marshals. The official timekeeper's car is seen on the right, the arm of the law on the extreme left!

THE whys and wherefores which impel some two hundred otherwise normally-disposed individuals to embark on the annual M.C.C. Boxing Night run from London to Exeter are hidden deep in the psychology of the human mind. It cannot be the craving for adventure alone, for there is nothing great nor spectacular in being stranded on Salisbury Plain in a blizzard or a downpour, with either tyres or lamps that "won't keep up"—there is nothing but discomfort; cold, clammy and dank discomfort.

Wet and Warm.

The night of December 27th, 1920, was unlike London-Exeter nights of previous years, only in so far as the south-westerly rain-bearing wind, was warm instead of bitterly cold; the rain was there in no half-hearted fashion—none of your gentle rains that gladden the earth, but a downright soaker, insinuating itself into necks and wheel bearings with equal impartiality.

Staines was the usual scene of intense animation for an hour or more before the first man's start at eight o'clock. The yard of the garage and the garage itself were packed with competing machines, to which their riders were adding finishing touches or affixing the club's cardboard number plates. Garage attendants pushed through the crush of weirdly-dressed men bearing large tins of oil or petrol. Here a man tried his electric set; here another made frantic efforts to persuade a recalcitrant acetylene generator to function as it should; everywhere watches were adjusted to the official timekeeper's, route cards were consulted, and coat after coat added until most riders were of twice their original size. Just before 8 p.m. the line formed under the flare of acetylene projectors and the feebler rays of the street lamps, with vivid intermittent bursts of flash lights for photography, flashes that left everything in utter darkness for a few seconds. All hoped that the fair promise of the day's weather would be kept, but over the stars already was stealing an ominous blue-black group of heavy clouds, first harbingers of the storm to come.

A few miles from the start, and ere the tail cars of the procession had cleared Blackwater, rain fell very heavily indeed, and existence for the solo riders became trying, the more so in that the roads speedily turned into lakes of mud of a particularly nasty consistency. Numbers rapidly became the pulp from which they originated, overalls and Sidcot suits turned a shiny dark brown, and many so-called waterproofs became ominously leaky at the joints. In such circumstances no one relished the passage over the Plain from Andover, and quite a number of competitors availed themselves of the open, warm garage at the latter town to linger while their machines were filled with petrol, and to obtain a little really hot coffee. Over Salisbury's dreary plain the run was just as bad as anyone could have imagined, and it was difficult to keep upright, so fiercely did the gale beat upon the riders, the gusts growing every moment more fierce, as the last of the sheltering trees gave place to the bare road leading almost into Salisbury.

Salisbury.

Despite the fact that the hour was late and the rain heavy a great crowd of spectators watched the arrival of the competitors at the White Hart, and much interest in the machines was dis-

B.

Per Ardua ad—Exeter.—

played. A great variety of lighting equipment was noticeable, especially amongst the solo mounts. The N.U.T.'s and A.B.C.'s were brilliantly illuminated with their Lucas electrical equipment, and electric lighting was decidedly more popular than anything else: but quite a number were using Fallolite projectors with acetylene cylinders. These lamps give a rather curious effect, as their beam is long and narrow and the lamp itself at close quarters appears to be very dim—until one peers directly into its lens, when a blinding glare is observed, as the inevitable enquiring persons discovered to their discomfort!

Over Salisbury Plain.

Starting out from Salisbury after midnight, with the rain still falling, the riders struggled against the head wind and driving sheets of water; and the sight of a string of solo tail lamps, bounding and skidding on some of the vile stretches of road, was curious. Here and there a rider without lights or with dying illumination would tack closely on to the rear of a companion, whose path was lit by a broad and brilliant beam, and so everyone ploughed gamely along to the check at Shaftesbury (first man, 1.42 a.m.), where, despite the weather, many spectators were gathered round.

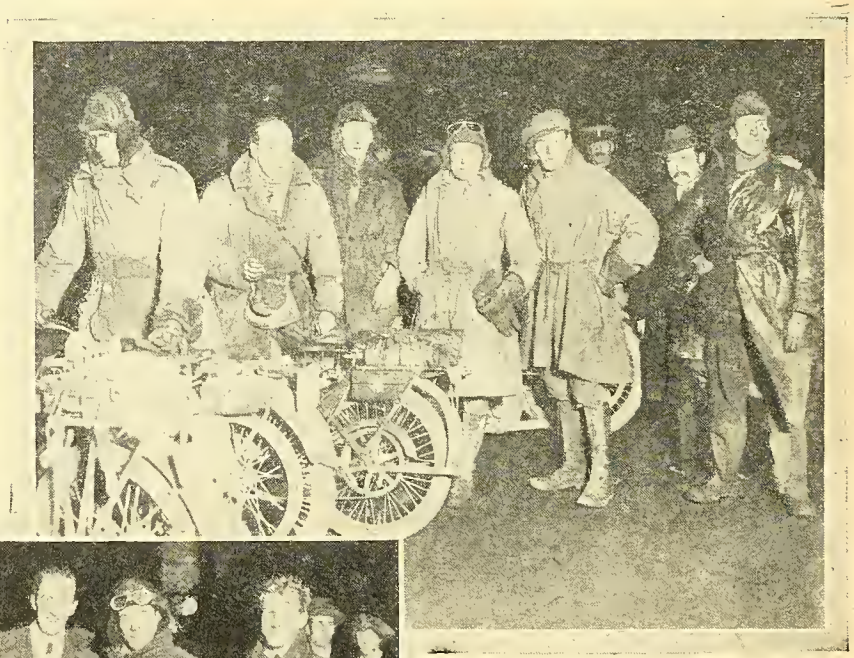
The illuminated direction signs here were excellent, and one has only to ride through such a trial to appreciate the fine sportsmanship of the local man who stands half the night at a wind-swept corner tending the guttering light and shouting out directions to the passing riders—a true guardian of the flame whose devotion should not remain unnoted in a world where the less spectacular duties are often at a discount.

Easier going, both as regards weather and roads, followed to Yeovil, where a welcome cup of coffee was served with the replenishments at Moffat's garage. Mud-stained, soaked, and generally bedraggled, who amongst the riders that night could truly say that he had ever tasted a better or more welcome drink than that grateful cup?

Glorious Devon.

Onwards from Yeovil the weather took up somewhat, and anon the moon could be seen at intervals, riding amidst swiftly-travelling cloud masses. The first observed hill, Chard, caused no particular difficulty, and the check at Honiton was a mere incident in a run that tended to become a confusion of twisting lanes, hunger, side-slipping, and a desire for sleep. At any rate, the feeling that Devonshire was at last reached filled all hearts with some satisfaction, and the "new" Peak Hill (near Sidmouth) was approached by most in a spirit of detached carelessness; in consequence, a number failed.

The hill is severe, probably averaging 1 in 7 for half a mile, and having a tolerably good surface. To a powerful sidecar outfit it presents no difficulty, but the drivers of some single-cylinder sidecars and solo lightweights experienced considerable anxiety, and not a few failed altogether. Even though the hour was but 5 a.m., quite a crowd of spectators had assembled at the top, and watched some 140 surviving motor cyclists, of whom about thirty failed. To mention any particular performances, ignoring the fact that it was difficult to see the passing numbers, would be invidious, but the Matchless, Harley, and Morgan machines all came up exceptionally well, while Triumph and Sunbeam riders showed the capabilities of the medium-weight passenger outfits.





(Left) R. C. Staunton (4 Triumph) was well prepared with such equipment as leg-shields and handle-bar muffs, but one wonders whether his watch continued to function after the torrential journey; note its exposed position. V. Gayford, on the Zenith, carried a useful torch around his neck, but did not make special preparations to protect his machine Between him and the rider in the flying suit is H. Watson Bourne, who finished second in last year's Junior T.T.

(Right) More examples of London-Exeter raiment. The old time Hutchinsons were conspicuously few in number, nd army field boots took their place.



H. B. Browning (3¾ Scott) on a hill in the picturesque district round about Sidmouth

Exeter at Last.

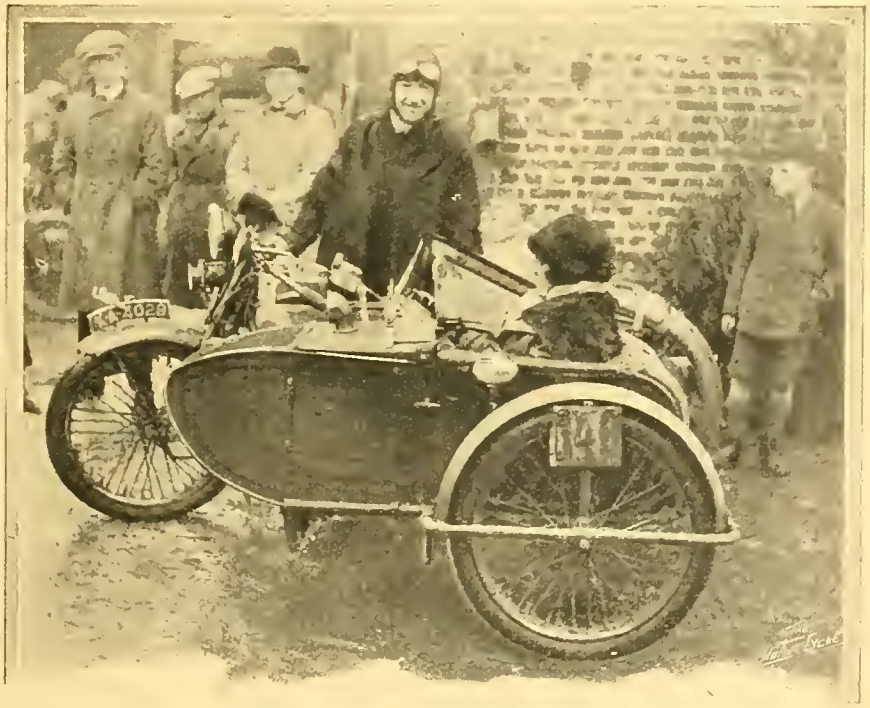
From the top of Peak Hill, a precipitous descent, proved a specially good test of brakes, and one of the cars as well as the outfit of our own representatives, ran away down it. The former suffered some injury, but the latter scraped round the corner at the bottom by sheer superhuman effort. Sixteen miles remained, and in the light before dawn they proved trying to the soloists, since there was a large section of narrow and greasy lanes.

Breakfast in Exeter allowed sufficient time to elapse, so that the riders were able to start out again on the return run without relighting lamps, but a somewhat depleted number naturally reembarked on the journey. A glorious sunrise raised hopes which were ultimately to be dashed, and although fine weather prevailed until the Devonshire coast was left, much rain and mist were afterwards met.

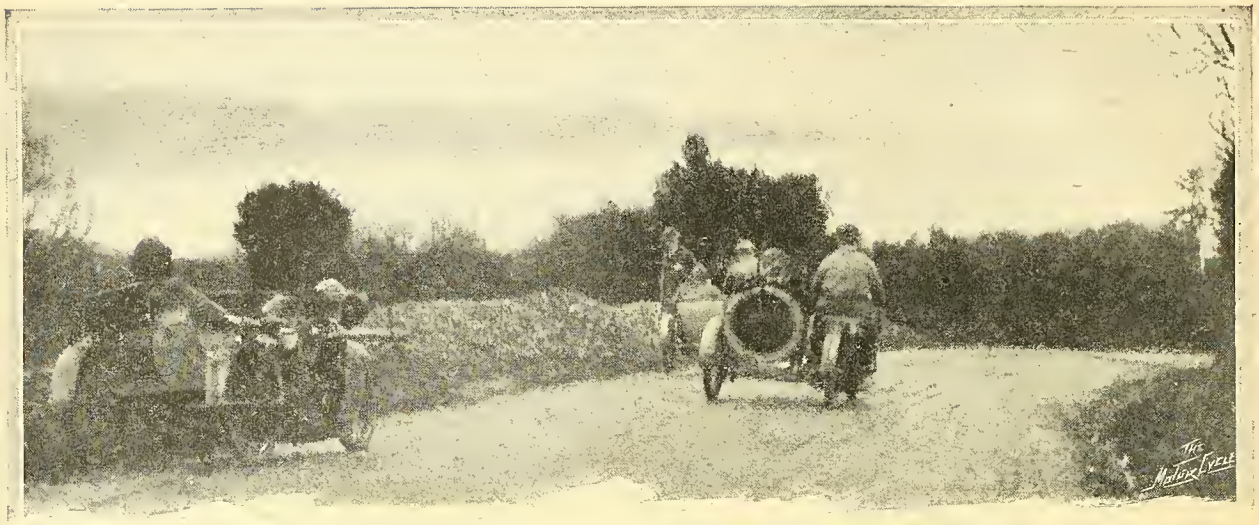
Trow Hill did not seem to wear anything like the formidable aspect it presented during the run in 1919, in spite of the fact that the second bend has now been widened, and, consequently, leaving much loose unrolled metal. As against 1919, when failures amounted to 20%, there were only three or four competitors who were unable to make clean ascents. A large crowd had congregated to see "the fun," but the local enthusiasts must have been sadly disappointed. Probably Trow is now shorn of its former terrors by the widening at the top, and the M.C.C. committee for its next run may wish to seek a "new venture." To characterise individual performances would be somewhat superfluous, but in each class the following ascents were of special merit: A. Milward (3 A.B.C.), V. Gayford (6 Zenith), J. Baker (3¾ Scott), A. P. MacGowran (4 Triumph sc.), W. H. Julian (8 Matchless sc.), A. P. Pulling (6 Royal Enfield sc.), and W. P. Brandon (4 Triumph sc.).

The long descent into Lyme Regis was the next incident, and, although the scenery was charming, no one had much time to admire it; in the little town itself huge waves were breaking over the main street along which the riders passed.

The run through Dorset was again a damp one, and rain and a light mist made driving unpleasant, while the roads on the Bridport, Dorchester and Blandford section were pot-holey and muddy in the extreme. A stiff following wind over the undulating barren country between Blandford and Salisbury did not tend to the cool running of engines, especially as everyone along this stretch was making up time. A.J.S. and Matchless machines



J. D. Marvin (7-9 Harley-Davidson) was one of the few entrants who took a lady passenger to brave the elements. On the sidecar was fitted a very neat aluminium dash, equipped with clock, voltmeter, etc.



A glimpse of the sea near Lyme Regis. T. J. Ross (8 Matchless) descending towards the town

bowled along at a great pace, while the speed of some of the Harleys was extraordinary. Along the morning's run, young Eli Clarke (but 15 years old) was keeping up well, despite the fact that his 6 h.p. chain-driven Douglas was leaning in on the sidecar; the Morgans also were going strong.

Salisbury, reached once more, provided a welcome, but late, lunch interval, and many notes were exchanged anent the events and misadventures of the night. Some twelve hours ago, dim figures swathed in wrappings had been spoken to and about without knowledge of identities—now in the cold light of day Brown was recognising Jones as the begrimed individual who had chatted in the wee sma' hours at Yeovil or Honiton; the very atmosphere seemed to bear perpetual expression of "fancy meeting you!"

Salisbury to Andover was a welcome relief from mud and decayed roads, and finally Staines was reached again by 108 of the 152 who started out. Unfortunately the latter part of the journey was marred by a somewhat serious collision between J. Macdonald (7-9 Indian sc.) and a non-competing car.

An account of experiences by the car competitors will be found in to-morrow's issue of "The Autocar."

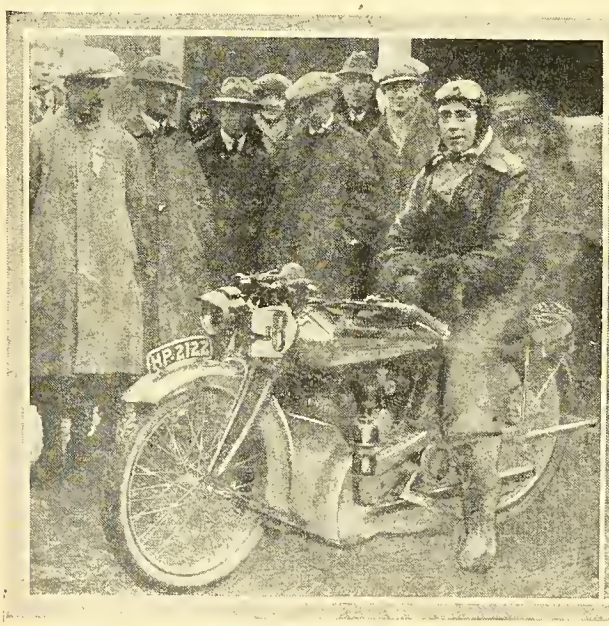
INCIDENTALLY—

There was almost unanimity in footwear. Fully 80% of the drivers wore field boots. Hutchinsons and trench waders were represented amongst the remaining 20%.

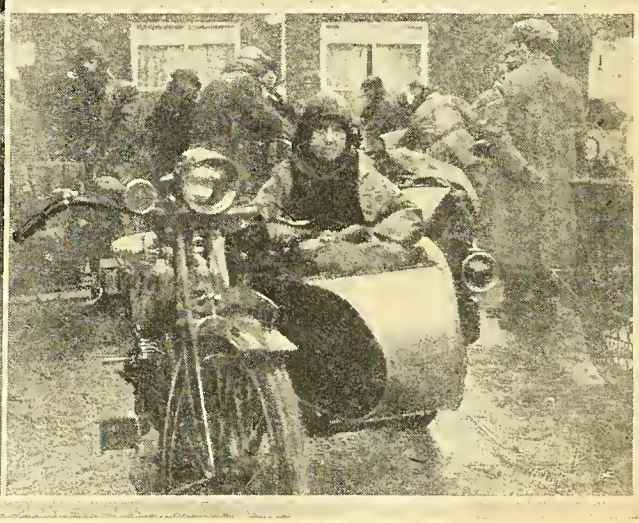
Congratulations to the lady passengers; also to the small boy wedged in one of the light four-wheelers, who wisely slept.

Glimpses of the sea and some very fine scenery were available around Lyme Regis. Most competitors, however, were too preoccupied with their brakes to appreciate this.

Would as many have failed on Peak Hill had it been after breakfast instead of at the grim hour before dawn?



George Brough on the new 8 h.p. Brough Superior This machine (described in "The Motor Cycle" on December 23rd) was much admired at the different controls, and, incidentally, started with wonderful ease.



Mrs. Dan Bradbury awaiting her pilot. She travelled down from Sheffield with her husband, completed the double journey, then rode back to Sheffield on their 4 h.p. Norton—a really arduous journey.

Per Ardua ad—Exeter.—

Several competitors got a straight run at Peak Hill by missing a turn, and approaching it by the beach road. The right-angle turn in the official route was doubly difficult.

It has been suggested that a platinum medal, studded with diamonds, would be a more suitable award for the solo riders who gained "golds." After watching, from the comparative security of a side-car, rear lamps that danced from side to side of the road for miles on end, we are inclined to agree.

Surprisingly few got really lost. Local clubs provided marshals and illuminated arrows on many of the loneliest corners; while just in front of the competitors an official car "arrowed" doubtful turnings with "Christmassy" tissue paper and shavings, which, however, very quickly compounded with the mud.

The coffee at Yeovil (supplied, as of yore, by Moffat's Garage) provided one of the most welcome incidents of the trial. It was timely, it was free, and it was really good coffee!

Few failures awarded the crowd on Trow, and the bioscope man wore a decidedly disappointed smile. Peak Hill, on the other hand, claimed its quota of victims (mainly sleepy drivers), and a larger attendance of able-bodied spectators would have been greatly appreciated by some weary competitors.

R. B. Whiffen, riding an 8 h.p. Blackburne, had extremely hard luck, since between Dorchester and Puddletown he was skidded into by a Ford car. His machine had been running extremely well up to that point.

An approximate census of types of clothing provides some interesting figures. Long leather coats head the list in popularity, oilskins were not so prominent, fur-lined combination flying suits were much in evidence—particularly so among the three-wheelers and cars—while not more than half-a-dozen were rigged out as conventional motor cyclists are supposed to be, *i.e.*, in a waterproof jacket and trousers.

A long article might be written on head gear; but nobody appeared to have found an ideal here. Probably a fur-lined helmet surmounted, when desired, by a chin-strapped oilskin sou'wester, provides the best compromise for "London-Exetering."

Alan Hill's 90 h.p. Itala developed a distinct aversion to gradients on the return journey, and after being pushed up one or two Devonshire pimples it was wisely decided not to attempt Trow. It was comforting to passing motor cyclists who had received their share of trouble to see the monster at a standstill.

Electricity or acetylene? Contrary to expectations in some quarters, dynamo lighting has by no means ousted the much-vilified carbide system. Next year—and despite what was said at breakfast at Exeter, there *will* be a "next year"—we expect the battle of lighting types to be still undecided.



AT THE FINISH. Some of the 108 survivors of the 152 who started, checking in at Staines. Kaye Don, who rode a Scott, signs the sheet, while E. A. Bridgman, of Indian fame, stands by beaming with satisfaction; at his elbow is T. C Greenwood—son of the Sunbeam designer. Eli Clark, the old time Bristol rider (in oilies), awaits his turn. The judge at the table is L. A. Baddeley.

Official List of Motor Cycle and Runabout Competitors who are Credited with having Finished.

A.B.C.
A. Milward (3 h.p.)

A.J.S.
E. W. Cholderoft (6 h.p.*)
W. C. Hemy (7 h.p.*)
P. W. Giles (6 h.p.*)
D. H. Noble (7 h.p.*)
S. Julian (6 h.p.*)

ARIEL.
L. Pulham (3½ h.p.)

BEAUMONT.
G. W. Shepherd (2¾ h.p.)

BLACKBURNE.
S. G. Woolridge (4 h.p.)

BROUGH.
H. Karslake (5 h.p.)
S. S. Debenham (5 h.p.)
F. W. Stevenson (3½ h.p.)

BROUGH SUPERIOR.
G. Brough (8 h.p.)

CLYNO.
W. A. Kny (8 h.p.*)
F. Smith (8 h.p.*)

CONNAUGHT.
W. M. Greenwood (2½ h.p.)

COULSON-B.
R. B. Clark (2¾ h.p.)
H. F. Edwards (4 h.p.)
W. Bray (4 h.p.)
H. Guy (2¾ h.p.*)

CORONA.
J. Harrison (4h.p.)

COVENTRY EAGLE.
T. G. Mooney (6 h.p.*)

DALTON.
F. Begley (4 h.p.)

DOUGLAS.
P. W. Moffat (3½ h.p.)
E. Clark (4h.p.*)
E. Clark, jun. (6 h.p.*)

HARLEY-DAVIDSON.
F. G. Spikins (7-9 h.p.)
C. A. McKeand (4 h.p.)
O. Wilson-Jones (7-9 h.p.)
J. R. H. Knight (7-9 h.p.)
J. A. O'Sullivan (4 h.p.)
J. A. Masters (7-9 h.p.*)
B. Newit (7-9 h.p.*)
J. D. Marvin (7-9 h.p.*)
S. E. Longman (7-9 h.p.*)
F. C. Temple (7-9 h.p.*)
B. S. Allen (7-9 h.p.*)

HUMBER.
H. F. O. Evans (4½ h.p.*)

INDIAN.
C. C. Lubin (4 h.p.)
H. R. Harveyson (4 h.p.)
H. Le Vack (4 h.p.*)

JAMES.
C. B. Cooke (5-6 h.p.*)
H. H. Saddington (6 h.p.*)
H. A. Reyre (5-6 h.p.*)

MARTINSYDE.
A. G. Fenn (6 h.p.*)
J. T. Bashall (6h.p.*)

MATCHLESS.
L. Arnold (8h.p.*)
W. H. Julian (8 h.p.*)
G. Packman (8 h.p.*)
F. J. Ellis (8 h.p.*)
T. J. Ross (8 h.p.*)
G. D. Hardee (8 h.p.*)
J. Hoult (8 h.p.*)
D. S. Parsons (8 h.p.*)
F. W. Guiver (8 h.p.*)

METRO-TYLER.
J. S. Bennett (2½ h.p.)

MORGAN.
G. A. Pidgeon (10 h.p.†)
W. Pattison (10 h.p.†)
H. W. Holmes (10 h.p.†)
H. E. Santell (10 h.p.†)
C. E. Bennett (8 h.p.†)
W. H. Elce (10 h.p.†)
D. G. Prentice (8 h.p.†)

NORTON.
D. Bradbury (4 h.p.*)

N.U.T.
A. C. Rhodes (3½ h.p.)

OLYMPIC.
H. Gold (2¾ h.p.)

P. & M.
P. O. Cunningham (3½ h.p.)

PREMIER.
J. Haslam (8 h.p.†)
R. Croucher (8 h.p.†)
A. J. Dixon (8 h.p.†)

QUADRANT.
C. Wilson (4½ h.p.*)

READING-STANDARD
J. Wallis (8 h.p.)
G. A. Gibbs (8 h.p.)

REX.
W. A. Pell-Smith (8 h.p.*)

ROVER.
W. C. Boyer (5 h.p.)

ROYAL ENFIELD.
A. F. Pulling (8 h.p.*)

ROYAL RUBY.
H. Dale (8 h.p.*)

SCOTT.
H. B. Browning (3¾ h.p.)
K. Don (3¾ h.p.)
J. Baker (3¼ h.p.)

SUNBEAM.
H. F. Fellows (3½ h.p.)
L. Keevil (3½ h.p.)
P. Street (3½ h.p.)
A. Wooding (3½ h.p.)
A. S. Guthrie (3½ h.p.)
P. W. White (8 h.p.*)
A. M. Knill (3½ h.p.*)

T.B.
F. Spouse (10 h.p.†)
F. H. Douglas (10 h.p.†)

TRIUMPH.
T. Francis (4 h.p.)
R. C. Staunton (4 h.p.)
A. S. Pinchbeck (4 h.p.)
C. Smith (4 h.p.)
C. F. Edwards (4 h.p.)
R. B. Roberts (4 h.p.)
B. J. Sims (4 h.p.)
S. J. Marks (4 h.p.*)
E. Hillary (4 h.p.*)
A. P. McGowran (4 h.p.*)
W. P. Brandon (4 h.p.*)

VELOCETTE.
G. Richardson (2¼ h.p.)

VERUS.
W. G. Churchill (2¾ h.p.)

WILKIN.
R. McRitchie (2¾ h.p.)
G. W. Wilkin (3½ h.p.*)

WOOLER.
J. F. Hull (2¾ h.p.)
F. A. Longmon (2¾ h.p.)

ZENITH.
J. G. Goodenough (8 h.p.*)
R. Charlesworth (8 h.p.*)

UNSPECIFIED.
R. L. Richardson.

*Sidecar. †Three-wheeler.

PER ARDUA AD—EXETER: The Story of an Unsuccessful Competitor.

ONE hears so much of the impressions of those who get through a run like the London-Exeter with success, that it is sometimes interesting to read the experiences of one who failed to do so!

The writer, being blessed with an early number, left Staines soon after eight o'clock on Boxing Night. The rain and the wind held no terrors for him, as he was warmly clad in wool and leather, so he settled down quite comfortably to follow the tail lamp ahead of him all the way to Exeter.

Just before reaching Basingstoke the drip feed in the head lamp generator choked, and a few minutes were wasted in consequence.

Then followed the inevitable "blind" to make up time. Somewhere near Andover the writer caught up his companions, and kept with them until the outskirts of Salisbury were reached.

There a stop was made to study watch and route card, and it was found impossible to restart! A brawny spectator gave a hand, and with a push the engine fired.

At Salisbury petrol, carbide, food, and a mysterious envelope were received, and after an hour's rest the journey was resumed. Again the greatest difficulty was experienced in starting up, but eventually the engine was got going. There followed a kind of T.T. over difficult and tortuous roads, with here and there a really bad patch, and Shaftesbury was reached to time.

Here the engine stopped while route card and watch were being consulted, and once again refused to start. Happily, a large garage was open close by, and investigation led to the discovery of a stuck up rocker arm in the contact breaker.

This was soon eased off, and the engine started first kick. It was now too late for a "gold," but the rider was determined on getting a silver, so he blinded cheerfully all the way to Honiton, hardly noticing the observed gradient of Chard Hill on the way.

The exhaust pipe next came off, and a game of snap-dragon with the hot union ensued.



J. C. Walker, an Edmund rider, and C. Bourlet (3½ Ariel) awaiting their call at Staines.

A Curious Accident.

After some twisty, hilly lanes came Sidmouth, where a local workman advised the competitors that he was going to summon the M.C.C. for making a noise! Then Peak Hill—rough, but not so bad. Then some frightful lanes about 5ft. wide. Then . . . deep ruts, mud, and a fall "all anyhow" in the middle of the lane, only ten miles from Exeter!

Somehow, in falling, the inlet valve was bent nearly five degrees, so that it would go neither up nor down. The valve guide was also broken. An hour's unsuccessful work, what time the long, long trail of motor cycles and cars went past and up the hill as the sun rose. Suddenly a recollection of being very hungry resulted in the finding of a perfectly heavenly farm, with an even more heavenly Devonshire breakfast. . . .

There are compensations for everything!

H.E.S.

CLUB NEWS.

Newcastle and District M.C.

The Newcastle and District Motor Club's Friday evening gatherings at the Grand Hotel are proving very popular. Contributors to an enjoyable programme last week included Messrs. C. E. Warrington, Wicks, Battye, Wood, and others. Mr. A. S. C. Broadway presided. Speeches by Messrs. Baxter and Keir upon the intention of the North to organise an automobile association free from any connection with the Royal Automobile Club were received with great enthusiasm.

Lancaster, Morecambe, and District M.C.C.

The Lancaster, Morecambe, and District Motor Cycle Club held its annual dinner on Monday night, December 20th, at the County Hotel, Lancaster. Mr. Jos. Atkinson, of Atkinsons, Ltd., presided and it was mentioned that a motor reliability run had been held over Whiteshaw Moss, Kingsdale, during that week-end, ten completing the seventy-six miles.

A hill-climbing competition is to be held in 1921 up Langthwaite Brow. There are 106 members.

East Lancashire M.C.C.

There was a distinctly motoring flavour about the third annual ball of the East Lancashire M.C.C., which was held before Christmas at the Public Hall, Blackburn. Nearly 300 guests danced on a floor that was arrowed in correct trials manner! Added to this a number of the dancers carried hooters, etc., upon which they accompanied the Crellin Best Orchestra. Mr. W. G. Guest was hon. secretary of the event, and the M.C.'s, Messrs. A. A. F. Jerrard, H. Walsh, and W. B. Livesey, were assisted by a large band of efficient stewards.

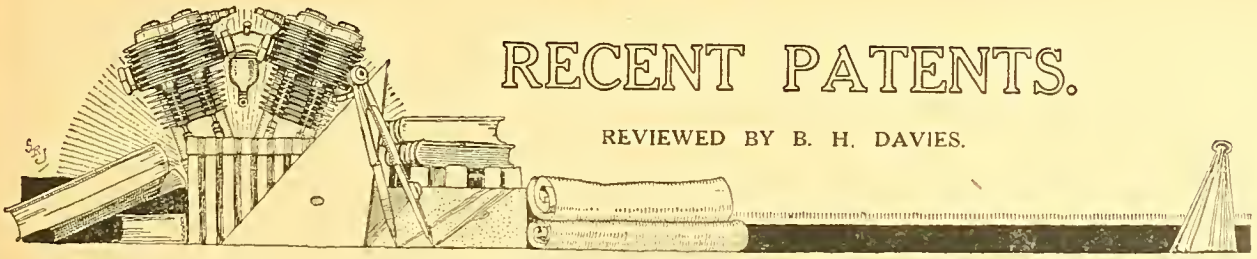
Harrogate and District M.C.C.

The Harrogate and District M.C.C.'s Boxing Day trial attracted quite a good number of entries, but, owing to fog and rain, only sixteen faced the starter. The event, extending to ninety miles, was run in four sections, each of which had to be completed non-stop, and no adjustments were allowed without loss of marks. The first section put out of the running D. Moore (4 Wilkin), who retired with engine trouble. The second section accounted for H. James (2½ Excelsior) with gear trouble and H. Hamlyn (8 Zenith sc.), who broke a chain. No casualties appeared during the third section, but evidently the riders were finding that mud and wet were intent upon causing trouble, for, no sooner had the last section commenced than D. Berry (4 Triumph sc.) had to stop to tighten his front cone. C. Mitchell (4 Triumph) had tyre trouble, and ran out of petrol, as did Eastwood on a similar machine. H. E. Ellis (4 B.S.A. sc.) had a large amount of trouble with his belt. W. Monkhouse (4 Triumph sc.) also had belt trouble. Illingworth (8 Enfield sc.) had gear trouble, and failed to finish. The observed hills did not cause very much trouble, and nobody had any complaints on that score.

The results are as follows:

SOLO CLASS.—G. Hill (3¾ Scott), non-stop; W. Atkinson (4 Triumph), non-stop; D. Brigham (4 Triumph), non-stop; H. Smithies (8 Excelsior), lost on time; A. Hill (4 Triumph), lost on time.

PASSENGER CLASS.—W. E. Grange (8 Bradbury sc.), non-stop; W. Monkhouse (4 Triumph sc.), one stop.

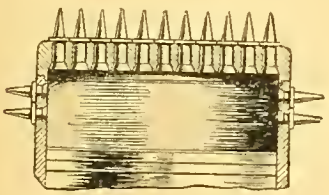


RECENT PATENTS.

REVIEWED BY B. H. DAVIES.

Studded Cylinders.

CAPT. W. O. Bentley is known to fame in three separate spheres. Years ago he was well known as one of our keenest competition riders. Later he raced on a D.F.P. During the war he designed what is unquestionably the best rotary engine for aeroplanes in the world—his experimental corner in the Humber works had much to do with our supremacy in the air. Latterly, he has been much wooed by sportsmen who desire early delivery of his three litre road racing car. He now appears as the inventor of a new type of air-cooled cylinder, which much intrigues my curiosity. This cylinder will obviously be expensive to manufacture. Does his always cautious nature envisage the possibility of yet another 'orrible war? Or is his fertile brain busy on a 100 h.p. air-cooled car for the sons of millionaires? Anyhow, the drawing is practically self-explanatory. Shouldered pins of a high conductivity metal, *e.g.*, copper or aluminium, are utilised to stud the steel cylinder barrel, which is made rather thicker than usual. The pins may be taper-headed, or flattened to form a continuous fin. Their shoulders are preferably in contact. They may be screwed, pressed, shrunk, or cast into

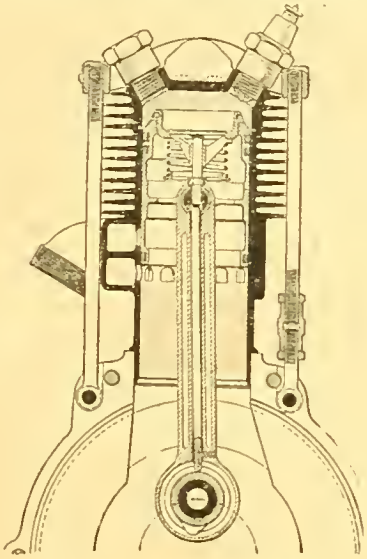


Bentley's air-cooling No. 140,286. 18/6/19.

place; in the drawing they are inserted from the outside and riveted on the inside, a final cut being taken to finish the bore. I am afraid this mode of construction will prove too expensive for motor cycles, but it may adorn the "B.R.3" in the next war.

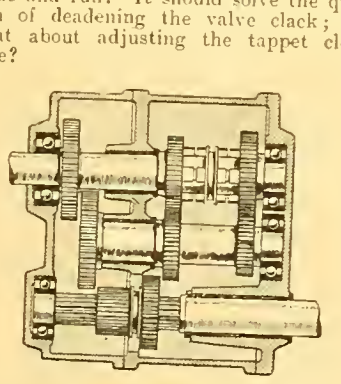
A Piston Head Valve.

I am an old cynic, and rarely lift my eyebrows when a startling phrase greets me on opening a Patent Office specification. But I rubbed my eyes hard when I struck the following: "The stem of the inlet valve passes through a hole in the small end of the connecting rod. . . ." But I wasn't nodding, as a glance at the sketch will prove. The engine in question is a two-stroke, and, like all up-to-date designers in this sphere, Messrs. Snarry and Bullows are irked by the inefficient valve timing which the conventional three-port system imposes. So they transfer the inlet to the piston crown, where they fit a poppet valve, the stem of which protrudes into a cutaway gudgeon pin. It is operated by a tappet or pushrod provided with a guide in the bore of the connecting rod, and actuated



Snarry's valve gear. No. 140,598. 27/3/19.

by a cam on the crank pin, the big end being cut away to suit. This design confers considerable freedom in timing of the inlet period. The exhaust ports can now be cut all round the cylinder, if desired; and scavenging may be assisted by shaping the crown of the pistons as a crater, from the centre of which the fresh charge erupts, driving the exhaust gases outwards towards the ring of ports. I wonder much if this engine has been made and run? It should solve the question of deadening the valve clack; but what about adjusting the tappet clearance?



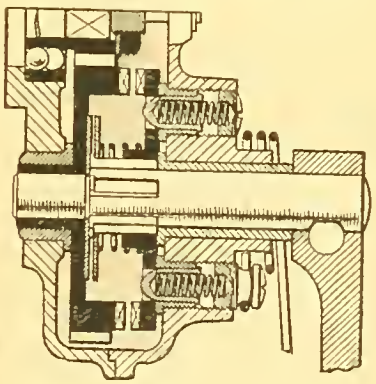
Williams's change-speed gear. No. 140,566. 25/2/19.

A Three-speed and Reverse Gear Box.

Mr. T. L. Williams protects the gear box shown herewith, of which the special feature is that only one pair of gear wheels are running idly on any given ratio, and that the loose wheel of the idle pair is always on the driven shaft, which is slow running. The extreme left-hand pinion on the upper or driven shaft is the reverse pinion, and the axes of the three shafts are not in the same plane, so that the reverse gear is through two wheels only. In order to keep the shafts short, no neutral position is provided between the secondary pinions for the reverse and first forward gears, and a special gear changing mechanism is suggested to prevent the dogs on the driven shaft from being engaged during changes from "R" to "1" and *vice versa*.

Kick-starter Engagement.

In Mr. J. C. Harris's kick-starter, the two pinions are always in mesh, and the larger wheel runs loose. A ratchet on its outer face matches a ratchet splined to the secondary shaft, but free to move endways along it. A spring normally holds the two ratchets out of contact.



Harris's starting device. No. 140,(00. 29/9/19.

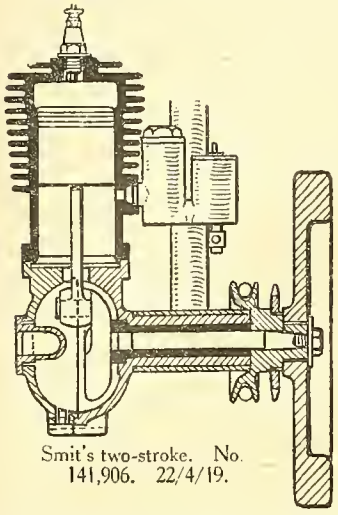
When the starter pedal is operated, the movable ratchet is forced round, and a couple of spring plungers mounted in the casting quit two oval holes in the ratchet, and bear against it, forcing it into engagement. At the end of the stroke the spring plungers regain their holes, and the main spring once more keeps the ratchets disengaged.

An Auxiliary Attachment.

Messrs. Smit and van Veen (no prize for guessing their nationality) make a suggestion which I do not think I have seen before. They propose to motorise a push-bicycle by removing the usual pedal crank from the bottom bracket and marketing a bijou engine which fits into

Recent Patents.—

the bracket, with the cylinder on one side and the flywheel and pulley on the other. I have never worked out the dimensions,

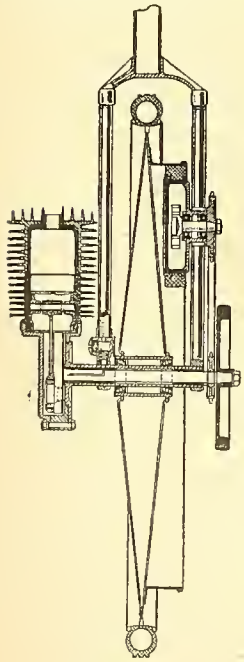


Smit's two-stroke. No. 141,906. 22/4/19.

and ha'e ma doots whether the bore of the bottom bracket is sufficiently spacious. They suggest a rope drive from a pulley on the off side of the crankshaft. Help!

The Original Cykelaid.

Messrs. Sheppee and Jowitt go one better than the Dutchmen. They thread their crankshaft through the hub of the back wheel; but there is this in their favour, that they can supply a special back wheel with a fat hub, whereas the last invention intends to use a standard bottom bracket. I feel grave suspicions of the drive which Messrs. Sheppee and Jowitt proposed, viz., belt from the crankshaft to a countershaft fixed to the rear forks and carrying a small friction disc rubbing on a flat belt rim fixed to the wheel spokes. This notion was tried out on a machine known as the Derby, and built about the year one. I am not prepared to say that the Derby was killed by its transmission, for it may have —probably did have — a dud engine and ignition; nevertheless, this transmission contains possibilities of trouble, which, I presume, were duly discovered, since the machine which was exhibited at Olympia as the Cykelaid was considerably modified.

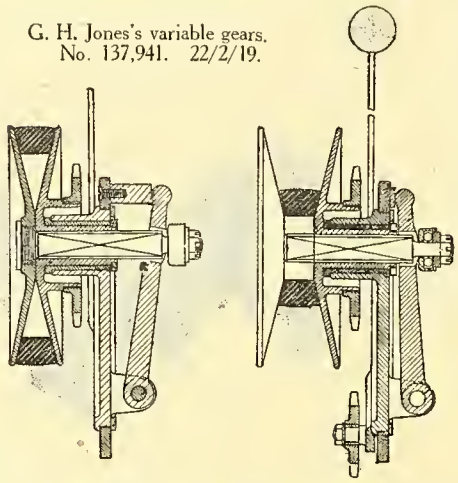


F. H. Sheppee's motor attachment. No. 141,866. 19/3/19.

An Eccentrically Mounted Pulley.

A chain-cum-belt drive, embodying an expanding pulley gear, represents Mr. G. H. Jones's idea of a good modern transmission. The countershaft, which carries the expanding pulley, is mounted eccentrically upon a disc, which can be partially rotated in a carrier fixed to the frame. This allows the belt tension to

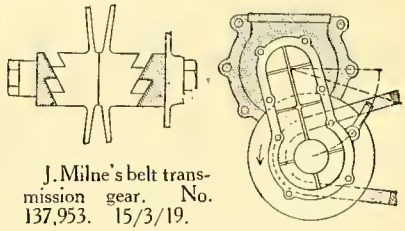
G. H. Jones's variable gears. No. 137,941. 22/2/19.



be maintained at all working diameters of the pulley. The front chain is properly tensioned on top gear, and its slack is taken up by a jockey sprocket on the lower gears. Single lever control of gear ratio, constant belt and chain tension are some of the advantages claimed for the Jones gear. An alternative construction allows both flanges of the pulley to move equally and simultaneously.

A Swinging Countershaft.

Mr. James Milne is equally attracted by the variable pulley form of gear, but his ideas approach more closely to

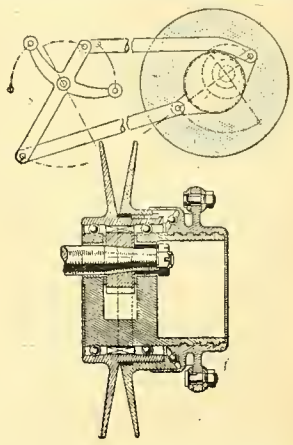


J. Milne's belt transmission gear. No. 137,953. 15/3/19.

the Philipson pulley form. His variable pulley is made in two halves, pressed together by springs, so that they tend to raise the gear. When extra tension is put on the belt, either by a jockey pulley or other means, the belt pressure overcomes the springs, and the pulley opens. For choice, he mounts his pulley on an arm which swings about the crankshaft centre in order to put extra tension on the belt; the primary drive may then be by chain or gear. The pulley flanges are driven by toothed collars. On a motor cycle there is no room for such a pulley to be swung below the crank case, and if it swung on the upper side of the crankshaft, the rider would surely have to be a dwarf or *very* bow-legged.

Another Method.

Messrs. Hirst complete a trio of variable pulley drives, and I plead guilty to preferring their version. A pinion on the engine-shaft drives an internally-toothed wheel fitted in the centre of the variable pulley. The assembly, consisting of the internal gear wheel and the pulley, is not only eccentric to the crankshaft, but is movable to adjust the belt tension. A substantial gear reduction is obtainable on the primary drive, so that the bottom gear may be low, and is not condemned to the usual lilliputian area of belt contact. I much doubt whether there is room for any more variable pulley gears on the market. Present tendencies are all in favour of the chain with arbitrary

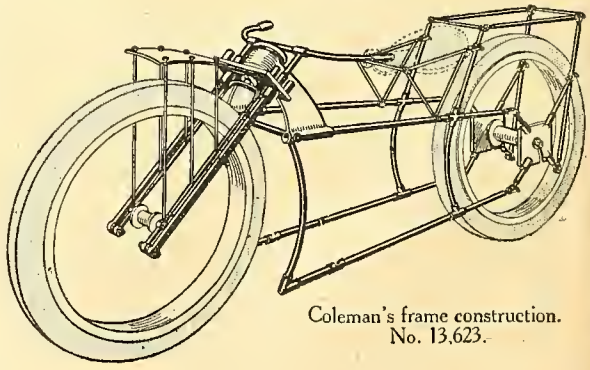


T. E. C. Hirst and L. N. Hirst, variable gear. No. 137,658. 25/2/19.

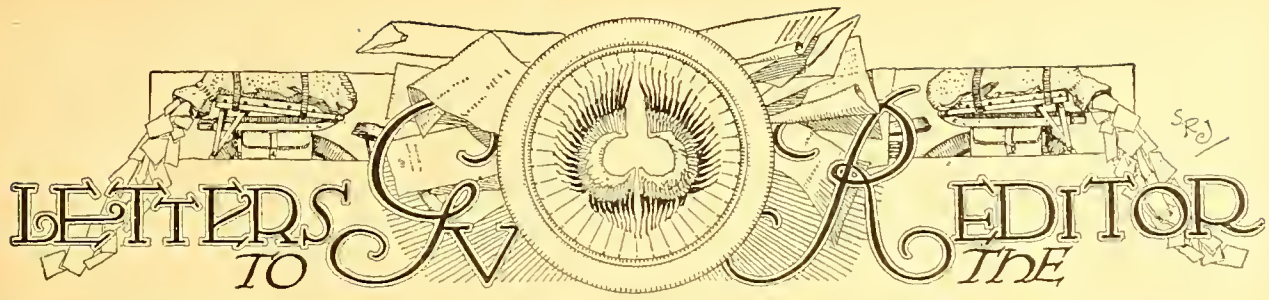
ratios, and the alternative is pretty fully represented by the Rudge Multi and Zenith-Gradua.

Duplex Frame Construction.

The duplex frame illustrated herewith is protected by Mr. R. B. Coleman, of Sydney, Australia. I fear that its weight and cost of manufacture are prohibitive, quite apart from any technical aspects. The sketch does not show the revolutionary design of the front fork, which includes two inner members of flat section, designed to spring in a fore and aft direction, and provided with spear heads rocking in slots at their upper ends.



Coleman's frame construction. No. 13,623.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

IS IT PROFITEERING?

Sir,—May I draw your attention and that of your readers to the perfectly astounding prices which most firms intend to charge for the new licence card holders. In some cases, as much as 7s. 6d. and 8s. 6d. is being charged. This seems a very clear case of profiteering. True, some are to be of brass, and some nickel-plated, but I fancy that even so the price is most excessive. The cheapest I have seen advertised so far is 2s. 6d. This is rather more moderate; but, even in this case, I venture to consider the price too high. It is not fair of the manufacturers to take advantage of the fact that motor cyclists will be bound to buy these holders by sticking on the price in this way. As a matter of fact, I do not think the highest priced holders will sell very well.

Whitchurch. ANTI-PROFITEER.

[We are inclined to think that owners of luxurious and high-priced machines will be more than anxious to obtain fitments of a comparatively high quality and finish. It is doubtful if a serviceable holder complying with official requirements could be produced at less than 2s. 6d.—ED.]

A TALL ORDER.

Sir,—With reference to the letter by "G.P." in your issue of December 16th, I think that the best thing to do would be to stop motor cycling and buy a car.

However, the nearest approach to "G.P.'s" requirements is, in my opinion, the Velocette fitted with the M-L Maglita lighting and ignition set as shown in the Show Number of your journal.

Being the proud possessor of a two-speed Velocette I am in a position to know some of its merits. Although only fitted with 24in. wheels, this cycle is very comfortable to ride, and a fair sized person does not look out of place on it.

My Velocette has flooded with oil only once during the six months I have had it.

It will climb any hill. On a recent tour in Wales, only twice had I to drop into low gear. With regard to tyres, any pneumatic tyre is liable to be punctured. J.S.J.

Sheffield.

Sir,—As a regular reader of your paper, I should like to advocate a balloon for "G.P.," Sheffield, as it would fulfil most of his requirements, *i.e.*, size according to weight of passenger. It can be ridden in all weathers in ordinary clothes. It can be used at any time, day and night, if tied up in the back yard. No flooding with oil, climbs anything, and will give a year's silent running without attention to any mechanical parts, and is free from tyre trouble.

Farnham. S.D.M.

Sir,—I was most interested in letters by "G.P." and "Speed Wobble."

If "G.P." will take a trip to Bournemouth I have no doubt he will find a 'bus to suit him, though I am afraid it will only be a one pony or donkey power. As for climbing *any* hill, I would not say "two strokes" would do it, but four *might* persuade it.

Now for "Speed Wobble." I like to hear of a man getting a move on, and the boy's performance of doing over 60 m.p.h. with his hands in his pockets is very creditable, considering his age (seventeen). Of course, as a man of more mature age, I can look back on similar stunts of my own. I remember once I rode to the newsagent's (some considerable distance) to buy my copy of *The Motor Cycle*, and on the return journey I could not wait till I reached home to read it so I read it in the saddle. I was doing about 95 m.p.h. at the time. I remember "Ixion's" "Comments" were as pithy as usual, but I cannot remember any sign of wobble.

Derby. A.D.

Sir,—I have just read your correspondent's letter under the heading of "A Fairly Tall Order" asking for a machine which will go anywhere, etc.

I would not advise him to look to a motor cycle to provide the means of transport. I suggest he should wait a little longer and carry out the parson's precepts, and eventually a form of locomotion will be provided, free of cost, which will about fill the bill. I also believe a harp will be thrown in with the bargain.

Those, like myself, who once relied upon surface carburetters, coil ignition, shoe lace belts, with the addition of profanity and tears, cannot hope for his good fortune, but we hope for the best.

As said the fox the grapes are very sour. A.E.S.

Manchester.

A.A. SUBSCRIPTIONS—ANOTHER VIEW POINT.

Sir,—I have read with interest the various letters relating to the increase in subscription to the A.A. Up to the present, none of your correspondents touch the point that interests many in this district, and, no doubt, many thousands of similarly situated people throughout the country generally.

I am a working man, the owner of a sidecar outfit which I am able to use solely at week-ends and holidays for about seven months of the year. I have shortly to pay increased tax of £4, and am asked to pay a fee of £1 1s. if I wish to continue my membership of the A.A. When to this is added the increased cost of petrol, garaging, and every other necessity to motor cycling, and the fact that short working hours are general throughout the country—if one is fortunate enough to be employed at all—you will agree it hits me, and others, in the same position very hard indeed.

Myself and many of my friends and acquaintances do not intend to renew our A.A. membership; some cannot afford it, and some of us for the reason that we think the A.A. should have made much more stringent efforts to get the new tax reduced. It is the owners of the working man's car—the sidecar outfit—who feel the effects of this tax the most. Generally we are married, and, therefore, have more expenses to meet than the owner of the solo machine, who is, more often than not, single.

If someone only had the courage to advise the non-payment of this excessive tax until it was reduced, I feel sure there would have been such an emphatic adherence to such a suggestion that the Government would have seen the necessity and fairness of some reduction to the owner of the sidecar outfit. Many of us are, at the present time, forced to store our machines away.

It will be very difficult for some to pay this tax without making a sacrifice. As a friend of mine remarked to me recently, the £4 tax, £1 1s. A.A. subscription, 5s. driving licence, and 2s. per week garaging are, altogether, more than two weeks' wages on the present working hours.

Let the A.A. think it out from that point of view, and it will form some idea of the number of members it is going to lose.

AN UNGRATEFUL MEMBER OF THE A.A.

Coventry.

MECHANICAL OIL PUMPS IN COLD WEATHER.

Sir,—Having been a continual rider of a motor cycle since 1905, I have read with great interest from time to time the correspondence in your paper regarding mechanical lubrication. It seems to me, however, that the main point has been missed in each case. Before any small pump can be induced to deliver a steady stream of oil, surely some means of warming the oil must be devised. As we all know, especially with air-cooled oil, in the winter time it very nearly assumes the form of butter, whereas in the summer it is quite thin. In the case of cars and some motor cycles the sump gets over all difficulties by warming the oil; any pump will then circulate it quite easily.

Last year I took a trip to Marseilles with my 8 h.p. Williamson water-cooled motor cycle and sidecar. Even using water-cooled oil it became so thick that it would not even draw up into the hand pump. Could one expect any small pump to circulate this? It seems to me that before manufacturers need trouble about a pump they should concentrate upon an effective method of warming the oil in the tank, when, I think, it will be found that any of the present pumps will work perfectly. In the case of engines with sumps this is already done. As things are at present, even if the sump manages to circulate the oil, it must go at only half the speed in winter that it does in summer, therefore setting must be altered frequently. DAVID TOD.

IMPROVING DOUGLAS OIL CONSUMPTION FIGURES.

Sir,—As a patron of your excellent paper for some years now I was very much interested in Mr. E. Victor Abel's letter in a recent issue. I also am a 4 h.p. Douglas sidecar merchant, as they say. I purchased back in the summer a renovated W.D. model dated late 1918, which, I should mention, was in really splendid condition; the engine, I should think, having done hardly fifty miles. However, I have had some considerable trouble both as regards the petrol and the oil consumption. For at least two months it was eating up a tankful of the best spirit to about forty miles at the best, though I am a motor cyclist of three years' experience. The consumption of oil was still more extravagant, the sump full lasting about the same number of miles, and the machine in consequence used to come back to dock more like an oil ship. A friendly tip from a brother Douglas rider put this right, and I simply sweated in a blob of solder in the bottom of the oil delivery pipe and rebored it with a smaller hole. About the petrol consumption, perhaps Mr. Abel would kindly tell me how he adjusts the float; by means of a small washer below the split pin? I tried a smaller jet, as I tried benzole, but it did not act, so I had to replace the No. 28 that was in it originally. The carburetter is the Douglas pattern with the small pipe carrying heated air to the jacket, from the front exhaust pipe. CECIL G. EMERY.

ACCUMULATOR LIGHTING FOR SOLO MACHINES.

Sir,—*Apropos* "D.H.D.'s" remarks *re* accumulator lighting for solo machines, I have been using this system for some time now, and find it fulfils my requirements exactly, *i.e.*, about half an hour's use every evening.

On my machine, however, a four volt Halford accumulator is carried in a metal case, slung on the carrier.

In spite of the vibration that concentrates in the tail of an unsprung motor cycle, I have not experienced any trouble whatsoever from spilt acid or from the paste falling off the plates.

The lamps are connected in parallel, and are operated from a single switch mounted on the handle-bars.

Personally, I consider it is quite unnecessary to carry four accumulators, as "D.H.D." proposes to do, when one will answer the purpose. I have my battery recharged once every three weeks.

The total cost of the outfit was £3 5s. I purchased the various parts at several garages and shops, and would be pleased to send a list of them to "D.H.D." if he is interested.

My 'bus is a 1915 3½ h.p. Indian twin. It has been over the Kirkstone, Honister, How Town, etc., in the Lake District, Bwlch-y-Groes (three times), Eunant Pass, Horseshoe Pass, and many more in Wales, all during the last six months. I have never yet konked out on a hill through lack of power.

"We" did over 1,500 in Wales during September and October, and if trial promoters are looking for a choice piece of road I can recommend the bit between Clun and Kerry. I thought I was getting quite an expert at rough riding until I struck this road and got thrown off twice in fifty yards. The ruts are only 18in. deep—no exaggeration. But I am more likely to be believed when I say that timber has been carted on it for the last four years without any attempt to repair it. There is about six miles of low and middle gear work, and then one breathes again.

H. BARTON.



Even when the country-side is mantled with snow, there is a charm in pottering about the by-lanes. Here a solo rider is able to take advantage of the narrow path at the side of a ford, whereas the sidecarist who accompanied him had to take to the water.

REAR SPRINGING.

Sir,—After much correspondence and mysterious non-committances, we have at last arrived at the time when the ingenious system of retaining a constant transmission tension on a spring frame is revealed (the Durston system, described in *The Motor Cycle* of December 16th).

I was greatly disappointed, as I thought we had really got it this time. When the inventor mentioned eccentric motion it gave a very different idea, but it appears that it was only a smoke screen or dust screen in front of our eyes to hide the real thing.

I had formed the opinion from *The Motor Cycle* that we were strongly following car lines, but it appears I was wrong; it is railway lines, as the idea is a compromise between the link of Stephenson's link motion and the bearing of the railway engine wheel.

In my humble opinion, the device would look better if coil springs were used top and bottom of horn plates instead of the quarter-elliptical springs, which I always think look out of place on a motor cycle.

In friendly criticism, I must pass the following remarks:

Where does the simplicity of the knock-out spindle come in if there are half a dozen operations to perform before the wheel can be dropped out?

As the guides cannot be fully covered, owing to the up and down movement of the wheel, what is going to stop the egress of grit, and what would happen if it clogged one of the horn plates? It also appears to me that the mud-guards would have to have excessive clearance for the movement of the wheel. This, with the shape of the guides and brackets, would spoil the outline of the cycle.

Birmingham. UBIQUE.

CAR PRACTICE IN MOTOR CYCLE DESIGN.

Sir,—May I be permitted to disagree with "Criticus" in his recent article on the above subject?

I have always looked after my vehicles—cars and motor cycles—myself, and I have no hesitation whatever in saying that, to guard against wear, the car requires about four times the attention of the cycle.

It is true that if no care is given to either vehicle beyond the filling of the tanks, the four-wheeler will probably run for longer before breaking down, assuming that first-class examples of each type are experimented on.

I would like to join issue with "Criticus" very definitely on the subject of brakes. I deny point blank that any car foot brake gives as little trouble as those fitted to the single-gear Nortons or Rudges, for example. It is a debatable point whether the car brake is even as effective as a really well-designed belt rim brake fitted to a motor cycle.

The long delay in fitting automatic carburetters to motor cycles was by no means due to ignorance of designers of their existence or value. I submit an automatic carburetter is hopelessly out of place on any machine which is not fitted with a kick-starter and variable gears, the reason being that, on a single-geared mount which has to be pushed off, an automatic carburetter will not supply sufficient power from cold to let the rider get away easily.

"Criticus" will excuse me, I hope, if I accuse him of special pleading, when he states that motor cycle handle-bars jolt far more than a car steering wheel, and that, therefore, two levers cannot be accurately worked. The handle-bar may jolt, but the relative position of the hand and the throttle levers is always the same. Except on a car with direct steering (and such cars are few) this is by no means the case.

Actually, I think that ton-m.p.g. is a senseless sort of test for pleasure vehicles, as the heavier the vehicle the better showing it makes. A decent lorry will knock spots off a car in this test.

Re flywheels. While the outside flywheel has many advantages, it is rather sweeping to say of inside flywheels that "mechanically there is everything to be said against their use."

For their size and weight, inside flywheels damp the shock of explosion better owing to their being so near the crank pin.

It is on the vexed question of lubrication that the car is generally most favourably compared to the cycle. Now, with regard to oil economy the car has it all the time. As against that the motor cycle engine is lubricated with oil all the time. After the first hundred miles or so after a fill the car engine is lubricated with slops. Owing to its much greater working heat, I greatly doubt if the motor cycle engine would stand this sort of treatment.

I have in my garage at present two 1920 cars of different type, each with a very complete lubrication system. Each cost over £850. Neither is constantly supplied with good fresh oil, as is a motor cycle. If I want them to be well lubricated at any reasonable expense my only course is to fill their sumps up to less than the half-way levels and drain them every week. This is what I do in actual practice, and even then it is never oil that comes out of the sump. If I had to buy my oil in the ordinary way I could not afford this at all, as the actual consumption is about 250 m.p.g. I have also four motor cycles, all 1920 models. Two of these have sump type oiling. In theory a quart will last either of these machines 300 miles. Actually, I have to drain the sump about every hundred miles, or the machines lose power and overheat. Of these four machines the only ones that show signs of engine wear are the two with the sump and pump oil supply. They have all done about the same mileage.

A well-known car firm states in its book of instruction that about twenty-two greasers require attention (*i.e.*, turning) each day, and that the adjustment of brakes should be tested each day.

Modern motor cycles require a good deal more attention in the garage than they used to ten years ago. This is due to more complicated transmission and gearing, and, in some cases, springing. But it is definitely the case, and owing to their being a much smaller mass of machinery, it must always remain the case that, to keep them in the best condition, motor cycles require far less attention than cars.

Does this mean that motor cycle manufacturers ought to try and embody as many car features as possible in their machines?

With all respect to "Criticus," I hold that they should not. Even at the present day very few car features can be said to be really satisfactory. Why then should an attempt be made to incorporate them on a totally different type of vehicle, where there is very limited room, and where considerations of size and weight rule supreme?

The ignorance of some designers about other people's products is really colossal.

Finally, "Criticus" says, "Car drivers, however cheap the vehicle, keep dry and clean." Seeing that the writer is on the staff of *The Autocar*, it is impossible to accuse him of ignorance. Therefore, the only conclusion I can come to is that he had his tongue very much in his cheek when he wrote that statement. Mark you, he does not use the word "comparatively" to qualify his statement. If he did I should have no quarrel with him.

As he winds up with such a bald declaration of that sort, I beg to oppose it with one equally bald. It is impossible to keep dry or clean in any open car. One's only chance is to sit in the back of a limousine with all windows shut and have a man to drive. PATIENT PETE.

Chapelizod, Co. Dublin.

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BRITISH MOTOR CYCLE RECORDS ON JANUARY 1st, 1921.

(Compiled by A. V. Ebblewhite, Official Timekeeper to R.A.C., A.C.U., and B.M.C.R.C.).

Table of 231 records as they stand to-day. It will be seen that a great change has been made in the figures published in "The Motor Cycle" in April of last year, and that during 1920 successful attacks were made on most of the pre-war records. Only 42 records now exist which were made prior to 1920, a percentage of 18·18 of the total. The oldest record now standing is H. A. Collier's 24 hours in Class E (May 1909).

CLASS A.—For motor bicycles of which the cylinder capacity does not exceed **250 c.c.**

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Distance.				mm.		h. m. s.	m.p.h.
Flying kilom.	1/12/20	D. R. O'Donovan	Velocette (1) ..	63 × 80	249	33.4	66.97
Flying mile	25/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	56.6	63.60
Flying kilom.*	23/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	57.2	60.13
Flying mile*	23/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	57.7	62.39
Flying 5 miles	25/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	5 3	59.40
10 miles	25/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	10 17.1	58.33
50 miles	25/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	53 45	55.81
100 miles	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	1 50 39.4	54.22
150 miles	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	3 0 48.6	49.75
200 miles	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	4 18 35	46.46
250 miles	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	5 18 58.2	47.02
Time.						mls. yds.	
1 hour	25/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	55 961	55.55
2 hours	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	107 1,442	53.91
3 hours	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	149 474	47.95
4 hours	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	188 263	47.03
5 hours	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	231 617	46.87
6 hours	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	283 782	47.24

CLASS A1.—For motor bicycles of which the cylinder capacity does not exceed **275 c.c.**

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Distance.				mm.		h. m. s.	m.p.h.
Flying kilom.	1/12/20	D. R. O'Donovan..	Velocette (1) ..	63 × 80	249	33.4	66.97
Flying mile	26/ 8/11	H. Martin	Martin-Jap (1) ..	76 × 59.5	270	55.60	64.75
Flying 5 miles	17/ 5/11	H. Martin	Martin-Jap (1) ..	76 × 59.5	270	5 1.2	59.76
10 miles	25/11/20	J. V. Prestwich ...	J.A.P. (1)	70 × 64.5	249	10 17.1	58.33
50 miles	25/11/20	J. V. Prestwich ...	J.A.P. (1)	70 × 64.5	249	53 45	55.81
100 miles	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	1 50 39.4	54.22
150 miles	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	3 0 48.6	49.75
200 miles	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	4 18 35	46.46
250 miles	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	5 18 58.2	47.02
Time.						mls. yds.	
1 hour	25/11/20	J. V. Prestwich ...	J.A.P. (1)	70 × 64.5	249	55 961	55.55
2 hours	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	107 1,442	53.91
3 hours	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	149 474	47.95
4 hours	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	188 263	47.03
5 hours	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	231 617	46.87
6 hours	29/11/20	J. V. Prestwich ...	Diamond-Jap (1)	70 × 64.5	249	283 782	47.24

CLASS B.—For motor bicycles of which the cylinder capacity does not exceed **350 c.c.**

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Distance.						h. m. s.	
Flying kilom.	19/10/20	H. R. Davies	A.J.S. (1)	74 × 81	349	27.8	80.97
Flying mile	19/10/20	H. R. Davies	A.J.S. (1)	74 × 81	349	47.4	75.95
Flying kilom.*	19/10/20	H. R. Davies	A.J.S. (1)	74 × 81	349	28.9	77.40
Flying mile*	19/10/20	H. R. Davies	A.J.S. (1)	74 × 81	349	49.1	73.32
Flying 5 miles	9/10/20	Kaye Don	A.J.S. (1)	74 × 81	349	4 17.8	69.82
10 miles	9/10/20	Kaye Don	A.J.S. (1)	74 × 81	349	8 55.6	67.16
50 miles	16/ 7/13	G. E. Stanley	Singer (1)	75 × 79	349	46 58	63.88
100 miles	16/ 7/13	Hugh Mason	N.U.T.-J.A.P. (2)	60 × 61	350	1 36 7	62.42
150 miles	16/ 7/13	Hugh Mason	N.U.T.-J.A.P. (2)	60 × 61	350	2 34 51.4	58.12
200 miles	16/ 7/13	Hugh Mason	N.U.T.-J.A.P. (2)	60 × 61	350	3 28 17.2	57.17
250 miles	16/ 7/13	Hugh Mason	N.U.T.-J.A.P. (2)	60 × 61	350	4 24 11.4	56.78
300 miles	16/ 7/13	Hugh Mason	N.U.T.-J.A.P. (2)	60 × 61	350	5 17 46	56.65
350 miles	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	6 50 30	51.17

CLASS B.—For motor bicycles of which the cylinder capacity does not exceed **350 c.c.** (*Cont.*)

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
				mm.		h. m. s.	m.p.h.
400 miles	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	7 46 30.8	51.59
450 miles	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	8 58 9	50.17
500 miles	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	9 55 18.2	50.39
600 miles	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	11 57 11.8	50.19
Time.						mls. yds.	
1 hour	17/11/20	Tudor Thompson..	Douglas (2)	60.9 × 60	350	63 696	63.39
2 hours	16/ 7/13	Hugh Mason	N.U.T.-J.A.P. (2)	60 × 61	350	117 1,481	58.92
3 hours	16/ 7/13	Hugh Mason	N.U.T.-J.A.P. (2)	60 × 61	350	173 1,610	57.97
4 hours	16/ 7/13	Hugh Mason	N.U.T.-J.A.P. (2)	60 × 61	350	225 1,425	56.45
5 hours	16/ 7/13	Hugh Mason	N.U.T.-J.A.P. (2)	60 × 61	350	285 1,388	57.16
6 hours	16/ 7/13	Hugh Mason	N.U.T.-J.A.P. (2)	60 × 61	350	325 1,092	54.27
7 hours	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	358 688	51.18
8 hours	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	411 1,329	51.47
9 hours	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	451 1,207	50.17
10 hours	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	504 123	50.10
11 hours	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	551 96	50.09
12 hours	20/ 9/20	J. S. Holroyd	Blackburne (1) ..	71 × 88	348	602 658	50.19

CLASS C.—For motor bicycles of which the cylinder capacity does not exceed **500 c.c.**

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Distance.						h. m. s.	
Flying kilom.	14 6/15	D. R. O'Donovan..	Norton (1)	79 × 100	490	27	82.85
Flying mile	14/ 6/15	D. R. O'Donovan..	Norton (1)	79 × 100	490	45.6	78.95
Flying 5 miles	17/ 7/14	D. R. O'Donovan..	Norton (1)	79 × 100	490	3 57.2	75.88
10 miles	9/10/20	V. E. Horsman ...	Norton (1)	79.5 × 100	498	8 8.6	73.68
50 miles	11/10/20	V. E. Horsman ...	Norton (1)	79.5 × 100	498	41 8.4	72.92
100 miles	11/10/20	V. E. Horsman ...	Norton (1)	79.5 × 100	498	1 24 14.4	71.22
150 miles	11/ 9/20	V. E. Horsman ...	Norton (1)	79 × 100	490	2 17 28.2	65.17
200 miles	30/ 9/20	D. R. O'Donovan..	Norton (1)	79 × 100	490	3 8 33	63.64
250 miles	30/ 9/20	D. R. O'Donovan..	Norton (1)	79 × 100	490	3 56 34.4	63.10
300 miles	9/ 9/20	J. L. Emerson	A.B.C. (2)	68.5 × 54	400	4 49 51.2	62.10
350 miles	9/ 9/20	J. L. Emerson	A.B.C. (2)	68.5 × 54	400	5 49 3.6	61.75
400 miles	20/11/12	C. G. Pullin ... / T. E. Greene ...	Rudge (1)	85 × 88	499	6 41 21.8	59.79
450 miles	20/10/20	D. R. O'Donovan	Norton (1)	79 × 100	490	8 15 23.2	51.50
500 miles	20/10/20	D. R. O'Donovan	Norton (1)	79 × 100	490	9 5 38.4	54.98
600 miles	20/10/20	H. H. Peach ...	Norton (1)	79 × 100	490	11 1 11.4	54.10
Time.						mls. yds.	
1 hour	11/10/20	V. E. Horsman ...	Norton (1)	79.5 × 100	498	72 841	72.18
2 hours	11/ 9/20	V. E. Horsman ...	Norton (1)	79 × 100	490	138 1,258	69.36
3 hours	30/ 9/20	D. R. O'Donovan..	Norton (1)	79 × 100	490	190 1,605	63.63
4 hours	9/ 9/20	J. L. Emerson	A.B.C. (2)	68.5 × 54	400	252 1,308	63.19
5 hours	9/ 9/20	J. L. Emerson	A.B.C. (2)	68.5 × 54	400	310 991	62.10
6 hours	9/ 9/20	J. L. Emerson	A.B.C. (2)	68.5 × 54	400	371 571	61.88
7 hours	20/11/13	C. G. Pullin ... / T. E. Greene ...	Rudge (1)	85 × 88	499	419 823	59.92
8 hours	20/10/20	D. R. O'Donovan / H. H. Peach ...	Norton (1)	79 × 100	490	112 716	55.30
9 hours	20/10/20		Norton (1)	79 × 100	490	494 820	54.93
10 hours	20/10/20		Norton (1)	79 × 100	490	545 1,286	54.57
11 hours	20/10/20		Norton (1)	79 × 100	490	598 697	54.40
12 hours	20/10/20		Norton (1)	79 × 100	490	651 342	54.27

CLASS D.—For motor bicycles of which the cylinder capacity does not exceed **750 c.c.**
The whole of the records in the above Class C also apply to Class D.

*Average mean speed records taken both ways of course = average time of the two runs given.

THE MOTOR CYCLE JANUARY 6th, 1921.

BRITISH MOTOR CYCLE RECORDS EXISTING ON JANUARY 1st, 1921 (*Continued*).

CLASS E.—For motor bicycles of which the cylinder capacity does not exceed **1,000 c.c.**

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Distance.				mm.		h. m. s.	m.p.h.
Flying kilom.	23/11/20	H. Le Vack	Indian (2)	82.5 × 93	991	23.6	94.79
Flying mile	23/11/20	H. Le Vack	Indian (2)	82.5 × 93	991	37.8	95.24
Flying mile*	23/11/20	H. Le Vack	Indian (2)	82.5 × 93	994	40	90.00
Flying 5 miles	9/10/20	H. Le Vack	Indian (2)	82.5 × 93	994	3 32.2	84.82
10 miles	9/10/20	H. Le Vack	Indian (2)	82.5 × 93	994	7 20.8	81.67
50 miles	4/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	39 33	75.85
100 miles	4/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	1 23 8.2	72.17
150 miles	4/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	2 2 28.6	73.18
200 miles	4/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	2 45 5.2	72.69
250 miles	20/ 6/12	C. B. Franklin	Indian (2)	82.5 × 93	994	3 51 3	64.92
300 miles	20/ 6/12	C. B. Franklin	Indian (2)	82.5 × 93	994	4 42 31.4	63.12
350 miles	20/ 6/12	C. B. Franklin	Indian (2)	82.5 × 93	994	5 36 2.6	62.59
100 miles	20/11/13	C. G. Pullin T. E. Greene	Rudge (1)	85 × 88	499	6 11 21.8	59.79
450 miles	20/10/20	D. R. O'Donovan H. H. Beach	Norton (1)	79 × 100	490	8 15 23.2	54.50
500 miles	20/10/20		Norton (1)	79 × 100	490	9 5 38.4	54.98
600 miles	20/10/20		Norton (1)	79 × 100	490	11 1 11.4	54.10
700 miles	6/ 6/09	H. A. Collier	Matchless-Jap (2)	76 × 95	862	21 25 15.6	32.66
Time.						mls. yds.	
1 hour	4/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	73 1,229	73.63
2 hours	4/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	146 1,511	73.17
3 hours	4/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	218 697	72.79
4 hours	20/ 6/12	C. B. Franklin	Indian (2)	82.5 × 93	994	524 1,638	63.73
5 hours	9/ 9/20	J. L. Emerson	A.B.C. (2)	68.5 × 54	199	310 991	62.10
6 hours	20/ 6/12	C. B. Franklin	Indian (2)	82.5 × 93	994	373 1,725	62.33
7 hours	20/11/13	C. G. Pullin T. E. Greene	Rudge (1)	85 × 88	499	419 823	59.92
8 hours	20/10/20	D. R. O'Donovan H. H. Beach	Norton (1)	79 × 100	490	442 716	55.39
9 hours	20/10/20		Norton (1)	79 × 100	490	491 820	54.93
10 hours	20/10/20		Norton (1)	79 × 100	490	545 1,286	54.57
11 hours	20/10/20		Norton (1)	79 × 100	490	598 697	54.10
12 hours	20/10/20		Norton (1)	79 × 100	490	651 342	54.27
24 hours	5-6/ 5/09	H. A. Collier	Matchless-Jap (2)	76 × 95	862	775 1,310	32.32

CLASS F.—For motor bicycles with sidecar of which the cylinder capacity does not exceed **350 c.c**

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Distance.						h. m. s.	
Flying kilom.	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	33.2	67.38
Flying mile	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	55.2	65.22
Flying kilom.*	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	35.6	62.84
Flying mile*	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	59.7	60.30
Flying 5 miles	20/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	5 11.6	57.77
10 miles	20/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	10 52.8	55.18
50 miles	24/11/20	Tudor Thompson	Douglas (2)	60.9 × 60	350	1 1 1.1	49.16
100 miles	24/11/20	Tudor Thompson	Douglas (2)	60.9 × 60	350	2 3 58.8	48.38
150 miles	24/11/20	Tudor Thompson	Douglas (2)	60.9 × 60	350	3 28 7.8	43.27
200 miles	4/11/20	M. C. Breese	Coulson-B. (1)	71 × 88	348	5 11 31	38.52
Time.						mls. yds.	
1 hour	24/11/20	Tudor Thompson	Douglas (2)	60.9 × 60	350	49 271	49.17
2 hours	24/11/20	Tudor Thompson	Douglas (2)	60.9 × 60	350	96 1,239	48.35
3 hours	24/11/20	Tudor Thompson	Douglas (2)	60.9 × 60	350	137 1,216	45.90
4 hours	4/11/20	M. C. Breese	Coulson-B. (1)	71 × 88	348	154 1,596	38.72
5 hours	4/11/20	M. C. Breese	Coulson-B. (1)	71 × 88	348	192 549	38.45
6 hours	4/11/20	M. C. Breese	Coulson-B. (1)	71 × 88	348	250 245	38.35

CLASS G.—For motor bicycles with sidecar of which the cylinder capacity does not exceed **500 c.c.**

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Distance.						h. m. s.	
Flying kilom.	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	33.2	67.38
Flying mile	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	55.2	65.22
Flying kilom.*	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	35.6	62.84
Flying mile*	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	59.7	60.30
Flying 5 miles	22/ 9/15	D. R. O'Donovan	Norton (1)	79 × 100	490	5 6.2	58.78
10 miles	20/ 9/20	D. R. O'Donovan	Norton (1)	79 × 100	490	10 21.8	57.89
50 miles	20/ 5/20	D. R. O'Donovan	Norton (1)	79 × 100	490	56 32.8	53.05
100 miles	20/ 5/20	D. R. O'Donovan	Norton (1)	79 × 100	490	1 56 13.6	51.42
150 miles	20/ 5/20	D. R. O'Donovan	Norton (1)	79 × 100	490	2 56 19.2	50.90
200 miles	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	4 1 57.8	49.59
250 miles	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	5 2 53	49.52
300 miles	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	6 1 29.6	49.79

CLASS G.—For motor bicycles with sidecar of which the cylinder capacity does not exceed **500 c.c.** (*Cont'd*).

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Time.						mls. yds.	m.p.h.
1 hour	20/ 5/20	D. R. O'Donovan	Norton (1)	79 × 100	490	53 347	53.19
2 hours	20/ 5/20	D. R. O'Donovan	Norton (1)	79 × 100	490	102 1,341	51.38
3 hours	20/ 5/20	D. R. O'Donovan	Norton (1)	79 × 100	490	152 1,696	50.92
4 hours	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	198 492	49.59
5 hours	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	247 965	49.51
6 hours	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	298 1,204	49.78

CLASS H.—For motor bicycles with sidecar of which the cylinder capacity does not exceed **750 c.c.**

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Distance.						h. m. s.	
Flying kilom.	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	33.2	67.38
Flying mile	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	55.2	65.22
Flying kilom.*	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	35.6	62.84
Flying mile*	19/10/20	H. R. Davies	A.J.S. (1)	71 × 81	349	59.7	60.30
Flying 5 miles	22/ 9/15	D. R. O'Donovan	Norton (1)	79 × 100	490	5 6.2	58.78
10 miles	20/ 9/20	D. R. O'Donovan	Norton (1)	79 × 100	490	10 21.8	57.89
50 miles	18/10/13	E. B. Ware	Zenith-Jap (2)	76 × 82	744	53 25.4	56.50
100 miles	20/ 5/20	D. R. O'Donovan	Norton (1)	79 × 100	490	1 56 43.6	51.42
150 miles	20/ 5/20	D. R. O'Donovan	Norton (1)	79 × 100	490	2 56 49.2	50.90
200 miles	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	4 1 57.8	49.59
250 miles	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	5 2 53	49.52
300 miles	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	6 1 29.6	49.79
Time.						mls. yds.	
1 hour	18/10/13	E. B. Ware	Zenith-Jap (2)	76 × 82	744	56 542	56.30
2 hours	20/ 5/20	D. R. O'Donovan	Norton (1)	79 × 100	490	102 1,341	51.38
3 hours	20/ 5/20	D. R. O'Donovan	Norton (1)	79 × 100	490	152 1,606	50.92
4 hours	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	198 492	49.59
5 hours	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	247 965	49.51
6 hours	7/ 9/20	H. H. Beach	Norton (1)	79 × 100	490	298 1,204	49.78

CLASS I.—For motor bicycles with sidecar of which the cylinder capacity does not exceed **1,000 c.c.**

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Distance.						h. m. s.	
Flying kilom.	10/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	29	77.11
Flying mile	10/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	18.4	74.38
Flying kilom.*	10/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	29.9	74.82
Flying mile*	10/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	50.7	71.01
Flying 5 miles	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	4 11.6	70.69
10 miles	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	8 50.4	67.87
50 miles	26/11/20	D. Davidson	Harley-D. (2)	84.1 × 88.9	988	43 29.8	68.97
100 miles	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	1 36 18.2	61.98
150 miles	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	2 23 48	62.58
200 miles	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	3 13 3.6	62.15
250 miles	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	4 2 15.6	61.88
300 miles	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	4 48 13.8	62.45
350 miles	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	5 47 56	60.30
400 miles	12/ 7/20	J. D. Marvin J. A. O'Sullivan	Harley-D. (2)	84 × 89	986	7 55 26.8	50.17
500 miles	12/ 7/20		Harley-D. (2)	84 × 89	986	9 50 50.8	50.77
600 miles	12/ 7/20		Harley-D. (2)	84 × 89	986	11 48 39.2	50.80
Time.						mls. yds.	
1 hour	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	66 171	66.26
2 hours	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	125 1,669	62.97
3 hours	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	185 146	61.69
4 hours	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	247 928	61.88
5 hours	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	308 1,433	61.75
6 hours	25/11/20	H. Le Vack	Indian (2)	79.3 × 100.8	998	363 688	60.56
7 hours	12/ 7/20	J. D. Marvin J. A. O'Sullivan	Harley-D. (2)	84 × 89	986	360 1,136	51.52
8 hours	12/ 7/20		Harley-D. (2)	84 × 89	986	404 279	50.51
9 hours	12/ 7/20		Harley-D. (2)	84 × 89	986	456 398	50.69
10 hours	12/ 7/20		Harley-D. (2)	84 × 89	986	508 759	50.81
11 hours	12/ 7/20		Harley-D. (2)	84 × 89	986	558 846	50.77
12 hours	13/ 7/20		Harley-D. (2)	84 × 89	986	609 1,087	50.80

CLASS J.—For cycle cars of which the cylinder capacity does not exceed **750 c.c.**

Record.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	C.C.	Time or Distance.	Speed.
Distance.						h. m. s.	
Flying kilom.	25/ 7/14	E. B. Ware	Morgan (2)	76 × 82	744	34.4	65.10
Flying mile	25/ 7/14	E. B. Ware	Morgan (2)	76 × 82	744	57.06	63.09
Flying 5 miles	25/ 7/14	E. B. Ware	Morgan (2)	76 × 82	744	4 53.8	61.22
10 miles	25/ 7/14	E. B. Ware	Morgan (2)	76 × 82	744	10 5	59.50
50 miles	28/ 3/14	E. B. Ware	Morgan-Jap (2)	76 × 82	744	1 3 7.8	47.52
Time.						mls. yds.	
1 hour	28/ 3/14	E. B. Ware	Morgan-Jap (2)	76 × 82	744	47 457	47.26

* Average mean speed recorded is taken both ways of course—average time of the two runs given.

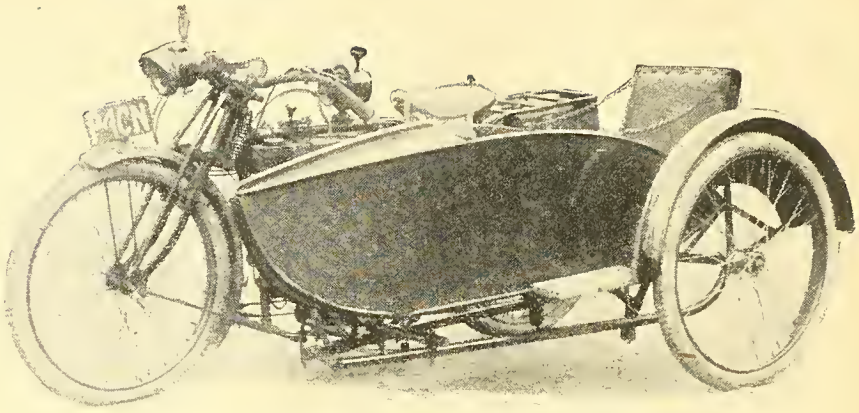
New Lightweight Sidecar

Specially Designed for Low-powered Machines.

A LIGHTWEIGHT sidecar of attractive form has lately been brought out by the L.A.D. Manufacturing Co., Rustic Walk, Lower Bourne, Farnham, Surrey.

Made throughout in Venesta three-ply wood, the body is varnished before the application of the first of seven coats of paint to prevent eventual cracking or flaking.

The back folds down when not in use, thus keeping the seat dry in the event of rain. It is fastened to the main portion of the body by means of chains, which also allow the angle to be adjusted. The suspension is by coil saddle springs.



A sidecar for lightweight machines, the L.A.D., which has a hinged back rest, protecting the seat from rain when the sidecar is empty.

Both strong and light, the body is copper-riveted, neither nails nor screws being employed, and it weighs under 38 lb., being especially designed for lightweight machines, such as the 2¾ h.p. Douglas, Levis, and similar makes. This sidecar is also exceedingly moderate in price.

A New 350 c.c. Four-stroke with Outside Flywheel

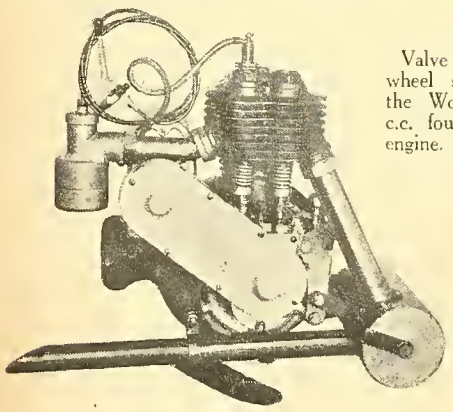
The Wosco Engine which has a Bore and Stroke of 76 mm.

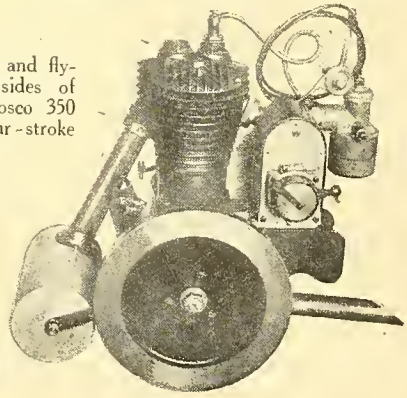
THE outside flywheel continues to gain ground. The latest engine embodying this feature is the Wosco, designed and made by Mr. W. O. Spink, of 52, Broderick Road, Wandsworth Common.

It is a plain straightforward design intended for lightweights, and has a bore and stroke of 76 mm., the capacity being 349 c.c. Side-by-side valves of 1⅝in. diameter are used.

Excepting for the outside flywheel the engine follows well tried practice throughout, but special attention has been paid to lubrication. The oil enters the crank case on the timing side, and is thence conveyed to the cylinder walls and piston by splash from the big end, which dips into a trough cast in the base of the crank case. Cam wheel, rockers, and magneto chain sprocket are lubricated in the usual way by oil vapour from the crank case, whilst both the crankshaft and ball bearings are supplied with lubricant through channels drilled in the casting.

Three rings, located at the top, are fitted to the piston, and an effective method of fixing the gudgeon pin is employed. Two small bolts are screwed into the gudgeon pin bosses, and pass through the gudgeon pin, retaining it in position.





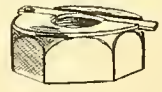
Valve and flywheel sides of the Wosco 350 c.c. four-stroke engine.

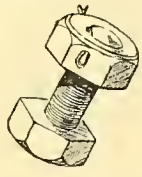
MARRYATT MUDSHIELDS.

ALTHOUGH front mudguarding has been receiving much attention lately, many riders still prefer a neat, if comparatively inefficient, front guard, coupled, when necessary, with a wide pair of leg guards. Good examples of the latter fitment (illustrated on this page) are made by the Marryatt Engineering Co., Askew Works, Shepherd's Bush, London, W.12.

THE TILSTON LOCK-NUT.

AN exceedingly neat lock-nut is the Tilston, which is secured by being drilled at intervals so as to admit of a split pin being pushed through, and allowed to be engaged with a flat cut on the side of the bolt. The flat on the bolt, in its relative position to the holes in the nut, is always in view, and consequently it is easy to locate the alignment of both; while, in the case of Castle nuts, the hole in the bolt cannot be seen, so the alignment between the slots in the end of the hole and the bolt has to be obtained by feeling with the split pin.







Tilston locking-nut devices.

By using a bolt with two or more flats, a finger adjustment may be made. The manufacturers are the Tilston Engineering Co., Ltd., Albion House, 61, New Oxford Street, London, W.C.1.



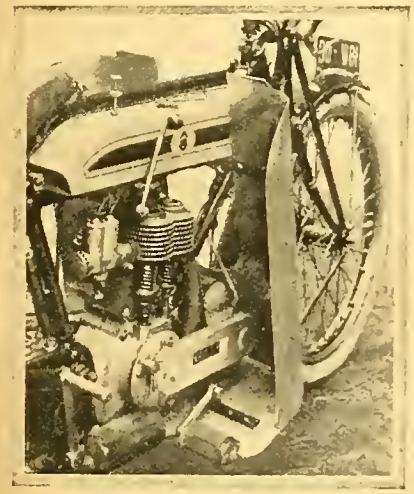
Mudshields made by the Marryatt Engineering Co.

Experiments in Mudguarding.

A One-piece Legshield and Engine Guard for Triumph Machines.

IT is an unfortunate fact that many otherwise excellent machines fall short in the matter of the provision of adequate weatherproofing, such as the "all-the-year-round" type of rider requires.

It is this state of affairs which has called into being innumerable legshields and splashguard devices which are now offered to the motor cycle public. Most of these, it must be admitted, adequately fulfil the purpose for which they are intended, but it sometimes happens that the methods of attachment connected with fittings of this nature leave something to be desired. With this thought in view, Messrs. W. Brandish and Sons, of Foleshill Road, Coventry, set out to produce a complete undershield, magneto-guard and legshields which could be fitted to existing machines with a minimum of trouble.



Simplicity of fitting and ample protection are the great claims made for Brandish's one-piece aluminium mudshield for Triumph machines.



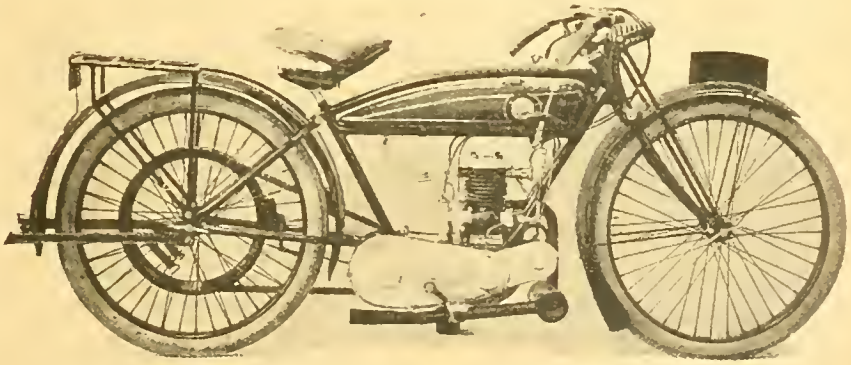
Testing and observing the effectiveness of the Brandish legshields and windscreen in a fifty yards watersplash.

It was believed that to achieve this end in a most satisfactory way only one style suitable for one particular make of machine should be adopted, and the 4 h.p. Triumph was selected. The shield, which is constructed from a single sheet of aluminium, is fitted to the Triumph machine without the addition of any other parts, since the two front tank holding bolts and the two footrest crossbar nuts are used in conjunction with the lugs already attached to the screen; in consequence, the latter may be fitted to the machine in about three minutes without alteration or modification of any part. In order to make quite sure that the rider as well as the engine unit are adequately protected from any splashes thrown off the front wheel, a long series of tests were carried out; and, after a few slight alterations from the original pattern, it was found possible that a long watersplash of quite fifty yards could be negotiated at almost any speed without ill-effects, the rider merely wearing his ordinary clothing and not depending upon waterproof leggings for protection. This should be a great boon to the all-weather "business" rider.

A New French Lightweight.

Knock-out Spindles for Both Wheels and an Aluminium Cylinder Head.

SEVERAL unusual features are incorporated in the 2½ h.p. S.C. two-stroke, made by Etablissements Soyer et Cie., 116, Rue de Paris, Colombes (Seine), France. The engine, which has a detachable head of aluminium and an aluminium piston, has a bore and stroke of 67×70 mm. The carburetter and general appearance conform with English ideas. The wheel spindles are of the knock-out variety, while substantial mudguards are fitted. Needless to say, this machine is equipped with a two-speed gear. The neat aluminium cover for the magneto and transmission chains is worthy of note.



Symmetrical lines distinguish the S.C. two-stroke—a good example of French lightweight design.



Current Chat

Times to Light Lamps.

Jan.	6th	... ...	4.35 p.m.
,,	8th	... ...	4.38 ,,
,,	10th	... ...	4.41 ,,
,,	12th	... ...	4.43 ,,

Well-timed Greetings.

As usual at this time of the year our mail bags have contained a large number of New Year greetings from readers—one as far off as Newark, U.S.A. and another in New Zealand.

Be Careful.

Motor cycles continue to attract the attention of thieves, a warning to motor cyclists to insure and also to look to the locks of their garages.

The A.C.U. Spring Trial.

We understand that the A.C.U. One Day Trial, which was originally intended to be held in February, has been postponed to April.

Enthusiasts.

They are indeed keen motor cyclists who during the winter will turn to and hose their machines after returning, say, at night, from a muddy journey—yet many do it.

Mudguarding.

It is unfortunate that motor cycles are designed in the summer for the next Olympia Show. If winter conditions prevailed during the experimental period we might see a more decided improvement in mudguarding.

First Aid.

Unable to enter in the London-Exeter run Capt. Dudley Barton, the Dunelt exponent, set himself a useful task to help any competitor in trouble. Loading up his big two-stroke outfit with a plentiful supply of Thermos flasks, he started after the last competitor to find any brother of the wheel in need of a helping hand. He found many who appreciated the mobile restaurant in the wilds of rain-swept Salisbury Plain, and also the assistance he was able to give in a mechanical direction. It was a very sporting action and deserves official recognition.

Frame Design.

The effect of the various stresses communicated to the members of the motor cycle frame was the subject of an interesting paper by Mr. Douglas Leechman, read before the Institution of Automobile Engineers last week. It was pointed out that a frame consisting of a series of triangles should be so interconnected that the load is applied at the apices and not at the sides. The author discussed the extent to which the ordinary design of the frame to-day complies with these requirements, and then drew attention to the necessity for large diameter in the bottom tube to diminish any tendency towards "rolling."

Special Features.

A TWO YEARS' TEST.

BRITISH MOTOR CYCLE RECORDS.

PER ARDUA AD—EXETER.

Economy.

The People's Union for Economy is still going strong, but we have yet to see it advocate the more extended use of motor cycles in lieu of trains or other expensive methods of transportation. Forms of membership to the Union may be obtained from 1, King's Buildings, Millbank, S.W.1.

Taxation.

Many owners of motor cycles seem keen to know the weight of their mounts for taxation purposes. We would remind readers that only in the case of machines near the border line of 200 lb. is it necessary to ascertain the actual weight. Below we give a list of some of the machines which are in the neighbourhood of 200 lb.: Alecto (189 lb.), Allon (190 lb.), Armis (185 lb.), 2¾ h.p. and 4 h.p. Coulson B. (191 to 198 lb.), 2¾ h.p. Douglas (174 to 199 lb.), Edmund (185 to 199 lb.), 2¾ h.p. Excelsior (193 lb.), 2¾ h.p. Francis Barnett (195 lb.), 2¾ h.p. H.B. (199 lb.), Invicta (187 lb.), 3 h.p. Ivy (188 lb.), 2¾ h.p. Massey Arran (196 lb.), 2¾ h.p. New Imperial (186 lb.), 2¾ h.p. Royal Ruby (185 lb.), and 2¾ h.p. Wolf (192 lb.). All the above are low-powered solo machines, except the 4 h.p. Coulson B., which is capable of medium-weight sidecar work.



BESIDE THE DEVONSHIRE COAST IN THE M.C.C. LONDON-EXETER TRIAL.

Near Lyme Regis. A. P. MacGowran (4 Triumph sc.) making an adjustment by the wayside.

TAXATION.

Your new licence, which includes taxation, must be paid before January 31st. After this date a licence, which will include numbers, must be taken out before the machine can be used.

The taxes and liecnces are:

- 5/- for motor-propelled machines for invalids.
- 30/- for a solo motor cycle under 200 lb.
- 50/- for a sidecar outfit, the motor cycle of which is under 200 lb.
- 60/- for a solo motor cycle over 200 lb.
- 80/- for a sidecar outfit, the motor cycle of which is over 200 lb.
- 80/- for a three-wheeled cycle car under 8 cwt.

The weights mentioned are unladen weights, *i.e.*, without petrol, oil, and equipment, which is not actually necessary for the machine to run on the road.

The new licence includes registration and taxation, but does not include the driving licence, which remains as before—5s. per annum.

DO NOT WAIT UNTIL THE 31st OF JANUARY!

Next Thursday

Next week's copy of *The Motor Cycle* will cost you only 4d.

The A.A. Taxation Booklet.

A summary in handy form of the various points arising out of the new taxation scheme has been issued by the A.A. Members may obtain a copy free on application by postcard.

Fuel Prices Down.

Commencing on Monday last there was an all-round reduction in the price of motor fuels; sevenpence being deducted from the gallon of petrol, and threepence from benzole. The sevenpence off the petrol price is, of course, in respect of the late fuel tax (plus cost of collection) which is now abolished. Benzole has always been free from tax, therefore the new price represents a genuine reduction. The new prices announced by the Shell Marketing Co., Ltd., this week are: Aviation, 3s. 9½d. per gallon; No. 1, 3s. 5½d. per gallon; Mex spirit is 3s. 3½d. per gallon, while benzole is to be 3s. 8d.

"Motor Traction" becomes "Motor Transport."

The changes of expressions and meanings of words have had many strange results in our dictionaries. The war brought about many such, but there is one that has not been generally realised. It is the word "Transport." Prior to the war, if the word were used, it generally implied a ship that carried troops; to-day it covers everything that carries anything. Likewise, another word has changed—"Traction." This singular verbal revolt has given the staff of our sister journal, *Motor Traction* "for to think." So that no misconstruction should be read into the title it has been changed, and in future will be known as *Motor Transport*. In no wise will the style of the paper be altered, and it will continue to keep its readers fully cognisant of the doings in the transport world as in the past.

Open Events in the North.

At a meeting of the Motor Cycle Board of the North-eastern Automobile Association held at Newcastle, when Mr. T. A. Nicol, O.B.E., presided, it was determined that control of an open reliability trial granted to the Board by the Auto Cycle Union for 30th April next, and an open hill-climb for 30th July next, should be handed over to the Newcastle and District Club. The Board also provisionally accepted a third open event for 24th September next, and secretaries of affiliated clubs at South Shields, Tynemouth, Sunderland, Durham, Hartlepool, Stockton, Bishop Auckland, Darlington, and Wansbeck are to be asked if they have any ambition to run the event.

Exeter Finishers.

In tabular form below is a general analysis of the entries, starters, and finishers in the various classes which ran in the M.C.C. London-Exeter return run. It will be noticed that the best general performance was made by the three-wheelers, while the proportion of solo riders who got through the trying journey is distinctly creditable.

Class.	Entries.	Starters.	Finishers.
Solo	80	69	40
Sidecar	80	70	47
Three-wheelers ..	13	13	12
Cars	64	54	46
Totals	237	206	151

A Guide to the New Licences.

Much useful information concerning the licensing, registration, and taxation of motor cycles is contained in a shilling guide just published by the Auto Cycle Union. The motor cyclist is told how to apply for a licence, where to display his licence card, particulars as to the renewal and transfer of licences, issue of duplicate licences, registration, the registration book, and is given much other useful information.

The book concludes with a list of registration and licensing authorities in the United Kingdom, a list of lightweight motor cycles giving the weight of each, and a table indicating the increase or decrease of the amount of annual tax payable by a motor cyclist in the year 1921, as compared with previous years.



Front and rear views of the new A.C.U. combined badge and licence card holder.

THE MOTOR CYCLE

4d.

As announced last week, commencing with next Thursday's issue, the price of "The Motor Cycle" will be 4d. instead of 4½d. as hitherto.

A small reduction in the cost of paper enables us to effect this slight change. We regret we are unable at present to lower the price to 3d., but the vast circulation (over 100,000 net) makes this impossible at the present cost of labour and material.

A further reduction in price will be made as soon as circumstances allow.

ILIFFE & SONS LTD.

Cautious Garage Men.

Careful garage proprietors last week were apparently clearing out their 1920 stocks of petrol, and often in consequence only Aviation or some of the heavier grades of spirit were available. That, anyhow, was an explanation we listened to on several occasions; and we need hardly add that bargain sale tactics were *not* adopted.

"The Autocar"—4d.

Our parent journal, *The Autocar*, the representative British motoring journal embracing all types of cars, will from next week's issue be fourpence per copy instead of sixpence as at present.

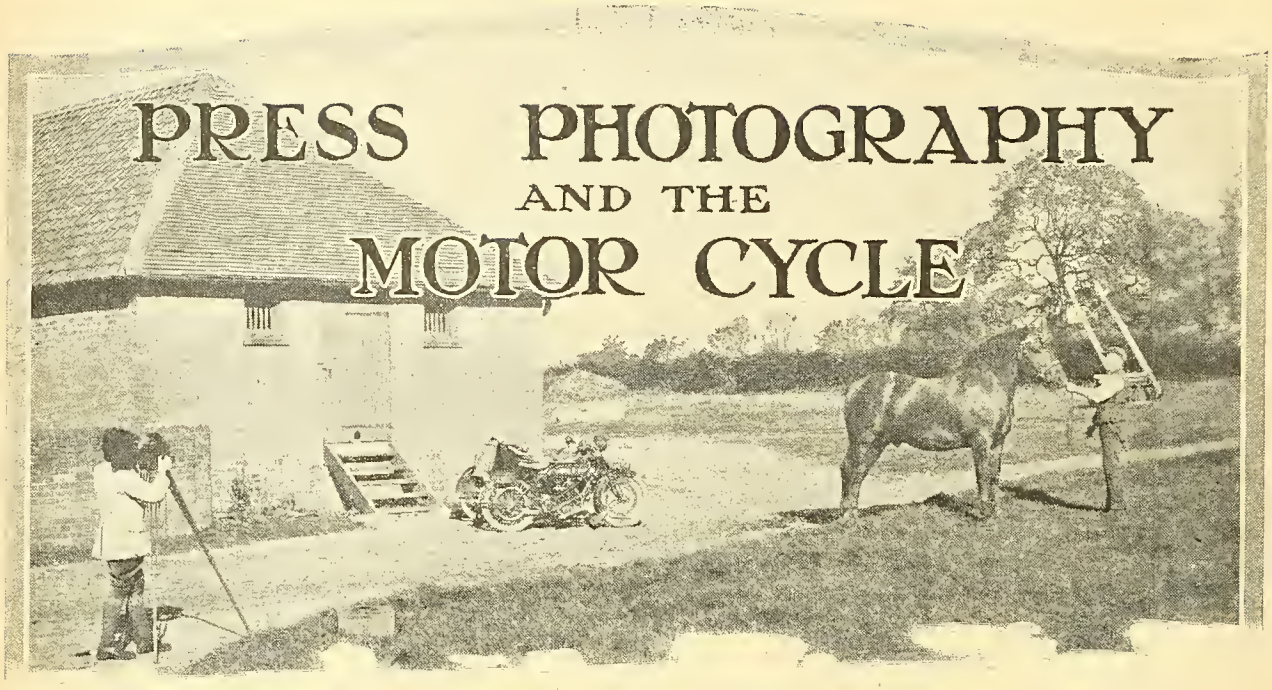
Another Licence Holder Idea.

Ingenuity in providing means of fixing the new licence carriers has by no means exhausted itself. Although primarily designed for car use, a neat device which could be applied to most sidecar bodies was described in a recent issue of *The Autocar*. The holder is simply attached to a sheet of flexible material (sheet rubber), stiffened by a wire frame, and the top portion of the latter is bent over so that it may hang over the top heading of the door. It is secured inside beneath the upholstery of the interior, and its advantages are that it is not dependent on close fitting to contoured body panels, nor is the surface of the latter damaged in any way.

An A.C.U. Licence Card Holder.

Members of the A.C.U. will be able to parade their licence on the same clip that will carry their badge. Realising that the average motor cyclist has an aversion to having too many clips on his handle-bar, the A.C.U. has introduced a combined badge and licence card holder, which is exceptionally neat, and has no small bolts and nuts to hinder cleaning. The illustrations show the construction and general appearance of the new badge and holder, which is to be offered to members for 5s.

PRESS PHOTOGRAPHY AND THE MOTOR CYCLE



The Advantages of a Sidecar for Press Work in Out-of-the-way Places. A B.S.A. Outfit in the Hands of the "Agricultural Gazette" Photographer.

ONLY pedlars and *The Motor Cycle* photographers are required to go to such out-of-the-way places as myself. I travel over large areas of this country in quest of pedigree animals to obtain photographs for the *Agricultural Gazette*.

In the early days I found considerable difficulty and delay in reaching a destination for the reason that my "hunting grounds" were remote from railway stations, which often are of so unimportant a character that the chance of securing a conveyance was very doubtful.

As my trips were often of a fortnight's duration, it was necessary to take with me a large supply of photographic plates, as I frequently make several hundred exposures on one outing. This plate item, in addition to my camera outfit, rendered my "kit" a distinctively heavy one, making a walk of even a mile or so practically impossible.

The accompanying illustrations indicate the way in which I finally solved the problem, with a 4¼ h.p. B.S.A. and its well-sprung sidecar, which carries the "kit" without vibration. Vibration, leading to friction and chafing between the sensitive plates, was my greatest fear, since the slightest rubbing of these delicate surfaces would be quite sufficient to damage an otherwise good animal portrait. The mechanism of the special animal camera, too, would possibly be endangered by undue jolting.



The local inn frequently has to provide "lunch," which often consists of humble bread and cheese.

I found that, by taking out the cushioned seat, I could accommodate a good size leather "kit bag," and by means of two ropes I fastened this to the base of the sidecar. Into this bag went my camera case,

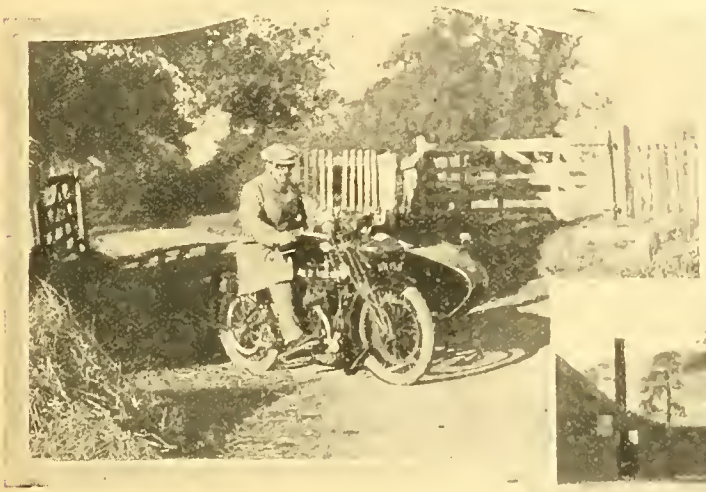
Press Photography and the Motor Cycle.—

and round the latter I packed my spare plates with small cushions of hay to keep the whole of the apparatus tight. When the bag was closed, the contents were insulated from such road shocks as the springs did not take up when traversing rutty lanes and farm tracks. My personal equipment is carried in the fore part of the sidecar, and, if need be, a few more boxes of spare plates also.

Since March of this year I have covered close upon 7,000 miles without more than merely trivial attention to the machine, and with only some half a dozen cases of "friction" marks on the plates. The ease with which I can get to my destination, whether it be a few miles across country or three hundred miles away, is surprising, and such journeys (unless caught in very bad weather) are a source of real pleasure and enjoyment. At the end of my journey I am fresh and ready for work, instead of fatigued by carrying my heavy camera outfit from one stuffy train to another.

Frequently in the rail-travelling days, when my photographic work was done, I had to wait three or four hours for the first available train. By motor cycle, I pack up and am on the road to my next appointment within half an hour of making my last exposure. The sound, if rather heavy, construction of the B.S.A. machine, is exactly the thing for my comparatively rough all-weather requirements, and nothing could be better than the way it has answered my needs with the minimum of attention and experience.

REGINALD A. MALBY, F.R.P.S.





AT A NORFOLK FARM.

(Left) The B.S.A. outfit, which has proved a great aid in getting from farm to farm without waste of time.

(Right) Setting up the photographic apparatus in the farm yard.

THE SIDECAR TAX.

A Point in the New Taxation Scheme which should be Altered.

IS the £1 sidecar tax an impost on the attachment, or a tax on the right to use a sidecar?

This question has been raised by more than one reader, and it reveals a point which should be amended. As it stands at present, a motor cyclist may pay the tax several times per year on the same sidecar, and we are sure this was not intended. The £1 extra tax for a sidecar over the motor cycle tax merely gives the right to attach a sidecar, and is not a tax on the attachment itself.

An Extreme Illustration.

As an extreme example to illustrate the point, we will suppose that a rider buys and sells his solo motor cycle several times during the year, but retains the sidecar which he uses with it. Each of the new machines would be subject to the full sidecar tax, and the buyer would take, with a machine without an attachment, the taxation registration giving him the right to attach a sidecar. It may happen that the purchaser may not want to use the machine with a sidecar, but if the seller has added the tax to the price of the machine, he pays for the right, and perhaps the next year some confusion may arise with the authorities when it comes to renewing the licence.

Far better would it be for the sidecar tax to be complete in itself—although it would call for a separate licence card and holder.

Probably the three most outstanding features of post-war motor cycles are disc wheels, sidecar screens, and pillion seats. The popularity of the wheel disc continues to increase and is likely to do, since the present day product is a vastly superior article to the first efforts to enclose the spokes. Sidecar screens are now regarded as absolute essentials by 90% of motor cyclists—even the smallest sporting sidecar has its miniature screen. While as for pillion seats—every other machine one sees on the road is equipped for the occasional extra passenger.

C

CLUB NEWS. (Continued from page 12.)

Birmingham M.C.C.

The annual dinner, smoking concert, and prize distribution will be held on Friday, January 21st, at the Imperial Hotel, Temple Street.

Liverpool M.C.

A two-day winter reliability run to Edinburgh and back will commence on January 22nd. There will be no secret checks, and failure to climb Kirkstone Pass will not entail disqualification.

On Friday, January 28th, the annual general meeting of the club will be held at the Compton Hotel, Church Street, Liverpool, at 7.30 p.m.

Carmarthen and District M.C. and C.C.C.

The second annual dinner in connection with the Carmarthen and District Motor Cycle and Cycle Car Club was recently held at the Nelson Hotel, Carmarthen, Mr. W. D. O. Thomas presiding.

Mr. William Edwards, Carmarthen, in proposing "The Sport," said they had met in many keen competitions last year, and he trusted he would meet them again next season.

Dr. A. Lindsey, Ystalyfera, in responding, said opinions differed as to sport. *Punch* defined it as a sport which was merely sitting in a draught. (Laughter.) He was very keen on it from an educational point of view.

The toast of "The Carmarthen Club" was submitted by Mr. D. J. Powell, who said they had had the honour of organising an open speed trial. They intended instituting a Welsh T.T. at Pendine in 1921.

Cumberland County M.C.C.

This club has had a most successful year. The membership has increased considerably, all events have been well attended, and the financial position is most satisfactory. The open event (the first allocated to this club) was a decided success. An annual general meeting is fixed for the 21st January, and the annual dinner for the 28th.

North Wilts M.C. and L.C.C.

Over seventy members and friends attended the first annual dinner of the North Wilts Motor Cycle and Light Car Club, held at the King's Arms Hotel, Swindon, under the chairmanship of the president, Mr. E. C. Skurray, M.B.E. During the evening the president distributed the cups and medals won by members in the club competitions, including silver cups presented by Messrs. English, Salvage, Skurray, and an anonymous donor, and a gold medal presented by Messrs. Triumph Cycle Co., Ltd.

Reigate and Redhill M.C.C.

A preliminary meeting was held at the Warwick Hotel, Redhill, recently, there being a large attendance of motor cyclists, including several ladies. The meeting decided that the name of the club should be the Reigate and Redhill Motor Cycling Club, and, also, that the club be affiliated to the A.C.U., the annual subscription to be 10s. 6d. with an entry fee of 1s. The annual general meeting is fixed for January 6th at the Warwick Hotel, Redhill. Mr. E. P. Duplock, 15, High Street, Redhill, will furnish any information required.

Bristol M.C.C.

On Boxing Day the riding conditions in the West were so uninviting that only eleven of the twenty-three entrants followed the trail laid by Messrs. A. E. Tozer (Rudge sc.) and W. Scampton (Matchless sc.). Not a stiff course in good weather, yet it proved one of the muddiest. It included several good climbs, plenty of water-logged roads, and was as strenuous as anyone could wish.

Edinburgh and District M.C.C.

At the club dinner held in the Caledonian Station Hotel, Princes Street, Edinburgh, Colonel Slater occupied the chair. Representatives from Glasgow clubs included Mr. Simpson, President of the Glasgow Western M.C.C., and several others. Mr. Anderson represented the Cumberland County, and Mr. J. M. Russell the Peebles and Tweed Valley M.C.C. The Chairman asked Mr. Anderson, of the Cumberland Club, to toast Edinburgh and District, which Mr. Anderson did with becoming grace, apologising for the absence of Mr. J. J. Dias, the well-known P. and M. rider, and extending a welcome to the Edinburgh Club members to participate in Cumberland events. The programme was filled in with the usual speeches and songs, Messrs. Muirhead, McKay, and Downie contributing to the musical programme, while Messrs. Campbell McGregor, H. Alexander, J. Alexander, and Mr. Simpson, of Glasgow M.C.C., all made excellent speeches.

MOTOR CYCLE DISPLAY IN SCOTLAND.

ALTHOUGH the Olympia Shows are visited by a large number of buyers in Scotland, it is only to be expected that this number by no means includes all Scotch motor cyclists and car owners who desire to examine new models. That this is duly appreciated in the automobile world is apparent, since a Scottish show is always arranged about this time of the year, but unfortunately prospective buyers of motor cycles have not the same opportunity to inspect the latest machines.

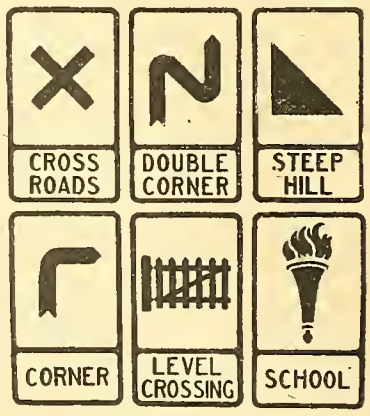
This year, however, an effort is to be made to meet this need, and during the Scottish Automobile Show at Glasgow, January 28th to February 5th, motor cycle agents in the Scottish Metropolis propose to make a special display of 1921 machines, which should be a great convenience to those of our readers who reside north of the border. While this idea cannot be so fruitful as an exhibition, there is every promise that the results will justify the effort. We understand that the display is intended to interest all private buyers and agents in Scotland, and not, as might first be supposed, a selfish attempt on the part of Glasgow traders to attract buyers outside their territories for their own ends.

UNIFORM DANGER AND DIRECTION SIGNS.

A SCHEME for obtaining uniformity in road direction posts and danger signs has been under consideration by the Ministry of Transport for some months, and its recommendations have now been made public.

Regarding the first item, roads are to be numbered and classified, as in some Continental countries, as first or second-class routes. Standard direction posts will be used, a first-class road being indicated by a black letter A and the route number on a white ground, and a second-class road by a white letter B and the route number on a black ground.

On this page also are shown the proposed new types of danger sign, but it must be understood that these are to be used in conjunction with, and not to supersede the familiar red triangle. The special danger to be guarded against will be indicated by its respective symbol on a plate 12in. wide by 21in. high, to be attached to the post below the triangular danger sign. It should be noted that special signs will not be erected at cross roads or junctions that are in visible positions nor at the approaches to towns and villages. Contrary to general expectations, nothing is embodied in the recommendations regarding a prior right-of-way for the main road rider and vesting the onus of special caution at cross roads on the driver emerging from the secondary road. This is disappointing.



Signs indicating specific dangers.

THE FINE ART OF PUBLICITY.

No one may accuse the Worcester M.C.C. of not being enterprising. Several members of the club assisted at the M.C.C. London-Exeter Trial; and at the supper stop at Salisbury each competitor was handed an envelope containing a propaganda summary of the why and wherefore of the "Sporting Club."

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d. stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

SOLID TYRES WANTED.

I believe in a previous number of *The Motor Cycle* I saw reference to solid or semi-solid tyres. Will you please be good enough to inform me who are the makers and retailers of these tyres? Do you consider that the modern sidecar outfit would stand the fitting of these, provided they were used for ordinary family use?—L.J.G.

Solid tyres would not be suitable for existing types of motor cycles, and, so far as we know, they are not manufactured.

BELT WEAR.

I ride a 6 h.p. Zenith outfit, and had a new belt not long ago, and have done 500 miles with it. As far as I know it is now useless, the rubber being stripped from either side although otherwise quite sound. Can I get it re-covered with rubber in the same way as a cover is retreaded?—BRIGHTON.

The belt should not be worn out in such a short distance, and we can only think that the trouble has arisen through faulty methods of driving. The Gradua gear should not be operated violently, but the change in ratio should be made by gradually moving the handle to right or left as desired. One of the surest ways of spoiling a belt is rapidly to lower the gear from top to bottom. We have never heard of belts being re-covered with rubber. The expense of dealing with small lengths would be prohibitive.

RIGHT OF ENDORSING LICENCE.

While travelling along the Cambridge Road I ran into a police trap just outside a village. The speed given was twenty-seven miles per hour, and for this I was dealt out the maximum fine of £3 and licence endorsed. As this is my first offence in twelve years' driving, apparently a good deal rests on the type of magistrate one encounters, for a friend of mine was only fined 10s. 6d. for a similar offence in London, and this not his first appearance. Should my licence have been endorsed?—A.F.J.

The fine certainly appears to be harsh, especially if the speed limit was exceeded on a safe stretch of road. However, the magistrate has the right to exercise his discretion in the case. It is understood that a licence cannot be endorsed for the first or second offence of exceeding the speed limit, and possibly you might get the endorsement cancelled if you take up the matter with the Clerk of the Court concerned.

THINNING A THICK OIL.

I should be much obliged if you would give me advice on the following. Having a quantity of B.B. oil and a motor cycle fitted with a 2½ h.p. Villiers two-stroke engine, I wondered if this oil would do thinned down with petrol.—A.A.S.

It would be inadvisable to thin down thick lubricating oil with petrol. A far better course would be to obtain some Vacuum A and mix until the oil is as required, although, unless the weather is exceptionally cold, there is no reason why you should not use the heavier grade.

STROKE-BORE RATIO OF TWO-STROKES.

(1.) On a two-stroke engine is there any advantage as regards speed in using roller bearings for the big end of the connecting rod? What is the difference approximately? (2.) Would an engine with a shorter stroke than bore give off higher speed than one of equal bore and stroke (type of engine, two-stroke, three-port)? (3.) What power should a two-stroke, three-cylinder engine, 2⅜in. bore by 2½in. stroke, give? Am I right in assuming about 7½ h.p.?—H.A.B.

(1.) Roller bearings are quite satisfactory for the bigs ends of connecting rods on a two-stroke engine, and have the advantage of withstanding hard work under adverse conditions. (2.) Usually a two-stroke engine has a "square" cylinder, but there are several on the market, both for motor cycle and motor boat work, which vary in both directions. It depends entirely upon the port design, but generally it is considered that the short stroke is the better. (3.) Seven and a half horse-power should be attained with three cylinders of the size you state.

ADDITIONAL BRAKE.

I should be pleased for your advice on the following. I have an old model 7-9 h.p. Indian. This has had a pedal starter, with Corbin Brown coaster brake (duplex acting). The starter pedals are scrapped, and only the external contracting band brake will operate. All the internal parts are perfect; but I do not know how to adjust, for although the bronze disc is interconnected with the foot pedal, it fails to grip, owing, apparently, to movement in the starter sprocket on the opposite side of hub. (1). How should I adjust this without getting separate starting equipment? (2.) What would be the best form of secondary brake—front rim, dummy belt rim, or some make of external contracting brake?—S.H.R.

(1.) Your machine must be a very old model, and we have no available information regarding the American type of coaster brake which you describe. (2.) You cannot fit a front rim brake on account of the action of the Indian front forks, and probably the easiest way out of your difficulty would be to fit a dummy belt rim on the back wheel. Complete rear brakes may be obtained from several accessory firms.



In our New Year's Post Bag: Greetings from the Ariel Competition Riders—L. Newey, J. L. Stocks, and T. Peck.

REMOVING A TRANSFER.

A dealer's transfer has been put on my new machine in disregard of my strict orders to the contrary. As it spoils the appearance I wish to remove it. How can I do this without injuring the enamel?—TASTY RIDER.

If you proceed carefully you may remove the transfer by means of a flannel soaked in turpentine. The cautious application of benzole might also help matters.

A BELT THAT TWISTS.

I have recently bought a 6 h.p. 1914 belt-driven machine with sidecar, and am having some trouble with the belt (1¼in.) twisting and running on its side on the back wheel pulley only every four or five miles. Please tell me the cause and the remedy.—W.M.H.

The trouble may be due to the belt being of the incorrect angle and being hardly deep enough. Also, in all probability the pulleys are for 1in. belts only.

IS IT A PISTON TAP?

I should be much obliged if you would help me to elucidate the origin of a metallic knock, or clanking, which has made it impossible for me to ride a W.D. Triumph I obtained from the War Motors Association last February. I have made the following repairs in order to try to prevent the noise, viz.: (1.) Fitted new roller bearings to big end. (2.) Taken flywheels apart and reset. (3.) Fitted new small end bearing carefully. (4.) Turned out grooves in the piston and fitted wider rings neatly. (5.) Decarbonised, ground in valves, etc. (6.) Dismantled, took to pieces, and cleaned out Sturmey-Archer three-speed gear box. (This was in perfect order.) (7.) Dismantled clutch entirely, and found it in good order. (8.) Raised cylinder ¼in. In spite of all the above alterations, the knock is as bad as it was in the beginning. The valve tappets are loose in their guides, but the timing gear is in excellent condition. When riding I have held up the valve tappets against the valve stems tightly with my fingers, but without producing any diminution of the distinct clanking. Testing on the stand, using a wooden shaft as telephone, indicates that the noise comes from the cylinder. On taking out the plug and revolving the engine by means of the kick-starter the noise was very audible. The only thing that I have not done so far is to replace the tappets and guides. Do you think that this can be the cause? My cylinder is perfect, the rings are bright, and compression very good.—B.R.B.

You have apparently carried out all the adjustments which would remove the cause of the trouble, and we can only think that the noise is due to the piston being a very loose fit in the cylinder. If by any chance the worn part of the cylinder bore is distinctly larger than the mouth of the cylinder it is quite likely that you will get a knock, due to the bottom piston ring striking the edge of the unworn part, since you have raised the cylinder ¼in. You might examine the inside of the bore carefully, and see if wear is discernible.

LIGHT FROM MAGNETO.

Is it possible to use an ordinary high-tension magneto for lighting? and what alterations would have to be made in the winding of the armature?—F.C.

You can obtain a light from the high-tension magneto by using the surplus low-tension current, which may be tapped off from the cut-out switch and passed to the lamps through a choking coil.

Important Dates.

Jan. 20th—
F.I.C.M. Conference, Brussels

Jan. 28th to Feb. 5th—
Scottish Motor Exhibition, Kelvin Hall, Glasgow.

Feb. 25th—
A.C.U. Silencer Trial—Brooklands.

March 25th—
Richmond Meet.

March 26th—
M.C.C. London-Land's End Trial.

April 27th—
A.C.U. One-day Winter Trial for Stock Machines.

May 14th—
M.C.C. London-Edinburgh Run.

WHAT IS A "CUT-OUT"?

(1.) What is the law regarding the silencing of motor cycles? (2.) What is a "cut-out"? (3.) Is a perforated silencer a "cut-out"?—H.W.

(1.) The law on the silencing of motor cycles is not very clear. The exhaust gases must not pass directly from the engine into the atmosphere without first passing through a suitable silencing device. Provided a machine is reasonably silent, the construction of the silencing arrangement is more or less left open to the designer. (2.) A "cut-out" is an apparatus which allows the exhaust gases to pass directly to the atmosphere without first passing through the silencer. (3.) A perforated silencer would probably be regarded as a "cut-out," especially if the machine was noisy.

EXTRA AIR INLET.

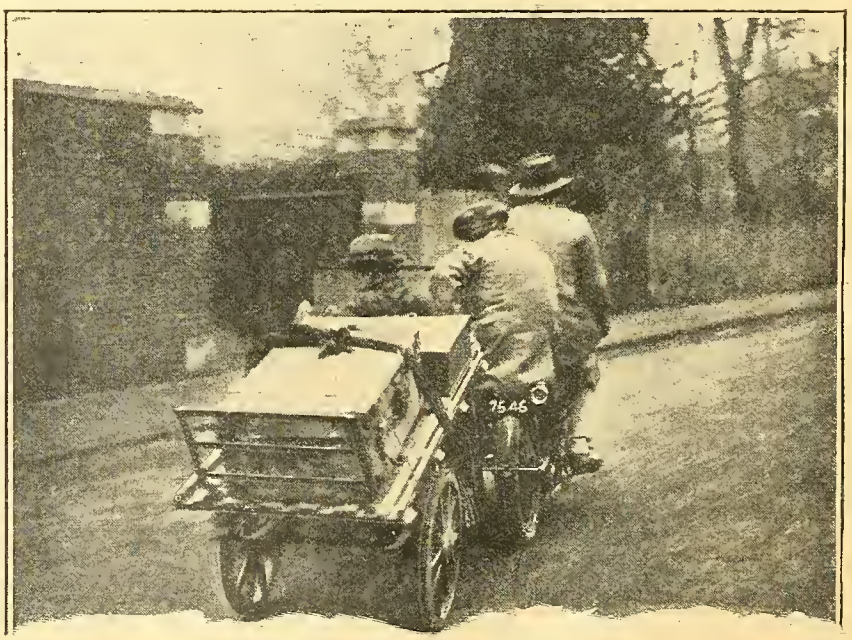
I have a 1919 3½ h.p. Rudge-Multi with Senspray carburetter, and at present obtain 60-65 m.p.g. (1.) Is this a fair average? (2.) I am told that the fixing of an extra air device in the induction pipe would give (a) more speed, (b) more power, and (c) greater m.p.g. Is this so? (3.) Are there any disadvantages to be set against the advantages mentioned in (2)?—C.G.

(1.) Much depends on the nature of your riding, but, solo, your consumption should work out at about 80 m.p.g. Verify jet size, petrol level, and ignition timing with the makers' instruction booklet. (2.) As the Senspray is a two-lever carburetter, we question if an extra air inlet would give the greatly improved efficiency which your friend predicts. (3.) Provided the extra air inlet is correctly fitted so as to avoid air leaks, there is no objection to such extra fitments except the initial expense.

RECOMMENDED ROUTE.

CLEETHORPES TO MILFORD HAVEN.—J.W.G.

Cleethorpes, Humberston, Tetney, Fulstow, Covenham, Louth, Horncastle, Tattersall, Sleaford, Falkingham, Bourn, Stamford, Uppingham, Rockingham, Market Harborough, Rugby, Warwick, Alcester, Worcester, Hereford, Willersley, Hay, Brecon, Llandovery, Llandilo, Carmarthen, St. Clears, Narberth, Haverfordwest, Milford Haven. Approximately 310 miles.



EVERY MAN HIS OWN PORTER.

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There are Plenty of them

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We have plenty of them—in any shade to match your sidecar.
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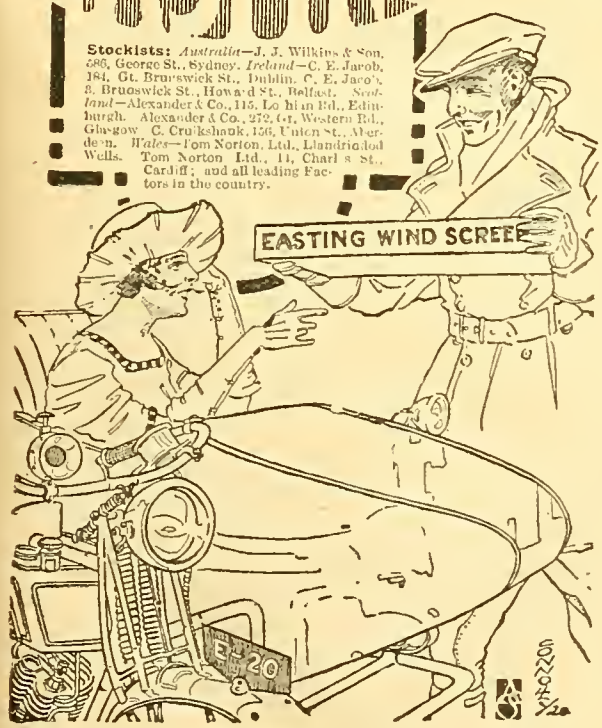
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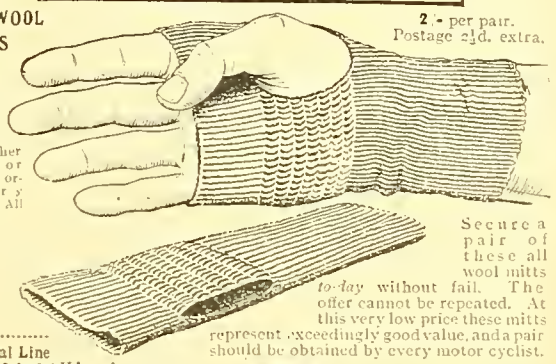
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EVERYTHING for the MOTOR CYCLIST.

ALL WOOL MITTS

2/- per pair. Postage 2½d. extra.



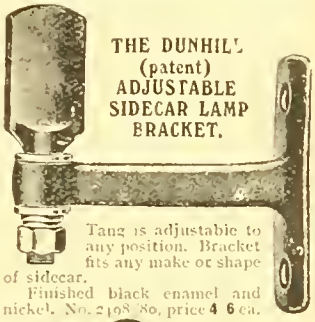
Beautifully warm. For wear either alone or under ordinary gloves. All wool.

Secure a pair of these all wool mitts *to-day* without fail. The offer cannot be repeated. At this very low price these mitts represent exceedingly good value, and a pair should be obtained by every motor cyclist.

Special Line
BALACLAVA HELMETS
All wool. Splendidly cosy and warm. Completely cover the ears and throat. Price 2/- each. Postage 3d. extra. Write for one to-day.

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Every attention is given to orders sent through the post and complete satisfaction is ensured. Simply mark a X against the item wanted, write your name and address on the margin of this page, tear it out, pin on your cheque postal order or money order, and post to us.

THE DUNHILL (patent) ADJUSTABLE SIDECAR LAMP BRACKET.

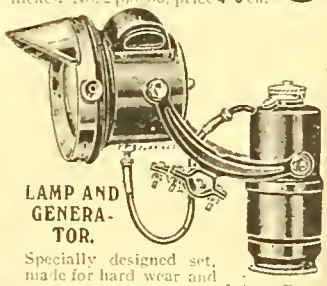


Tang is adjustable to any position. Bracket fits any make or shape of sidecar.
Finished black enamel and nickel. No. 2408 So, price 4/6 ea.



SIDECAR LAMP.
Torpedo shape model for acetylene in polished aluminium, with side bracket fixing. Very light, yet extremely strong. No. 22130 So, price 12/6 each.

REAR LAMP
A very smart little lamp. Torpedo shape in aluminium. No. 2135 So. With carrier fixing 7/9 each. No. 2137 So. With number plate fixing 7/9 each.



LAMP AND GENERATOR.
Specially designed set, made for hard wear and long service. Handle-bar fixing. Best quality. British made throughout.
An exceptionally efficient, compact, durable and neat outfit.
No. 2405/80, price 60/- per set complete.

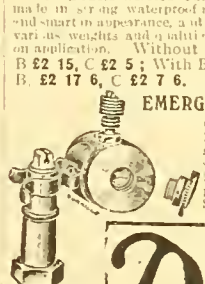


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for fitting on handle-bars. Round pattern. Black or nickel finish. 30 hour movement, 18/9
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WATERPROOF JACKETS.
2415/60 Double-breasted Jacket, 44in. long, made in strong waterproof material, well-cut and smart in appearance, and very durable, in various weights and qualities. Patterns sent on application. Without Belt, A £3 3, B £2 15, C £2 5; With Belt, A £3 5 6, B £2 17 6, C £2 7 6.

EMERGENCY LIGHT.
Gives a serviceable light, ample to enable you to complete your journey in safety should any mishap occur to the regular acetylene supply. Simply fill the reservoir with petrol and clip on to the lamp burner as shown. Strongly made in brass and nearly finished



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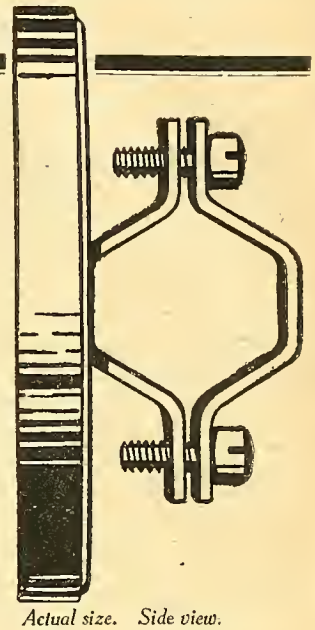
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Superior finish in brass or nickel, for fixing to handle-bar.



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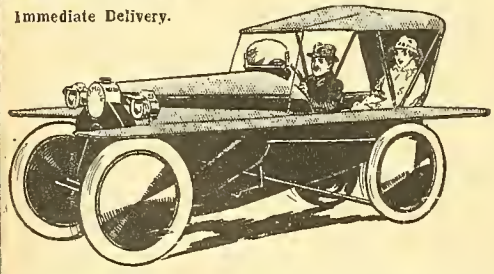
St. James's 3.

TAMPLIN

— 1921 —

£165 **FOUR-WHEELER**

Immediate Delivery.



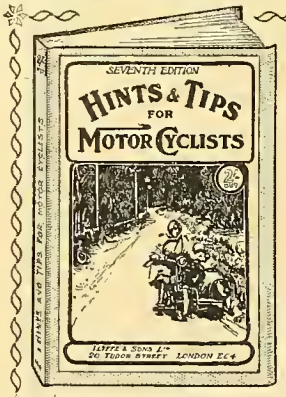
Agents please write for 1921 Proposition.

Specification.—8 h.p. J.A.P. A.C. twin in front. Amac Carburetter. Sturmey-Archer 3-speed Gearbox. Drive by enclosed chain and long one-piece belt. Seat kick-starter. Pedal-operated clutch and brake. Separate hand brake. Solid live axle, giving drive and braking on both wheels. Car type ball bearing throughout the transmission and wheels. Springing by adjustable coil type in front, and semi-cantilever rear. Ackerman steering by rods. Coach finished body, painted Royal Blue, and varnished; with black bevel mud wings. Entire bonnet instantly detachable. Petrol tank capacity $4\frac{1}{2}$ gallons. Oil tank $\frac{1}{2}$ gallon. Overall length 117ins. Width 39ins. Seat width 20ins. Ample leg room. Speed up to 50 m.p.h. Consumption 60 to 102 m.p.g. guaranteed.

THE TAMPLIN ENGINEERING WORKS,
KINGSTON ROAD, STAINES, MDDX. 'Phone: 139 Staines.

FINAL CLEARANCE.

Officers' surplus Bedford cord Riding Breeches, in khaki, drab, or dark brown. Usually £2, now **30/-**
Australian breeches, very heavy, dark khaki, all lace knees very smart. Usually 35/-, now **25/-**
Bedford cord trousers (best quality only), in drab, khaki, or dark brown. Usually 35/-, now **25/-**
Officers' socks (best quality only), in greys, browns, Lovats, heather mixtures (winter weight). Usually 3/9 pair, now three pairs for **7/6**
Canadian pure wool Cardigans **10/6**
Fox's puttees, khaki or blue .. .. **7/6** pair
SPECIAL OFFER. 100 only. Despatch Riders' Jackets. Waterproof gaberdine, wind cuffs, storm collar, soft leather wind protector inside fronts, body parts quilted wool, three pockets; loops for belt, lined Italian cloth. These are all soiled, but in good condition. Can be worn as an overcoat or as ordinary jacket. Price, to clear **30/-**
Send size of breast, waist, and height.
As we anticipate a complete clearance, we cannot send goods on approval at sale prices. All goods carriage paid. Cash, with order.
ABLITT & SON, NEEDHAM MARKET, SUFFOLK



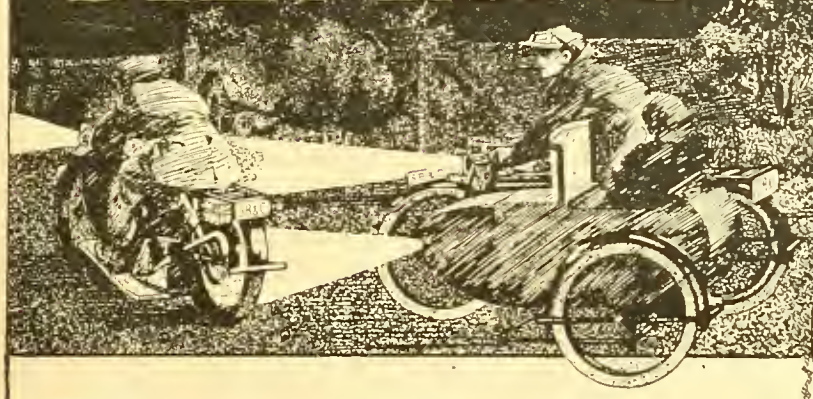
A USEFUL BOOK for Motor Cyclists

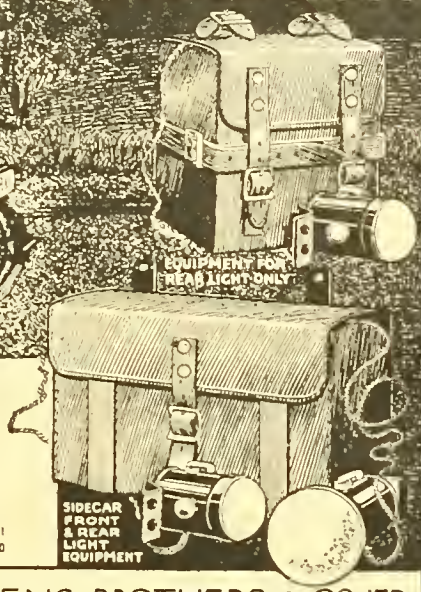
FULL of valuable information and "wrinkles" relating to the purchase, driving, adjustment, management, equipment, repair, garaging, etc., of motor cycles. The present edition has been thoroughly revised and is right up to date in every respect.

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EQUIPMENT No. 1. Comprising SIDECAR and REAR LAMPS, and two Siemens DRY BATTERIES in LEATHER CASE.

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Set.	Approximate number of hours light from one Battery.	PRICE, Including Batteries.	Spare Batteries.
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Illustrated booklet on application to

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WOOLWICH · LONDON · SE 18

1921 MACKLUM MOTORETTE

Entirely British.



"Sooner or later the light-weight open-frame machine will come. Of this we are convinced."

Vide "The Motor Cycle," Jan. 22, 1920.

Letter from customer:
"The springing is wonderfully good; in fact, easier than any motor cycle I have ever ridden."

SHORT SPECIFICATION—2½ h.p. Pero 2-stroke engine, Brampton spring chain, two band brakes.

PRICE - £60

For further particulars apply to the manufacturer:

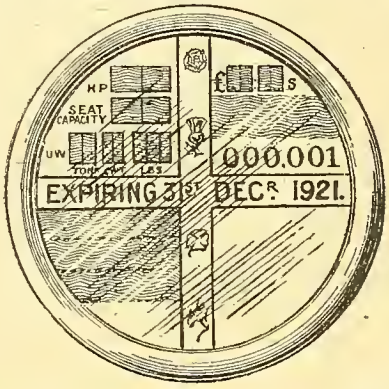
F. MACCALLUM,

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The "LUISANDI" Licence Holder

UNIVERSAL TYPE.

NICKEL - 7/- each.
BRASS - 6/- ,,
ENAMEL - 5/- ,,
(Black or Colours).



TYPE FOR ATTACHMENT TO FLAT SURFACE.

NICKEL - 3/- each.
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THE NEATEST. ***MOST EASILY FIXED.***
THE BEST LICENCE HOLDER.
Approved by Authorities. *Fits all Machines.*

The "LUISANDI" Holder is so constructed that it will in no way be a disfigurement to your machine. It is made in two STYLES and several FINISHES.

Ask your Garage for The "LUISANDI" Holder.

MANUFACTURED BY LOUIS SANDY, EMPIRE WORKS, SPENCER STREET, BIRMINGHAM.

THE CYKELAID



The Cykelaid fitted to a Sunbeam Bicycle.

The CYKELAID is THE POWER UNIT for PEDAL CYCLES.
Made to fit either LADIES' or GENTLEMEN'S Machines. Have you got one?

1¼ h.p. Two-stroke.
Automatic Lubrication.
Spring Forks.
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Write for full particulars to the SOLE MAKERS:

The SHEPPEE MOTOR Co LTD
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100% 100% TAN-SAD 100% 100%

THE EVER TRIED AND TRUSTY
TAN-SAD Pillion Seat.

HAVE NO OTHER. 100% SAFETY.



FITS ANY MOTOR CYCLE CARRIER

100% COMFORT FOR THE PILLION RIDER.
To this you can fit Back Rest, Foot Rest, Jockey Stirrups, or Handles.

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No Extra Premium for Pillion Riding and you can INSURE AN UNNAMED PILLION RIDER.

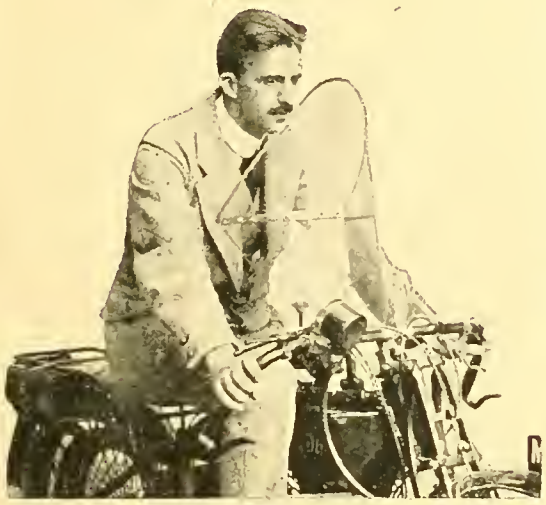
THE MOST TALKED-OF THING AT OLYMPIA WAS THE
TAN-SAD "NO HURTS" SADDLE.
Makes your machine better than a spring frame.

Ask your Agent or write—
TAN-SAD WORKS, FREEMAN STREET, BIRMINGHAM

100% 100% TAN-SAD 100% 100%

THE "STILL WIND SCREEN"

Giving perfect protection to the driver, without in the slightest degree impairing the vision.



Three-quarter Front View.

NO WIND RESISTANCE.

CAN BE RAISED AND LOWERED TO SUIT ALL RIDERS.

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HATTON GARDEN - LONDON,

CALTHORPE

Test "CALTHORPE" Value for yourself—compare!

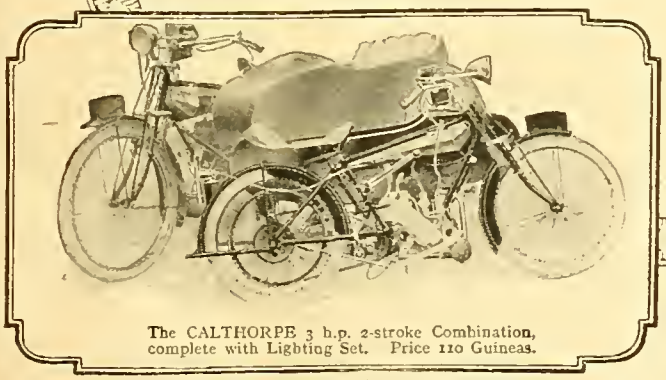
Compare with other makes, the exceptional value offered in the three famous CALTHORPE Models here listed:— The CALTHORPE 3 h.p. 2-stroke Combination at 110 guineas, complete with lighting set: 2¾ h.p. CALTHORPE-J.A.P. at 70 guineas, and the 3 h.p. CALTHORPE 2-stroke at 65 guineas, and then note this:—

Our 3 h.p. 2-stroke Combination at 110 Guineas is practically equal in power to the 3½ h.p. models of other makes listed at much higher prices.

This CALTHORPE Combination will take you and your passenger comfortably up all reasonable hills, and will average 20 to 25 m.p.h. It is light, absolutely reliable, and with an approximate petrol consumption of 75 m.p.g.

Specification includes 3 h.p. PECO 2-stroke engine, patent lubricating system, 2-speed Sturmey-Archer Gear with clutch and kick-starter. M-L Mag-Dynamo Lighting Set, complete with light type, perfectly sprung sidecar.

Note the two small views of Combination, and then call on the nearest CALTHORPE Agent for inspection, or write direct for illustrated catalogue giving full information.



The CALTHORPE 3 h.p. 2-stroke Combination, complete with Lighting Set. Price 110 Guineas.

Calthorpe Motor Cycle Co.
(Minstrel & Rea Cycle Co., Ltd.)
BARN STREET,
BIRMINGHAM.

B.H.8

A REAL ECONOMY INVESTMENT

The Hoskison

Motors, Limited, Lozells, BIRMINGHAM.

Northern 643
Hamobik, B'ham

1921.

For 1921 we are concentrating on an exceptionally high-class 2¾ h.p. Solo Motor Cycle, and a 4 h.p. model which is suitable alike for Solo or Sidecar work. The engine used in each case is the BLACKBURNE, and we have not succumbed to the temptation of fitting the higher powered engine into the Light-weight frame, or vice versa. The two models are separate and distinct, each being specifically designed for its own particular purpose.

The prices are 99 Guineas and 120 Guineas respectively, and we guarantee THESE PRICES TO REMAIN CONSTANT TILL MARCH 1921. Highly finished, luxuriously equipped, and efficient to the last degree, we claim each to be the best in its class on the market.

PERFECTLY VIBRATIONLESS.
The World's Finest Adjustable
Spring-frame Lightweight.

P.V.

PURRS like a Cat,
—but—
Can't wag its tail.

P.V. Motor Cycles, Ltd., Forest Hill, S.E.23

NEW LICENCE CARD

HOLDERS

TUCK & BLAKEMORE LTD
COVENTRY

BE PREPARED FOR THE NEW REGULATIONS.

BUY A M.A.P.

Combined Number Plate & Licence Holder. The most compact and serviceable holder that can be produced

Least liable to damage.



Price 7/6
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By return post from

MILLFORDS, Ltd., Bullock Street, BIRMINGHAM,
or your Agent.

TRADE ENQUIRIES INVITED. PATENT APPLIED FOR.

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Frank Whitworth, Ltd., 139, New Street, Birmingham.

A FREE TEST



MILLFORD ALL PURPOSE

The M.A.P. PLUGS.

MICA INSULATION. DETACHABLE.
Cleaned, and replaced in one minute, with a simple mechanical Gap adjustment.

SOOTING PRACTICALLY IMPOSSIBLE

Send 3/6 for each Plug up to a set of Four, and if you wish to return the Plugs within 7 days your money will be returned.

Manufactured by

Price 4/6 each.

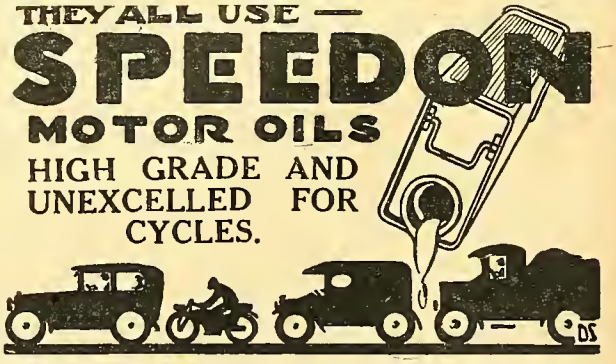
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THEY ALL USE —

SPEEDON

MOTOR OILS

HIGH GRADE AND UNEXCELLED FOR CYCLES.



John S. Morris & Son (Oils) Ltd., Cross Lane Oil Works, Manchester

An expensive outfit is surely worth a shilling or two spent on keeping it smart and saleable.



Rust Proof Dope

Use Corrosive 'W.W.' Glaze for the nickel and bright parts, and cut out the frequent cleanings.

In 1/6 and 2/6 Tins, from your dealer, or from—

HOWSE'S, The Rust-Preventer Firm,
SMETHWICK, STAFFS.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed & Co. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, ½ %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisemeot is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

NEW 1920 A.B.C. 4-speed; £150; in stock.—Randall, Andover. [0367

A.B.C., 1920, brand new; £125.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5515

A.B.C., recently delivered, never ridden, owner going abroad; £135; what offers?—Box 1,208, c/o *The Motor Cycle.* [5042

1920 A.B.C., in excellent condition, complete with speedometer, Lucas lamps, Klaxon, full toolkit; £115.—Flint, Chemist, Newport, Mon. [5067



Mr. H. TAYLOR
(*Managing Director*).

We have it!

The very mount you need for 1921—and we can give prompt delivery too. A.J.S., Excelsior, Rudge, Enfield, Triumph, B.S.A., Matchless, Blackburne, Harley, Scott — in fact, all the old favourites as well as those new comers which have proved themselves to be good.

Here are three fine examples:

A.J.S. 1921 7 h.p. Comb., screen, apron, spare wheel, luggage grid **£215**

EXCELSIOR 1921 8 h.p. Comb., 3-speed, Blackburne engine .. **£195**

ENFIELD 8 h.p. Comb., new Vickers engine **£160**

We pay 7% interest on deposits placed with us upon machines for future delivery. Also deferred payments arranged to suit those wishing to purchase out of income.

H. TAYLOR & Co., Ltd.

Showrooms—
Accessories, Spare Parts, and Repairs,
21a, Store St., Tottenham Court Road, W.C.1

Motor Cycles and Cars,
52-53, Sussex Place, South Kensington.

Wholesale—
38, ALFRED PLACE, W.C.1.

Garage: Tottenham Court Road, W.1.
Phones: Accessories and Repairs, Museum 1240.
Motor Cycles & Cars, Kensington 7269.
Telegrams: "Dynametro, Westcent, London."

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., brand new, just delivered; selling because of late delivery, another machine purchased; what offers?—Leigh, 10, St. James Sq., Manchester. [5243

3h.p. A.B.C. Motor Cycle, can do 70 m.p.h., condition as new, complete with all manner of spares; £150, no offers.—E. S. Abram, 226, Manchester Rd., Stockport. [5170

A.B.C., 1920, Cowey horn, speed 60 m.p.h., tuned up, decarbonised, mileage 3,500, almost new rear tyre, £3 spares, owner buying cycle car; £115.—Ecchioswell House, nr. Newbury. [4880

3½h.p. A.B.C. Motor Cycle, dynamo lighting model, only ran about 300 miles, condition as new; cash £150, may be obtained on Harrods deferred payment system for a small extra charge.—Harrods, Ltd., 119, Brompton Rd., London. [5176

Abingdon.

ABINGDON KING DICK Brand New Combination, 7h.p. twin, unused, unregistered; £150.—Welford, 28, St. James's St., Brighton. [4999

ABINGDON KING DICK 3½h.p., engine recently rebushed throughout, Bosch weatherproof, B. and B., new Dunlop belt, semi-T.T. handle-bars, lamps, generator, horn, etc., re-enamelled; bargain, £30. Manners, 96, Hessel Rd., W. Ealing [5322

A.J.S.

1921 A.J.S., in stock; list price.—Cross, Agent, Rotherham. [X4226

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton T.A.: Parts. [7338

J. C. PICKERING, Shrewsbury.—Early delivery 1921 models A.J.S.; 1920 from stock. [5989

A.J.S., 1921 models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [2472

BRIGHTON, Hove and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. 1920 Combination, brand new; £200.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5516

A.J.S. 1920 Combination, mileage 300; £180.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5517

A.J.S., 1918, Montgomery sidecar, 3 lamps, 2 generators, perfect condition; £120.—Larman, Boxted, Essex. [5285

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4 — 6h.p. A.J.S. combination, 1920, all accessories, excellent condition; price £200. [5585

A.J.S. Brand New 6h.p. Combination, complete with horn and lamp; £195.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4006

A.J.S. 1921 Models, delivery guaranteed when required; deferred payments arranged.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4009

A.J.S. 1914 6h.p., K.S., combination unused 1915-18, all accessories, Eolus, 5 new tyres, overhauled October, perfect; £140.—Griffith, St. Ives, South Farnborough. [4974

A.J.S. 5h.p. 1912 Model, with 2-speed, clutch, and kick start, and Vesuvius coachbuilt sidecar, in excellent running order; £70, or nearest offer.—John Lyndale, Narberth. [4626

A.J.S. 1919 Combination, spare wheel, electric lights, speedometer, horn, tools, mileage 2,000, excellent condition; £180.—Salsbury, Arkley, Wherwell Rd., Guildford. [4934

A.J.S. 1920 6h.p. Combination, dynamo lighting, speedometer, hood, screen, side curtains, Klaxon horn, Tan-Sad, indistinguishable from new; £250.—Parker's, Bradshawgate, Bolton. [X4315

48 GNS.; 2¾h.p. 3-speed A.J.S., enclosed chains, lamps, etc., believed about 1915, owner in Ireland; approval anywhere; write particulars.—8, Lethos Rd., Hampstead (off Finchley Rd.), N.W. [5539

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [5392

1920 A.J.S. (May) Combination, mileage 700, carefully preserved and slowly run in, dynamo lighting, speedometer, screen, hood, side curtains, apron, horn, Tan-Sad seat, spare wheel, etc.; £230.—Superintendent, Putney Vale Cemetery, S.W.15. [5194

Alldays.

ALLDAYS Allon, new October, not run in; £78, or near.—Brown, 79, Hampden Rd., Hornsey, N. [5167

ALLON 1919 (?) 2¾h.p., 2-speed, perfect, all accessories; £50, or nearest.—132, Trentham St., Southfields. [5200

MOTOR CYCLES FOR SALE.

Alldays.

ALLON 2¾h.p., 1916, 2 speeds, fully equipped, mechanically sound; £32/10.—143, Ravensbury Rd., Earlsfield, S. W. [5433

3h.p. 1920 2-stroke Alldays and Onion Motor Cycle, as new, with Lucas lamp set and horn; £65.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [5546

NEW 2¾h.p. Alldays and Allon Model de Luxe, 2-speed, clutch, and kick starter; £85; or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5178

American X.

AMERICAN X 1919 7-9h.p. Combination, complete with lamps, Easting wind screen; £175, near offer.—Hereford Motor Co., Ltd., Hereford. [5002

100 GNS.—1920 American X 7-9h.p. twin, dynamo lighting and horn, absolutely new and unridden.—308, Upper Richmond Rd., Mortlake. [4985

AMERICAN X. New 1921 Models now in stock for immediate delivery, the most powerful and efficient twin-cyl. machine, many improvements, including 27×3½in. tyres, new type fork, etc.; 165 gns. Write for catalogue.—The Premier Motor Co., Aston Rd., Birmingham. [5459

Antoine.

ANTOINE Coachbuilt Combination, 5-6h.p. twin, mag., runs splendidly; gift, 29 gns.—1, Ebner St., Wandsworth. [5538

Ariel.

ARIEL 3½h.p., 1911, good condition; accept £35.—Wilson, Organford, Wareham, Dorset. [5206

3½h.p. Ariel, 1914-15, new bearings, Dunlops, etc., cost £15 recently; £65.—Curate, Talybont, Cardiganshire. [4967

BRAND New Ariel Combination, 6-7h.p. twin, 3-speed, etc., list price £177/10; to clear, accept £150.—Bamber's, Southport, Lancs. Tel.: 607. [5473

1919 3½h.p. Ariel Combination, electric lighting, horn, wind screen, as new; £125. — Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [4914

ARIELS, order now for 1921 all-chain and chain cum-belt models; spares in stock.—Geo. Taylor, Ariel Agent, 28, Lower Addiscombe Rd., East Croydon. [8165

ARIEL 1920 6-7h.p. Combination, in practically new condition, all lamps, horn, etc., mileage about 1,500; £120.—104a, Finchley Rd., N.W.3. Hampstead 7822. [5563

ARIEL.—Orders now booking for the new all-chain models which will be the Rolls-Royce of motor cycles. All spares stocked.—F. Speakman, Ariel Expert 7 Rochdale Rd., Harpurhey, Manchester. [8231

1920 Ariel Combination, 6-7h.p., excellent condition, hand and foot clutch, complete lamps, horn, speedometer, Easting screen, Tan-Sad, etc.; 155 gns.—Charles Averill, Blythe Bridge, Staffordshire. [5308

ARIEL 3½h.p., 1920, with folding coachbuilt sidecar, will pass any ordinary doorway, Watford trip speedometer, lamps, Easting screen, etc., small mileage; £120.—40, Replingham Rd., Southfields, S.W.18. [5491

6-7h.p. Ariel, 1919, perfect condition, ridden 4,000 miles, Easting wind screen, speedometer, lamps, tyres new, sidecar upholstered leather, ill health sole reason for selling; £150, or nearest offer.—Saxby, 41, Ramsgate Rd., Margate. [X4270

1920 Ariel (July), 3½h.p. solo, 3-speed, countershaft, complete with horn, speedometer, accessories, mileage 800, in perfect condition, guarantee given; trial by appointment; sidecar machine; nearest offer to £100.—98, Malden Rd., Malden. [4936

ARIEL.—Some agency is the Ariel, and we hold this for North London. We are practical riders and gold medal winners with this wonderfully efficient and reliable motor cycle. Have you seen the new 4½h.p. comb.? it is a glorious outfit; immediate delivery; 3½ h.p. solo, 3½h.p. comb., and 6-7h.p. comb., 4 models in stock; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10 and at Woodside Parade, North Finchley. [0378

Bat.

1920 Bat Model 4, shop-soiled; £135.—Wright's Garage, Saffron Walden. Tel.: 16. [5453

1920 6h.p. Bat-Jap, only done 300, model 4; absolute sacrifice, £100.—Boulton, Smallthorne, Staffs. [X4324

1920 8h.p. Bat Combination, spare wheel, usual equipment; offers.—Tel.: Museum 6626.—A.S.C., 60 Mortimer St., W.1. [4915

BAT, roomy coachbuilt sidecar, 4-point, hood and screen, 26×2½ wheel; bargain, £15.—19, Wood Lane, Shepherd's Bush. [5551

BAT 8h.p. and 6h.p., new, £135 each, or with sidecars to suit, single-seater, £160, or double-seater £175; immediate delivery.—336, Gray's Inn Rd., W.C. [0374

BAT 1921 Models.—We are now accepting orders for early delivery. Your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3256

BAT, 6h.p., fully equipped as makers' specifications, shop-soiled; at greatly reduced price; also second-hand combination, same make.—Mebes, 154-156, Gt. Portland St. W.1. 'Phone: 3426 Mayfair. [7177



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ENFIELD, 2¾ h.p., 2-speed	£65	0
ENFIELD, 2-speed, K.S.	£70	0
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B.A.T.—Early delivery of 1921 models, solo and combination, from sole Berks and Bucks wholesale and retail agent, A. J. Luce, Hamilton Rd. Garage, Reading. 'Phone: 967. T.A.: Tune, Reading. [4964

Beardmore.

BEARDMORE-PRECISION 1921 Model, in stock for immediate delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3257

BEARDMORE, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7178

Blackburne.

GENUINE Bargain—Blackburne 4h.p., 1920, new; £120.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0320

1920 (June) 4h.p. Blackburne, little used, lamps, tools, etc., Claudel-Hobson, S.A. top change, insurance; £110, bargain.—16, Shirley Rd., Southampton. [5371

1920 4h.p. Blackburne Combination, all lamps, speedometer, 2 horns, Easting wind screen; £150.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1 [4913

BLACKBURNE 4h.p., 1920, fully equipped, lamps, speedometer, horn, excellent condition, low mileage; £120.—Write, Aland, 20, Quarry Rd., S.W.18. [5552

BLACKBURNE 1920 8h.p. Combination, spare wheel, hood, screen, speedometer, lamps, leg shields, Klaxon, tools, etc., splendid condition; £175; can be seen at Ballards Motors, 92, Gloucester Rd., South Kensington, S.W.7, or write Elliot, 25, Whitmore Rd., Beckenham. [0349

Bown.

1920 Bown-Villiers 2½h.p., 2-stroke, Albion gear, lamps, horn, etc., mileage 300; £50, bargain.—Address, Jack Marshall, Trewince, St. Columb Minor, Cornwall. [5032

BOWNS Baby 2-stroke, all lamps, speedometer, new Dunlop tyres, perfect; £37/10; easy payments.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5450

Bradbury.

BRADBURY 4h.p., clutch, engine No. 4843, perfect; £24.—17, Heaton Rd., Mitcham. [5367

BRADBURY 3h.p., mag., perfect, good tyres, new spring forks; bargain, £16/10.—R. Shelton, Cookhill, Alcester, Warwickshire. [4966

4¼h.p. Bradbury Combination, coach sidecar, lamps, horn, spare tyre and tube; £58; tax compels sacrifice.—Nye, Waltham Abbey. [4925

£28.—4h.p. Bradbury, less mag., new piston cylinder, valves, new parts to N.S.U. 2-speed gear, bills shown, free engine.—R. Gallop, Higham, Kent. [4910

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 1921 4h.p. Bradbury solo, £128; also new 1921 6h.p. Bradbury combination, £199; just delivered. [5587

BRADBURY 6h.p. Twin, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1 'Phone: 3426 Mayfair. [7179

1920 Bradbury 4h.p., 3 speeds, kick starter, all-chain drive, fitted with Grindlay sidecar, all lamps, horn, etc., soiled only; £130; exchanges or easy terms. Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5444

Brough.

BROUGH 3½h.p., 1916, 3-speed, Binks, mileage 3,000, appearance new; offers.—120, Marlborough Flats, Walton St., Chelsea, S.W.3. [X4209

B.S.A.

B.S.A., all models now in stock; delivered anywhere. —Below.

B.S.A. Specialists.—Replacements by return.—County Cycle and Motor Co., Broad St., Birmingham. [4177

B.S.A. Combination, 1917, like new; £105.—Grimes, 18, Bruton Place, W 1. [4827

B.S.A., 1920, brand new, all-chain, solo; £100.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5518

1914 B.S.A. 4h.p., 3-speed gear box, complete and perfect; £65.—Palmer Bros., The Cannon, Wisbech. [5399

B.S.A. 6-7h.p., unridden; £145; exchange 4h.p. and cash; stamp, reply.—88, Vicarage Rd., Wolverhampton. [X4283

1918 B.S.A. Combination, chain driven, lamps, speedometer, practically new; £90.—37, Arlington Rd., Surbiton. [5364

BOLTON.—All B.S.A. models in stock, solo and combinations, complete.—Grosvenor Garage, Bradford St., Bolton. [X2019

B.S.A., 4¼h.p., chain-cum-belt, countershaft, 3-speed, brand new, but shop-soiled; £100. — West's Garage Lincoln. [X4269

MOTOR CYCLES FOR SALE.

Douglas.

1917 4h.p. Douglas Solo, good condition, just overhauled; £50 secures; owner going abroad.—Apply, Crouch End Motor Co., Coleridge Rd., Crouch End, N.8. [5035

DOUGLAS 4h.p., 1919 model, with Canoelet sporting sidecar, lamps, horn, toolbags, etc., absolutely as new; £80.—A., 136, Ravensbury Rd., Earlsfield, London, S.W. [5317

DOUGLAS Sidecar Outfit, 1919, 4h.p., electric and acetylene lighting, £30 of spares and accessories, mileage under 2,000; price £120.—Modern Motors, Ltd., 16, Poole Rd., Bournemouth. [4672

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

1919 Douglas 4h.p. Combination, almost new condition, sidecar royal blue, Easting screen, Lucas horn, 3 lamp sets, speedometer; £125, or nearest.—73, Southfield Rd., Oxford. [5141

1914 Douglas 2¾h.p., makers' colours, splendid condition, fast, new tyre, spare tube, footboards, Smith's speedometer, lamps; £42; owner buying combination.—36, Alma Rd., Windsor. [5033

1920 2¾h.p. Douglas, 3-speed, kick starter, P. and H. lamps, Klaxon, and Jones trip speedometer, mileage 307, guaranteed as brand new; cost £115, to clear £90.—Reynolds, Waterbeach, Cambs. [5478

DOUGLAS 4h.p. 1917, Watsonian R34 sidecar, electric light all on, splendid condition, 100 gns.; also brand new Easting baby wind screen and Binks carburetter.—Paton, 31, Dornton Rd., South Croydon. [5333

DOUGLAS 1916 2¾h.p., 2 speeds, buffer forks, new 1920 C.A.V., new back tyre and belt, new controls, new large lamp set, enamel and plating un-scratched, thoroughly overhauled; £54.—G., 63, Solon Rd., Brixton, S.W.2. [5497

£45.—Douglas combinations (less mag.), almost complete with the exception of carburetter and rear spring of chassis; 50 of these combinations in stock.—Apply, The Effra Motor Works, 14, Effra Parade, Brixton, S.W. [5356

DOUGLAS, 2¾h.p., 1916, fitted new cylinders, crankshaft, pistons, mudguards, tyres, belt, saddle, pulley, chain wheel, induction pipe, silencer, etc.; a perfect picture; £68.—257, Cavendish Rd., Balham, S.W.12. [5426

DOUGLAS 2¾h.p., 1916, perfect running order, appearance good, new spare chain, inlet and exhaust valves, nearly new spare Clincher cover and tube, 2 spare belts, full tool kit, etc.; bargain, £54.—M.H., 12, Albion Place, Northampton. [5089

DOUGLAS, 2¾h.p., W.D., delivered from makers 1920, enclosed chain, Watford trip speedometer, large P. and H., Cowey, aluminium horn, mileage negligible, absolutely new; any trial; 69 gns.—88, Brook Green, Hammersmith. [5264

DOUGLAS 1921 2¾h.p. Models in stock.—2-speed model, £85; 3-speed clutch, kick starter, £105; can be sent passenger train any part of the country; extended terms.—Official Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0067

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. Douglas machines, 1921, kick start models, 3 speeds, clutch, £105, 3 speeds only £100; 4h.p. combinations, £170; 4h.p. solos, £130; also 2¾h.p. W.D. Douglas, supplied from Douglas works, £85. Easy terms arranged or exchange. [5577

DOUGLAS 4h.p., 1920 model, delivered Nov., 1919, mileage under 3,000, and sidecar complete, accessories include Lucas King head lamp, T.W.R. rear and side-car, Lucas horn, Cowey speedometer, wind screen, spare chain and 3 belts, all in fine condition, £165; without accessories, £155; seen any time by appointment.—The Brewery, Tring. [4911

4h.p. Douglas Combination, 1920, property of private owner, engine No. 10763, in perfect condition, enamel and plating as new, Cowey speedometer mechanical horn, wind screen, excellent kit of tools including valve lifter, tyre levers, belt punch, belt link, oil gun, spare tube, and spare valve; will accept best offer over £160.—Machine may be seen at Egerton's Motor Cycle Dept., Woodbridge Rd., Ipswich. [4988

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Edmund.

EDMUND Lightweight, 2-speed; £55; splendid order.—Platts, 602, King's Rd., Fulham, S.W.6. [5111

EDMUND 2¾h.p. J.A.P., fitted with Enfield 2-speed gear and clutch, spring frame, shop-soiled only; bargain, £84.—P. J. Evans, 81-91, John Bright St., Birmingham. [0359

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'Grams: "Cyclotomo, Phone, London."
387, EUSTON RD., LONDON, N.W.1.
'Phone: Museum 4978.
'Grams: "Lamocy, Eusroad, London."

MOTOR CYCLES FOR SALE.

Enfield.

1920 8h.p. Enfield Combination, brand new; £153.—Below.

1920 8h.p. Enfield Magdyno Combination, brand new; £158.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [4746

NEW 1920 Enfield, 2-stroke, 2-speed; £75; in stock.—Randal, Andover. [0369

ENFIELD Combination, 1920, new; £155.—Cacce, 21, Hobson St., Cambridge. [4887

1918 Enfield Combination, Colonial Model, like new; £115.—Ross, 86, High Rd., Lee. [5100

1920 8h.p. Enfield Combination, brand new; £160.—34, Manchester Rd., Swindon. [5240

35 Gns.—Enfield, 1915, M.A.G., 2-speed, K.S., lamps, perfect.—Derby Arms Garage, Mortlake. [X4221

1921 Royal Enfields; 8h.p. combination £160, 2¾h.p. 2-stroke 2-speed £65.—Stacey, 12, Ecclesall Rd., Sheffield. [X3796

1921 Royal Enfield Combination, immediate delivery; £160.—Welford, 28, St. James's St., Brighton. [4996

3h.p. Enfield, late model, hardly used G2900), 2 speeds, kick starter, guaranteed; £52/10.—89, East Hill, Wandsworth. [4960

1920 Enfield Combination, 6h.p., F.R.S. light, Binks carburetter, hardly used; £140.—Hedley, 103, High St., Rochester. [4932

ENFIELD 1916 6h.p. Combination, lamps, hood, very good condition; £95.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [5379

ENFIELD 1920 2-stroke, 2-speed, all-chain, electric light, mileage 200; £55.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5521

1920 Enfield Combination, Lucas lighting, Cowey speedometer, horn, hood, screen, mirror; offers.—21, Queen's Rd., Walthamstow. [4992

ENFIELD Combination, 1917, 6h.p., Lucas dynamo lighting, very good order; £130, or exchange solo machine.—40, Hertford Place, Coventry. [X4346

ENFIELD Combination, 6h.p., 1916, speedometer, luggage grid, horn, lamps, etc.; £105.—27, St. John's Rd., Putney. 'Phone: 1177 Putney. [5389

6h.p. Royal Enfield, 1918, excellent condition, red, lined gold, large exhaust, speedometer, lamps, horn; can be seen.—Apply, Box 1,187, c/o *The Motor Cycle*. [4946

1921 Enfield Combination, dynamo lighting, with or without dynamo, in stock, immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

6h.p. Enfield Combination, 1915, a splendid outfit, complete equipment; bargain; exchange smaller power; gradual payments; closed Sundays.—Bunting's Motors, Wealdstone. [5434

ENFIELD 8h.p. Combination, 1921 model, Magdyno lighting, Lucas horn, Vickers engine, just arrived from works; immediate delivery at makers' price, £182.—Wilkins, Simpson, opposite Olympia, London. [5060

8h.p. Enfield Combination, to makers' specification, for early delivery, £160; dynamo lighting model, £182 plus delivery from works; deferred payments for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [5190

1919 Royal Enfield Combination, 6h.p., Lucas separate dynamo lighting, hood, screen, Binks, in perfect order, guaranteed; £145; exchanges or easy terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5445

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—1921 new 8h.p. Royal Enfield combinations from stock, dynamo lighting model £182, standard £160; new 1921 2¾h.p. Royal Enfield 2-stroke, £65. Cash, exchange, or easy terms. [5574

WARRANTED.—6h.p. 1915 Enfield combination, just taken from original purchaser, been carefully used, and is replete with good accessories; £100; terms if required.—Bunting, Motor Exchange, Wealdstone. (Closed Sundays.) [5480

ENFIELDS.—The cheapest twin combination on the road. We are North London agents, and can give immediate delivery of the standard model, £160; electric model, £180; trade supplied. All spares in stock.—Jones' Garage, Mu-well Hill, N.10, and at Woodside Parade, North Finchley. [0380

Excelsior

EXCELSIOR, June, 1919, 2¾h.p. J.A.P., 4-stroke, single.—Ashley, Prebns, Cornwall. [0371

100 Gns.—1920 Excelsior 7-9h.p. twin, dynamo lighting, electric horn, fittings as standard, brand new, unridden, perfect.—308, Upper Richmond Rd., Mortlake. [X4217

1920 Excelsior Combination, 3-speed, kick starter, dynamo lighting model; this week's bargain, £130, spot cash.—Clapham Motors), 27, Stockwell St., Greenwich. 'Phone: 751. [4778

MOTOR CYCLES FOR SALE.

Fafnir.

3½h.p. Fafnir, Bosch, B. and B., copper exhaust, discs, perfect; £32; exchange Levis similar.—Webb, Grammar School, Tonbridge Rd., Maidstone, Kent. [5411

F.N.

F.N., 4-cyl., sloping top tube, very low frame, good tyres, etc.; £25.—10, Dunhill Rd., Goole. [4975

F.N. 4-5h.p., 2-speed, frame dropped, Bosch, tyres excellent, No. 17429, less stand; £25, offers, or 2-stroke.—116, Bridge Rd., E. Molesey. [5351

F.N. Winter prices.—Lovely 4-cyl. F.N., very low, smart, 50 an hour easily, Claudel latest carburetter, Bosch mag., aluminium pistons, vibrationless, free engine clutch; sacrifice, £28.—Trevena Motors, Bexhill-on-Sea. 'Phone: 162. [5216

Harley-Davidson.

1919 Harley-Davidson Combination, Magdyno lighting; £150.—Ross, 86, High Rd., Lee. [5101

90 Gns.—Harley 1918 electric Canoelet combination, perfect.—Derby Arms Garage, Mortlake. [X4220

HARLEY-DAVIDSON 4h.p. Sports Model, 1920, new; £135.—Caeco, 21, Hobson St., Cambridge. [4886

92 GNS.—1918 Harley-Davidson Canoelet electric combination, perfect. — Derby Arms Garage, Mortlake. [4987

120 Gns.—Harley 1919 C.B. combination, not worn, indistinguishable from new.—54, Coval Rd., Mortlake. [X4216

1919 7-9h.p. Harley Combination, very good condition; £110.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [5380

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross, 86, High Rd., Lee. [3849

HARLEY-DAVIDSON, 1915, Gloria sidecar, perfect condition; £148, or best offers.—Richards, 108, Eastgate, Worksop. [5283

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole agents, Bambers', Southport, Lancashire. Tel.: 607. [5009

HARLEY-DAVIDSON, 1919 7-9h.p. Combination, fully equipped, low mileage, equal to new; £190.—Parker's, Bradshawgate, Bolton. [X4316

1919 Harley, complete, less engine unit only, excellent condition.—Barker's Motors, 194, Balham High Rd., S.W.12. Latchmere 4441. [4156

1920 Harley-Davidson Model 'J., with Mills-Fulford sidecar, new 3 months ago as new; £210.—Stacey, 12, Ecclesall Rd., Sheffield. [X3795

1918 7-9h.p. Harley-Davidson, 3-speed, K.S., with new Canoelet sidecar; £100, bargain.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [5545

HARLEY-DAVIDSON 1919 7-9h.p., electric model, new Watsonian R34 sidecar, discs, splendid condition; £135.—Ordish, Solihull, Birmingham. [5309

HARLEY-DAVIDSON 1919 7-9h.p. Combination, tools, mileage 1,200, electric lighting; £195.—L. West, 71, Norbury Crescent, Norbury, S.W.16. [0377

HARLEY-DAVIDSON, 1920, 7-9h.p., electric model, as new, discs, speedometer, mileage 200; £150.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5522

HARLEY-DAVIDSON, shop-soiled 4h.p. twin, complete with speedometer and Klaxon horn, for immediate delivery; £150.—The Walsall Garage, Walsall. Tel.: 444. [4007

1916 7-9h.p. Harley-Davidson Combination, screen, lamps, Klaxon, etc., excellent condition; £98, or lightweight part.—436, Whitehorse Rd., Thornton Heath, S.E. [5257

HARLEY-DAVIDSON 1920 7-9h.p., with sporting sidecar, lamps, horn, speedometer, and tools complete, excellent condition; £210.—Forrest, Crosseford, Lanarkshire, Scotland. [5031

1919 7-9h.p. Harley-Davidson Combination, just overhauled and re-enamelled, new tyres throughout, in excellent condition.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [4916

1920 Flat Twin Harley, mileage 1,239, perfect condition, lamps, horn, tools, tax and insurance December, 1921, paid; nearest offer £110.—Buck, Claremont, Orleans Rd., N.19. [4979

HARLEY-DAVIDSON, 7-9h.p., 1915, 3 speeds, large modern sidecar, part sheet aluminium, repainted and upholstered, Lucas lamps, whole outfit like new; any trial; £85.—88, Brook Green, Hammersmith. [5265

HARLEY-DAVIDSON 1918-1919 Models, thoroughly overhauled and guaranteed, solo £100; with new Montgomery sidecar, £130; easy payments £43/10 down, 8 payments of £8, solo; £59/15 deposit and 8 payments £10 for combination.—Maudes', 100, Gt. Portland St., W.1; and Paris St., Exeter. [5339

HARLEY-DAVIDSON 1919 Electric Model, 7-9h.p., just been painted royal blue, completely overhauled by makers, fitted aluminium discs, complete with all accessories, perfect condition, always looked after by expert; any trial given; price £150, or near offer; view by appointment.—Froy, Motor Dept., Brunswick Works, Hammersmith, W.6. [5013

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Harley-Davidson.

HARLEY 1918 7-9h.p. Combination, 3-speed, lamp, horn, tools, screen, etc.; £110.—Broomfield, Post Office, Whitehouse Rd., Croydon. 'Phone: 660. [5429

Hazlewood.

HAZLEWOOD-J.A.P. Combination, 1920, 5-6h.p., new and unregistered; £165.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5530

NEW 5-6h.p. Hazlewood Combination, 3-speed, clutch, and kick starter, a thoroughly reliable outfit; Harrods have a large stock of these for sale at £186 each, or on deferred payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5171

Henderson.

1920 Henderson, new week ago; list price £210; accept £150, perfect condition.—Howgill, Colney Hatch Lane, Muswell Hill. [5323

1920 Henderson Combination, dynamo lighting; cost £285 Sept., sell £225; part exchange Sunbeam considered.—Tippett, Arlington Rd., Surbiton. [5363

HENDERSONS, 1921, just arrived; immediate delivery, dynamo lighting.—Barker's Motors, 194, Balham High Rd., S.W.12. Latchmere 4441. [4155

150 GNS.—Henderson Combination, new, 4 cyls., latest model; list price, £295; first cheque secures.—24 Observatory Rd., East Sheen. Richmond 2379 [4923

HENDERSON 4-cyl., the aristocrat of motor cycles. —New 1921 models now in stock for immediate delivery, 12h.p., 4-cyl., 3-speed and reverse, 27×3½in. tyres, etc. Catalogue free upon request.—The Premier Motor Co., Aston Rd., Birmingham. [5460

Hobart.

LATE 1919 Hobart, 2½h.p., 2-stroke, 2-speed, W.S.R. jet, new rear tyre, first-rate condition, not used winter; £56.—E. Heggs, 38, Stanley St., Derby. [X4338

NEW 2½h.p. Hobart Lightweight, 2-speed models in stock at manufacturers' list price, £75, 4% extra for deferred payments, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5173

Humber.

1921 4½h.p. Humber, in stock; £140.—Cross, Agent, Rotherham. [X4227

1914 Humber Combination, 3-speed, kick start, Canoelet sidecar, splendid condition; £45.—37, Arlington Rd., Surbiton. [5365

£105.—1919 3½h.p. flat twin Humber, Millford sidecar, £125; 1920 4½h.p. Humber solo; trial.—Foleshill Union, Coventry. [X4370

HUMBER 3½h.p., 2-speed, in running order, good sidecar machine, lamps and horn; £32, or nearest. —40, Repplingham Rd., Southfields, S.W.18. [5490

3½h.p. Humber, 2-speed, F.E., B.B., lamps, speedometer, horn, complete, splendid condition; any trial; ride away; £35.—L. J. Prickett, Goudhurst, Kent. [5011

Indian.

1921 Indians early delivery of all models.—Hewett Bros., 94, Western Rd., Hove, Sussex. [0345

1920 Indian, dynamo lighting, oversize engine, indistinguishable new; offers.—Worrell, Grimston, Norfolk. [5320

1918 Powerplus Indian Combination, practically new, tax paid; £139; seen appointment.—Jeffryes, 32, Felstead Rd., Wanstead. [5092

INDIAN Combination, 1913, 9h.p., clutch model, spring frame, lamps, etc., good order; £38.—40, Hertford Place, Coventry. [X4345

INDIAN 7h.p., 1914, clutch model, new tyres, lamps, etc., splendid condition; £40.—136, Ravensbury Rd., Earlsfield, London, S.W. [5318

7-9h.p. Indian Combination, recently overhauled, fine appearance; seen by appointment.—Parrack, Updown Hill Windlesham, Surrey. [5030

1915 7-9h.p. Indian Combination, 3 speeds, indistinguishable from new, accessories; £88.—Cranleigh, College Slip, Bromley, Kent. [5525

INDIAN and Sidecar, 1915, 3-speed, clutch, K.S., all lamps, in perfect condition; £60.—Dunn's, 326 Euston Rd., N.W.1. Museum 5391. [5523

INDIANS.—Six 1917-18-19 7-9h.p., 3 speeds, Powerplus engines, saddle tanks, clutch, kick starters; from £70 to £100.—Parker's, Bradshawgate, Bolton. [X4318

INDIAN 1920 4h.p. Scout Model with sporting sidecar to match, fully equipped, indistinguishable from new; £155.—Parker's, Bradshawgate, Bolton. [X4308

INDIAN 1919 Combination, electric horn, lamps very little used, perfect; £140.—Cooper, 32 Manorgate Rd., Kingston. 'Phone: Kingston 680. [5164

INDIAN Powerplus Combination, 1920, 1,000 miles perfect condition; owner going abroad.—Tel. Hampstead 5823.—Barboza, Box 1,220, c/o *The Motor Cycle.* [5122

MOTOR CYCLES FOR SALE.

Norton.

NORTON 1921 Models.—Sole District Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5005

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 1921 4h.p. Norton de Luxe combination, just delivered, oversize tyres; £180/9. [5586

1921 Norton T.T. 3½h.p., 3 speeds, C. drive, K. start, brand new, unregistered; accept £127.—Fenton, Broughton Av., Bentley Rd., Doncaster. [5105

BARGAIN.—3½h.p. Norton, 1919, 79×100 engine, No. 19772, single gear, very fast and sporty, lamps, horn, tools, irreproachable condition throughout; £69, no offers entertained under this price.—Keen, Leominster. [5324

N.U.T.

1920 N.U.T. 3½h.p., Magdyno, perfect condition; offers invited.—Palmer Bros., The Cannon, Wisbech. [5399

1921 N.U.T. 3½h.p. Standard Model, Magdyno; £165; in stock.—Hewett Bros., 94, Western Rd., Hove, Sussex. [0343

1920 N.U.T., new condition, dynamo lighting, discs, electric Klaxon; £125.—W., 9, Eardley Rd., Streatham, S.W.16. [5155

1920 N.U.T., dynamo lighting, J.A.P. engine, 3 speeds, cost nearly £200; sacrifice 118 gns.—1, Ebner St., Wandsworth. [5537

N.U.T.; delivery from stock of all models. Sole wholesale and retail agents for Staffordshire; the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [4014

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery; write or 'phone for particulars.—Tel.: Yeovil 114. [6023

N.U.T. 1921 3½h.p. Twin, Lucas Magdyno set; just received from works; 145 gns.; extended terms.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 3548. [0070

SPORTING 2¾h.p. o.h.v. N.U.T.-J.A.P., adjustable pulley, Best lubrication, fast, new little ends, bearings good, thoroughly done up 2 months ago, lamps, spares, nice 'bus; £65.—S. Booth, Priory, Odiham, Hants. [5040

N.U.T. 1921 3½h.p. Standard Model in Stock, £152/5; 5h.p. model, delivery in February.—Sole wholesale and retail agent for Berkshire, A. J. Luce, Hamilton Rd., Garage, Reading. 'Phone: 967. T.A.: Tune, Reading. [4962

N.U.T., 1914, 3½h.p., Brooklands racing roadster, completely overhauled, repainted and replated, practically new throughout, including new tank, saddle, tyres, new Binks carburetter, 2 long exhaust pipes, T.T. bars, all on; £65.—Box 1,184, c/o *The Motor Cycle*. [4941

O.K.

O.K.-UNION 2¾h.p., 1918, re-enamelled, sound order, fast, accessories; offers.—G. Toll, Stevenage, Herts. [X4214

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall, Andover. [0368

OMEGA-J.A.P. 1920 2¾h.p., countershaft, kick start, hand control clutch, equipped; £68; nearest.—138, Stephenson St., North Shields, Northumberland. [4973

OMEGA-J.A.P., October, 1920, lamps unused, Klaxon, long exhaust, 400 miles, unscratched, indistinguishable from new; first reasonable offer.—Burt, 20, Glena Av., Knowle, Bristol. [5369

OMEGA, 2¾h.p. J.A.P., clutch, kick strat, 2-speed, October, 1920, mileage 50, specially tuned engine, aluminium footboards, copper exhaust, tools, insured.—Mehta, Riverside, Shillingford, Oxon. [5010

P. and M.

P. and M., December, 1919, splendid machine, as new.—Ashley, Probus, Cornwall. [0370

P. and M. Combination, 1919, not a made-up W.D. model; £95.—Miss Patmore, 106, Acre Lane, Brixton, S.W.2. [5470

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3½h.p. P. and M., 1920, £100; also 3½h.p. P. and M., 1919, £85. [5576

1919 (late) P. and M. Combination, fine condition, lamps, horn, mirror, watch, leg shields; £110.—Bewick, Bollington, Macclesfield. [5113

1919 P. and M. Combination, guaranteed perfect throughout, accessories, not W.D.; £85.—Longford's, 37, Cricklewood Broadway, N.W.2. [5081

JANUARY, 1920 P. and M., not W.D., lamps, horn, Tan-Sad, carefully used, and in perfect condition; £87/10.—Jeffery, 3, Herbert Grove, Southend. [5440

1920 P. and M. Combination, excellent condition, all tyres practically new; £130 cash, no offers.—B.H.V., 10, Parsifal Rd., West Hampstead, N.W. [6439

P. and M., 1919 model, 2-speed, 3½h.p., splendid new condition, bargain, £68; deposit.—W. Boston, St., Katherine's Hazelwood Lane, Palmer's Green, N.13. [5146

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MOTOR CYCLES FOR SALE.

P. and M.

PHELON and Moore 1920 3½h.p. with brand new Watsonian sidecar to match, low mileage, indistinguishable from new; £130.—Parker's, Bradshawgate, Bolton. [X4307

P. and M., 2-speed, K.S., re-enamelled R.A.F. colours, engine No. 4504, perfect order; sent on approval; £72/10.—Beardwood, 147, Burlington St., Liverpool. [4956

PHELON and Moore 3½h.p., ex-W.D., solo, sprocket, original service, green enamel, chain drive, carefully run, lamps, tools, spares, London; £70.—Box 1,221, c/o *The Motor Cycle*. [5123

P. and M. Combination, Dunhill sidecar and storm apron, lamps, etc., fully equipped; £100, great bargain.—Mebes, 154-156, Gt Portland St., W.1. 'Phone: 3426 Mayfair. [7188

P. and M., about 1918, R.A.F. model, Camber coachbuilt sidecar, electric lighting, all tools and spares, excellent condition, full insurance to July; £90.—Write, R.S.F., 31, Silverdale, S.E.26. [4879

1920 P. and M. Combination, August, electric lighting, speedometer, etc., mileage 386, perfect condition; would cost £185 new, price £170; owner buying Morgan.—Law, 25, Grimstone Gardens, Folkestone. [5047

PHELON and Moore ex-W.D. Models, thoroughly overhauled and guaranteed, tanks re-enamelled, front brakes, chain cases; £78. Similar models overhauled and guaranteed by makers, £95; with sidecars, £100 and £110; easy payments 7½% extra.—Maudes, 100, Gt. Portland St., W.1; and Paris St., Exeter. [5340

Pope.

POPE, 7-9h.p., 1917, coachbuilt sidecar, wind screen, hood; £160.—26, Crown St., Clowne. [4977

Premier.

PREMIER 7-9h.p. C.B. Combination, upholstered, lamps, horn, etc., ride away; £95.—202, Trinity Rd., S.W.17. [5055

PREMIER 3½h.p., 1914, Grade gear, all on, in good condition, £37 10.—Hudson, 14, Conway Rd., Plumstead, London. [5117

3½h.p. Premier, believed 1916, 3-speed, kick start, clutch; £55; exchange Douglas 2¾h.p.—Tombling, Church St., Gt. Missenden, Bucks. [5332

PREMIER 3½h.p. Coachbuilt Combination, 2-speed, lamps, speedometer, £40; or exchange with cash for 1918 countershaft 4h.p. Triumph.—11, Kilnartin Av., Norbury, S.W.16. [4904

Quadrant.

NEW 1920 4½h.p. Quadrant Combination; £145.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0341

1920½ Quadrant Combination, 4½h.p., 3-speed, hand clutch; £90.—29, St. Leonard's St., Bromley-by-Bow, East 4708. [5381

£76.—4½h.p. Quadrant Countershaft Combination, black and gold, new condition, stored, B.S.A. 3-speed gear box, K.S., chain drive.—Lambert, 1, Pitlake, Croydon. [4978

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4½h.p. 1921 Quadrant combination, with wind screen, £147/15; also 4½h.p. 1920 Quadrant combination, excellent condition, £120. [5580

1920 Quadrant Combination, 4½h.p., Sturmey-Archer 3-speed, all-chain drive, Cameo screen, all lamps, horn, under 500 miles; £130; exchanges or easy terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5442

CLIFFORD WILSON Mfg. Co., 70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: Kensington 7113. Quadrant sole agents and wholesale distributers for London, Southern and Eastern Counties. Immediate delivery from stock of new 4½h.p. and 5h.p. models; all spares. Single and 2-seater sidecars ready for immediate fitting. Deferred payments arranged. [5458

Radco.

RADCO 2-stroke, complete, perfect, ride away; £30, or near offer.—36, Limes Grove, Lewisham, S.E.13. [5244

RADCO Lightweight, single-speed, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt., Portland St., W.1. 'Phone: 3426 Mayfair. [7190

Reading-Standard.

READING-STANDARD 1920 Combination, dynamo lighting, electric horn, Stewart horn, Tan-Sad, Easting screen, disc wheels, mirror, £20 worth accessories, splendid outfit, mileage under 1,000, as new; bargain, £145.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5524

Rex.

LUXURIOUS Coachbuilt Combination, 6h.p. Rex, 3-speed, clutch, hood, screen, 4-point, 3 lamps; £60; motor cycle only, £30.—Axon, 1, Regent St., Rugby. [X4282

Rex-Jap.

8h.p. Rex-Jap, lovely sidecar, lamps, 2 speeds, K.S., clutch, pillion, enamelling and plating excellent; any trial; £75.—Drayton and Batt, Dresburg Rd., New Malden, S.W. [5266

MOTOR CYCLES FOR SALE.

Rover.

1919 6h.p. Rover, splendid condition; £100.—Wright's Garage, Saffron Walden. Tel.: 16. [5455

ROVER 1920 3½h.p., T.T., Philipson pulley, as new; £95.—Parker's, Bradshawgate, Bolton. [X4313

1918 3½h.p. T.T. Rover, Philipson pulley, full tool kit, all accessories, spares; £75.—20, Queen St., Hammersmith Broadway. [5126

3½h.p. Rover, 1912, 3-speed hub, clutch, good condition, £20; also sidecar, £5.—Hall Co., Station Approach, Upper Warlingham. [4873

ROVER Combination, 5-6h.p., late 1918 W.D., lamps, horn, Easting, spare tyre, spares; £100, bargain.—Crawford, Witton St., Northwich. [5052

1920 T.T. Rover, Philipson pulley, Binks carburetter, list price now £115, excellent hill-climber; what offers?—Platway, Shaldon, Teignmouth. [X4275

ROVER, 3½h.p., 3-speed countershaft, fine condition, with C.B. sidecar; £85; separate; exchange.—Porter, Mantle St., Wellington, Somerset. [4922

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery.—Collard, Cook's Garage, Shifnal. [2684

FOR Sale, 1920 Rover T.T. 3½h.p., complete with lamps and horn, in new condition, small mileage; a genuine bargain, 70 gns.—Modwena, Brighowgate, Grimsby. [5137

1920 3½h.p. 3-speed Rover, done 3,000 miles, unscratched, bulbous coachbuilt sidecar, speedometer lamps; £155.—Fowler, Wintercott, Knebworth, Herts. Tel.: 36. [5406

1917 Rover Combination, in absolutely new condition, new lamps and horn, new Palmer cord, new saddle, new Dunlop belt; £100.—Welford, 28, St. James's St., Brighton. [4995

ROVER Combination, 5-6h.p. J.A.P., all-chain drive, 3 speeds, had very little use, guaranteed; £120; exchanges or easy payments.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5443

5-6h.p. Rover Combination, new Feb., 1920, all-chain enclosed drive, Easting wind screen, accumulator electric lighting, Klaxon, Watford speedometer, mirror; £125.—Fasken, Spreadeagle Hotel, Midhurst, Sussex. (D) [5064

ROVER 3½h.p., countershaft model, also T.T. model. Philipson pulley, as makers' specifications, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7191

1919 3½h.p. Rover Combination, 3-speed, countershaft, kick-starter, perfect condition, tyre unpunctured, Lucas lamps, luggage grid, Tan-Sad; no reasonable offer refused; seen by appointment.—34, East Sheen Av., S.W.14. [4899

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick starter, and with smart coachbuilt sidecar; £180, or on deferred payments 5% extra, one quarter deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5177

ROVER 1918 3-speed Countershaft 3½h.p. Combination, lightweight wicker sidecar, apron, Cameo wind screen, Miller head light, unpunctured Dunlops, machine 43489, engine 7398, mileage about 5,000, sweetest, quietest machine, takes sidecar anywhere, complete set tools, etc., enamel, plating excellent condition; Rochester; £95, bargain.—Box 1,233, c/o *The Motor Cycle*. [5438

ROVER Combination, December, 1919, 5-6h.p. J.A.P., all-chain drive, foot and hand clutch, Bonniksen trip speedometer, Lucas dynamo lighting, Klaxon, sidecar of special roomy design, hinged dash, wind screen, large locker in rear, full set of tools, mileage only 2,500, owner-driven, plate and enamel as new; must sell as cash needed; trial and expert examination by appointment; S.E. London; price £165, or close offer.—Box 1,224, c/o *The Motor Cycle*. [5142

Royal Ruby.

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydesdale Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

1918-19 8h.p. Royal Ruby, 3-speed, K.S., just stove enamelled, like new; £75.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. (See my advt. under Clynos.) [5544

1920 Royal Ruby, 8h.p., Montgomery sidecar, 500 miles, splendid turnout; £140; exchange lower power solo or combination.—The Poplars, Durkar, Wakefield. [5106

3h.p. Royal Ruby, spring frame, 2-speed, clutch and kick-starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used and condition as new; £100; may be obtained on Harrods deferred payment system.—Harrods, Ltd., 118, Brompton Rd., London. [5175

Rudge.

1915 Rudge Multi, splendid condition; £48.—"Free Press" Office, Main St., Pembroke. [5065

1919 Rudge Multi, excellent order, no equipment; price £50.—Welford, St. James's St., Brighton. [4992

3½h.p. Rudge, clutch, new tyres and belt, first-class condition; £40.—Palmer Bros., The Cannon, Wisbech. [5400

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4 h.p. 3-speed, kick-starter, Combination with new Burlington Sidecar	£110

TRIUMPH

4 h.p. 3-speed Countershaft	£100
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MOTOR CYCLES FOR SALE.

Rudge.

SPECIAL Racing I.O.M. Rudge Multi; offers, or exchange A.B.C.—Fairview, Thorkhills Rd., Thames Ditton. [5233

RUDGE 1919 Isle of Man Model, full T.T. bars, long exhaust, very fast; £80.—Parker's, Bradshawgate, Bolton. [X4311

3½h.p. Rudge, 1912, N.S.U. 2-speed, lamps, perfect running order; £35, lowest.—Garaged, 147, Edward St., Brighton. [5230

RUDGE, 1920, I.O.M., pedal start, as new, unregistered; £77/10.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5525

RUDGE Multi 1915 3½h.p. Clutch Model, T.T. bars, lamps, horn, speedometer; £48.—R. D. Varty, Thundersley, Essex. [3711

£20 Deposit paid on Rudge Multi, to be delivered 1921; cannot finish paying. Sell £10.—Box 1,162, c/o *The Motor Cycle*. [4852

RUDGE 3½h.p., tyres and belt good, lamps, Klaxon horn, long exhaust pipe; first cash offer over £40 secures.—Lupton, Askern. [5329

RUDGE I.O.M. Multi, 1920½, clutch, starter, mileage 800, as new, lamps; nearest £100.—Dann, 3, Walton Rd., Molesey, Surrey. [5058

RUDGE Multi 3½h.p., new October, very fast, complete throughout; £98.—Shimwell, Old Hall Farm, Youlgrave, Bakewell. [X4325

RUDGE Multi 1920 3½h.p., unused, with Canoelet Minor sidecar, complete with lamps, etc.; £125.—Hereford Motor Co., Ltd., Hereford. [5004

3½h.p. Rudge, 1914, Grado gear, perfect condition, all accessories; £40, or nearest.—Cooper, Ethorow Villas, Hollingworth, Manchester. [5165

RUDGE Multi Combination, 3½h.p., fully equipped, acetylene lighting, recently overhauled; bargain, £50, or near; trial.—66, Hill Rd., Wimbledon. [5037

RUDGE Multi, 1917, 3½h.p., horn, new lamps, insurance policy, recently overhauled, thorough going order; £57/10.—Walker, Upperby, Carlisle. [4894

1920 Rudge Multi, 3½h.p., perfect, lamps, horn, tools, etc.; cost £115; sacrifice £92/10; exchange lightweight.—H. Teat, Ancaster, Grantham, Lincs. [X4271

RUDGE I.O.M., 1920, mileage 800, overhauled by makers, very fast, with or without lightweight sidecar; best offers.—L. West, 71, Norbury Crescent, Norbury, S.W.16. [0376

1920 7-9h.p. Rudge Multi, Rudge sidecar, 3 lamps, speedometer, Cameo, horn, spares, 3,000 miles; owner bought car; £190.—Baily, Bromstone House, Frome, Somerset. [5236

1914 Rudge Multi 6h.p. Big Single, coachbuilt sidecar, wind screen, new lamps and horn, the whole in excellent condition; £70.—Welford, 28, St. James's St., Brighton. [4993

Scott.

SCOTT 3½h.p., 2-speed,—K.S., nice condition; trial; £32.—17, Heaton Rd., Mitcham. [5368

IMMEDIATE Delivery 1921 Scott motor cycle and combination, in stock.—Millards, Chesterfield. [4003

SCOTT Combination, only done 300 miles; no reasonable offer refused.—Grimes, 18, Bruton Place, Bond St., W.1. [4826

SCOTT 1914 Combination; sidecar only £13; also 1911 Scott gears, £8.—44, Station Rd., Wylde Green, Birmingham. [X4284

SCOTT, 1920, and sidecar, mileage 200, as new, fully equipped; £140.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5520

1921 Scott.—Early delivery of all models from A. J. Luce, Hamilton Rd.—Garage, Reading. 'Phone: 967./T.A.: Tune, Reading. [4965

WAUCHOPE'S, 9, Shoe Lane, London.—New 1920 Scott, delivery from stock, £130; also 3¾h.p. Scott, 1918, £95; cash or easy terms. [5581

£30.—Scott, overhauled and rebushed, Bosch, Binks, tyres as new, needs tuning; lightweight required; bargain.—Highman, Bimpott, Shaftesbury. [5048

SCOTT, 1920 sports model, horn, tools, very small mileage, enamel as new, plating fair, perfect order; £110.—D. Lavin, Old House, Sonning, Berks. [5090

SCOTT Combination, 1921 model, delivery this month; owner will sacrifice deposit; list £170; accept £155.—Box 41, c/o *The Motor Cycle*. [X4321

SCOTT Sporting Outfit, spring frame, gorgeous sidecar, £30 of accessories, perfect condition, mileage 2,000, £150.—Woltendale, 4, Eardley Crescent, Earl's Court. [5288

SCOTT 1921 Sporting Model, delivery from stock, Olympia Show machine; £130.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0069

SCOTT, 1920, special low Squirrel frame, with full touring equipment, Magdyno, Lucas lamps, 3in. Palmers, in perfect mechanical condition; cost £176; £130.—Below.

SCOTT 1920, new July, standard touring, Lucas lamps, horn, etc., perfect condition mechanically; £105.—Kaye Don, River Haven, Thames Ditton. Tel.: 4420 Museum. [5337

MOTOR CYCLES FOR SALE.

Scott.

BRAND New Scott, delivery promised January; owner bought car; will sacrifice deposit paid, viz., £10; list price £130; accept £120 carriage paid.—Box 40, c/o *The Motor Cycle.* [X4320

1921 Scott Combination; price £170; free delivery, or would divide; all Scott spares in stock, including chains and connecting links, at Welfords, 28, St. James's St., Brighton. [4994

Singer.

SINGER, 2½h.p., 2-speed, clutch, countershaft, kick starter, Bosch W.P., Binks, lamps, horn, spare tyre and belt, sound condition; £35, or near offer.—E. J. Smith, Copthorne Bank, via Crawley, Sussex. [4926

Sparkbrook.

SPARKBROOK Late 1919 2¾h.p., 2-speed, complete with lamps, speedometer, etc., scarcely used; £65, or offer.—Hughes, 68, Highfield Rd., Dartford, Kent. [6293

NEW 2½h.p. Sparkbrook, Villiers engine, single-speed £69, 2-speed £75; or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5179

SPARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra finish, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7195

Sun.

SUN-PRECISION 4½h.p. Combination, 3-speed S.A., Binks, C.B. sidecar, hood and screen, nearly new tyres, lamps and spares, very reliable; trial by appointment; £70, or near offer.—S. Ethelston, Hinton, Whitchurch, Salop. [5295

NEW 2½h.p. Sun-Vitesse, 2-stroke engine, single-speed, £55; 2-speed, £64; ditto, with clutch and kick starter, £70; lady's model, ditto, £73; or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5185

Sunbeam

NEW 1920 Sunbeam 3½h.p. Solo; £155/8; in stock.—Randall, Andover. [0366

1919 8h.p. Sunbeam Combination, as new; £180.—'Phone: Finchley 360 for appointment. [5209

1919 3½h.p. Sunbeam, faultless condition; £115.—Loweth, 6, Mount Pleasant Rd., Ealing. [5312

SUNBEAM, 1920, 3½h.p., brand new; £140.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5526

1918 8h.p. Sunbeam Combination, exceptionally fine condition, spare wheel; £160.—Ross, 86, High Rd., Lee. [5099

SUNBEAM 3½h.p., 1914, 3-speed, re-enamelled; lt; offers.—120, Marlborough Flats, Walton St., Chelsea, S.W.3. [X4210

2¾h.p. Sunbeam, 2-speed, clutch, K.S.; £65, or offer; see under Exchange.—Sunbeam, 59, Wanlip Rd., Plaistow, E.13. [5421

1920 3½h.p. Sunbeam and Sidecar, mileage 1,200, perfect, all accessories; £175, or offer.—19, Bramshill Rd., Harlesden. [5166

1921 Sunbeams; guaranteed delivery of all models.—Brighton and District Agents, Hewett Bros., 94, Western Rd., Hove, Sussex. [0342

SUNBEAM Brand New 3½h.p., solo model, complete with Lucas lamps and horn; £157/10.—The Walsall Garage, Walsall. Tel.: 444. [4008

1919 3½h.p. Sunbeam Combination, speedometer, lamps, horn, tools, etc., as new.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [4917

1920 3½h.p. Sunbeam with Dinky Sidecar, 3 lamps, horn, under 200 miles; cost £225; accept £175.—Smith, 52, Hampstead Rd., N.W.1. [5342

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

SUNBEAMS.—New models now being booked for spring delivery. May we quote you for exchange, Sunbeams, Triumphs, A.J.S., etc.—Bunting, Motor Exchange, Wealdstone. [5433

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—1919 8h.p. Sunbeam combination, spare wheel, hood, screen, lamps, speedometer, mirror, warning signal, tools, condition as new, 200 gns. [5582

1920 Sunbeam 3½h.p. Combination, lamps, Bonnikesen trip speedometer, Cowey horn, tools, complete, under 3,000 miles, excellent condition; £185.—Pearman, 148, Elborough St., Southfields, S.W. [5300

SUNBEAM.—We are Wolverhampton agents. Spare parts in stock. Repairs and overhauls. Estimates upon request for re-enamelling and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

SUNBEAM (late 1919) 8h.p. Combination, with luxurious Sunbeam sidecar, fully equipped all accessories, hood, speedometer, acetylene, etc., mileage under 3,000; £200.—Treberne, Abinger Rectory, Dorking. [5050

3½h.p. Sunbeam, 1920 model, oil bath chain cases, ½ laminated front spring fork, lamps and horn, Sunbeam No. 1 sidecar fitted two months ago, tyres almost unmarked; cash offers invited.—G. Smith, *The Motor Cycle*, Coventry. [X3306

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THIS WEEK'S BARGAINS.

1921 **CALTHORPE** Combination, Sturmey-Archer 2-sp. (Tax £2 10s.)	110 gns.	
1920 **SCOTT,** Sports Model, 2-speed	130 gns.	
1920 **DIAMOND - VILLIERS,** 2¾ h.p., 2-stroke, 2-speed, clutch, and kick-starter	78 gns.	
1920 **COULSON-B,** 4 h.p., 2-sp.	£90	0
1920 **NEW IMPERIAL - J.A.P.**	£80	0
1920 **PRIORY,** 2¾ h.p., 2-stroke	£60	0
1920 **ARDEN,** 2-stroke, 2-speed	£58	10
1920 **NEW IMPERIAL** Comb.	£150	0
1919 **HARLEY - DAVIDSON,** electric model	£150	0
1919 **TRIUMPH** Combination, complete with electric lighting	£135	0

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MOTOR CYCLES FOR SALE.

Sunbeam.

1921 8h.p. Sunbeam Combination, just delivered, unregistered, Lucas Magdyno and electric horn, Brooks latest cantilever saddle, spare wheel, hood, screen, legshields, luggage grid, side curtains, illness; £15 off list.—Box 1,219, c/o *The Motor Cycle.* [5121

SUNBEAM 8h.p. Combination, Aug., 1919, Lucas dynamo lighting, spare wheel, discs throughout, 4 new tyres (there's £20's worth), 3in. copper exhaust giving quiet deep purr, engine just overhauled throughout at expense of £26, cycle parts overhauled recently by makers, splendid condition, ready to ride away; £215.—E. D. Barclay, c/o Southall Bros. and Barclay, Lower Priory, Birmingham. X4212

Swift.

SWIFT 3½h.p., variable pulley gear, engine rebushed, good tyres, new belt, original enamel in good condition; price with lightweight Watsonian sidecar coachbuilt), 48 gns.; seen by appointment.—Guttridge, 16, Wyeth Rd., Epsom. [5124

T.D.C.

T.D.C. 4½h.p. Motor Cycle, lamps, horn, tools, £40; also Precision, 4-point sidecar; stamped envelope.—13, Bournehall Rd., Bushey. [5153

Triumph.

NEW 1921 Triumph S.D. Solo; £140; in stock.—Randall, Andover. [0365

NEW 1921 Triumph S.D. Combination: £195; in stock.—Randall, Andover. [0364

NEW Year Bargains.—Triumph 1921 3-speed model; list price £127/10, to clear £117/10.

1920 T.T. Model, shop-soiled, mileage only 200, Klaxon; list price £105, to clear £85.—Reynolds, Waterbeach, Cambs. [5477

ALL 1921 Triumph Models in stock.—The Premier Motor Co., Aston Rd., Birmingham. [5463

TRIUMPH, Bosch, Amac, sound; a snip, £21.—36, Church Lane, Moldgreen, Huddersfield. [5229

TRIUMPH 4h.p., 1914, 3 speeds, clutch, K.S., fine order; £55.—Stone, West St., Carshalton. [5202

1919 Triumph, 4h.p., 3-speed, recently overhauled; £85.—Bond, Jun., 69, Park Place, Cardiff. [5237

1920 T.T. 4h.p. Triumph Solo, shop-soiled; £100.—Wright's Garage, Saffron Walden. Tel.: 16. [5457

BRAND New Triumph 4h.p., 3-speed, etc., Model H; £127.10.—Bamber's, Southport, Lancs. Tel.: 607. [5475

TRIUMPH, clutch, kick start, 2-speed, splendid condition; £35.—57, Kenbury St., Camberwell, London. [5499

4h.p. Triumph; solo £105, combination £125.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [4919

TRIUMPH, 4h.p., countershaft, 1920, brand new; £120.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5531

1912 Triumph, 3½h.p., Grado gear, lamps, horn; £30, or best offer; must sell.—Eason, Burnham, Bucks. [5422

60 Gns.—Triumph 1915 C.B. combination, fast, dependable, perfect.—308, Upper Richmond Rd., Mortlake. [X4219

TRIUMPH, 1914, 3-speed, new cylinder, piston, tyres; £60.—Porter, Mantle St., Wellington, Somerset. [4921

1916 Triumph 2-stroke, thoroughly overhauled, new tyres; £38.—12, The Quadrant, Winchmore Hill, N.21. [5228

TRIUMPH 1920 4h.p., Triumph sidecar, speedometer, etc.; £175, as new.—Parker's, Bradshawgate, Bolton. [X4312

TRIUMPH Combination, just arrived; list price.—Barker's Motors, 194, Balham High Rd., S.W.12. Latchmere 4441. [4154

TRIUMPH 3½h.p., good running order, also wicker sidecar; lot £40.—Ashby St. Ledgers, Eastwood Lane, Westcliffe. [5373

TRIUMPH Combination, 1916, new Montgomery sidecar, lamps, and horn; £90.—Mumford, 317, King St., Hammersmith. [5022

TRIUMPH Junior, late 1919, accessories, footboards, mudshields, tyres unpunctured; £65.—Plumridge, Station Rise, Marlow. [5361

LATE 1919 T.T. Triumph, little used, equipped with lamps, Klaxon, etc.; £80; must sell.—L. Bull, 44, Hills Rd., Cambridge. [5391

TRIUMPH, 1918, C.S., discs, lamps, horn, in perfect condition; £80.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5527

1921 4h.p. Triumph, countershaft model, in stock for immediate delivery.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0354

TRIUMPH Countershaft 4h.p., 3-speed, aluminium discs, lamps, horn, tools, quick sale; £77/10.—365, King St., Hammersmith. [5278

TRIUMPH 3½h.p., clutch, coachbuilt sidecar, speedometer, lamps, horn, etc.; to clear, £36; ride away.—365, King St., Hammersmith. [6280

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1914 T.T., 1920 tank and wheel, new 2-speed and piston, lamps, 90 m.p.g.; £56.—Siney, Experimental Camp, Porton, Salisbury. [5301

4h.p. Triumph, countershaft, 1918, large number of new parts, perfect order; £70, on approval.—Stanford, Midland Bank Chambers, Yeovil. [4601

TRIUMPH 4h.p., late 1914, 3-speed Sturmey hub gear, hand clutch, splendid condition, complete lamps; £50.—248, Drakefell Rd., Brockley. [5347

TRIUMPH 1920 H. Combination, electric light, horn, Watford speedometer, tax paid; £170; Wimbledon.—Box 1,229, c/o *The Motor Cycle*. [5415

TRIUMPH Combination, 1919, Bluemel wind screen, all accessories, good condition, absolute lowest £125.—Weaver, 2, The Gables, Glastonbury. [5376

3½h.p. Triumph Combination, Grado gear and kick start, Bosch mag., coachbuilt sidecar, good condition; £38.—83, Cherry Orchard Rd., Croydon. [5377

TRIUMPH Combination, 1919, in first-class condition throughout, £110; or exchange for solo machine and cash.—Davison, Bute St., Luton. [5336

1917 Triumph Combination, countershaft, just been overhauled, guaranteed perfect, accessories; £85.—Langford's, 37, Cricklewood Broadway, N.W.2. [5082

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, mileage about 500; £68.—D. Lavin, Old House, Sonning, Berks. [5091

TRIUMPH 4h.p. Combination, 3 speeds, Bosch, clutch, all accessories, excellent order; £80, a bargain.—E., 137, Bulverhythe Rd., St. Leonard's-on-Sea. [5138

1919 4h.p. Triumph Combination, 3-speed, etc., Lucas accessories, perfect condition; a bargain at £135.—Bamber's, Southport, Lancs. Tel.: 607. [5476

1919 Triumph-Gloria Combination, lamps, speedometer, perfect condition; £109.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [5503

TRIUMPH, countershaft model, brand new, unridden and unregistered; money urgently needed; £100.—H. Richardson, 2, Kelton Villas, Hawks Rd., Kingston-on-Thames. [5303

1919 Triumph 4h.p., 3-speed, good as new, fully equipped; £105, or near offer; owner going abroad; apply between 6 and 8 p.m.—Carlton, Brockley Grove, Lewisham. [5590

LATE Countershaft Triumph Combination, coachbuilt sidecar, underslung, wind screen, all lamps, tools, practically new; best offer.—Leighton, 62, Upper Tooting Rd., S.W. [5385

TRIUMPH 4h.p., countershaft, new, renovated, guaranteed by makers 1921, new Triumph-Montgomery sidecar, lovely lot; bargain, £130.—365, King St., Hammersmith. [5281

1920 Triumph, 4h.p., sporting 3-speed model, cost £135, 6 weeks old, insured to 11/11/21, unscratched, guaranteed perfect; must sell, £100.—Box 1,189, c/o *The Motor Cycle*. [4948

TRIUMPHS.—New models now being booked for spring delivery. May we quote you for exchange, Triumphs, Sunbeams, A.J.S., etc.—Bunting, Motor Exchange, Wealdstone. [5482

TRIUMPH, 1918, as new, 3 speeds, clutch, kick start, etc., £88; also 1913, free engine, etc., and Cancelet sidecar, £55.—Dentistry, 769, Romford Rd., Manor Park, London, E. [5158

1914 4h.p. Triumph, 3-speed hub, new Dunlop tyres, speedometer, engine just overhauled, perfect condition, coachbuilt sidecar, screen, complete set of lamps and tools; £90.—Vince, Axminster. [5029

TRIUMPHS.—We are the North London agents, and can give immediate delivery. Chain drive, chain-cum-belt, and renovated models.—Jones Garage, Muswell Hill, N.10; and at Woodside Parade, North Finchley. [0382

TRIUMPH, 1919, Empire sidecar, Easting wind screen, mudshield, Smith's speedometer, Lucas lighting set, tools, all in A1 condition; owner gone abroad; £130.—Daws, 40, West Hill, Wandsworth, S.W.18. [5417

RENOVATED Triumph, fitted with new gear box, wheels, tyres, frame, tank, enamel and plating, etc., whole machine like new, also fitted with very smart torpedo sidecar; £100.—L. Bull, 44, Hills Rd., Cambridge. [5392

1919 4h.p. Trinmph, engine No. 61934, with Millford sidecar, in new condition, and perfect running order, Lucas lamps, horn, new tyres, several spares, 7 months insurance; £120, a great bargain.—Robson, Dale Rd., Matlock. [5238

TRIUMPH, 3½h.p., excellent running order, engine just rebushed and overhauled, clutch, good tyres, new Pedley belt, Bosch mag., almost new horn, complete lighting set, tools, knee grips; £39.—Morley, 4, Castledown Terrace, Hastings. [5242

TRIUMPH C.B. Combination, 1913-14, 3½h.p., Bosch mag., 3-speed Sturmey hub gear, clutch, lamps, horn, speedometer, College shields, Dunlops, insurance, etc., stored 6 years, splendid condition; 75 gns.; trial by appointment.—Green, 42a, Balham Park Rd., Balham, S.W. [5253

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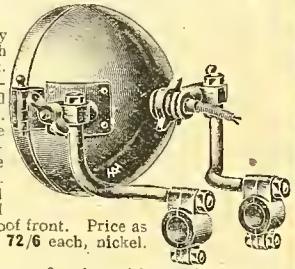


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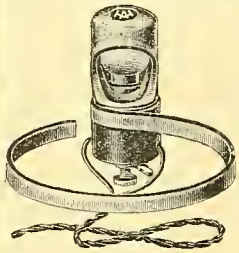


Fig. 347. **"Speedolite,"**

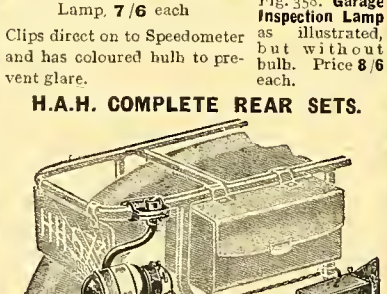
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Fig. 358. **Garage Inspection Lamp** as illustrated, but without bulb. Price **8/6** each.

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1920 Triumph Combination, 1,200 miles only, Luc lamps, horn, Watford speedometer, handle-b clock, aluminium footboards, Gloria sprung wheel sid car, Easting wind screen, luggage and petrol can holde Dunlops unpunctured; price £145.—Spurr, 144, Hi St., Stevenage, Herts. [51

TRIUMPH, makers' renovated 1918-19 4h. countershaft, T.T. bars, large P. and H. lamp mechanical horn, speedometer, pump, tools, spa inner tube and belt, good tyres, enamel and platin perfect, sound condition, thoroughly reliable; £9 week-ends.—64, Balloch Rd., Catford, S.E.6. [54

TRIUMPH Countershaft, renovated, as new, n ridden 100 miles, Ace discs, Klaxon, electric se 2 accumulators, switches, tools, etc., sporting coac built sidecar, electric lamps, owner (engineer) buyin car; trial and expert examination invited by appoin ment; £105, no offers.—Taylor, 46, The Grove, Grave end. [502

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Ne 4h.p. 1921 Triumph solo, delivery from stoc £127/10; also new 1921 4h.p. Triumph combinatio all-chain drive, £195; new 4h.p. 1921 Triumph sol all-chain, £140; and 4h.p. W.D. Triumph solo, £10 also 1920 4h.p. Triumph combination, £152/10; 4h. Triumph, 1915, £65; and 4h.p. Triumph, 1914, £5. Easy terms or exchanges arranged. [557

Tyler.

2¾h.p. Tyler, 2 speeds, good condition; £35, or e change.—76, London St., Chertsey. [537

Velocette.

1920 Velocette, practically new, very fast; 60 gns.- Spearman, Parks, Crediton, Devon. [504

1919 Velocette, 2-speed, low mileage, condition a new; £50.—5, Windsor Rd., South Faruborough Hants. [531

VELOCETTE, 1919, 2-speed, chain-driven, lar lamps, Klaxon, new condition; lowest, £55.—Hol den, Ham Rd., Worthing. (D) [538

VELOCETTE, 1914, 2-speed, all-chain, Bosch Senspray, splendid condition, running order, tyre good, trial; £38.—45, Ashfield Rd., Chorley. [497

VELOCETTE.—Immediate delivery of new 192 Model D2 Velocette; £75.—Sole Midland Agent The Premier Motor Co., Aston Rd., Birmingham. [546

O'DONOVAN Motors are sole London and distric agents for the wonderful Velocette; immediat delivery.—O'Donovan Motors, 76a, Gt. Portland St W.1. [470

IMMEDIATE Delivery can be given of the famou Velocette, 1921 model, 2¼h.p., 2-speed, all-chai drive; £75.—Agents: W. Sparrow, Ltd., Osborne Garage Yeovil. [163

VELOCETTE, the lightweight with a big heart,- stock for immediate delivery, shop-soiled; at great reduced price; now is the time to buy.—Mebes, 154-156 Gt. Portland St., W1. 'Phone: 3426 Mayfair. [719

Verus.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.— 2¾h.p. 1920 Verus-Blackburne, excellent condi tion. £85. [557

£35 down and 8 monthly payments of £7/10 secure a brand new shop-soiled 1920 Verus-Blackburn 2-speed 2¾h.p.—Maudes' (below).

£40 down and 8 monthly payments of £8/15 secure a brand new 4h.p. 3-speed Verus Blackburne.— Maudes', 100, Gt. Portland St., W.1; and Paris St. Exeter. [534

Villiers.

VILLIERS 2-stroke, 2¾h.p., good condition, run splendidly; £26.—143, Ravensbury Rd., Earlsfield S.W. [543

Vindec.

VINDEC, 2¼h.p., 2-speed, original tyres and belt like new, lamps, 30/- tax; sacrifice, £48.—257 Cavendish Rd., Balham, S.W.12. [542

V.S.

V.S. 6h.p. Combination, Bosch, new Amac, 2-spee just overhauled; nearest £25; mornings befor 11 a.m., or write.—Rhodes, 74, Grosvenor Rd., Vaux hall Bridge, S.W.1. [514

Wilkin.

WILKIN, Models B and B4, shop-soiled; at great reduced prices; now is the time to buy.—Mebes 154-156, Gt. Portland St., W.1. 'Phone: 3426 May fair. [719

Wolf.

WOLF 1915 2¾h.p., variable gear, Bosch, lamps horn, good condition; best offer.—15, Oakley Te race, Dewsbury Rd., Leeds. [489

1920 Shop-soiled Wolf Machines, fitted with Black burne, J.A.P., and Villiers engines and Sturmey Arche gear boxes; cheap to clear.—Tel.: Museum 662 —A.S.C., 60, Mortimer St., W.1. [492

MOTOR CYCLES FOR SALE.

Wooler.

1920 Wooler 2¾h.p., P. and H. lamps, Cowey horn, equal to new; £70.—Palmer Bros., The Cannon, Isbech. [5397

WOOLER, new June, 1920, lamps, horn, tools, mudshield, insurance, perfect; £75.—6, St. Vincent's Rd., Southend. Tel.: 428. [4928

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. Wooler 1921 touring models from stock, £103/10; also 2¾h.p. Wooler, 1920, £82/10. [5588

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7192

Zenith.

1921 Zeniths, in stock.—Agents, Hewett Bros., 94, Western Rd., Hove, Sussex. [0344

BRAND New 8h.p. Zenith; cost £162; accept £145.—Smith, 52, Hampstead Rd., N.W.1. [5344

ZENITH 4-5h.p., Olympia Show model; £123; immediate delivery.—Caeco, 21, Hobson St., Cambridge. [4884

SPORTS Zenith, 6h.p., exchange 4h.p. Douglas or Brough.—Fairview, Thorkhills Rd., Thames Ditton. [5234

ZENITH 1919 (Sept.) 6-8h.p., new condition, hardly used; £85, no offers.—48, Grenville Rd., Hornsey Rise. [5330

ZENITH 5h.p. Sports, 1920, as new, mileage 200; £105.—Dunn's, 326, Euston Rd., N.W.1. Museum 891. [5528

ZENITH 8h.p. Sports, 1920, new, unregistered; £120.—Dunn's, 326, Euston Rd., N.W.1. Museum 891. [5529

1920 Zenith 5h.p. Sports Model, brand new, never been ridden; sacrifice, £105.—Holmes, Filkins Lechlade. [4903

ZENITH-GRADUA 8h.p. Combination, lamps, generator, etc., splendid order; £60.—5, St. Peter's Rd., Hammersmith. [5419

ZENITH (4h.p. J.A.P.) Gradua Coach Combination, many new parts, overhauled; £50, or near.—Watts Garage, Lydney, Glos. [5299

ZENITH 8h.p. Combination, countershaft, new September; £180; accessories unscratched.—Maitland, Hill Cottage, Cobham, Surrey. [5163

GENUINE Bargain.—Zenith 8h.p. sporting solo, 1920, as new; £125.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [0319

£40.—C.B. combination, 4h.p. Zenith, perfect condition and appearance; after 2 o'clock.—Golding, 10, Ospringe Rd., Tufnell Park, N.19. [5254

ZENITH 1921 Models.—We are accepting orders for early delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3262

8h.p. Zenith Combination, 1914, special sports countershaft model, 90 bore, side valve; £100; seen Shepherd's Bush.—Neal, 61, Threadneedle St., E.C. [5162

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7193

ZENITH 6h.p. Combination, as new, fully equipped, including Cameo wind screen, speedometer, low mileage; any trial; £100.—5, St. George's Rd., Forest Gate, E.7. [5213

1920 Sports Model Zenith, 5h.p. twin, delivered new July, mileage 350, unscratched, Bonniksen speedometer, Cowey horn, condition new; £95.—Welford, 28, St. James's St., Brighton. [4997

ZENITH-GRADUA, J.A.P. 4h.p. single, 1917, Klaxon, Stewart tap, Hunt accumulator lighting set, tools, good condition; £65; evenings after 6, all Sunday.—Morland, 19, Harewood Rd., South Croydon. [5012

1919 4-5h.p. Sports Zenith and light Millford coach-built sidecar, speedometer, lamps, mechanical horn; £93; or solo £90.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [3842

NEW 8h.p. Zenith Model H Combination; £204, or on deferred paymeuts: one fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [5180

5-6h.p. Zenith Combination, Gradua, twin J.A.P. engine, head, tail, side lamps, tools, spare belt new, good running order; £90, or exchange small 2-seater cycle car or runabout to value; must be in good running order.—Green, 32, Clydesdale, Wishaw. [6043

Ladies' Motor Cycles.

DOUGLAS 2¾h.p., lady's frame, good running order, 3-speed, kick start, accessories; what offers?—Williams, 47, Mill St., Bridgnorth. [4693

1920 Lady's Model Sun-Vitesse, 2-speed Sturmey, hand clutch, brand new, unregistered; £65.—Welford, 28, St. James's St., Brighton. [4998

Miscellaneous.

1921 Triumphs, Scotts, Bradburys, James, Rudges, Campions, Morgans, etc.—Ewens, Garage, King's Lynn. [3659

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Has a specially designed buttonless front, fastening with three-section all round belt. Extra wide D.B. 40 ins. long.



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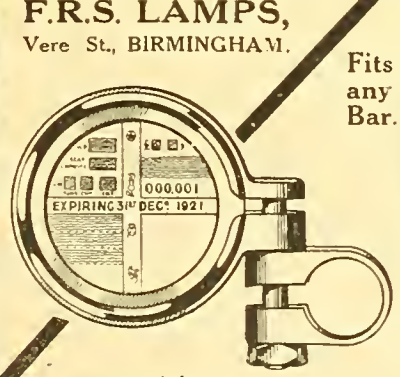


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ROVER Light Car, 1921 model, 8h.p., in stock for immediate delivery; £300.—Godfrey's, Ltd., 208, Gt. Portland St., London, W.1. [0350

1917 Morgan, Grand Prix, w.c. J.A.P. engine, completely overhauled, tyres good, electric lighting; £180.—Dr. Beane, Long Eaton, Notts. [X4323

BLERIOT Whippet Cycle Car, to makers' specification; £250, or on deferred payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5189

A.C. Sociable, modern types, fully equipped, mechanically sound, good appearance; from £60 to £85; trial. —29, Allsop St., Upper Baker St., London, N.W. [3157

CYCLE Car, 4 wheels, 2-seater, £40, trial; also car chassis, with wheels, tyres, steering, etc., £5/10; must sell.—Chaffey, 34, Blissett St., Greenwich, S.E. [5335

WAUCHOPE'S, 9, Shoe Lane, London E.C.4.—New 1921 8h.p. Coventry Premier, spare wheel, detachable wheels, dynamo lighting; price 275 gns. [6573

COVENTRY Premier Runabout, 3 speeds and reverse, dynamo lighting; 275 gns.—Special Agents, Ratcliffe Bros., 200, Gt. Portland St., W.1. 'Phone: Mayfair 5042. [0385

GIBBONS Mark III. Cycle Car, reduced to £115; delivery within one month; trials any time by appointment. Agents required.—Gibbons and Moore, Chadwell Heath, Essex. [4838

MORGAN 1916, Grand Prix, water-cooled J.A.P., all accessories, painted red and black, good condition; sacrifice £145.—30, Harold Rd., Beulah Hill, S.E.19. Tel.: Sydenham 1284. [5286

NEW G.N. Cycle Car, to makers' specification, £245; dynamo lighting model, £275/12/6; immediate delivery; deferred payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5187

T.B. 1921 Models, 10h.p. Blackburne, air-cooled, £260, water-cooled £275; ready for delivery January.—Sole agents Sussex, County Garage, Gloucester Place, Brighton. Agents invited. [3231

6h.p. Cycle Car Chassis, single, water-cooled, 2-speed and reverse, differential back axle, wire wheels, Amac, Thomson-Bennett mag.; £35, or offers.—58, Knox Rd., Blakenhall, Wolverhampton. [5314

CYCLE Car, 1914, 8h.p., w.c., 5 Lynwood detachable disc wheels, 3 speeds, electric lighting, hood, wind screen, perfect condition, sporty appearance; £140.—Carter, Empire Cinema, Douglas, I.O.M. [5076

MORGAN 1921 Grand Prix, 10h.p. water-cooled M.A.G. engine, hood, screen, lamps, horn, aluminium instrument board, flush-fitting speedometer, just delivered, used for less than 500 miles; £230.—Below.

MORGAN 1920 New Special Grand Prix, 10h.p. M.A.G. engine, streamline body, hood, screen, lamps, horn, fully guaranteed; £235.—Below.

MORGANS, new and second-hand, always in stock. We are the leading London agents, and can supply your requirements. All spares in stock.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0072

RUNABOUTS AND CYCLE CARS.

TAMPLIN Tandem, to makers' specification, £165, or fully equipped with hood and screen, lamp, horn, aluminium discs on wheels, £189/7, or on deferred payment 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5188

T.B. Tricars.—We have a few new 1920 models, 8h.p. J.A.P., air-cooled, 3 speeds and reverse, spare wheel, acetylene lighting, disc wheels, screen, hood, tools, pump; £235; new tax £4.—County Garage, Gloucester Place, Brighton. [3230

MORGAN, 8-10h.p. J.A.P., late model Grand Prix, water-cooled, just repainted mauve, hood, screen, lamps, discs, speedometer, etc., absolutely as new; bargain, £150, take 2½h.p. Douglas part.—G., 63, Solon Rd., Brixton, S.W.2. [5495

MORGAN 1920, J.A.P. a.c., latest improvements, complete equipment, many extras and spares, recently overhauled, in excellent order; owner bought car; £190, or near offer.—Bayldon, Hill View, Queen's Park Parade, Northampton. [5352

MORGAN.—We are agents for these famous runabouts, and are now in a position to offer reasonable delivery. We specialise in repairs, overhauls, and repainting.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3460

TURNER Cycle Car, 8-10h.p. V twin engine, water-cooled, live axle, 2 speeds and reverse, wire wheels, lamps, horn, hood, screen, etc.; £75; exchange combination.—Speechley, 1, Gunnersbury Lane, Acton Hill, London, W.3. 'Phone: Chiswick 1902. [5231

CROUCH Light Cars.—Have you investigated the wonderful merits of this famous product? If not, please allow us to send you full particulars. Price complete, ready for the road, £295, value unequalled anywhere.—Mebes and Mebes (Est. 1893), the Original Light Car Specialists, 144, Gt. Portland St., W.1. Tel.: 3426 Mayfair. [4252

G.N. Cycle Car.—Mebes and Mebes, the Original Light Car Specialists, are the largest official London agents. During season 1920 we have sold more of these than any other agent in England, therefore our expert experience is at your disposal. Immediate delivery of all models from stock at makers' list price, no waiting.—144, Gt. Portland St., W. Tel.: 3426 Mayfair. [4251

CARS FOR SALE.

£35 Secures 6h.p. Rover 2-seater, ready drive away.—Palmer's Garage, Tooting.

£50 Secures 7-9h.p. Peugeot 2-seater, ready drive away.—Palmer's Garage, Tooting.

£40 Secures 9h.p. Sporting Sizaire 2-seater, bulbous back, ready drive away.—Palmer's Garage, Tooting.

£50 Down and 12 Monthly Payments £5 secures reliable 4-seater landaulet.—Palmer's Garage, Tooting.

£75 Down and 12 Monthly Payments £7/10 secures R.M.C. underslung 2-seater.—Palmer's Garage, Tooting. [5513

DAIMLER 28h.p. Touring Car, C.A.V., guaranteed perfect; £95.—14, Glenelg Rd., Brixton, London. [5468

10-12h.p. 4-cyl. Humber Landaulet, new gears, Bosch, Claudel, gate, tyres, paint, upholstering, etc., all perfect; £85.—Hammond, Wivenhoe. [5366

B.S.A. Coupe, 13.9h.p., dynamo lighting, Rudge detachable wheels and spare, handsome appearance; £225.—11, Clapham Court, Clapham, S.W.4. [5466

6h.p. Rover, running order, £35; 4½h.p. Precision 3-wheeler chassis, complete, £18; 10h.p. Maxwell 2-seater, £120.—Motors, 39, Essex Rd., Islington, N.1. [5270

DAIMLER 1916-17 Open Touring Car, C.A.V. lighting, Dunlop detachable wheels with spare, in new condition; £395.—Capt. Trumble, 69, Bavant Rd., Camberwell, S.E. [5469

SPORTING Italian Peugeot, 12h.p., streamline dome-shaped 2-seater, dickey, disc detachable wheels, hood, screen; £220, or exchange 1920 combination.—84, Greenside Rd., Croydon. [5152

1913 4-seater Darracq, detachable wheels, tyres nearly new, hood, lamps, screen, gate change, in splendid condition; exchange for motor cycles, any condition.—Britnell Bros., 43-45, High St., Fulham. [4909

10h.p. Twin Alldays 2-seater, in perfect running order, new tyres, hood, screen, lamps, and Stepney, Binks carburetter, Bosch mag.; trial any time; absolutely a bargain, £100.—Dickins, 8, Bath Rd., Cheltenham. [4981

NOTICE.—Landaulets: Sunbeam £175, Talbot £95, Renault £150, Argyll £95, Mass £75, Wolseley £85; Napier chaesis, £85; Daimler 25-cwt. van, £95; Straker-Squire 3-ton lorry, £145; all guaranteed.—S.M.C., 77, Acre Lane, S.W.2. [5467

DOUGLAS S. COX regrets no list this week owing to carly press, but latest printed list free on receipt P.C. Seventy cars, however, always in stock, and systematic redniction scheme proceeding merrily; absolute bargains guaranteed all callers. Please call.—Douglas S. Cox, the absolutely straight motor man, 6, Lansdowne Hill, West Norwood, S.E. [5567

WE GIVE AWAY

To every purchaser of a new cover from the list below, a new and fully guaranteed Inner Tube entirely free of charge. All goods are sent Carriage Paid, and on approval, seven days against remittance.

TYRES

Size.	Make.	Our Price.	List Price.
26×2	Avon Rubber Stud	25/6	31/-
,,	Englebert Wired-on Rib	25/-	55/-
26×2½	Hutchinson Passenger	44/-	68/9
,,	Avon Combination	44/-	91/-
,,	Beldam Extra Heavy	39/6	64/-
,,	Bates No. 1 Special	39/6	67/-
,,	Dunlop Heavy	39/6	53/6
,,	Clincher De Luxe Ex. Hy.	37/6	62/6
,,	Hutchinson T.T.	37/6	59/-
,,	S. Moulton Extra Heavy	37/6	59/-
,,	Englebert Wired-on R.S.	35/-	64/-
,,	Beldam Heavy	34/-	58/-
,,	Englebert Wired-on Rib	30/-	60/-
26×2½	Dunlop Heavy	41/6	56/9
,,	Palmer Cord Heavy	39/6	66/-
,,	Clincher De Luxe Ex. Hy.	39/-	68/6
,,	Kempshall Anti-skid	37/6	75/-
,,	Bates No. 1 Special	37/6	71/6
,,	Wood-Milne Extra Heavy	37/-	63/9
,,	Avon Tricar Rubber Stud	34/6	72/6
26×2¼	Palmer Cord Heavy O.S.	59/-	74/5
,,	Beldam Extra Heavy	45/-	78/-
,,	S. Moulton Extra Heavy	45/-	77/-
,,	Palmer 2-ply Ribbed	39/-	50/3
,,	Englebert Wired-on R.S.	35/-	72/6
,,	Englebert Wired-on Rib	30/-	70/-
28×2½	Goodyear A.W. Tread	45/-	84/-
28×3	Goodrich Safety Tread	52/6	93/6
,,	Wood-Milne Extra Heavy	35/-	81/-
,,	Elite E.Hy.Gvd. Retreads	33/-	—
650×65	Palmer Cord Heavy	68/-	79/6
,,	Avon 3-rib	58/-	75/6
,,	Dunlop W.D. Grooved	52/6	77/-
700×80	Wood-Milne Steel Stud	97/6	133/6
,,	Partridge R. Non-skid	85/-	110/-
,,	Clincher Ribbed	59/6	88/9
,,	Clincher Rubber Stud	46/6	99/6

BELTS—IN STANDARD LENGTHS

Dunlop, Pedley, Bates, etc. Per Foot.	⅝in.	¾in.	1in.	1¼in.	1½in.
	1/1	1/9	2/2	3/3	3/-

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Extra Heavy £1
Heavy .. 17/6
Medium .. 15/-

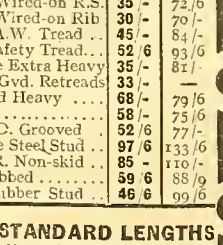
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COMMERCIAL VEHICLES.

£100 Down and 12 monthly payments of £25 secu a magnificent 3-ton lorry.—Details, Palmer's G age, Tooting. [55

LORRY Bodies for Ford Tonners in Stock, ex strong make, enclosed cab; £65.—The Willowbr Co., Leicester. [03

15-CWT. Humber Van, 10-12h.p., 4-cyl., Bos Zenith, etc., in perfect running order; £75.— Bull, 44, Hills Rd., Cambridge. [53

TON 4-cyl. Humber Lorry, running order, £95; 6 h 2-seater Rover, running order, £65.—Hudson, Conway Rd., Plumstead, London. [51

£85 down and 12 monthly payments of £15 secu splendid 1-ton truck, twin solids, will carry cwt.—Details, Palmer's Garage, Tooting. [55

TAXICAB

£100 Down and 12 monthly payments of £20 secu London taxicab.—Details, Palmers' Garage, To ing. [55

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EIGHT 8-10h.p. Douglas Lighting Sets, water-cool with radiator, 120 v. dynamo, 20 amps., all one base plate; these are complete with switchboar which includes 2 amp. meters and 1 voltmeter, switches.—Below.

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SIX 4-cyl. Standard Lighting Sets, 10h.p. engine, w radiator, 120 v. dynamo, 30 amp., switchboard a switches, as used on the workhop lorries; £75 each, w mag. and carburetter.—Below.

EIGHT 10h.p. 4-cyl. Austin Lighting Sets. Parti lars same as Standard. £75 each, with magn and carburetter.—Below.

5-6h.p. 1916-17 Clyno Engines, less mag. and car retter; £15 each.—Below.

FORTY Switchboards, in cases with sliding gl doors, containing one voltmeter, 2 amp. mete and 5 switches; price £4 each; please write or apply Below.

A LARGE Quantity of Cable, electric lamps, elect lighting shades, switches, switchboards, etc Below.

5-6h.p. Rudge Engine, complete with multi gear a mag.; £12.—Below.

THREE 4½h.p. Precision Engines; £8 each.—Belo

ONE 3½h.p. Lincoln-Elk; £5.—Please write or ap J. J. Dooley, 33, Killyon Rd., Clapham. Stamp addressed envelope, please. [55

DOUGLAS 2¾h.p. Stationary Unit, complete, guar teed as new; £14.—35, Marmion Rd., Portsmou [52

4h.p. Douglas Engine, as new, £14; 4½h.p. Precisi £12; stamp.—Motor, 39, Essex Rd., Islingt N.1. [52

P. and M. Engine, late model, in perfect conditi £12/10; 2-speed gear, £6/10.—Inman, Othello Liverpool. [48

4h.p. J.A.P., single, powerful type; £10; low milea in present owner's hands since new.—Hetheri ton, Moffat. [50

4¼h.p. Water-cooled Rex Engine, complete with m neto, will drive two lathes easily; £14.—170, Lane, Coventry. [X43

2¾h.p. Union Engine with E.I.C. magneto, latest ty complete, brand new; £14.—Booth, Main Haworth, Keighley. [52

SUNBEAM 3½h.p. Unit, complete, mag., carburett etc., not junk; offers over £24.—120, Marlboro Flats, Walton St., Chelsea, S.W.3. [X42

TO Manufacturers.—Engines, M.B. 2-stroke 2¼ units; immediate deliveries large or sm quantities for trade terms.—Burt's, 245, Hammersm Rd., W.6. [49

HEPPELTHWAITE.—3½h.p. N.S.U., £4; Cl 6h.p., £7/10 (1912); 3h.p. 2-strokes, new, £7/ Hmmber, £3/10.—19, Wilcox Rd., South Lambeth, L don, S.W.8. [53

J.A.P. Engines in Stock.—Special o.h.v. engi built, complete stock of spares for all type J.A engines; Bosch magneto, 50° twin, £6/10; A1 J.A engines from £15.—B.P. Garage, 40, Murray Ma Murray St., Camden Town, N.W. [39

UNION 2¾h.p. 2-stroke, complete with C.A.V. m B. and B. carburetter, exhaust pipe and silen complete with Hoskinson frame, tank, with drip fe carrier, and stand, the whole brand new; sacri £27/10.—Homac's 243, Lower Clapton Rd., N 'Phone: Dalston 2408. [5

IGNITION APPLIANCES.

U.H. Magneto, 55°, clock, suit Clyno; £4.—G., Strauss Rd., Bedford Park, Chiswick, W.4. [5

MAGNETO, C.A.V., new single-cyl. heavyweight, c plete; £3/10.—Jackson, 89, Oak Lane, Bradfor [5

MAGNETOS, 180°, from £4/10; 50°, £5; sin Bosch, £5.—Motor, 39, Essex Rd., Islington, [5

IGNITION APPLIANCES.

LIANCE Magneto Repairing Co., specialists in magneto repairs.

LIANCE guarantee to return your magneto within 3 days, and if necessary, 24 hours.

LIANCE work under estimate, and guarantee every magneto for 12 months. Armature winding speciality.

LIANCE work for, and are recommended by, some of the largest firms in London and country, and supply every want.

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LIANCE specialise in the repair of U.H. magnetos, and, having the original U.H. parts, can antee a sound and reliable job.

LIANCE stock new and second-hand magnetos at right prices; old magnetos taken in part payment. for illustrated leaflet of the new Fellows light- t magneto, the smallest, cheapest, and most efficient made. Special terms to the trade.

LIANCE will be pleased to receive your enquiries concerning your ignition troubles, and customers be certain of obtaining promptness and courtesy.

LIANCE Magneto Repairing Co., 11, Gt. Sutton St., Goswell Rd., E.C.1. [2186

UMULATORS, 4 volt 20 amp., in celluloid cases, with extra tin case and handle, 13/6 each; reduction to trade for quantity.—Below.

UMULATORS.—Write for our list; very low prices; special offer.—F. Yates and Son, 144, h St., Kensington. [3976

OMSON-BENNETT Magnetos, 180°, suit 4h.p. Douglas, guaranteed perfect; 70/-.—Watson, 6, dish Parade, Clapham, S.W.4. [5247

SCH ZA2, 180°, anti, £4; ditto, E.I.C., £3/10; new contact breakers, complete, 10/-; wanted, single -Ashby, 18, Hertford Place, Coventry. [5402

GNETOS: Dixie, 180°, £3; Thomson-Bennett, single, £3/10; Bosch contact breakers, 18/-.— al Garage, London ..., Thornton Heath. [5403

4, and 6-cyl. Magnetos for all purposes, guaranteed, at very low prices; magnetos bought, sold, changed.—Laviver Co., 23, Elnathan Mews, Paddington, W.9. [5566

GNETO Repairs.—Send your magneto to Palmer's Garage, Tooting. Reply paid, quotation telephoned on receipt. Quick, efficient repair guaranteed from 2 to 6 days—usually within 24 hours.—er's Garage, Tooting. [5508

NBAKEN Repair Service.—Thorough and efficient repairs to any make of dynamo, starter, or magneto; have the spare parts, plant, and skilled labour to carry out guaranteed work only.—Enclose instructions and mail to The Runbaken Magneto Co., Ltd., 61, Gt. Portland St., London, W. ('Phone: Mayfair North of England: Derby St., Cheetham, Manchester. ('Phone: City 8266). [0256

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TYRES.

STONE'S for Government surplus and clearance covers and tubes.

STONE'S.—28×1½ Michelin covers; 15/-.

STONE'S.—26×2¼ Palmer cord ribbed covers, 34/-; Hutchinson, rubber-studded, 28/-.

STONE'S.—Englebert ribbed (wire edged) covers, 26×2¼ or 26×2½, 25/-; ditto, rubber-studded,

STONE'S.—26×2¾ Hutchinson Tourist Trophy, 30/-.

STONE'S.—26×2¼ Michelin, 21/-; Hutchinson, passenger, 42/-; Avon Sunstone, 45/-.

STONE'S.—28×3 Palmer cord, heavy, 45/-.

STONE'S.—Michelin tubes, 26×2¼ and 26×2½, 3/6 each.

STONE'S, 223, Pentonville Rd., King's Cross, London, N.1. Tel.: 2481 North. [5532

CRABTREE & SON, Ltd.,

Motor Engineers,

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REBUILT GOVERNMENT MOTOR CYCLES

overhauled, stove-enamelled, replated, tanks in makers colours, new tyres, guaranteed, complete with tool bags, kit, and pump.

Douglas 2¾ h.p. - - £65

Douglas 4 h.p. - - £85

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Triumph 4 h.p. - - £95

2,500 New Covers

(Ex Government Stock).

28 x 3 Kempshall, Macintosh, and Wood Milne.

26 x 2½ Clincher de Luxe.

30/- each.

Carriage Extra.

UNRENOVATED EX GOVERNMENT MOTOR CYCLES.

Still a large quantity to clear from the Slough Depot at **SCRAP PRICES**. Make an appointment by writing:

"Motor Cycles,"

ROYAL HOTEL, SLOUGH.

TYRES.

H. EMANUEL'S for your motor cycle tyres.—Below.

28×3 Dunlop Extra Heavy, 4-ply, 60/-, Palmer cord heavy 50/-, Palmer cord 45/-, Wood-Milne extra strong 39/6, Moseley ribbed 35/-, Kempshall anti-skid 35/-.—Below.

700×80, for voiturette rims, will fit 660×65; Dunlop grooved 75/-, Wood-Milne Gruvrib 70/-, Spencer-Moulton 70/-, Beldam Bulldog 70/-, Avon Sunstone 70/-.—Below.

26×3×2½ Dunlop Heavy 45/-, ditto tubes 8/6.—Below.

650×65 Palmer Cord Heavy 67/6, Palmer cord 50/-, Dunlop heavy 50/-. As follows for voiturette rims: Michelin steel-studded 70/-, Dunlop steel-studded 75/-, Wood-Milne square 45/-.—Below.

26×2½ Dunlop Heavy Rubber-studded 45/-, Bates heavy pattern ribbed 39/6, Avon Sunstone 41/8, Dunlop combination rubber and steel-studded 67/6, Rom ditto 55/-, Wood-Milne 65/-.—Below.

26×2¾ Dunlop Heavy 39/-, Wood-Milne extra strong 39/-, Moseley ribbed 34/-, Dunlop combination 55/-.—Below.

26×2¼ Dunlop Heavy 39/6, Dunlop combination 55/-, Rom ditto 55/-. Beldam ditto 65/-, Bates special heavy 37/6, Macintosh chain pattern 35/-.—Below.

THE Above Tyres are Government surplus, not in any way perished or soiled. All orders 7 days' approval against remittance. If not satisfactory money refunded. Country orders dispatched passenger train same day as order received.—Below.

H. EMANUEL, Tyre Factor, 27, Belgrade Rd., N.16. Stores: 37a, Bulls Pond Rd. 'Phone: Dalston 3161. [0258

SIDECAR Tyres, complete; a bargain, £4.—B., 97, Byron Rd., Wealdstone. [4931

TEN Brand New Dunlop Tyres, 26×2; 17/6 each, or best offer lot.—15, South St., Louth. [4890

15/6 is the cost for retreading your cover with extra heavy studded tread.—Below.

14/6 for retreading heavy ribbed pattern; send for sections of tread, post free.—Below.

REPAIRS of every description from 2/6.—Phœnix Tyre Repairing Co., 224, Sherlock St., Birmingham. [X4344

BRAND New Clincher Tyres, 26×2¼ 33/6, 28×2½ 39/6.—Wandsworth Motor Exchange, Ebner St., Wandsworth. [8171

TYRES. Great sale.—Don't buy any until you have seen our list. It is a revelation.—Bancroftian Co., 64 and 78, Bishopsgate, E.C. [0054

28×3 Rod Capon Heaton Inner Tubes and Valves, guaranteed new, 8/6 each, post paid.—Edwardes Bros., 20, Blackfriars Rd., S.E.1. [5169

ECONOMIC Tyre Co.—Genuine bargains in new clearance and Government surplus stock; all goods sent carriage paid on 7 days' approval against remittance.

ECONOMIC.—24×2¼ (fit 2in. rims) heavy rubber non-skid, 41/-, listed 54/6; 26×2¼ Dunlop heavy, 37/6, listed £2/16/9.

ECONOMIC.—26×2¾ Dunlop heavy, 39/6, listed £2/19/9; Palmer cord heavy, 39/6, listed £3/19/4; Avon tricar, 37/6, listed £3/0/8.

ECONOMIC.—28×2½ (American) Kempshall Non-skid, brand new 52/6, listed £4/11/3; 28×3 Kempshall non-skid, clearance, 45/-, listed £5/12/2.

ECONOMIC.—650×65 Clincher de Luxe W.D., 67/3, listed £4; 700×80 Dunlop grooved, 75/-, listed £4/19/6.

ECONOMIC.—Fully guaranteed, Dunlop rubber-stud, 24×2 27/9, 26×2 29/9, 26×2¼ 31/6.

ECONOMIC Tyre Co., 314, New Cross Rd., S.E.14 (near Town Hall). 'Phone: New Cross 1393. Repairs and retreading. [4693

BARGAIN.—2,000 new Dunlop, Palmer, Clincher, Bates, Hutchinson, Wood-Milne tyres, all for heavy motor cycles, 26×2½, 26×2¾, 26×2¼, to be sold, 20/- each.—Below.

2,000 New Dunlop, Bates, Clincher, Palmer, Capon tubes, 26×2½, 26×2¾, 26×2¼, to be sold, 4/- each; France board Calais.—Call or write to Couter, 9, Boulevard Gambetta, Calais, France. [6514

BULL'S.—Large stock of motor cycle and voiturette covers and tubes at clearance prices.—Bull's Rubber Co., Ltd., 3, Upper St. Martin's Lane, London, W.C.2. Tel.: Gerrard 1347. [0243

26×2½ Macintosh and Spencer-Moulton Tyres. These are brand new, and are not perished. To clear, 30/- each. Special quotations for quantities. Carriage extra.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [5542

MOTOR Cycle Inner Tubes.—590 damaged motor cycle inner tubes, sizes 26×2¼, 26×2¾, 26×2½, various makes, mostly have slight punctures, few are without valves; in one lot, what offers?—Box 46, c/o *The Motor Cycle*. [X4218

BELDAM Retreads of a Motor Tyre give thousands of extra miles at a fraction of cost of new tyre. Send old cover (any make) and we will quote cost of retread or repairs.—The Beldam Tyre Co. (1920), Ltd., Brentford, Middlesex. [0310

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. A29

TYRES.

KEMPSHALL Non-skid, also Hutchinson T.T., 28×2½, brand new, at a remarkable figure; 35/- each; special prices for quantities over 6; carriage free; greatest bargains in tyres.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0259

DO You Want Reliable High-class Retreading, hursts vulcanising, chafed beads remoulding, or butt ends fitted? Then get in touch with the Melton Rubber Works, Melton Mowbray, and you will never regret it. Trade work a speciality. [0347

R. D. VARTY for Tyres.—New unused Dunlop heavy studded 26×2¼, 37/6; 26×2⅜, 37/6; two only 28×3 extra heavy, 47/6 each; also others at clearance prices, all sizes from 24×2, only a few left, don't delay.—R. D. Varty, Thundersley, Essex. [3713

HEPPELTHWAITE'S.—26×2⅜ Beldam, new, £1/5; Bates, £1/5; Dunlop heavy covers, £1/10; 26×2¼ Dunlop retread, 26×2⅜, 17/6; 28×3 grooved Dunlop, £2; all above are new goods. Ask your motoring friends what they think of Heppelthwaite's goods.—19, Wilcox Rd., South Lambeth, London, S.W.8. [5355

26×2½ New Beaded Covers, 30/-; new best quality tubes, 24×2¼ 6/-, 26×2 6/6, 26×2¼ 7/-, 26×2½ 7/9, 26×2½×2¼ 8/6, 26×3 9/6, 700×80 10/6, 750×75 12/6; new rubber belts, 6ft. 2in.×1in., 10/6; 15in. inflators, 2/6; sent approval, carriage paid, receipt remittance.—Palmer's Garage, Tooting, S.W. [5512

MOTOR Cycle Tubes.—Best red quality, with small patch vulcanised by makers: 24×2, 5/3; 24×2¼, 5/6; 26×2, 5/9; 26×2¼, 6/-; 26×2⅜, 6/3; 26×2½, 6/6; 26×2½×2¼, 6/9; 26×3, 7/-; 28×2, 7/3; 28×3, 7/6; 29×3½, 7/9; 650×65, 8/-. All leading makes and sizes in stock.—H. Emanuel, Tyre Factor, 27, Belgrade Rd., N.16. Stores, 37a, Balls Pond Rd. 'Phone: Dalston 3161. [0346

GOVERNMENT Surplus.—Huge stock of specially selected second-hand covers, Dunlop heavy, Palmers, Kempshalls, Clinchers, etc., 26×2¼, 26×2⅜, 12/6 each; 28×3, 17/6 each; new Dunlop and Bates tubes, 26×2¼, 2⅜ and 2½, 7/6 each; goods cash approval.—Homerton Rubber Works, Brooksbys Walk, Homerton, E.9. 'Phone: Dalston 3483. Tel.: Emanrubwor, Hack, London. [0331

TANKS.

TANKS Re-enamelled to pattern. High-class work only.—D. Jenkins and Sons, 6, Richard St., Atkinson St., Deansgate, Manchester. Established 25 years. [1797

TANKS of every description replaced, repaired and re-enamelled at our own works; all kinds of fittings stocked; quick service and reasonable charges.—Send postage for illustrated price list to A. Green, Water St., Chapel St., Salford, Manchester. Tel.: 2191 Central. [0256

BELTS.

A Large Quantity of Second-hand belts.—These belts are like new. I have all sizes, ¾in., ⅞in., 1in., all 6/- per length. By taking 50, 5/- each; by taking 100, 4/6 each. Some of these are complete with fasteners.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [5541

SURPLUS Government Stock, made by Pedley, Silvertown, Lycett, and Dunlop; perfectly new, cash refunded if not approved; ⅝in.×any length, at 1/7 per ft.; ¾in.×any length, at 1/9 per ft.; ⅞in.×any length, at 2/1 per ft.; 1¼in.×any length, at 2/10 per ft.; special offer of ⅞in. belts in 6ft. 6in. lengths, at 10/- each, and 10¼in. lengths at 17/6 each.—H. Emanuel, Tyre Factor, 27, Belgrave Rd., N.16. Stores, 37a, Balls Pond Rd. 'Phone: Dalston 3161. [0348

INSURANCE.

FOR Insurance of all kinds (specially motor), apply Ernest J. Bass, Insurance Broker, 40, Chancery Lane, W.C.2. [0005

ROYS, Ltd., invite enquiries for insurance of all kinds. Competitive rates for motor cycles. Lloyd's and Companies prospectuses on application.—170, Gt. Portland St., London. [0056

"THE Motor Cycle" Insurance Policy is the policy authorised by "The Motor Cycle," and covers motor cycles or cycles and sidecars used for private purposes. Complete comprehensive Cover. Maximum benefits, minimum rates. Free weekly copy of "The Motor Cycle" to all policy holders paying a premium of £5 or over.—Full particulars and prospectuses on application.—The Autocar Fire and Accident Insurance Co., Ltd., 20, Tudor St., London, E.C.4. [0007

PATENT AGENTS.

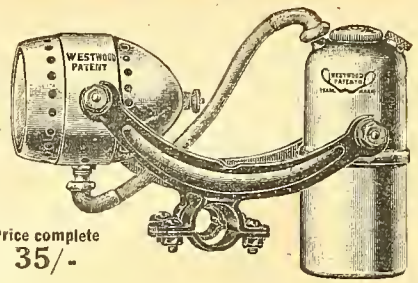
J. E. S. LOCKWOOD, Motor Specialist.—Guide free.—3, New St., Birmingham. [8992

PATENTS Advice, handbook free.—King, Registered Patent Agent, 146a, Queen Victoria St., E.C. 35 years' references. [0129

W. BRYSON, B.Sc., Assoc.M.Inst.C.E., A.F.R., Ae.S., Chartered Patent Agent, 29, Southampton Buildings, London, W.C.2. 'Phone: Museum 3651. [9622

SITUATIONS VACANT.

EXPERIENCED Upholsterer offered workshops manufacturers; willing to place contracts.—Box 1,186 c/o *The Motor Cycle*. [4944



Price complete 35/-

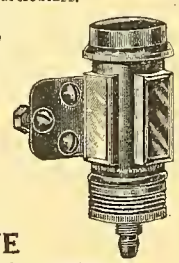
No. 204. HEAD LAMP SET.

Absolutely reliable, suitable for all makes of Motor Cycles. Write for particulars.



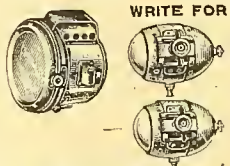
TAIL LAMP
List No. 19/1.
Price, 6/6 each.

ROYAL RUBY
List No 19/3.
Price 4/6 each.



ACETYLENE CAR LIGHTING SETS.

WRITE FOR LISTS





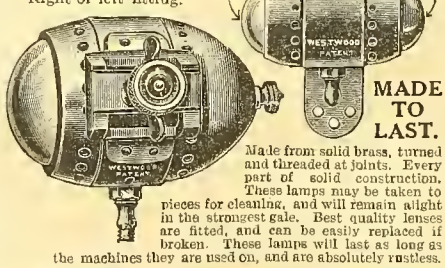
206 HEAD LAMP 58/ EACH
207 GENERATOR 42/ EACH
1914 SIDELAMP 18/6 EACH

SIDE LAMP.

List No. 19/4.
Price, 18/6 each.
Right or left fitting.

SIDECAR LAMP.

List No. 19/2.
Price 7/6 each.



MADE TO LAST.

Made from solid brass, turned and threaded at joints. Every part of solid construction. These lamps may be taken to pieces for cleaning, and will remain alight in the strongest gale. Best quality lenses are fitted, and can be easily replaced if broken. These lamps will last as long as the machines they are used on, and are absolutely rustless.



LICENCE HOLDERS

(For Motor Cycles).

Number plate fitting, as illustrated, complete with nuts and screws
List No. 214. **3/6 each.**
Handlebar fitting, complete with 2 pairs of clips and screws.
Price 4/- each.
MOTOR CAR PATTERN, with complete attachment for fitting to either woodwork or metal work. List No. 216. **3/6 each.**

Westwood Special Lines are stocked by all reputable agents.

TRADE MARK
WESTWOOD RIM & PATENTS LTD
LAWDEN RD BORDESLEY BIRMINGHAM.

SITUATIONS VACANT.

MANUFACTURERS and Concessionnaires ha many lines, require live sales-demonstrators those in a position to take small financial in need apply.—Box 1,185, c/o *The Motor Cycle*.

FOREMAN Wanted, must be first-rate mec thorough knowledge of motor cycles, us handling men; strictly honest and trustworthy.— in confidence, stating experience and terms, Box c/o *The Motor Cycle*.

PROGRESSIVE Motor Cycle Company, Manc district, has a few vacancies for practical men in all branches, who are prepared to take 2 more preference shares at £1 each, to bear inter 10%.—Qualifications, age, and wages required, et be addressed to Box 1,202 c/o *The Motor Cycle*.

PARTNERSHIPS.

PARTNER, enameller, competent all-round £100, good premises, no opposition.—Box c/o *The Motor Cycle*.

WANTED, partner with capital (£500), in lished business (motoring) holding valuable patent rights; Midlands.—Box 1,188, c/o *The Cycle*.

G. WADDEN, the maker and designer of Simplic cycle cars, is desirous of an partner, practical competition expert preferred business abilities; moderate capital.—Letters Wadden, Jessamy Rd., Weybridge, Surrey.

AGENCIES.

WELL-KNOWN Car Selling Company (holdi agencies) with spacious showrooms in Gt. Po St., London, are prepared to accept agency of known light car or high-class motor cycle.—Box c/o *The Motor Cycle*.

CONSULTING ENGINEERS.

ROBERT BAMFORD, A.M.I.A.E. — Indepe advice based upon over 20 years' pra mechanical experience; specialist in carburation speed tuning.—36, 38, and 40, Pelham St., Kensington, S.W.7 (close to tube station). Kensington 7213.

GENERAL TRADE.

AUCTION Sales.—Palmer's Garage, Tooting oldest solely motor auction rooms in Lo terms, 7½%, not chargeable if automobile u Motor cycles bought and sold for cash. Nearest stations: Falcon Lane, L.N.W. Rly.; Wimbledo and S.W. Rly.; and G.W.R.—Sole address, Pa Garage, Tooting, London.

WANTED.

SCRAP Harley Frame, with round head lug.— Hornsey Rd., N.4.

4 h.p. Douglas Frame, good condition.—Cordine Cranston St., Glasgow.

LIGHTWEIGHT Wanted, £20-£30; London. 1,235, c/o *The Motor Cycle*.

WANTED, second-hand A.B.C. sidecar.—J H.M.S. Warwick, Port Edgar.

WANTED, motor cycle trailer, or frame and —Maw, Mowbray Av., Exeter.

2¼ h.p. Motosacoche Engine wanted.—East Cou tage, Lewes Rd., E. Grinstead.

WANTED, Millford Corvette body.—Kennard Plimsoll Rd., Finsbury Park.

PALMER'S Garage, Tooting.—The pre-eminent for disposing of motor cycles.

PALMER'S Garage, Tooting, will make you offer at sight.

PALMER'S Garage, Tooting.—You will be sure good cheque if you sell your machine at Pa Garage.

PALMER'S Garage, Tooting.—Thousands of me sold their machines here.

PALMER'S Garage, Tooting, make a special motor cycles in the weekly auction sale.

PALMER'S Garage, Tooting.—Auction fee for cycles under £50 reserve, 5/-, over £50 10/-. No garage charge is incurred until 7 days' is given.

PALMER'S Garage, Tooting, will collect ma from any London railway station. The sale is held every Thursday, commencing 2 p.m.

WANTED, motor cycle, any make, must be price.—King, Egrove, Oxford.

WANTED, 2½h.p. 1920 Levis or Villiers; £40.—379, High St., Lewisham.

SIDECAR, light, sporting, must be chea Durlston Rd., Upper Clapton, E.5.

WANTED, 2 and 3-speed gear, suit 1911 Hun Edwards, Longwood, Winchester.

2-STROKE Wanted for Cash, complete, sound, c Stephen, 711, Commercial Rd., E.1.

WANTED, countershaft Triumphs, Sunbeams, cheap for cash.—16, York St., Dover.

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

EDITORIAL OFFICES: Hertford St., Coventry.
Telegrams: "Motorcycle, Coventry."
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Telegrams: "Iliffe, Manchester."
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Midland Branch Offices: Guildhall Buildings, Navigation Street, Birmingham.
Telegrams: "Autopress, Birmingham."
Telephone: 2970 and 2971 Midland

Subscription Rates: Home, 23s. 10d.; Canada, 23s. 10d.; other countries abroad, 28s. 2d. per annum.

Continental Competitions in 1921.

IT is clearly desirable that certain competitions in France and other near European countries should receive the support of British manufacturers. There is undoubtedly a certain amount of export trade to be done with the Continent notwithstanding the high duties, because there are always people on the Continent who, appreciating the excellence of British motor cycles, will not refrain from purchasing them.

International competitions are good, not only from a trade but from a political point of view. The meeting of representatives of various countries in friendly competition cannot fail to cement the various understandings and alliances which exist between ourselves and other nations. It is clear, therefore, that the British trade should receive some guidance as to what International competitions to support and what to leave alone.

Races Supported but Trials Ignored.

In the past races have always met with better support than reliability trials, and this is not quite what it should be. Although our opportunities for road racing in this country are confined solely to the Isle of Man, and France is infinitely better off than we are in this respect, this does not mean that reliability trials should be entirely ignored.

Unfortunately, the mishandling of the Paris-Nice competition last year did an incalculable amount of harm. We do not for a moment consider that this sort of thing will occur again, as the French organisers have learnt a bitter lesson, but a proof that the British trade do not appreciate the value of a properly run reliability trial was shown by the lack of support extended to the International Six Days last year—an event which was efficiently organised, and taught a number of valuable lessons to those who took part in it. The opportunity will occur again this year in the International Six Days Trials to be held in Switzerland, and to be run by one of the best organised motor cycle bodies on the Continent—the Swiss Motor Cycle Union. This should certainly receive English support.

In view of the interest taken by the British Cycle and Motor Cycle Manufacturers and Traders Union, Ltd., in competitions in this country, this body should certainly make a study of events to be held abroad. So far as can be gathered at the present time the most important of these events is clearly the International Six Days Trial. There are to be attempts to run the Paris-Nice Trial again, and a trial from Paris to Madrid. Of these the latter would undoubtedly prove to be the more valuable test, but, unfortunately, neither has yet received the support of the French governing body—the French Motor Cycle Union. Unfortunately, also, both events are not directly organised by responsible clubs, but by newspapers, and the organising of trials by newspapers would never be tolerated for a moment in this country. It is a pity that the U.M.F. does not organise two or three open reliability trials, of a true international character, during the year.

Road Races.

As regards races, there will be the Circuit de la Sarthe, held in October, which is also well organised, and the motor cycle Grand Prix on the day before the classic car race, which will be held on the Le Mans circuit in July. There is also a Belgian Grand Prix, so that there are several important events to which the British trade might give its consideration.

The whole question of trials is under the frequent consideration of that important international body, the Federation of International Motor Cycle Clubs, and after its next congress in Brussels a clearer idea of 1921 competitions will be obtainable.

It would be an excellent plan for the F.I.C.M. to draw up a list of competitions which would deserve support. This would act as a guide to the trade generally, both in Great Britain and abroad. Our object in referring to the matter is to help the British industry and to prevent its members from being misled into supporting competitions which are likely to prove themselves unworthy.

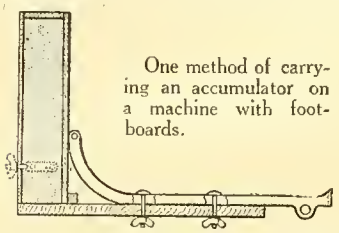
An Index to the advertisements in this issue will be found on the page facing the back cover.

IDEAS: Useful and Ingenious.



A New Accumulator Position.

TO those who have machines with up-turned end footboards this idea of carrying an accumulator may commend itself. The illustration is almost self-explanatory, but modifications might



One method of carrying an accumulator on a machine with footboards.

be made to suit individual requirements. In this case a 40 amp. Fuller accumulator is used with a 4v. 4w. bulb in the head lamp, and another ordinary flash lamp bulb in the rear lamp. C.C. 2320.

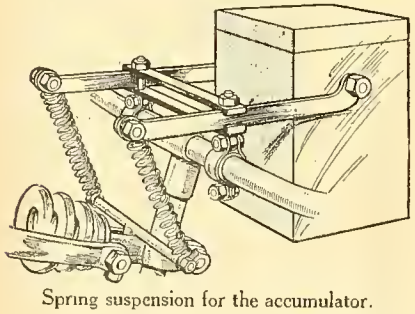
Centring the Speedometer Pinion.

THIS simple little tip may save an hour or two's vain effort to get a silent drive when fitting a speedometer. First fit the large cog to the spokes as nearly central as can be judged by eye, leaving the screws just finger-tight. The small pinion may now be carefully meshed and screwed up hard in approximately the correct position. If the wheel be spun the small wheel will automatically centre the larger pinion, when all screws may be tightened up.

B.E.G.

Spring Carrier for Accumulator.

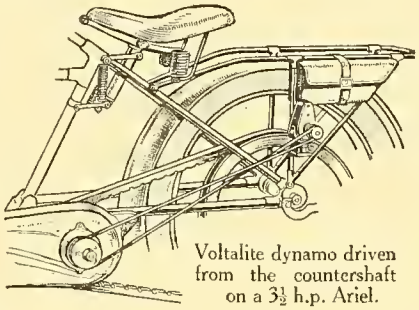
ELSEWHERE on this page is described a method of carrying an accumulator on the footrest. The neatness of that idea is somewhat discounted by a liability to ill-effects from vibration. To overcome this, a reader has devised the carrier illustrated on his Triumph from an old Miller acetylene lamp bracket. A special T piece bolted through the front spring bracket anchors the two coil springs, and movement is obtained by slackening the bolts at the handle-bar. Locknuts are advisable here. X.Y.Z.



Spring suspension for the accumulator.

Countershaft Drive for Voltalite.

MANY readers are interested in the practicability of using a pedal cycle pattern Voltalite dynamo, particularly for rear lighting. The method of drive we illustrate (adapted to a 1920 3½ h.p. Ariel) has much to commend it over the "rim contact" way. The dynamo is mounted on the forward rear carrier stay, and is driven by an ⅛in. crossed gut belt from a 4in. brass pulley attached



Voltalite dynamo driven from the countershaft on a 3½ h.p. Ariel.

to the clutch spring spindle at the countershaft. Our contributor who effected this conversion illuminates both his head and tail lamps thus from a Voltalite dynamo. A.W.W.

An Easily-made Speedometer Lamp.

FIVE shillings, it is claimed, is the maximum cost of making a speedometer lamp, as illustrated and specified below :

CLIP.—Strip brass ½in. × 1/32in., secured on instrument by 3/16in. nut and bolt.

BRASS ARM.—Strip brass ⅜ × 1/16in.; lower end soldered inside clip.

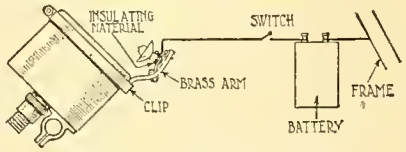


Diagram of wiring and details of a home-made speedometer lamp.

LAMP SHADE.—Adapted from old pocket flash lamp. (Cut out so that it goes over miniature screw holder, as shown.)

BATTERY.—Pocket flash lamp type, with two small terminals soldered on.

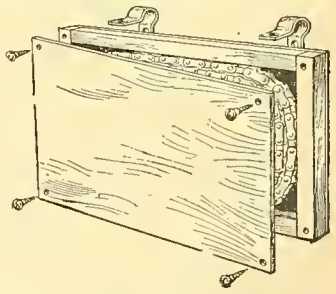
WIRE.—Small gauge copper run in valve tubing.

SWITCH.—Lever switch on saddle tube (or to suit particular requirements).

W.D.W.

Carrying a Spare Chain.

QUITE the toughest problem facin the owner of a chain-drive machine is finding a means c carrying the spare chain. An extremel simple and efficient way out of th difficulty is illustrated. It consists of shallow wooden box which just holds th

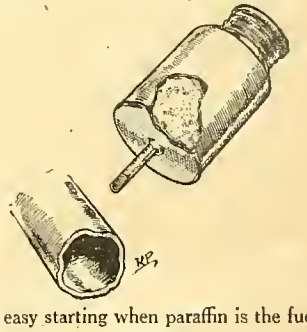


Carrying the spare chain—a wooden box for attachment to the carrier.

chain nicely coiled up, and which attache to the rear carrier by four sheet iro clips (two not shown). Three-ply wood is used, and the lid is screwed down by four ordinary wood screws, thus keeping the chain firmly in place. C.G.R.

A Paraffin Starting Aid.

EASY starting is not one of the strong points of paraffin as a fuel, and those who have been driven by increased taxes, etc., to the heavier spirit should find this tip useful. A meta polish tin has a small piece of brass tube soldered to the bottom; the other end



For easy starting when paraffin is the fuel.

of the tube is threaded and screwed into a conveniently placed hole on the inlet pipe. By packing the tin with cotton-wool and then saturating with petrol, a simple wick carburetter is provided which will give a good mixture until the heavier spirit begins to vaporise. C.M.

Readers of "The Motor Cycle" are invited to contribute to this page any ideas successfully adapted to their motor cycles. Contributions will be paid for at our usual rates. Rough explanatory sketches will suffice.



OCCASIONAL COMMENTS

BY "IXION"

A Parable.

I PRESENT the following parable alike to Mr. Brace and to the Chancellor of the Exchequer. I once lived in a little one-horse burg, where there were two garages, run by, let us say, John Jones and Sam Smith respectively. John Jones refused to open on Sundays. Sam Smith, very reprehensively, no doubt, was always open. Sam did more work than John, so made more money. Sam cherished his customers more generously than John, so gradually annexed most of the trade. John is now driving a taxi somewhere, while Sam is probably a mayor and a J.P. for all I know. I have no objection in principle to a four-hour day for labour, and 50% dividend for all capitalists. But I never can see how British labour expects to thrive by doing less work than the similar labour in a rival country; nor how British capital can hold its own if it is prevented from earning as high profits as capital can earn in a rival country. If John and Sam had covenanted together that neither of them would open on Sundays . . .

Cycle Car Engines.

DURING the last month or so I have made extensive trials of many of the latest cycle cars, and in nearly every case their engines display a marked advance over pre-war standards in respect of power and of absence of vibration. Nevertheless, these tests indicate what is perhaps the main reason for the failure of the cycle car to captivate the millions of purchasers who unquestionably exist. *Their slow running is so rough and noisy.* I have known many a well-tuned Sunbeam or Indian motor bicycle, for example, show much prettier manners when running light than the average cycle car power unit can display. The fact that many of these engines can only be restarted by dismounting and getting out a detachable handle, aggravates the trouble; for an owner dislikes all this fuss over a restart as much as he objects to noise and vibration if he leaves his engine running during a brief stop. The full range of the cycle car boom cannot be touched until somebody comes along with a better mannered engine; some flat twins and the 90° V twins show very little vantage over the narrow-angled V twins in this vital respect.

A Useful Gradometer.

MANY a motor cyclist has longed for a lightning and accurate method of measuring gradients, and the accessory merchants have never seen their way to supply it. We need it more than car owners, because the low tyre costs and immense reserve climbing powers of our machines encourage us to rush where a car fears to tread. I cannot say that I have yet discovered the right gadget for a motor cycle, but during the last few months I have been playing with a Tapley instrument. Being manufactured for cars, the brackets in which its adjusting trunnions are mounted have been designed for bolting to a flat dash, and are not easily attached to a handle-bar. Still, I managed to fix it quite rigidly to a Hunt accessory crossbar, and got lots of readings with it. It is sensitive to acceleration and deceleration, but registers very steadily when the machine is driven at a uniform pace On the other hand, it is not calibrated to record any grade worse than 1 in 4. I believe it might pay the manufacturers to turn out a special model with a tube clip at the back, calibrated to read up to 1 in 2. Our freak hill merchants would get a lot of fun out of it. If the surface is so bad that the 'bus cannot be driven steadily, and the needle cannot help oscillating, you can always get a precise reading by stopping.

A Useful Accessory.

IN lieu of the ordinary dry battery torch I am carrying a Parkes "Leverlite" for inspection purposes this winter. I haven't had the pluck—or have I too much sense?—to investigate its innards, but in lieu of a battery it contains a tiny dynamo *à la* Ford flywheel, which is operated by oscillating a shaped lever protruding from the lamp. It is rather expensive (30s.), but saves you the usual outlay on new cells; which of us has not found the bulb glowing dull red like the butt of a cigar just when it has become necessary to dismantle the gear box under a railway arch in a snowstorm? It has another drawback in that one hand is kept busy working the handle, and the remaining hand may prove unequal to working off a new cover. But it is just the goods for sidecar work. Working the handle keeps Arabella's fingers warm while you take off the cylinder; incidentally, after the first ten minutes the task will make her a little breathless and stop her from talking too much.

Electric Lighting Cables.

A FEW weeks ago I asked our readers whether they agreed that "concentric" cabling was really the best, as it is somewhat difficult to repair a concealed short between the core and the casing, such as befel me last summer with this system of wiring, and no spare length of cable available. One reader informs me that he has scrapped the above system in favour of ordinary silk-covered, rubber insulated lighting flex, drawn through rubber tubing, as used for acetylene lamp connections. Short bits of brass tube may be used for joints, if desired. Another reader has given my innocent brain a headache by a learned discourse on megohms, but his notion is that the twin flex should be filled up with jute, bound

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

round with insulating tape, and finally armoured metallically. This cabling is so strong that neither a fractured conductor nor an internal cross short is at all probable; but should such troubles occur, it is a simple matter to substitute the outer casing for one of the inner conductors. He has sent me a sample of this cabling, which is made by the Helsby people. A test piece was hammered flat for a length of 3in., subjected to an end pull of 200 lb. in a tensile testing machine, heated by a blow-lamp till the aluminium armour was red-hot, and finally bent at right angles in two places 3/8in. apart. The insulation resistances at the end of this maltreatment were:

Between the two conductors—8,800 megohms.

Between the two conductors bunched together and the armour—615 megohms.

I don't know what a megohm is when it's at home, but the butchery reads very convincingly, doesn't it?

A Receipt.

THERE lies on my desk at this moment a receipt just to hand for fitting British electric lighting to a British machine. The manufacturer in question has doubtless availed himself of every possible economy. In other words, his motor cycle was specially designed with a view to incorporating a dynamo, and requires no faking for the purpose. His output is large, so that he has presumably purchased his dynamos, lamps, accumulators, cabling etc., at the lowest possible rate. But the charge for the "extra" is £24 15s. retail. I can get a good gas lamp set, suitable for the machine, at about £5 fitted. In other words, exclusive of import duties and adverse exchange rates, electric lighting on this British machine costs me about £20 net, whereas if I had bought a Harley, it would only have cost me £3 10s. Apparently it is not only the magneto industry which demands the tenderest protection if it is to hold its own; for this British dynamo is already protected against U.S.A. to the tune of at least 50% by the favourable factors indicated above. I leave it to our politicians, financiers, and labour leaders to draw the obvious conclusions; and I merely add that all our riders will want electric lighting in the near future, but will refuse to pay 500% more than is necessary for it.

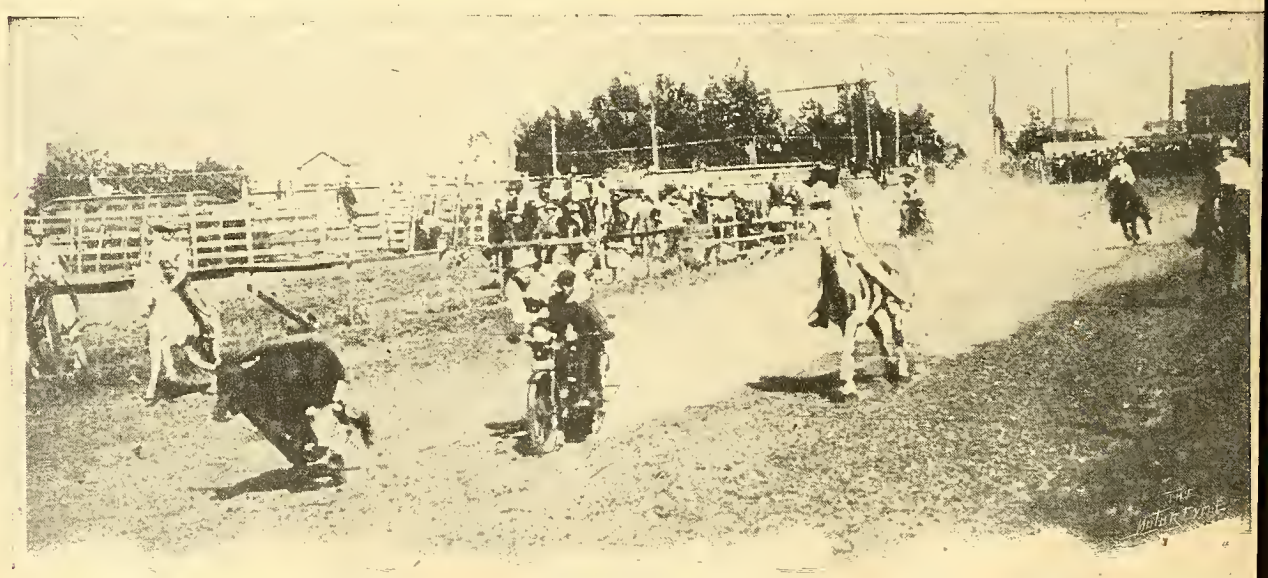
Back to Accumulator Ignition?

THE electrical equipment of motor cycles is in a state of flux at present. There are three principal factors at work. The buying public have not yet had the chance to be convinced that dynamo lighting on two-wheelers is trustworthy: 1920 will have big effects here. Secondly, the supply of dynamo outfits is far below the demand; four makers have professed inability to equip machines about which I have enquired. The third difficulty is cost, since the cost of acetylene and electric lamps is approximately equal, and the dynamo and battery are far more expensive than a gas generator. The first two obstacles will be automatically removed by the passage of time. The third can be met, and may be met, by a reversion to accumulator ignition. Such a change would imply no trade disturbances, since the concerns which now make magnetos would unquestionably make the dynamos. I have a good experience of such an outfit on an experimental machine, and it appears to be absolutely satisfactory. Its main disadvantage is that many users remember the old accumulator ignitions with a savage resentment, whilst they lack experience of the very different service offered by a modern battery with a continuously charging dynamo at its back. Its advantages are two-fold, viz.:

(1.) It will start engines at a far lower speed than the magneto.

(2.) The combined cost of dynamo-cum-accumulator ignition plus lighting is certainly not greater than that of magneto ignition plus acetylene lighting.

For these reasons I expect more of this equipment in the near future.

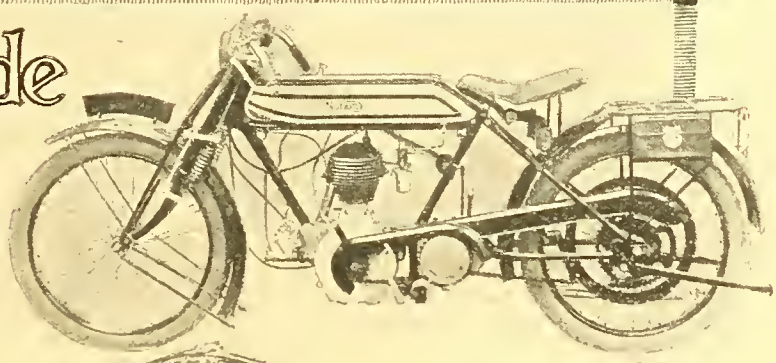


COWBOY SPORT.

The cowboys of the Western States still maintain their reputation as "sports." Here is depicted a motor cycle with passenger on the carrier actually riding in a bull-dogging contest. The object of the game is to catch the steer, grab him by the horns, and throw him; then to tie him up before he can regain his feet. The motor cyclists, who easily out-distanced their competitors on horseback, won the event.

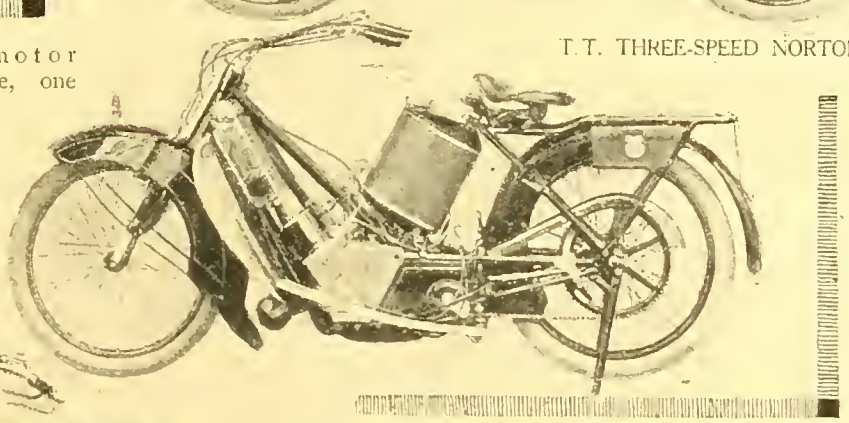
What I Rode in 1920

By IXION

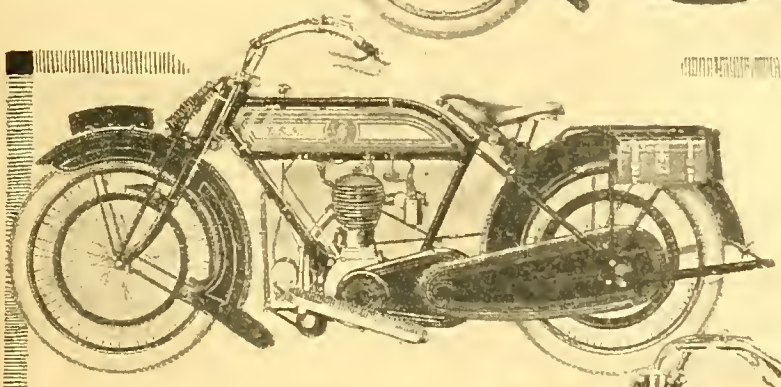


T.T. THREE-SPEED NORTON.

THE motto of many motor cyclists is "one life, one love." They find a machine which suits them, and they remain faithful to its manufacturers' successive models, world without end. Some of us are flirts. No matter how admirably a 'bus serves us, we



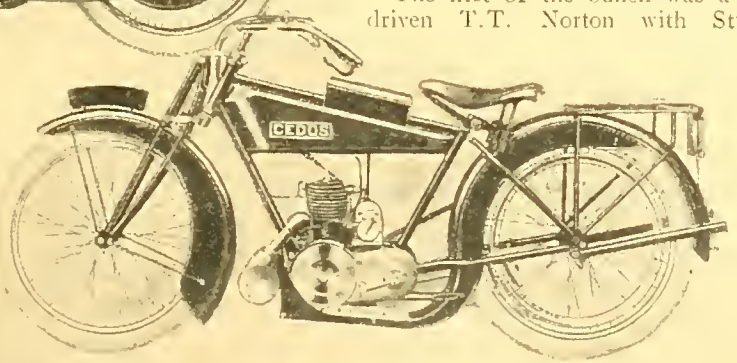
3¾ h.p. SCOTT



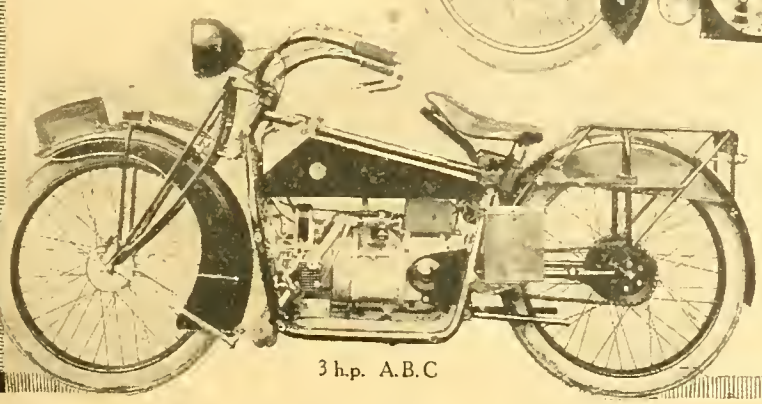
4 h.p. B.S.A.

ungratefully sample the novel sensations of another make next season. Journalists more or less compulsorily figure in the latter category. So—though 1920 was for its first six months an awkward time for buying, and for its last six months a still more awkward time for selling—it brought me big mileages on four first-class machines of makes which I had never owned before.

The first of the bunch was a chain-driven T.T. Norton with Sturmey-



CEDOS TWO-STROKE



3 h.p. A.B.C

Archer gear box. This machine is, of course, a veritable dreadnought. There is hardly anything on wheels which it cannot catch and leave. Its acceleration is terrific, and its chain drive as smooth as a silken belt running

What I Rode in 1920.—

over ivory pulleys. For competing in trials or for reporting a trial, for high-speed touring, and for general audacity it is at the very top of the tree. Incidentally, it is very cheap to run. It does not break or shed any of its parts. Its fuel economy at speed is equal to that of many engines when they are pottering. As its wonderful cylinder never distorts, it asks for very little oil. Criticisms are quite hard to find. I can only suggest that the foot brake linkage is unnecessarily awkward, and that the nuts ought to be locked. The idea of the footrest mounting is good, viz., that, as it is clipped to a single tube, the clip can slip round in a toss, instead of bending or breaking; but the securing nut is hard to get at. The long plated exhaust pipe looks lovely, but does not come away or go back very easily at decarbonisation times.

The Norton was followed by a machine of very different type—the Scott. I planked down the £10 extra for 3in. Palmer cords, and found the option worth the price. I have never ridden a more comfortable machine. Next to its extreme comfort, the main slogan of the Scott is its safety. On bad going it is easier to steer and better to balance than anything else I know, as Clarence Wood's feats in the Six Days must have suggested to every beholder. I was prepared to find it slow, and I doubt if I ever got better than 45 m.p.h. out of it—I mean a *real* 45, which is quite as fast as many speedometered fifties and fifty-fives. But on the road it is not an easy machine to leave, even for a Norton; you don't have to take corners so cannily on a Scott as is wise on other machines. It wants a little coaxing to start from cold; it doesn't register record gallon mileages; but I mean to have a Scott for part of every year until Anno Domini reduces me to an electric bath chair.

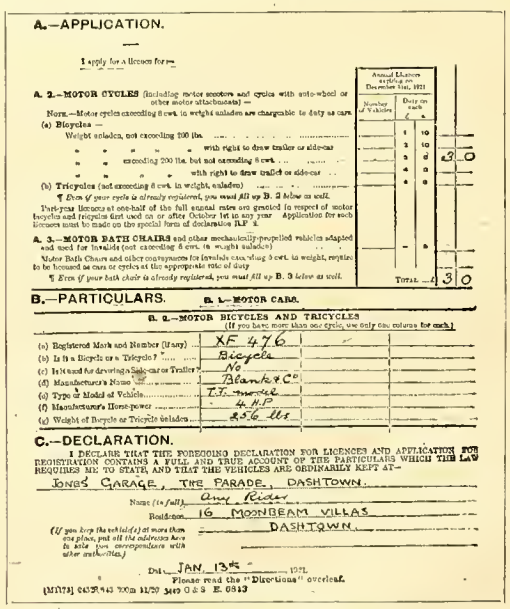
Big Single and Baby Two-stroke.

Then came a B.S.A. I did not know that a single-cylinder could develop so much power. Where the average single is getting a trifle feverish on its bottom gear, the hefty B.S.A. is still slugging calmly away on second. I never unearthed a gradient which could bring her down to first, which I used solely for starting purposes or where the surface put such wind up me that I wanted to climb dead slow. And talk about substantial! The B.S.A. is built like a tank, and is fundamentally incapable of fracturing anything, whilst she creates the pleasant impression that nothing will ever wear out. She struck me as the utilitarian machine *par excellence*—the very 'bus for the hard rider, who goes a long way in any weather, and isn't sure whether he will ever be in a position to buy another machine. Of course, she does not sit up to a speedster, though she can on occasions touch forty with a sidecar. Her weight renders her a little lumpish to handle till she begins to move. But you need never sell her unless you are capricious enough to desire variety for its own sake.

When winter set in, I began to hanker after a baby two-stroke, and as I was already familiar with the pick of the oldsters, a baby Cedos came along. A very pleasant change, too, after a series of heavyweights. Kick-starters are well enough, but there is a certain joy about being able to push start on a 1 in 8 grade without serious exertion. This little two-sroke deserves to be much better known. It is in the same class as the best of the older makes. Economical in petrol and oil, it is well run in at the factory, and doesn't want a lot of humouring when it is new. It two-strokes down to very low speeds on the flat, and its *sostenuto* never changes to *staccato* when you ask it to help itself not too speedily down a light gradient.

A Flat Twin's Qualities.

Through most of the above period I was also running one of the new A.B.C. solo mounts. In one sense this magnificent 'bus disappointed me. On the one hand, it was not quite as good as the original hand-made experimental models rushed through after the Armistice in 1918; for it was a great deal heavier, and the engine was a little less smooth at small throttle openings. On the other hand, the springing was not equal to that of the defunct 1914 model. When I recovered from these initial disappointments, I fell in love with it, as all users must have done. It is one of the very few machines which is equally satisfactory for gentlemanly work of a utilitarian character and as a hogbus, pure and simple. Potter along at legal limit, and nothing will carry you more smoothly. Essay a scrap with a road-burning pal, and he will not get the better of your A.B.C. Its acceleration is a thing apart. As racers measure acceleration on their heartless instruments at Brooklands, there is probably little or nothing between an A.B.C. and a Norton. If you are in a Joe Beckett sort of mood, the heavier punch of the single will certainly be more reminiscent of Moran's famous "Mary Ann." But if you want a jump plus refinement, and prefer to sense acceleration in terms of wind pressure rather than of roar and rattle, why—open the throttle of an A.B.C. with a slam. I know no finer motor cycling sensation than a good scrap over hilly roads with this 'bus, especially when corners and grades make you work the gear lever hard.



A.—APPLICATION.

I apply for a licence for—

A. 2.—MOTOR CYCLES (including motor scooters and cycles with auto-wheel or other motor attachments) —

Annual Licence expiring on December 31st, 1921

	Number of Vehicles	Duty on each £ s.
Note.—Motor cycles exceeding 8 cwt. in weight unladen are chargeable to duty as cars.		
(a) Bicycles —		
Weight unladen, not exceeding 200 lbs.		1 10
" " " " with right to draw trailer or side-car		3 10
" " exceeding 200 lbs. but not exceeding 8 cwt.		3 0
" " " with right to draw trailer or side-car		4 0
(b) Tricycles (not exceeding 8 cwt. in weight, unladen)		4 0

¶ *Even if your cycle is already registered, you must fill up* B. 2 *below as well.*

Pedal-cycle licences at one-half of the full annual rate are granted in respect of motor bicycles and tricycles first used on or after October 1st in any year. Application for such licences must be made on the special form of declaration BF 4.

A. 3.—MOTOR BATH CHAIRS and other mechanically-propelled vehicles adapted and used for invalids (not exceeding 8 cwt. in weight unladen)

Motor Bath Chairs and other conveyances for invalids exceeding 3 cwt. in weight, require to be licensed as cars or cycles at the appropriate rate of duty.

¶ *Even if your bath chair is already registered, you must fill up* B. 3 *below as well.*

TOTAL £ 4 3 0

B.—PARTICULARS. B. 1.—MOTOR CARS.

B. 2.—MOTOR BICYCLES AND TRICYCLES
(If you have more than one cycle, use only one column for each.)

(a) Registered Mark and Number (if any)	XF 476
(b) Is it a Bicycle or a Tricycle?	Bicycle
(c) Is it used for drawing a Side-car or Trailer?	No
(d) Manufacturer's Name	Blank & Co
(e) Type & Model of Vehicle	T.T. model
(f) Manufacturer's Horse-power	4 H.P.
(g) Weight of Bicycle or Tricycle unladen	256 lbs

C.—DECLARATION.

I DECLARE THAT THIS FOREGOING DECLARATION FOR LICENCES AND APPLICATION FOR REGISTRATION CONTAINS A FULL AND TRUE ACCOUNT OF THE PARTICULARS WHICH THE LAW REQUIRES ME TO STATE, AND THAT THE VEHICLES ARE ORDINARILY KEPT AT—

JONES' GARAGE, THE PARADE, DASHTOWN.

Name (*in full*) Amy Rider

Business 16 MOONBEAM VILLAS

(*If you keep the vehicle(s) at more than one place, put all the addresses here to save two correspondents with other authorities*) DASHTOWN.

Dated JAN. 1st 1921

Please read the "Directions" overleaf.

(M1734) 6435/943 200m 11/20 3409 O & S E. 0813

THAT LICENCE—HOW TO OBTAIN IT.

Part of the Inland Revenue licence application form of interest to motor cyclists. It will be seen that the particulars asked for by the authorities on this form are very few more than those required under the old system. The form is filled up as representing the application for licensing a standard 4 h.p. solo mount.

THROUGH THE 1920 TRIALS

Nine Months Experiences By one of THE MOTOR CYCLE Photographers



A familiar figure at the big trials.

The work of a trials photographer entails hard usage for the machine he may be riding. Like those members of the staff who attend the trials in order to record them in "The Motor Cycle," he often covers more miles, and is compelled to drive with less consideration for his mount than the gold medal winners. The writer of this article attended most of the important trials of 1920 to secure the photographs which have accompanied our descriptions of the events, and we commissioned him to relate some of his impressions of, and experiences with, a modern spring frame motor cycle used under such severe conditions.

ALTHOUGH most spring frames are now well through the experimental stages, one cannot deny that they are not so fully tried out as the rigid type. The work of a photographer on the staff of *The Motor Cycle* is such that it precludes anything in the way of experiments, and however much he may desire to ride a new, perhaps unconventional, machine, there is always the responsibility for "delivering the goods," as it were. The possibility of "letting the editor down" by failing to reach the most interesting points in a trial, or by being hung up on the return journey, is an ever-present dread to the man with the camera.

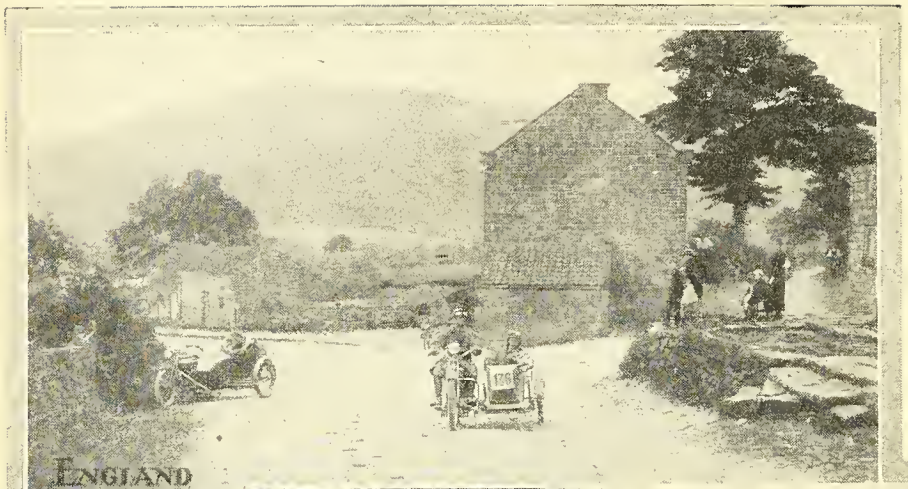
Therefore, it was with some slight misgiving that I took delivery in April last of a 1920 spring frame Matchless. This was due purely to the extra number of moving parts a spring frame involves and the fact that the Matchless was designed primarily for comfort. My chief had also warned me not to experiment, and inferred that my duties were confined to obtaining photographs and did not include testing new machines.



In Holland on the Anglo-Dutch trial—the solo rider is Lieut. Glen Kidston, R.N. (3½ Sunbeam), who accompanied *The Motor Cycle* photographer on the return journey to The Hook, mentioned in the context.

Personally, being on the right side of thirty, I regarded a spring frame as something akin to an old gentleman's bath chair, and the hard riders on the staff waggishly suggested that my choice was a sign that the time was approaching when my physique should be enquired into.

However, my 1919 competition work on a rigid frame, over post-war roads, had convinced me there was something lacking in the rigid



At Chop Gate in the 1920 A.C.U. Six Days.

machine, the atrocious roads of the English and Scottish Six Days leaving me decidedly sore. The spring frame from the Collier house had been in the experimental stage since 1916, so it was no mushroom growth, and for its final trial before going into production, a number of machines were entered for the 1919 English Six Days, and came through without any frame trouble. I will not comment on the severity of that Six Days. Suffice it to say it was of the usual A.C.U. order. All the same, I had to remember that my work did not entail one six days trial, but many.

From April to Christmas the machine covered roughly 10,000 miles, the majority of that mileage being competition work. When I say competition work, I refer to the pressman's side. His job is to cut about over the course to the principal points of interest, a different story from a 20 m.p.h. schedule.

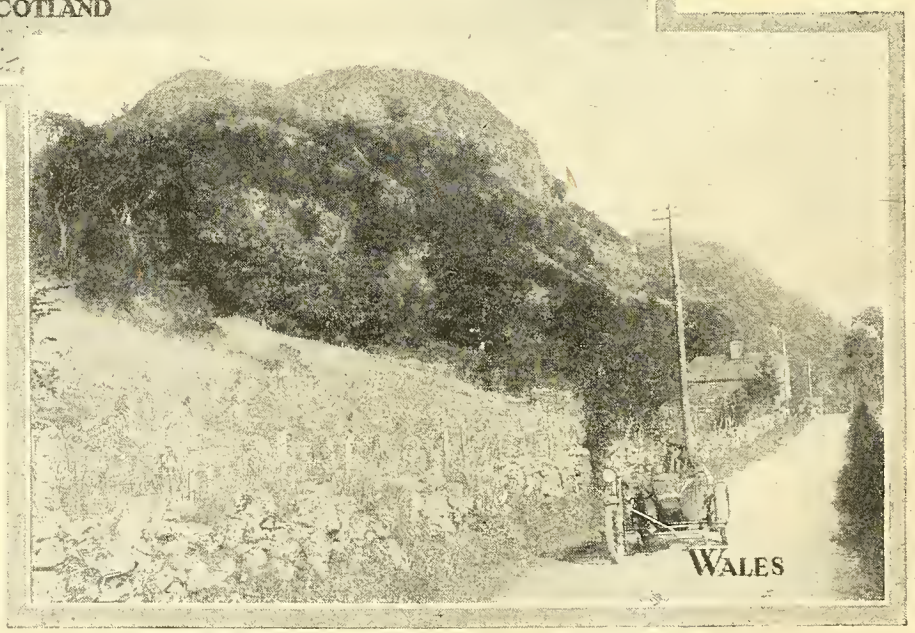
More often than not his machine is all out, for he has to see competitors at one point and be in front of them again at the next—this with a machine that is in commission week in and week out, and therefore receives the minimum of attention.

My first trip with the new machine was the Birmingham M.C.C. Victory Cup Trial, on a Midland course, taking in the Old Wyche Cutting, Birdlip, Rising Sun, Sudeley, and the Colonial section from the top of Sudeley. This trial, with the run up from London and back again in about thirty-six hours, constituted an excellent *début*, and, apart from a somewhat high petrol consumption (a matter of adjustment) was accomplished without trouble.

The next run of import was the London - Edinburgh, the points of interest being the run through



Near Inverness on the Scottish Six Days Trial.



On the M.C. and A.C. One Day Trial—the hardest open trial of the year

Through the 1920 Trials.—

Yorkshire and Kirkstone Pass. I got a day's start, joining the competitors at the breakfast stop at Ilkley. Continuing with them, with various stops *en route* for photographing, the run, excepting Kirkstone Pass, was of the main road variety, with nothing to try the modern machine. The Pass, however, with its three-mile grind, is still a formidable proposition. Coupled with gradient, we had to contend with a thick rain mist which seriously interfered with carburation. The Matchless, being driven well within its power, and taking advantage of the one or two easy grades to get into a higher gear, climbed the Pass without trouble, and after an hour's wait to obtain photographs, the run was continued to the lunch stop at Patterdale.

From Patterdale commenced the hardest part of my work. To enable *The Motor Cycle* readers to get their illustrations, it was imperative that I should be in London the next morning. This necessitated a 300 mile run through the night, not a pleasing prospect after a hard day in the saddle. However, it was a good opportunity to test the Lucas Magdyno set.

An All-night Run.

Leaving Patterdale at 3.30 p.m., a quick run was made to Kendal; here a quarter of an hour stop for tea and replenishments, and so on to Harewood. Here was another stop to fill up, taking sufficient to last through the night. At Doncaster the lights were switched on. After the medium illumination of the average acetylene set, the Magdyno light was a great joy. With one's engine apparently pulling so much better, there is something very fascinating about a night drive behind good lights, and the entire return journey was without incident, the average running time being 21 m.p.h.

A great deal can be said for a Matchless when one can do a 500 miles journey without experiencing undue fatigue. I will refrain from describing the machine's behaviour in other one day trials; in fact, there is little to describe, for, excepting everyday troubles, such as with plugs and punctures, they were without incident.

I always think the Scottish Six Days was my hardest event, my mileage for eleven days being in the neighbourhood of 1,800. I left London with a sidecar packed with a photographic outfit of two cameras, 144 plates, and a portable darkroom—owing to post and train difficulties one has to be practically a self-contained photographic unit; this, with personal luggage, compensated for lack of a passenger.

Scotland and Holland.

The Scottish trial is considered, and rightly so, one of the most sporting events of the year. Any machine awarded a "gold" is deserving of high praise, for added to its severity is the weather.

Of the five Scottish trials I have "covered," only once have I experienced a really fine week. My machine, of course, was not entered for the trial; had it been so, its performance would have merited a premier award, for, beyond punctures and a broken front sidecar spring, it was a week devoid of trouble.

When orders came through for me to attend the Anglo-Dutch event I imagined it would be more in the nature of a holiday, for the actual trial only occupied one day, the remainder of the tour consisting of luncheons, dinners, and joy trips to the well-known touring grounds of Holland.

Anticipations are not always realised. When my chief, a member of the English team by the way, gave me final orders, all thought of a holiday was soon banished. Bank Holiday week had somewhat disorganised press arrangements, so to fit in with them I had to be in London sixteen hours after the trial finished at Amsterdam.

The trial, over a distance of 194 miles, started from Maastrich, South Holland, at 6.30 a.m. on the Saturday morning. This, owing to our hotel being a mile or so from the start, necessitated us rising at the unconscionable hour of 4.30. After spending the



Short cuts often lead one into "awkward corners," and on many occasions the Matchless has been forced to take to the water.

Through the 1920 Trials.—

previous evening at a Dutch banquet, none of us felt particularly fit at that hour, and I for one did not look forward to a long run; for there was a further considerable distance to be covered that day, from Amsterdam to the Hook, to catch the night boat. Judging from the English viewpoint, Holland has no hills, therefore apart from its length there was nothing to worry the competitors. For myself I would rather the trial had been shorter and more severe, for the thought was always uppermost in my mind, that it was a long way to the Hook, and come what may I must catch that boat, and so reach London on the Sunday midday. However, the Matchless was in good tune, so that with average luck I hoped that I should get through.

In a Strange Land.

The run through Holland *via* Venlo, Arnheim, Utrecht, to Amsterdam, although very flat, has a beauty of its own, and was quite interesting. We finished at Amsterdam at 7.30 p.m., and after a hasty meal I set off for the final stage of my journey. Luckily I had a companion in Lieut. Glen Kidston, R.N., a member of the English team, who had to report for duty at Portsmouth on the Monday. Compared with the trial this final run, most of it in darkness, was most trying. On unknown roads, and ignorant of the language, we had the utmost difficulty in finding our way. Getting through the towns was a problem; the Hague in particular was somewhat of a nightmare. We must have wasted nearly an hour when eventually we found a sporting Dutch Harley rider who acted as pilot to within seven kilometres of the Hook. He saved the situation, for without his good offices we certainly should have missed the boat—as it was we only arrived with a quarter of an hour to spare, and but for a generous distribution of tips should have had to leave the machines on the landing stage.

For the Matchless this final stage was the most strenuous; having lost much time enquiring the way, it was a case of full throttle when we did get going. On one of these "all-out" stretches the exhaust pipes were glowing a bright cherry red, but despite this it carried on without the least sign of the engine drying up.

Shortly after this event I noticed that the compensating stay of the sidecar was slightly bent, which I attributed to the rough handling the machine had received in getting it aboard the ship. I was too busy further to investigate the matter, and the Matchless's reliability had made me less careful than I should have been.

My preparations for the English Six Days were hastily made, and on the Friday preceding the trial I made a quick ride to Coventry, picked up a member of the Coventry staff, and continued to Worksop for the night.

Next morning we had to attend a hill-climb at Sutton Bank. This necessitated a final run to Darlington in the dark, over the worst roads on which it has ever been my misfortune to ride.

The damage started on the ship was now completed, for next morning I discovered that the stay was broken. This meant that for two days—while the stay was being replaced—I was without a machine. The first two days of the severest of all Six Days Trials!—These two days were "covered" as a passenger on the Editor's machine.

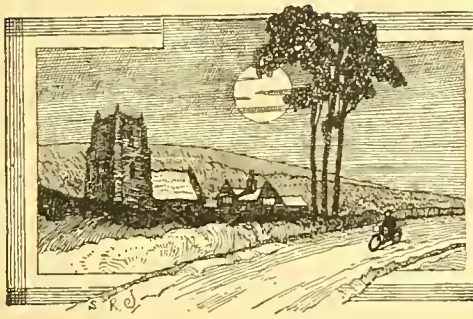
The Most Severe One-day Event.

Later there were a few one day autumn trials, including that organised by the M.C. and A.C. in Wales—which proved to be quite as severe as anything in the A.C.U. event. With a passenger, the Matchless made no protest on that pass with the fearful surface, known for the day as Boydell's playground, and later climbed Bwlch-y-groes as "fresh" as any of the competitors' machines.

To sum up, I may say I know but few machines giving the same comfort, which would have stood up to the hard usage meted out to my Matchless—M.A.G. in the hands of a press photographer. D.O.



At all times, in all weathers, and at every period of the year, *The Motor Cycle* photographer pursues his way in quest of pictures. The Matchless taking the sharp corner into Mill Hill from Highwood Hill.



SOME ANOMALIES OF MOTOR CYCLE TAXATION.

Sidecar Taxes at £2 10s. Solo Machines at £3.

IT is very clear that there was no motor cycle representative on the committee that accepted the new taxation with so much unanimity. Motor cyclists have, I suppose, come off no worse than car owners on the whole, but there are some points on which we have, I think, not been fairly treated. Still there is one little crumb of comfort which I propose to discuss when my grumble is over.

Much has already been said about the advantage of a tax such as the petrol tax, or a tax on tyres, which makes the mileage covered in the course of the year the basis of taxation. It is fair and just that the man who rides constantly for pleasure should contribute more to the maintenance of the roads than the hard-working man who spends his weeks in workshop or office, and can only get into the country at week ends and on his annual holiday, which is all too short.

There are, however, difficulties in the collection of such a tax which are, I suppose, insuperable, and with this remark I may dismiss the subject, thankful for a reduction of 7d. per gallon in the price of petrol.

TABLE INDICATING THE INCREASE OR DECREASE IN AMOUNT OF ANNUAL TAX PAYABLE BY MOTOR CYCLISTS FOR THE YEAR 1921, AS COMPARED WITH PREVIOUS YEARS. (Compiled by the Auto Cycle Union.)

Annual Mileage.	Lightweights, Inc.	Lightweights, Dec.	Mediumweights, Solo. Inc.	Mediumweights, Solo. Dec.	Heavyweights, Solo. Inc.	Heavyweights, Solo. Dec.	Lightweights, with Sidecar. Inc.	Lightweights, with Sidecar. Dec.	Mediumweights, with Sidecar. Inc.	Mediumweights, with Sidecar. Dec.	Heavyweights, with Sidecar. Inc.	Heavyweights, with Sidecar. Dec.	*Three-wheeled Cycle Cars. Inc.	*Three-wheeled Cycle Cars. Dec.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1,000	1 0	—	33 6	—	32 6	—	22 6	—	52 0	—	50 0	—	6 0	—
2,000	—	2 0	27 0	—	25 0	—	15 0	—	41 0	—	40 0	—	—	5 0
3,000	—	8 0	20 6	—	17 6	—	7 6	—	36 0	—	30 0	—	—	16 0
4,000	—	14 0	14 0	—	10 0	—	—	—	28 0	—	20 0	—	—	27 0
5,000	—	20 0	7 6	—	2 6	—	—	7 6	20 0	—	10 0	—	—	38 0
6,000	—	26 0	1 0	—	—	5 0	—	15 0	12 0	—	—	—	—	49 0
8,000	—	38 0	—	12 0	—	20 0	—	30 0	—	1 0	—	20 0	—	71 0
10,000	—	50 0	—	25 0	—	35 0	—	45 0	—	20 0	—	40 0	—	93 0

The registration fee of 5s. or transfer of registration fee of 1s. is no longer payable. This saving is not included in the above figures. *Previously licensed as a car at £3 3s. per annum.

An Authoritative Ruling Wanted.

The tax on weight is a simple one to collect, provided that it is clearly stated what must be included. So far, I have seen no authoritative statement on this point; the licence application form says simply "weight unladen." Does this include the lighting outfit, horn, tools, and spares, or may a machine be weighed in a stripped condition without stand and carrier? Further, the weight limits should be in cwt., not in lb., and the gradations should not be so steep. A difference in tax of £1 10s. for a difference in weight of 1 lb. is far too much. If the scale had been, for solo machines:

Under 2 cwt.	...	...	£1 10 0
„ 3 „	...	...	2 0 0
„ 4 „	...	...	2 10 0
„ 5 „	...	...	3 0 0
„ 6 „	...	...	3 10 0

Sidecars £1 extra.

it would not have met with the storm of opposition called acceptance with wonderful unanimity by the Colossus of Roads (need I say that I allude to the Minister of Transport?) Further, I understand that a constable will be able to hail a motor cyclist to the nearest weighbridge, when, if he has been for a long ride in the wet, he will have the mud of several counties adhering to his machine to the extent possibly of 10 lb. I really do not think that this is an exaggeration, for after about 120 miles through Cornwall, Devon, and Somerset. I once found my front mudguard quite full of caked mud and a good deal in the rear guard. Will the unfortunate motor cyclist have to pay an extra 30s. if this raises his machine above the 200 lb. mark, and will he also be indicted for removing the road surface and converting it to his own use? Possibly the trouble will not end here, and the unfortunate individual will be fined £20 for making an untrue declaration.

Contrasts.

Here again is another curious anomaly: My friend Jones has a motor cycle which weighs 198 lb., and to this he has affixed a sidecar weighing 120 lb. On this machine he and his wife disport themselves about six days per week. Another friend, Robinson, has a solo motor cycle which turns the scale at 205 lb., as many of the Junior T.T. machines did; this he uses chiefly at week-ends and on holidays. I may mention that Robinson is a little man, while Jones and his wife incline to adiposity. Jones's outfit when laden does not fall much short of 6 cwt., while Robinson's is less than 3 cwt., yet Robinson pays £3 and Jones £2 10s.

Some Anomalies of Motor Cycle Taxation.—

Further, certain advantages are granted to car owners from which motor cyclists are excluded. I refer to the issue of quarterly licences. For instance, a car owner can take out a licence for the six months of summer, March 25th to September 30th, for a payment of three-fifths the full duty, whereas a motor cyclist gets no abatement at all unless he takes out his licence on or after October 1st, when he has to pay half the fee, that is five-tenths, against three-tenths, the quarterly fee paid by the car owner. This means that a licence taken out after the end of September for a medium or heavyweight sidecar outfit costs £2 instead of £1 4s., which would be the cost if the motor cyclist received the same consideration as the car owner.

The three-wheeled runabouts under 8 cwt. seem to me to get off very lightly; such a machine may be 12 h.p. and carry four passengers, yet it is taxed the same as a mediumweight of 3½ h.p. with a sidecar attached.

It is, of course, necessary to raise money for road upkeep, and it is, I suppose, unavoidable that the new taxes should bear more heavily on some than on others. The man with the biggest mileage will get off the most lightly. In fact, as the appended table compiled by the A.C.U. very clearly shows, if the mileage is sufficiently large the saving will be considerable. Therefore I do not cavil at the taxes themselves, but at the points where their imposition is distinctly unfair and might have been greatly improved by a little forethought. Nor do I think that the new taxes will ruin the industry or drive all motor cyclists off the road. After all the tax on a heavy sidecar outfit is a small thing compared with the interest, at present rates, on the capital outlay involved in its purchase.

A Crumb of Comfort.

I now come to the crumb of comfort to which I referred. A motor bath chair is taxed at 5s., and what is a motor bath chair? It is defined as a mechanically-propelled vehicle adapted and used for invalids (not exceeding 5 cwt. in weight unladen). This must mean that the machine and not the invalid must be under 5 cwt. but the wording is a little obscure.

Now my wife is an invalid, or at least she is highly strung, which is always reckoned the same thing. I mean that she will not ride long distances on the carrier, because she says it gets on her nerves. What I am going to do is this: I shall attach a luxurious coach-built bath chair on a spring chassis to my machine. The outfit will then become a motor bath chair, within the meaning of the Act, and I shall fill up B3 Motor Bath Chairs and other Vehicles for Invalids, pay a tax of 5s., and all will be well—at least I hope so. This proves that a smart man can always find his way out of difficulties, however insuperable, if he gives his mind to the matter. JAM SATIS.

Solo Mounts and the A.C.U. 350 c.c. Limit.

A Debatable Proposal of the A.C.U.

IN the proposed regulations for the 1921 A.C.U. Six Days Trials there appears the suggestion that all motor cycles of over 350 c.c. shall have sidecar attachments. Now most of the new proposals are most excellent and practical, so that it would seem somewhat extraordinary for the governing body to insert a clause which discourages the production of solo machines of over the nominal 2¾ h.p. class.

It would appear to be fairly obvious that the A.C.U. officials have at the back of their minds one of two intentions (or possibly both). (1.) That each machine of over 350 c.c. shall be capable of carrying an official observer. (2.) That machines designed for sidecar work shall not obtain an unfair advantage by shirking their normal load. Both these ideas have much to be said in their favour, but what about the real solo machine?

In the past the 500 c.c. solo machine was a popular favourite, and at the present day there are a large number of motor cyclists who still consider that it is the ideal mount. Unfortunately this type has been spoiled from the solo rider's standpoint by being stiffened and modified for sidecar work. This fault is apparently to be encouraged, instead of eliminated.

It is one of the first duties of the governing body to improve the breed of motor cycles, but it is surely rather hard on the solo rider to be told that no solo machine of over 350 c.c. is worthy of encouragement, and such firms as the Sunbeam, Douglas, Brough, Brough-Superior, N.U.T., Norton, etc., to say nothing of other well-known concerns who have special solo models on the stocks, will hardly appreciate the new ruling.

As one of the many keen solo riders I am all for the development of the light and handy 3½ h.p. solo machine having a good flexible engine and a two or three-speed gear with rather high ratios, and no unnecessary "frills."

Simplicity, economy, and handiness are the watchwords of the average solo rider, and it is up to those who are responsible for the sport to encourage these attributes not only in the smaller classes, but in every class.

It was noticeable at the Olympia Show that some of the 500 c.c. machines were lighter than 350 c.c. machines of broadly similar specification. Are these machines to go without their reward?

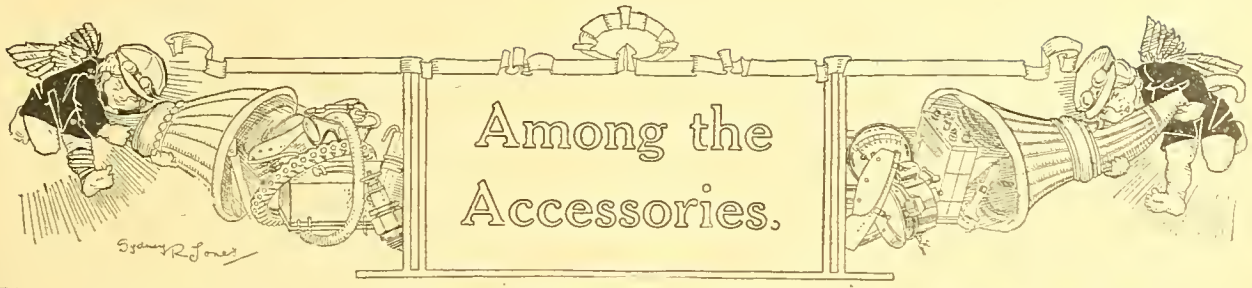
Would it not be possible, in order to avoid shirking, to formulate a combined weight and capacity rating in order to decide which machines were suitable for sidecar, and which for solo purposes?

Such a scheme would penalise heavy solo machines to the advantage of the lighter makes, and it would not be difficult to arrive at a suitable weight limit for each class of engine capacity.

This is merely the suggestion of a solo rider, but it can hardly be said to be prejudiced, since that rider is also a regular user of a sidecar for the purposes for which it is intended.

Possibly better suggestions will be forthcoming, but at any rate it is to be hoped that the existing A.C.U. proposal will not be brought into force without some modification, lest the army of solo riders secede in a body from an organisation which discourages the development of their favourite type of motor cycle.

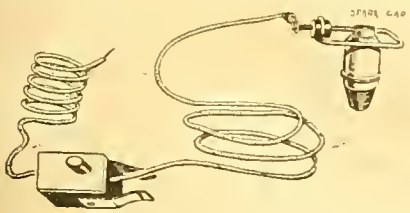
UBIQUE.



YEAR by year the accessory market is filled and refilled, until one obtains an impression that there is nothing left to be devised, yet every week sees new and useful articles offered to the motor cycle public, by whom they are appreciated according to their merit. Just now lighting sets and other articles appertaining to winter riding are being introduced, but there are many other novelties which will have an appeal all the year round. On this page we illustrate a batch of new accessories recently introduced.

An Automatic Lamp Lighter.

An ingenious idea for lighting an acetylene lamp by means of the magneto has been carried out by a reader, Mr. J. C. Williams, Roberts Wall, Penally, Pembroke. It consists merely of a length of wire, a handle-bar switch, and a spark gap designed to attach to the burner of an acetylene lamp. The wire leading to

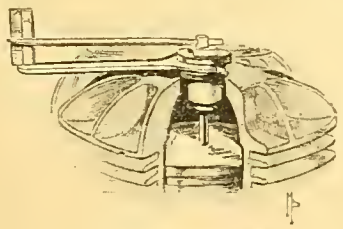


J. C. Williams's (Penally) acetylene lighter

the switch is connected to the switch terminal of the magneto while the other wire from the switch goes to the spark gap on the burner. The fact of pressing the button allows the spark to pass across the spark gap, by which means the lamp is said to be lighted without any necessity on the part of the rider to dismount.

A Simple Timing Device.

The timing device illustrated is the invention of another reader, curiously enough with the same name, Mr. J. C. Williams, 92, Court Road, Barry Dock, and has previously been referred to in the Correspondence columns of *The Motor Cycle*. It is quite an ingenious little fitting, designed to screw into the sparking plug or compression tap hole in the

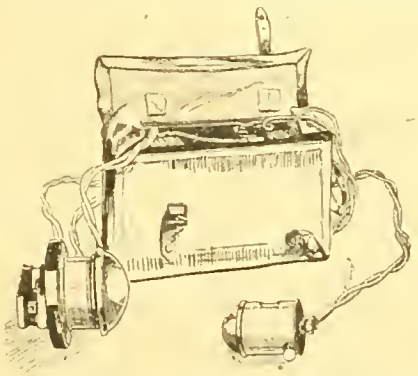


J. C. Williams's piston gauge

cylinder. Consisting of a spring plunger, it has on the upper end a pointer by means of which a reading may be obtained on a three-centimetre measure. By means of the device the timing of the valves and ignition can be accurately effected.

Dry Battery Lighting Sets.

For short distances, especially in the areas round towns, where great illumination is not required, a dry battery set is most useful on a motor cycle. That placed



The Bancroftian lighting set for lightweights

on the market by the Bancroftian Co., 64, Bishopsgate, London, E.C.3, is to be recommended. It consists of a small head lamp designed to fit on to an ordinary lamp bracket, a neat tail lamp, and a dry battery in a neat cloth case provided with straps to attach it to any convenient part of the machine.



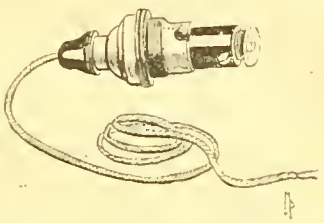
The Imperial Scouts overall.

Defying the Weather.

The same firm has also placed on the market the Imperial Scouts overall, made from the best brown gabardine, specially waterproofed, and all in one piece. It should be highly suitable for serious competition riding, as it appears to be perfectly waterproof, and protects the rider admirably. A helmet is included with the outfit, which is quite moderate in price.

An Electric Bulb Adapter.

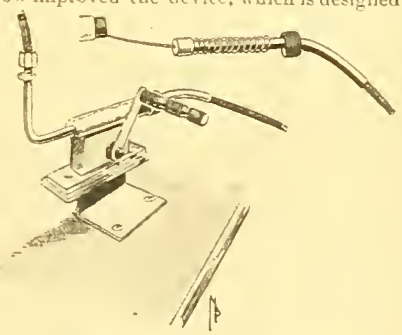
The failure of an electric lighting outfit is distinctly inconvenient, as in the event of a sudden failure miles from anywhere it is often impossible to get a repair carried out by an experienced electrician, whereas, at any cycle shop or fancy store, flash lamp bulbs and batteries may be purchased. This ingenious little adapter sold by Messrs. Turner's Cycle and Tool Stores, 181-182, Railway Approach, Shepherd's Bush, London, W., is well worthy of review. It consists of an ebonite holder, one end of which will take an ordinary flash bulb, while the other can be fitted into an ordinary S.B. socket. The adapter is made in two forms, either with a single pole fitting or with a double pole contact to the lamp socket. One of our illustrations shows how the adapter may be used in an ordinary lamp socket as an inspection lamp, when it can be wired up to a "flash" or other dry battery.



Turner's lamp adapter; it enables a pocket lamp bulb to be used in bayonet fittings

A Motor Cycle Accelerator.

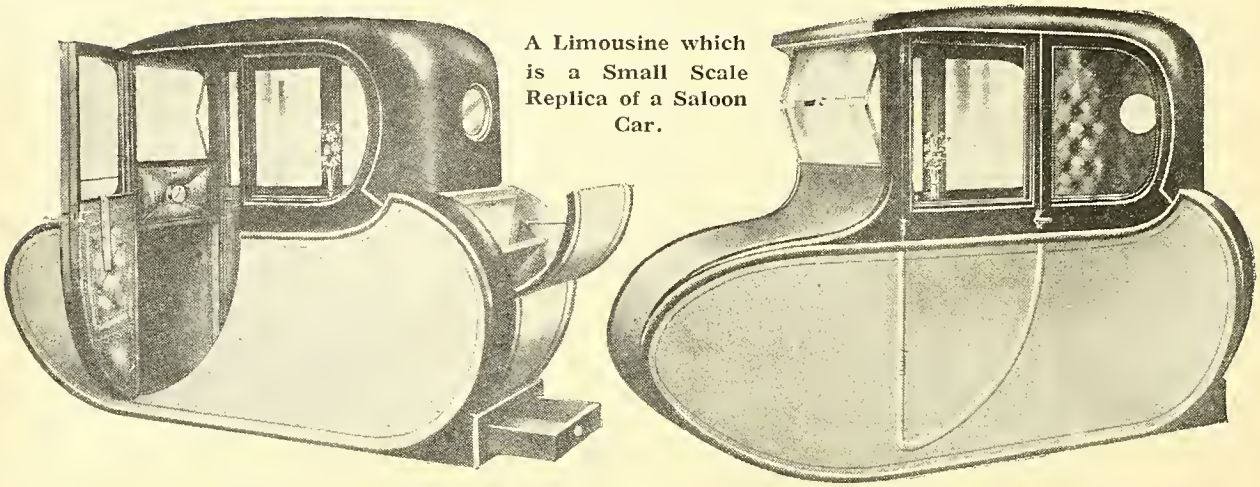
On previous occasions we have referred to the accelerator pedal which is the invention of A. F. Edwards, The Burroughs, Hendon, London, N.W. He has now improved the device, which is designed



Edwards's motor cycle accelerator pedal

to attach to the footboard of a motor cycle. By its means a pedal, connected to the throttle, may be operated independently of the handle-bar lever, thus allowing a rapid acceleration to be effected.

Luxury in Sidecar Bodies.



A Limousine which is a Small Scale Replica of a Saloon Car.

Imagine this sidecar for shopping purposes and city use! Such a vehicle could be used to advantage by those who have a car, which might otherwise be engaged

THERE are many uses for a saloon type sidecar which have not yet been acknowledged. Where a closed car is used for shopping by the lady members of a large family, a motor cycle with a sidecar such as is illustrated here could be used as a tender with a uniformed youth as the chauffeur. Certain it is, a body of the quality of the Jasmine limousine, as it is called, would in every way be more dignified than a taxicab, which frequently has to be called into service when the private car is engaged.

As a sidecar for the motor cyclist, too, it will no doubt appeal, as it is often found that it is not the driver so much as the passenger who grumbles about the winter.

The sidecar body under review is a product of Messrs. Dunhills, Ltd., 359-361, Euston Road, London, N.W.1, and is a replica of a small scale of a luxurious saloon type of car body. Though solid in construction, it is comparatively light; it weighs about 85 lb. to 90 lb., and, internally and externally, the appearance leaves nothing to be desired. The framework is coachbuilt throughout of well seasoned timber, the panels being of the best Venesta three-ply birch, and the top panel of beaten aluminium. The windows are of triplex safety glass.

Petrol Consumption Tests in Paris.

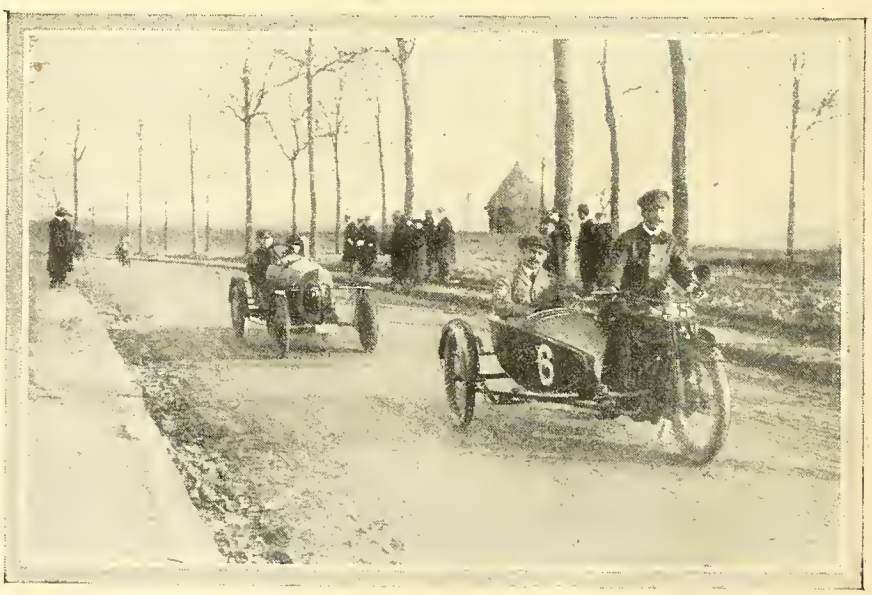
THE Boxing Day attraction in French motor cycle circles was a fuel economy competition, held in the southern suburbs of Paris, on the basis of one litre of fuel. For the sake of simplicity, the same amount of petrol was given to each competitor, whether he had a tiny scooter or a comfortable two-passenger sidecar, and each had to run until his 1.76 pint had been used up.

Under these conditions it was not surprising that the greatest distance was covered by a motor-assisted bicycle. The machine, a Cyclemotor, ridden by Pouget, travelled 50.6 miles before its engine spluttered and stopped. This is at the rate of 28.7 miles on a pint of fuel, or over 229 m.p.g.

The most economical scooter was a Monet-Guyot, which covered 41.6 miles. In the 250 c.c. class an Alcyon, ridden by Guignet, was first with 48.5 miles, or 27.5 miles on a pint. There was very keen competition in this class, Alcyons getting first, second, third, and fourth prizes out of thirteen to finish. In the 350 c.c. class the professional rider Dubost, on a machine of his own construction, was the winner with a distance of twenty-three miles. Barthelemy, on a 500 c.c. Norton, made a very fine performance by covering 30.7 miles, or practically seventeen miles to the pint (136 m.p.g.). The Rover, which came second, with a distance of only twelve miles, was obviously not in form.

A B.S.A. sidecar beat an F.N. in the 750 c.c. class by running a distance of 10.8 miles, compared with 9.5 miles for the Belgian machine. An Ariel took first place in the 1,000 c.c. sidecar class with 14.3 miles, defeating an important lot of American machines and one Matchless.

Sandford's air-cooled Morgan was the most economical cycle car, with 15.8 miles for the litre, or nine miles to the pint. The Elfe, a French machine, came second, and another Morgan third.



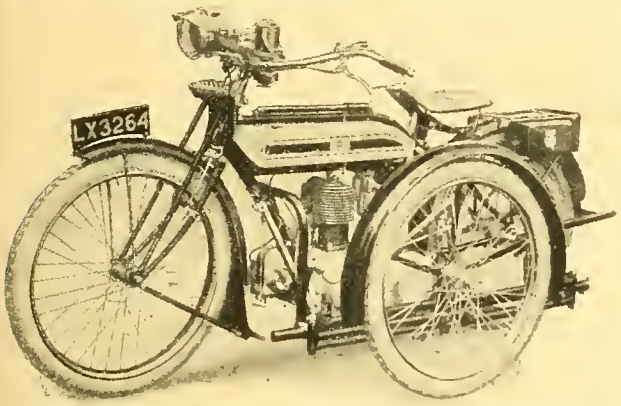
In France sidecars and four-wheeled cycle cars compete together. A movement is afoot which may bring about the introduction of this desirable practice in this country.

FOR NARROW GATEWAYS.

Detail Improvements to a Well-known Collapsible Sidecar.

MANY motor cyclists who desire to use a sidecar, and have not room to keep it at home, are faced with the prospect of weekly garage bills and the risk of having the machine knocked about. To such unfortunately placed motor cyclists the Paragon folding sidecar should make a strong appeal. It has been on the market for a long time, and has thoroughly proved its reliability.

It is one of the earliest practical forms of folding sidecars, and is sold by the Wincycle Co., Ltd., 236, High Holborn, London, W.C.1. We have described the device on many occasions previously, and it is sufficient to state that it folds up quickly, is absolutely safe, and is a thoroughly practical article. The body and springs are removed in a few seconds, and the chassis itself folded alongside the motor cycle, which can then pass through a 30in. doorway. For 1921 some considerable improvement has been made in the fixing of the mudguard, which is now very strongly secured. When extended it is not possible to distinguish the Paragon chassis from that of any other sidecar.



With the body removed and the chassis folded the Paragon will pass through a 30in. doorway.



When in use the Paragon folding chassis is not distinguishable from any other sidecar.

LICENCE CARD HOLDERS.

Twenty more Firms who Make Carriers at Various Prices.

IN addition to the thirty odd licence card holders we have described in *The Motor Cycle* (issues December 17th and 24th), the following are also producing holders at prices varying from 1s. 3d. to 7s. 6d.

Millfords, Ltd., Bullock Street, Birmingham (a continued front number plate and holder, 7s. 6d.).

Harrison and Co., Bradford Street, Birmingham.

Eastern Garage Co., 418, Romford Road, Forest Gate, E.7 (5s. brass, 6s. 6d. plated, with clip for handle-bar).

H. Foster, 41, Mersey Street, Warrington (polished aluminium, 3s. 6d.).

James Grose, Ltd., Old Jewry, Cheapside, London, E.C.2 (aluminium, for number plate or handle-bar, 2s. 6d.).

Central Aircraft Co., 179, High Road, Kilburn, N.W.6.

J. W. Brooks and Co., Ltd., Criterion Works, Birmingham (in polished aluminium, attached by leather straps).

Graiseley Motor Accessories, Ltd., Church Lane, Wolverhampton (in aluminium 3s. 6d., in brass, nickel-plated 4s. 3d.).

Device Engineering Co., 33, Clerkenwell Close, London, E.C. (for front number plate 5s.).

E. Reed and Sons, Ltd., Carlton Works, Daubeney Road, Clapton, E.5 (with clip 6s.).

Stanley and Hill, Ltd., Buckingham Street, Birmingham (with bracket, 5s. 6d. black finish, 6s. nickel-plated).

R. R. Evans, Milverton Garage, Cross Road, Leamington (5s. brass finish and 5s. 6d. nickel finish).

Mole and Son, Ltd., Newhall Street, Birmingham (5s. 6d. nickel finish).

Benetfinks, 107, Cheapside, London, E.C.2 (in brass for attaching to front forks 5s., for screwing to sidecar 4s., in aluminium for fixture to front number plate 2s. 3d.).

Cycle Accessories (Birmingham), Belfrey Works, Spiceal Street, Bull Ring, Birmingham (for attaching to front fork, 3s. 9d.).

Cowey Engineering Co., Ltd., Archer Works, Kew Gardens, Surrey.

Capac Co., Ltd., 2, Woodstock Street, Bond Street, London, W.1 (The Tredelect holder).

Wates Bros., 132, Charing Cross Road, W.C. (a neat holder without projecting screws, 6s. 6d.).

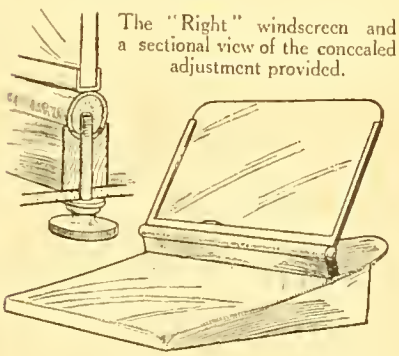
Northern Motor Exchange, Marion Street, Sunderland (combination number plate and licence holder).

Stewart Engineering Co., 34, Mortimer Market, Tottenham Court Road, London, W.C.

Mason Leather Co., 20, Charminster Road, Bournemouth (made of waterproof fabric, 1s. 3d.).

A SIMPLE SIDECAR SCREEN.

THE windscreen has become almost universal on the modern sidecar, right from the very light sporting to the luxurious big twin types. Illustrated on this page, the "Right" screen is suited, and may be easily fitted, to any type of body. Its chief characteristic, however, is the ease with which it may be adjusted to any angle.



The "Right" windscreen and a sectional view of the concealed adjustment provided.

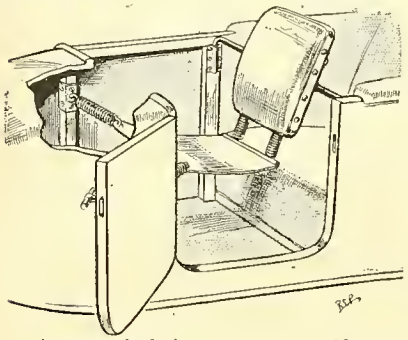
A tube, seated in a grooved piece of hard wood on the dash, carries the screen proper. Inside the tube there is a nut of round section, and engaging this nut through a slot in the tube there is a stud operated by a milled nut right underneath the dash. The makers are the Right Windscreen Co., Borrowash, near Derby.

WESTERN CENTRE A.C.U.

ENTRY forms and particulars for the Western Centre Open Reliability Trial starting April 8th, 1921, will be available shortly. The trial regulations have been so framed that the private owner entrant should have an equal chance with the trade, rider to gain highest honours. There are a number of special awards, including "The White Challenge Cup," "Sunbeam Gold Medal," first and second prizes for amateurs, and a special prize for the best performance by a lady.

AN AUXILIARY SIDECAR SEAT.

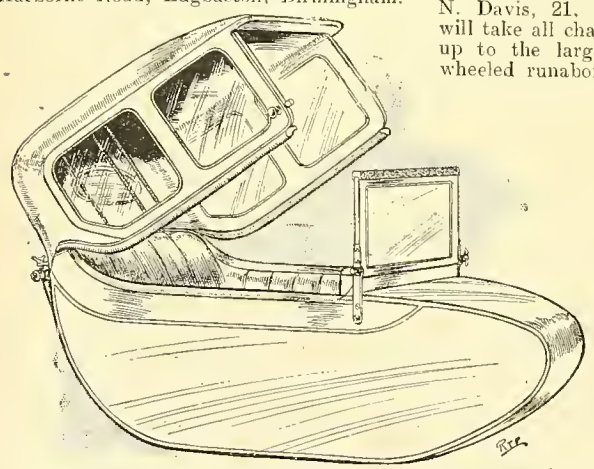
THE fitment illustrated is called the Stanford "Spring Slung" seat, and the double name provides a good indication of its characteristics. So far, the majority of such auxiliary seats have been rigidly mounted on the sidecar floor, where they were rather apt to cramp the rear passenger's legs. In this case, referring to the illustration, it will be seen that the back rest is mounted on a bar (which is split centrally to allow the seat to hinge clear when pushed to one side). The actual seat portion is slung from the back rest and from supports further up in the nose of the body by two pairs of coil springs. When the upholstery is in position, the rear springs are covered in. Comfort for both passengers and easy detachment are the chief advantages claimed for this attachment, which is made by the Stanford Sidecar Co., Sampson Road North, Birmingham.



A new method of carrying an extra sidecar passenger—the Stanford "Spring Slung" seat.

A CONVERTIBLE COUPE SIDECAR.

THE elaboration of the sidecar proceeds apace, and, although the idea of a sidecar coupé is far from new, there are several extremely neat points included in the specification of a patent body designed by Mr. W. H. Burleigh, of 421, Harborne Road, Edgbaston, Birmingham.



Operated by means of balance weights or internal levers, the hinged top of the Burleigh coupé sidecar may be raised, lowered, or completely removed.

By means of balance weights or an internal arrangement of levers (not shown in the illustration) the top portion may be readily hinged back, as shown, to allow entrance to and exit from the car. In fine weather, of course, the whole coupé part may be removed, leaving an ordinary open type body. Another commendable feature is the joint between the body and the top, which may be made weatherproof by suitable long felt or air-cushioned rubber pads.

In this construction the sidecar may be kept of normal height and the passenger may get in or out without any crawling tactics.

AN INGENIOUS TOOL.

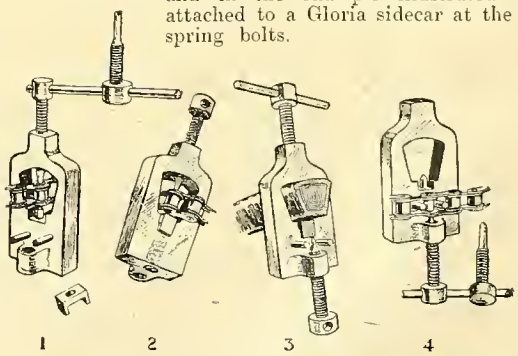
THERE are plenty of devices on the market for extracting rivets from chains, but we do not know of many which will replace the rivet as easily as it is removed. Moreover, there have been no chain rivet-cum-belt punching tools for machines with the double transmission.

The little tool under review is just as invaluable in the case of a chain-cum-belt as in the case of an all-chain drive motor cycle. If the chain rivet remover is unscrewed the belt punch may be inserted in its place, and when the rivet remover is in position the handle of the belt punch acts as a tommy bar. The instrument consists of a main body in which there is an aperture of such a shape that it will accommodate a 1in. belt or a §in. belt, if the latter is inserted upside down. The spring plunger acts as a guide when it is desired to remove a chain rivet, while a distance piece is provided to replace the rivet or when drilling a hole in the belt.

To replace a rivet, the distance piece is placed in position; the link is slipped over, the rivet ends placed underneath, and the chain rivet is centred, when pressure exerted on the top screw will force the rivet into position, when the point of the device will spread the head sufficiently to render it quite secure.

When a roller has been broken the chain is slipped over the two supports immediately over the boss at the bottom of the main body of the tool into which the rivet extractor may be threaded.

This tool, which is the invention of Mr. N. Davis, 21, Cambridge Road, Luton, will take all chains from the magneto size up to the large chain used on three-wheeled runabouts.

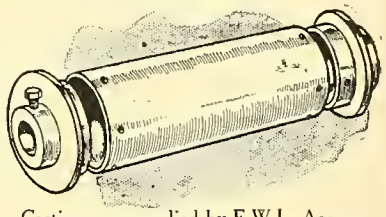


1 2 3 4

Many uses for one tool—the Davis patent combined chain and belt punch used (1) as a rivet remover, (2) replacing a chain rivet, (3) as a belt punch, and (4) when chain roller is broken.

AN ADAPTABLE EXPANSION CHAMBER.

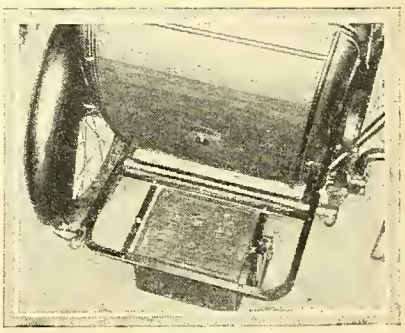
THE E.W.L. Accessories Co., of 102, Lancaster Road, East Ham, E.7, has recently placed on the market a complete set of parts which can be easily made up into an expansion chamber of any length up to 20×4in. in diameter. The set consists of two substantial aluminium castings and a length of sheet iron tubing. The castings, of course, fit into the end of the latter, which can be cut down to any convenient length.



Castings as supplied by E.W.L. Accessories to make up silencers for existing machines.

A NEAT LUGGAGE GRID.

SIMPLICITY and strength are the claims of the Sheldon spring luggage grid, which is being introduced by the Sheldon Engineering Co., toolmakers, Bayley Lane, Coventry. It consists of a simple framework of angle section steel, this construction allowing a safe inverted bed for the spare petrol tin, and in the example illustrated it is attached to a Gloria sidecar at the front spring bolts.



Shown fitted to a Gloria sidecar, the Sheldon luggage grid is neat and strong.

LETTERS to the EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

INTEREST IN A COMPREHENSIVE SPECIFICATION.

Sir,—Will Mr. Max Young kindly tell us when his motor cycle, upon which he is now working, is likely to be placed upon the market? TWO-STROKE.

Worthing.

AN IMPROVISED LICENCE HOLDER.

Sir,—Some of my fellow readers who have been or are amateur photographers may find a quarter-plate printing frame and an old dry plate with the film removed a suitable means of displaying the licence. I intend to screw a ring bolt at each corner, placing a felt pad between the back of the frame and the tank. C. C. ROBERTS.

Sir,—With reference to the new licence holders, I believe, without exception, that all are made with handle-bar or number plate attachment.

Personally, I do not think more unsightly or inconvenient positions could have been adopted, and unless I can obtain one for attaching to the tank I intend fitting my own. In this respect, I suggest that it should be made after the style of a wrist watch, with a strap from the top and bottom of the holder, but not passing down the back. A felt or rubber back should be provided to prevent chafing of the enamel.

Bournemouth. CONN ROD.

FIRTH OF FORTH FERRY CHARGES.

Sir,—I wish to draw the attention of your readers to the great and unreasonable increase of charges for conveyance of motor cycles and cars across the Forth by the Granton and also the Queensferry ferries. The charges were: For motor cycles, 1s.; sidecars, 1s. 6d.; motors in proportion. Now they are: Motor cycles, 5s.; sidecars, 7s. 6d.; two-seaters, 15s.; and four-seaters, 20s. The distance covered by the Granton Ferry is about five miles; at Queensferry about one mile. The charges are now the same. Travellers who refuse to pay these charges and yet wish to cross the Forth will require to go up the river about twenty-five to thirty miles. The ferries are in the hands of the railway companies.

Kirkliston. JUNO.

OVERHAULING AN ILL-USED MORGAN.

Sir,—I have read with interest your contributor's article on "Overhauling an Ill-used Morgan," and I must congratulate him on the thoroughness, and, I hope, the success of his labours. Many of the defects with which he has had to deal could not possibly occur in the new models; I have done, and am doing, my best to eliminate such causes of trouble. It is one of the advantages of the Morgan that, for those who are less painstaking and who have not the skill of your contributor, an old model can be brought thoroughly up to date at a comparatively small cost at our works.

Of course, a good many machines are spoilt by careless treatment. There seems to be a mistaken impression that because a machine costs little it should receive little attention. Insufficient lubrication is at the bottom of many troubles. Judging from the condition in which some cars return to us, the owners have never used an oilcan. It is important to examine nuts, pins, etc., occasionally. I could wish that all owners of Morgans took as much interest in their machines as your contributor—though it would ruin our repair shop! May I add that at any time, should he need it, I should be delighted to give him any assistance that I can H. F. S. MORGAN.

MORGAN MOTOR CO., LTD.

ARE MOTOR CYCLISTS FICKLE?

Sir,—Might I suggest that the statement contained in the front page of *The Motor Cycle* of December 30th, to the effect that "the majority of motor cyclists . . . keep their machines for only a year," is open to serious doubt?

There are, undoubtedly, a large number of enthusiasts who reverently worship the fetish of "the current year's model," and who spend an anxious time at the annual Show in consequence—but I feel sure that there must be a far greater number of enthusiasts who, after many a glorious mile astride their favourite 'bus, and many an hour of anxious care in tuning, grow to love its every nut and bearing, and to sympathise with its every idiosyncrasy, and feel a positive heart-ache when the moment of parting does come: and who, rather than face this eventuality, prefer to continue with their old love until the march of progress renders a change imperative.

The opinions of other of your readers on this subject would, I venture to think, be of interest.

Reading. CRIMSON RAMBLER.

THE 1921 T.T. RACES.

Sir,—I notice that one very big firm is entering no fewer than six machines in the Junior T.T. Race this year, and I feel I should like to learn other motor cyclists' views as regards this.

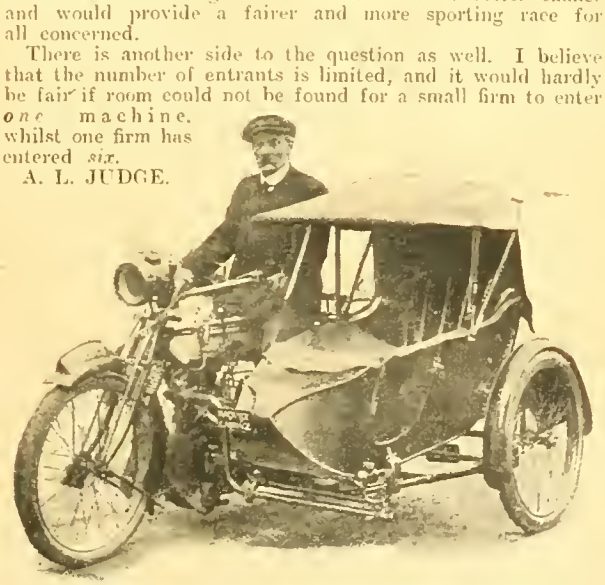
My own view is that such an entry of so many machines from a big firm, which is already very well known for its "speed 'buses," and which could, no doubt, easily afford to enter even a dozen specially "worked upon" machines, is rather unsportsmanlike, and not at all fair to the small firm which has yet to make a name for itself.

Should not the A.C.U. limit the number entered from any individual firm to, say, three machines?

This would then give the smaller firms a better chance and would provide a fairer and more sporting race for all concerned.

There is another side to the question as well. I believe that the number of entrants is limited, and it would hardly be fair if room could not be found for a small firm to enter *one* machine, whilst one firm has entered *six*.

A. L. JUDGE.



Hull Watch Committee is to be congratulated on issuing licences to taxi-sidecars without a lot of ridiculous quibbling. This outfit, a 6-7 h.p. Ariel, was the first to be licensed in that city.

HIGH-TENSION LEAKS.

Sir,—On starting up a Douglas machine in the dark recently, I was surprised to see a sparking to "earth" where the H.T. cables were suspended from the tank. The insulation was in good condition, and, although it does not affect the general running of the machine, it cannot, in my opinion, be conducive to efficiency.

I then tried a P. and M. machine where the magneto runs comparatively slower, but the effect was the same.

I should think, when dealing with such high-tension currents the cables would be "bushed" in ebonite or insulated better where they are clipped to the frame.

E. TURNER.

THE 2⅜ H.P. DE DION IN THE LONDON-EXETER.

Sir,—May I say a few words with reference to the recent M.C.C. London-Exeter-London trial?

First of all, I would like to thank the driver of the sidecar machine who so kindly stopped on Chard Hill and supplied me with a tin of petrol, and also left behind a Mills-Fulford spanner. If he will communicate with me I shall be most happy to forward on to him the value of tin and contents.

I also have a K.L.G. plug belonging to a Sunbeam rider with whom I became acquainted at the Isle of Man during the T.T. week last July.

I am sorry to be the cause of so much trouble to these two gentlemen, but hope they will excuse me, and that they did not suffer any inconvenience.

It may be of interest to know that I did eventually reach home, *via* Exeter and Staines, under my own power.

B. F. C. FELLOWES.

A.A. TELEPHONE KEYS.

Sir,—Your correspondent "Bled Dry (2)" alleges that the A.A. advertisement in your issue of December 16th, 1920, is misleading. As the advertisement states, our roadside telephone service is provided free of cost with the exception of fees for trunk calls. In view, however, of the high cost of maintaining this roadside telephone service, which service will be still more costly under the new telephone rates announced by the Government, the small fee of half-a-crown is charged for the key which opens all the boxes.

This extra small charge is fully justified by the fact that, although a motor cyclist member of the A.A. pays half the subscription charged to the motor car member, he is entitled to all the advantages of membership enjoyed by the latter.

If "Bled Dry (2)" will refer again to the advertisement, he will find that there is nothing misleading in it, and nothing to warrant his assumption that the subscription, which, by the way, is not mentioned, is inclusive.

STENSON COOKE,
Secretary Automobile Association and Motor Union.

MUDGUARDING AGAIN—AND SOME EXPERIENCES WITH A RADIAL.

Sir,—As a motor cyclist since the days of dry batteries and wipe contacts, I have become more surprised as the years have passed that we are still offered and we still buy machines which it is impossible to ride when the roads are wet if it is desired to keep the person clean. Water from above does not matter much, as rainproofs made for such use can be obtained; but water and mud thrown up by the front wheel act as a deterrent to the use of a motor cycle on many occasions.

While writing, I might mention my experience with the Redrup radial engine, which may be of interest to some of your readers. My engine is fitted into an ancient Triumph frame, with three-speed hub gear and the *tout ensemble* makes a very useful, light, and economical machine. Although I do not indulge in high speed, I find that my averages are exceedingly good, and far better than with my previous mount—a high efficiency single—due no doubt to the quick pick up and magnificent acceleration of the radial. The smooth running of this engine has to be experienced to be believed, and for me singles and twins, nevermore. The lack of vibration at high speeds is another noteworthy feature, as is also the extreme ease of starting. My mileage with this engine is about 4,000, and I have experienced no mechanical trouble of any kind.

I should like to give a hint to those who are running engines of this make which will result in greatly improved running. The aluminium disc on the inlet side of the crank case should be removed, also the cam ring; the locating stud should now be withdrawn and the bronze ring taken out. A paper washer with holes to go over the nine studs should now be made to fit *between* the faces (which touch) of the bronze ring and the *inner* aluminium disc. It will then be found, owing to the elimination of this fruitful source of air leaks, that greatly improved carburation and an increase in power will result. The jets should be adjusted (with the makers' automatic carburetter) so that full throttle cannot be given until the engine is hot.

J. THORNTON.

STANDARDISATION OF CONTROLS.

Sir,—I have read the A.C.U. suggested standardisation of controls with interest, but fear I cannot agree that such are best, although quite open to be convinced, and would suggest that the committee give some reason for the various suggestions.

JAS. L. NORTON,
NORTON MOTORS, LTD.

Sir,—With reference to the standardisation of controls as advocated by the A.C.U., I should like to suggest that the clutch and exhaust valve lifter should be interchanged. It is nearly always necessary to move the hand along the handle-bar to reach the extra lever, and as the clutch is much more freely used than the exhaust lifter, it is more convenient to have the clutch lever in the inverted position, as is the case with the A.B.C.

P.-V. JAMES, Lieut.

Sir,—I have just read the recommendations of the A.C.U. with regard to the standardisation of controls, and was surprised to see that some of their most important decisions were arrived at by reason of the fact that several motor cyclists are also in the habit of driving cars, and therefore the foot brake and clutch should be adapted to car practice. As a practical motor cyclist who has experience of nearly every type of machine, I think the positions they have decided on for these fitments are not at all suitable. Although appreciating the fact that in several respects motor cycles would be improved if car practice was more nearly approached, yet I think if the foot brake is on the right in cars there are reasons why it should be on the opposite side on motor cycles. In the first place, it is very often necessary to operate the foot brake and the kick starter at the same time, which would be impossible if placed as in the A.C.U. recommendations; and, secondly, the foot clutch should be in the exact position specified for the brake, as everybody knows that it can be very much more sensibly manipulated by the right foot than by the left; and, thirdly, the majority of British makers who still cling to the foot clutch fit it on the right side, and doubtless they must have some reason for doing so.

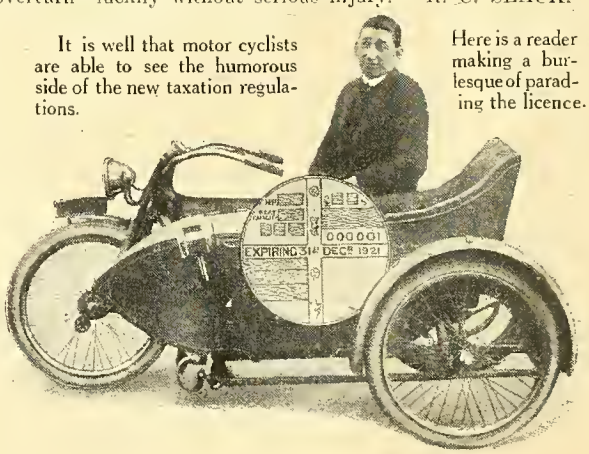
J. T. SMALLWOOD.

Sir,—I noticed some of the reasons against the A.C.U.'s suggestion for the brake on the right-hand side, but one point against it which has occurred to a friend of mine might be included. He is rather short, and recently when driving a sidecar he had rather a nasty smash. He was taking a left-hand corner, and, owing to his size, he had to lean over rather to reach the brake pedal. In so doing the changing over of his weight caused the machine to overturn—luckily without serious injury.

R. C. SLACK.

It is well that motor cyclists are able to see the humorous side of the new taxation regulations.

Here is a reader making a burlesque of parading the licence.



OILING THE A.B.C.

Sir,—I do not think that Mr. Mortimer Batten's system of oiling an A.B.C. engine would prove very satisfactory, as separate drip feed glasses would have to be fitted on each cylinder, and it would be a continual nuisance adjusting the drip. By the way, I do not know whence your correspondent got his idea of an A.B.C. piston, which has a pronounced waist. The crank case suction idea does not work well, as the faster the engine goes the less oil is drawn into the crank case; the ball valves do not work quickly enough to form an effective vacuum. It is fatal to underoil an aluminium pistoned engine, as seizures are so sudden, and the aluminium grooves the cylinders, even if seizure does not take place.

There is no lateral play in an A.B.C. spring frame at all.

Why has someone not taken up the spring frame used on the old A.S.L. made by Air Springs, Ltd? I think this was nearer to perfection than any other. R.N.

Haslar.

Sir,—I was interested to note the letter of your correspondent, Mr. H. Mortimer Batten, in your issue of December 23rd, 1920, wherein he commences, "I agree with 'Ixion' that Mr. Bradshaw might have arrived at a better system of oiling for his otherwise beautifully designed A.B.C."

Without wishing in any way to interfere with the very good feelings that have always existed between those responsible for the production of the A.B.C. and myself, and fully conscious of the difficult task they had in organising such production, I feel that, in justice to myself, it is not out of place to mention that the oiling system fitted to this machine was not the one designed by me.

The original one supplied with the designs has been in constant use by Emerson in all his track work with consistent success, and is a mechanical oil pump driven off the front of the camshaft. GRANVILLE BRADSHAW.

SNOW PLOUGHING.

Sir,—The following account of a trip from Portsmouth to Plymouth, carried out during the recent severe weather, might be of interest to your readers. The speedometer distance is 180 miles, and the machine used was an 8 h.p. New Imperial and sidecar (new in April).

I left Portsmouth at 9.30 a.m. on Monday, the 13th, with about 5in. of snow on the ground and a keen N.E. wind blowing. My sidecar was loaded with luggage to about the weight of a light person, so I had no qualms about its tipping up too easily. Needless to say, I wrapped myself up pretty well, and wore two pairs of socks, two pairs of gloves, and a thick sweater under my coat. Throughout the whole run I hardly felt the cold at all, except my feet, which got very dead at times.

To my surprise, on leaving Portsmouth the snow gradually thinned away, until, on arriving at Southampton, I found none lying at all. The roads were in excellent condition, hard and dry.

In the neighbourhood of Chard I ran into snow again, which had apparently only just fallen, but it was only a light powdering, and did not stop me in the least. This snow I had with me all the way into Exeter, where I arrived at 3.50 p.m. Here I stayed for tea and a warm up, and, after lighting my lamps, left at 4.30 to complete the last forty-four miles of my journey into Plymouth. Immediately on leaving Exeter the snow got appreciably deeper (about 3in.) and I had to go more carefully. After half an hour's riding I found my lamps beginning to give trouble, and after spending a little time in investigating, I found the water in both my generators frozen solid. I had to take off the generators and take them into a cottage to thaw before I could go on. On crossing Haldon Hill the snow got much deeper, and it was with great difficulty I got along at all. It was very dark, and the whole country under snow made it very difficult to stick to the road. However, by going slowly, and continually stopping to examine signposts, I made Chudleigh and then Ashburton at 6.40 p.m., so that it took me two hours to do twenty miles. I decided this was not good enough, especially as I was getting tired, so I put up here for the night.

Next morning I continued my journey at 9.15. The first five miles out of Ashburton the going was good, but after that the remainder of the journey had to be done entirely on second gear as far as Plympton. The snow round Ivybridge was up to the bottom of the sidecar, and five times I was stopped dead in drifts, and had to clear away several yards of snow before I could get on. The skidding was tremendous, due to the slipping of the back wheel and the drag of the sidecar in the snow. I eventually had to lash rope round my back wheel to obtain road grip.

My machine ran simply splendidly the whole journey, and my average consumption was 53 m.p.g., which, I think, was good, considering that seventeen miles was done on second gear. Taking it all round, it was a most successful trip, but one I do not wish to do again under similar conditions.

JOHN D. A. MUSTERS, Lt. R.N.

RUNABOUTS AND SIDECARS.

Sir,—The three-wheeled runabout has been the Cinderella of the motor house. In the cycle car boom of 1913 some critics (including one of the most eminent, Mr. Massie Buist) denied that the three-wheeler had part or lot in that matter. All cars had four wheels, therefore the three-wheeler was not a cycle *car*. It was equally true, of course, that no cycle has four wheels, therefore the four-wheeler was not a *cycle* car. Therefore, there was no such thing as a cycle car. Q.E.D. However, the boom passed, and the term "cycle car" became a reproach rather than a distinction, so the three-wheeler was admitted—not, I suppose, for its merits, but for its defects. We have changed all that, and to-day the three-wheeler appears to be coming into his own. Those who have retained faith in it are surprised at the kind things which are said of it. Unfortunately, only one maker remains to hear them—Mr. H. F. S. Morgan. The rest (they were many) are gone, or have exchanged three wheels for four.

But we must not be too sanguine. Even Mr. Morgan would not, I am sure, venture to say that, because the three-wheeler has attained a certain degree of popularity the days of the sidecar are numbered. It is quite possible that some manufacturers who turn from the sidecar to the three-wheeled runabout will find that they have made a mistake. In the first place, it is significant that only one machine out of many has survived ten years. Most have succumbed in two or three. Moreover, only one three-wheeler has as yet competed successfully against the sidecar. I do not say that there is not sufficient reason for this. I only state a fact. But until the runabout has competed successfully the position of the sidecar is secure. No doubt a certain number will make good in this respect this year, but it remains to be seen whether successes will outnumber failures, and every failure sets back the day of the runabout. Taking one consideration with another, it would seem that the runabout has still to fight its way, and the way to fight is successful competition. The road to success is the open road. To dethrone the sidecar is a great adventure, and "adventures are to the adventurous." That I think is the meaning of the much criticised criticism of the A.C.U. report.

Stoke Lacy. H. GEORGE MORGAN.



TWO YOUNG ENTHUSIASTS.

Master and Miss Berry, of Crediton, whose mount is a Velocette fitted with the popular Tan-Sad seat. In this fashion they enjoy the sport, and are loud in praise of their economical and easily manipulated machine.

SIDECAR V. FARM CART.

Sir,—This picture was taken on arrival home with a load of oats in the straw after a journey of six miles. The machine is a W.D. Clyno (gun carriage), on which a sidecar body has been fitted. The oats were loaded at the back on a large carrier, and over the sidecar, being securely roped on. While



How an ex-W.D. Clyno was made useful on the farm is told in the letter of Mr. Frank Leat.

not taking so much as a cart, several journeys can be done in the time of one with a horse, and I can assure you the load was a good one, extending as it did far back behind the sidecar. — FRANK LEAT.

TWOPENCE A MILE—INCLUSIVE.

Sir,—I thought that your readers would be interested in the following record of the cost of running a 4 h.p. motor cycle for one year, which has been ridden both solo and with a coachbuilt sidecar. Distance run in the year 8,380 miles (to date, 13,270). Total cost of running for one year £49 7s. 3½d., made up as follows: Tyres, £6 12s. 6d.; petrol (105 gall.), £16 8s. 5d.; lubricating oil, £3 10s. 5d.; carbide, £1 5s. 1d.; etceteras, 19s. 11d.; repairs, adjusting, etc., £11 9s. 11½d.; club subscription, insurance, etc., £3 17s.; and stabling, £5 4s.

Distance run with first plug, 8,390 miles. The first belt ran for 12,225 miles, but now is too short to put on. One valve burnt through in three months, and again at thirteen months, but the last time it was owing to clearance not being correct.

HISTORY OF TYRES.—No. 1 back tyre. Ran 3,659 miles, and was then put on the sidecar. Afterwards it was retreaded and put on the back wheel for 966 miles, when it was again put on the sidecar, transferred to the front wheel for 134 miles, and then put back on the back wheel for 379 miles, and can still be used.

No. 2 front tyre. Ran for 5,878 miles, when it was retreaded. Then it did 2,175 on the front and 23 on the back, and now, so far, has done on the front 3,298 miles, and is still on.

No. 3, sidecar tyre. Taken off and wants retreading; but no separate record kept of it.

No. 4. New tyre put on back wheel, and when it had done 4,428 miles it picked up a nail on the tramway in Town and cut it through. It was then vulcanised, when it ran for 23 miles. After being retreaded it was put on the sidecar, and has run so far 1,294 miles.

No. 5, new tyre. Did 655 miles on back wheel, when it was spoilt by a cut from a stone. I then had it vulcanised, and it ran on the back wheel for 193 miles and then burst through again. EUSTACE PARSONS.

"IXION" BLUSHES AGAIN!

Sir,—I have just finished reading "Ixion's" extremely interesting book of "Reminiscences," with which I can only find two faults, viz., various paragraphs in the first part of the book are almost repeated in the later chapters, and the fact that the book is all too short. I should like to suggest, therefore, that he immediately sets about writing Volume II., as he must doubtless have had thousands of interesting experiences of which we have heard nothing during his twenty years of motor cycling. The book should certainly be illustrated by that excellent artist Mr. F. Gordon Crosby, whose motor drawings are extremely fine (as witness the illustration of a three-litre Bentley in your Christmas number).

To revert to "Ixion," I am sure that, in common with me, there must be many hundreds of your readers who are wondering what manner of a man this is who supplies us with our weekly page of lies, and I should like to suggest therefore that a photograph of him be published without delay. A. ARNOLD.

[We refer our correspondent to our heading to his letter!—ED.]

AUTOMATIC LUBRICATION AND CARBONISATION.

Sir,—Having seen letters in *The Motor Cycle* for and against different methods of oiling, I would like, in gratitude, to offer a testimony to the merits of the automatic system on the 4 h.p. Douglas, as this I have found practically perfect.

After "running in" the machine with a liberal setting, I adjusted the by-pass to reduce the flow, and set the drip-feed to pass fifteen drops a minute, since when, beyond filling up the sump and occasionally draining off, I never give oiling a thought.

During the last four months I have been over two thousand miles (including six hundred in Devonshire) sometimes three up, and when taking out the valves this week I find positively no carbon on them, or on the valve caps—merely a very slight deposit of soot which was rubbed off with a rag. I have never had a sooted plug.

West Ealing, W.13. FORTY-EIGHT.

CUI BONO?

Sir,—I beg to suggest that surely some British motor cycle firm of repute might build a racing machine that would be able to attain and surpass the terrific speeds reached by American machines, notably the Indian motor cycle.

It is well known that the wonderful speed of 115.79 m.p.h. was recently accomplished at Daytona Beach.

Hitherto, only the Matchless has reached anything in the neighbourhood of 100 m.p.h., besides, of course, the American machines—Indian and Harley-Davidson.

Why does not one of the firms that used to build "racers" before the war produce a really fast machine, that would be a rival to the big American racing motor cycles?

There are a great many British firms that manufacture big twins. Surely one of these might build such a machine.

Most English racing motor cycles that have broken records at Brooklands are single-cylinders and small twins, such as Norton, 2¾ h.p. A.J.S., N.U.T., Diamond-Jap, and others.

In this coming season I hope to hear of such a machine.

Eaton Square, S.W.1. J.K.D.C.

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Issued in conjunction with *The Motor Cycle*.

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Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C., or of leading Booksellers and Railway Bookstalls.

CURRENT CHAT

Times to Light Lamps.

Jan. 13th	...	...	4.44 p.m.
,, 15th	...	...	4.47 ,,
,, 17th	...	...	4.50 ,,
,, 19th	...	...	4.54 ,,

Fuel Economy.

The R.A.C. is urging that motorists generally economise in fuel by reducing the size of their jets.

Hard Luck on the Navy!

An A.B. writes: "Being what I am, and only home for a few days in the year, and only then ride my machine, must I pay the whole tax? Is there no rebate? There must be thousands in the Navy similarly placed."

The New Licences.

From the number of letters we have received on the subject it appears that motor cyclists do not yet realise that a motor cycle licence need not be taken out in respect of a machine which is not in use.

A Dutch Exhibition.

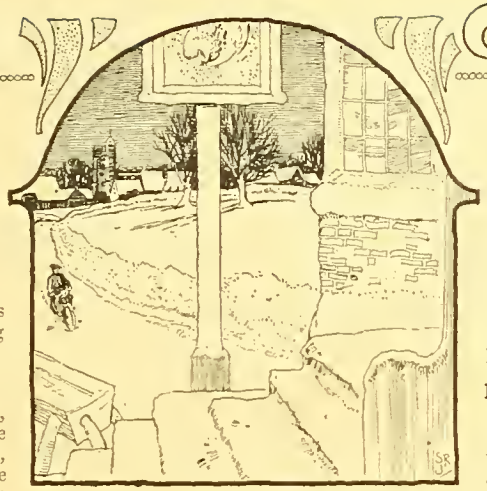
Friday last, the 7th inst., marked the commencement of the Amsterdam Motor Cycle Exhibition, which will continue open until the 17th inst. The Royal Dutch Motor Cycle Club has a stand, and on it a pleasing display is made of the awards gained by the various competitors in the 1920 Anglo-Dutch Trial. Another interesting exhibit on this stand is a series of illuminated transparencies (taken by *The Motor Cycle* photographer) showing various incidents of the trial.

Taxation of Cycle Cars.

The present system of taxing all four-wheelers irrespective of their size, on the £1 per h.p. basis, is a severe handicap to those who might otherwise seriously experiment in this direction. On the new taxation scheme the smallest four-wheeler, like the Black Prince Buckboard, which has a 350 c.c. engine and weighs less than a sidecar outfit, is subject to the minimum car tax of £6, whereas £4 covers the taxation on three-wheelers up to 8 cwt. Surely it would be only fair that all vehicles of the same weight were classed together?

Dazzling Head Lights.

We have received a report from the Ministry of Transport, the gist of which will prove that the Ministry has been by no means idle as regards the testing of anti-dazzling devices for motor car head lights. The Sub-committee of the Departmental Committee on Lights on Vehicles, consisting of General Holden, Colonel Jarrott, and Mr. A. S. Straker, A.M.Inst.C.E., has been attempting to solve the question. Tests are being carried out contemporaneously by the R.A.C. These are of a difficult nature, but it is to be hoped that they have been carried sufficiently far to justify definite recommendations being made to the Minister of Transport in six or eight weeks.



Made in Germany.

Speaking at a meeting in Birmingham recently, Mr. Chas. Sangster, managing director of Ariel Works, Ltd., said that he knew of a case where a British syndicate had been to Germany and purchased 14,000 German bicycles (less tyres) at £2 each. These machines were an exact imitation of a well-known British machine. In the meantime the price of British bicycles is in the neighbourhood of £10—and many of the men who make them are on short time.

The Position of Licence Card Holders.

In a notice recently issued by the Ministry of Transport concerning the position of licence card holders we find the following words: "The position in which the licence card holder is to be carried on the vehicle shall be . . . in the case of motor cycles (including motor scooters, motor cycles with trailer or sidecar, tricycles and invalid bath chairs), in a conspicuous position on the near (left) side of the vehicle." The rest of the announcement is an endeavour to explain clearly the position in which the licence card holder is to be carried on a motor car.

Special Features.

FRAME CONSTRUCTION
WANTED—A CYCLE CAR TRIAL!
THROUGH THE 1920 TRIALS.

A Cycle Car Trial.

"Wanted—A Cycle Car Trial!" is the title of an article on this important subject on pages 51 and 52. Such a trial is highly desirable this year.

Return of Well-known Speedman.

S. L. Bailey (the Douglas exponent) is now on his way back from the Antipodes. This well-known record breaker is a native of Australia.

Wake up, England!

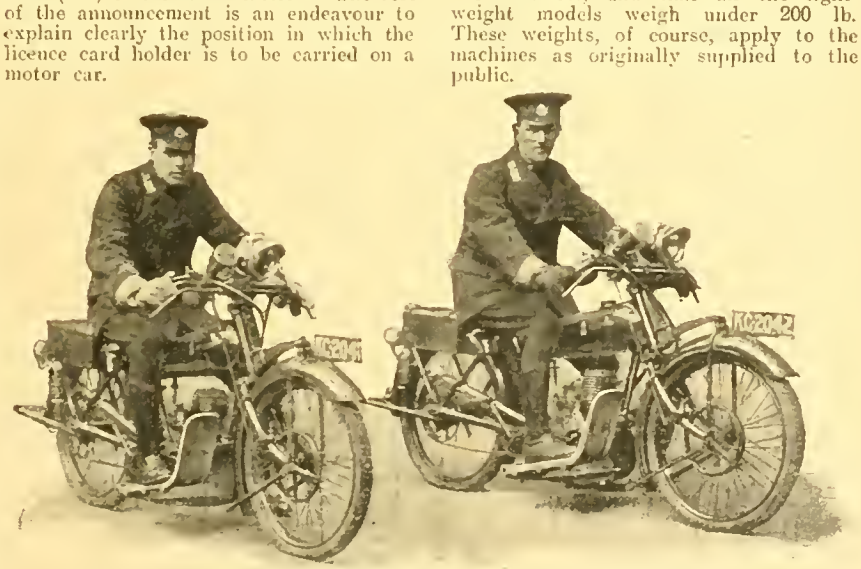
A Winnipeg (Canada) correspondent writes that there are only eight different makes from which motor cyclists in that city can choose, and that the only English make available is the Triumph.

New Companies.

Among new capital issues we observe Sidecar Taxis, Ltd., which has been registered at 137, Cox Street, Coventry, with a capital of £100 in £1 shares. Another new issue is Eric Williams, Ltd., at 1, Lowesmoor, Worcester, capital £5,000 in £1 shares. Also the British Motor Cycle and Cycle Car Research Association, registered as a company limited by guarantee.

F.N. Weights.

There are a large number of F.N. motor cycles of all dates in this country, therefore, in view of the new taxation, it is of interest to know that all four-cylinder machines of this make weigh over 200 lb., and that all the lightweight models weigh under 200 lb. These weights, of course, apply to the machines as originally supplied to the public.



MOTOR CYCLES FOR THE LIVERPOOL POLICE.

Although much behind the American police forces in the matter of motor cycle equipment, several British constabularies now use motor cycles in their many spheres of activity. These two Beardmore-Precisions have recently been supplied to the Liverpool police.

Permit for Cudham Hunt Refused.

The owner of Skid Hill Farm at Cudham informs a correspondent that he has refused a permit to the Woolwich (R.A.) Hounds for hunting over his lands, but has sanctioned a motor cycle meet and competition.

More T.T. Entries.

We understand that J. Blake and Co., of Liverpool, have entered an Ivy for the Junior T.T. It is also practically certain that there will be at least three Douglas machines in both the Junior and Senior races.

Second-hand Prices

Last week "Tax paid," a phrase which will become increasingly common, made its first appearance in our classified small advertisement pages; and it should be remembered that where this is the case the selling price of a machine automatically increases by 30s. to 80s. Little change is apparent, from the following table, in the general trend of the market.

Name, Model, and Date of Machine.	Lowest and Highest Prices.
A.B.C.	£115–£150
A.J.S., 6 h.p., sidecar, 1920	£180–£250
Allon, 2¾ h.p., 1920	£65–£85
Ariel, 6-7 h.p., sidecar, 1920	£120–£162
Blackburne, 4 h.p., sidecar, 1920	£120–£150
B.S.A., 4¼ h.p., sidecar, 1920	£110–£155
B.S.A., 4¼ h.p., solo, 1920	£100–£100
Clyno, 5-6 h.p., sidecar, 1916-17	£85–£120
Clyno-Jap, 8 h.p., sidecar	£140–£140
Connaught, 2½ h.p., 1920	£52–£62
Coulson-B., 4 h.p., 1920	£80–£110
Diamond-Jap, 2¾ h.p., 1920	£50–£65
Douglas, 4 h.p., sidecar, 1920	£125–£165
Douglas, 2¾ h.p., 1917-18	£45–£54
Douglas, 2¾ h.p.	£60–£115
Enfield, 8 h.p., sidecar, 1920	£140–£160
Harley-Davidson, 7-9 h.p., sidecar, 1920	£150–£210
Harley-Davidson, 7-9 h.p., sidecar, 1919	£110–£195
Henderson, 10 h.p., sidecar, 1920	£150–£157
Indian, 7-9 h.p., sidecar, 1919	£135–£175
Indian, 7-9 h.p., sidecar, 1920	£145–£175
Lea-Francis, 3½ h.p., 1920	£120–£130
Levis, 2¾ h.p., 1920	£50–£55
Matchless, 8 h.p., sidecar, 1920	£160–£185
N.U.T., 3½ h.p., 1920	£120–£125
Omega, 2¾ h.p., 1920	£65–£75
P. & M., 3½ h.p., solo, 1920	£87–£100
P. & M., 3½ h.p., sidecar, 1919-20	£85–£170
Quadrant, 4½ h.p., sidecar, 1920	£90–£130
Rover, 3½ h.p., single gear, 1920	£95–£115
Rover, 3½ h.p., sidecar, 1920	£155–£180
Royal Ruby, 3 h.p., 1920	£100–£120
Rudge, 3½ h.p., 1920	£77–£100
Scott, 3½ h.p., sidecar, 1920	£140–£150
Scott, 3½ h.p., solo, 1920	£105–£120
Sunbeam, 3½ h.p., sidecar, 1920	£170–£185
Sunbeam, 3½ h.p., solo, 1920	£140–£157
Sunbeam, 8 h.p., sidecar, 1919	£180–£215
Triumph, 4 h.p., sidecar, 1920	£145–£175
Triumph, 4 h.p., sidecar, 1919	£105–£135
Triumph, 4 h.p., solo, 1920	£100–£117
Triumph, 4 h.p., solo, 1919	£85–£105
Wooler, 2¾ h.p., 1920	£70–£82
Zenith, 8 h.p., sidecar, 1920	£145–£204
Zenith, 8 h.p., 1920	£120–£145
Zenith, 6-8 h.p., 1919	£85–£90

Imports and Exports.

1920 has been a very successful year for the British motor cycle trade, and despite a tendency towards slackness at the close the total value of our exports for the year has increased to £2,340,557, considerably more than the corresponding figure in 1919. Imports, over the same period, however, have increased in an even greater ratio; but it is noteworthy that the total value of our exports still remains nearly six times the total amount of our imports. The British motor cycle industry is certainly doing more than its share to maintain the balance of trade. Comparative tables for the year follow:

IMPORTS.

Total value of motor cycles and parts imported during 1919	£107,572
Total value of motor cycles and parts imported during 1920	£407,429
Increase	£299,857

EXPORTS.

Total value of motor cycles and parts exported during 1919	£899,177
Total value of motor cycles and parts exported during 1920	£2,340,557
Increase	£1,441,380

Examination of the Board of Trade returns for the month of December only (given in tabular form below) reveals the fact that our imports for that month show a decided increase compared with the corresponding period last year. Comparative export figures for the same dates, however, illustrate an equally decided increase—together a state of affairs which will benefit the Exchequer.

IMPORTS.

	Dec., 1913.	Dec., 1919.	Dec., 1920.
Number of motor cycles	155	679	106
Value of machines and parts ...	£17,835	£39,186	£16,820

BRITISH EXPORTS.

	Dec., 1913.	Dec., 1919.	Dec., 1920.
Number of motor cycles	1,305	885	1,193
Value of motor cycles only ...	£57,533	£62,884	£99,707
Value of parts and accessories ...	£21,874	£28,029	£50,911
Total value ...	£79,407	£90,913	£150,618

The Motor Cycle Grand Prix.

It has now been definitely decided that the Grand Prix of the Automobile Club of France will be held on the Circuit de la Sarthe on July 23rd. The course is close to Le Mans, 516 kilometres long, and, in the case of the car race, will be covered thirty times, each lap being 17 kilometres 200 metres in extent.

It is also settled that the Union Motocycliste de France will run a motor cycle race over the same course. The race will be about 300 miles in length. Very probably it will take place on Friday, July 22nd.

The Amsterdam Show.

No fewer than thirty-six makes of British motor cycles are exhibited at the Amsterdam Show, which opened on Friday last. In addition, there are eight exhibits of U.S.A. mounts and eleven hailing from the Continent.

Enterprise.

Motor cyclists are never slow to take advantage of a sporting offer. Recently Messrs. Maude's Motor Mart announced that they would award valuable prizes to mail order customers whose letters were opened first on a stated date.

The selection of the letters was accomplished in our presence by Mr. O. E. Seyd, who is in charge of the A.C.U. Publicity Department. Mr. Seyd, blindfolded, plunged his hand into the enormous heap of letters lying on the floor of the office and drew out one, written by Mr. C. Ridsdale, Fellthorpe, Great Driffield, Yorkshire, who had ordered a licence card holder. This lucky reader obtains a brand new 4 h.p. Verus-Blackburne motor cycle valued £126.

The same procedure was followed in the case of the second and third, Mr. E. Robinson, 46, Ella Road, West Bridgford, Notts, who had ordered a W.D., K.L.G. plug value 1s. 9d., and Mr. W. T. H. Bolt, 7, Ruskin Walk, Herne Hill, London, S.E., who had ordered a Dumbel spanner. Each of these gentlemen has now received an Autoped scooter.

At the last moment, Mr. Geo. Pettyt, manager of Messrs. Maude's Motor Mart, stated that he would offer five consolation prizes consisting of credit notes of £5, allowing anyone to order goods up to the value of this sum from the firm. The representative of *The Motor Cycle* was requested to make the selection, and the five letters were written by the Rev. J. E. Howell, St. George's, Shemhall Street, Walthamstow; F. H. Whiting, Whiting's Garage, High Street, Keynsham, Som.; Allan Palmer, Washington Street, Workington, Cumberland; T. H. Gosling, School Lane, Mareham-le-Fen, Boston, Lincs.; and H. H. Reed, Behind Berry, Somerton, Som.

A further gift of a motor cycle and scooters to the writers of the first three letters opened on the morning of January 24th will be made, and there will be also five consolation prizes value five guineas. A separate competition will be held by Maudes' Exeter depot.

A SCOTTISH WINTER TRIAL.

FOR this event of the Glasgow Western M.C.C., held on Monday last week, an entry of thirty was received. The course was a straight out and home run—Glasgow to Perth and back—and as the regulations were not too severe (there was only one secret check) the run was very much of a holiday nature.

The morning broke very dull, but the sun breaking through later, the outwards journey was taken under ideal overhead conditions. Of the roads, however, the least said the better. They were heavy and full of pot-holes, and the riders found driving anything but a picnic, and all were grateful for the few minutes to spare at the Stirling check.

After a seasonable lunch at the "Royal George," of happy memory to competitors in the Scottish Six Days, the return journey to Glasgow was started at 4 p.m. Lamps were soon lit, and many hoped for a most pleasant run to the city on the Clyde. Their hopes were, however, not fulfilled, and from Auchterarder to the finish very heavy rain completely spoilt an otherwise quite enjoyable outing.

We have seldom experienced a more miserable finish to an event, and it was no wonder that, with lamp and minor mechanical troubles, only nine riders checked in to time at the finish. Sidecar outfits predominated in the entries, and their drivers had a much happier lot than the solo riders on the flooded roads.

Not one solo machine completed the double journey. The successful nine (which includes two cycle cars) were as follows: Mrs. Duncan Bell (7 A.J.S. sc.), Mrs. W. Simpson (6 A.J.S. sc.), J. Littlewood (6 A.J.S. sc.), B. Brown (6 A.J.S. sc.), Duncan Bell (6 A.J.S. sc.), D. Alexander (8 Enfield sc.), J. Baker (8 Acme sc.), A. MacEwan (8 Richardson), and J. Bell (10 G.N.).

WANTED—A CYCLE CAR TRIAL!

A Plea that Three and Four-wheeled Cycle Cars be Allowed to Compete Together.

By B. H. DAVIES

Following is a résumé of the present position of the cycle car movement. Our contributor supports the oft-expressed plea of "The Motor Cycle"—that light four-wheeled cycle cars be developed side by side with the machines to which they form an alternative (i.e., the sidecar and the runabout).

We reiterate that a sound cycle car definition is urgently needed. Such a definition, to be effective without unduly tying the hands of the designer, should not include the number of wheels as a factor; on the other hand, it is highly desirable that the following essential points be covered.

Weight: which should be not more than 8 cwt.
Engine capacity: not to exceed 1,100 c.c.

ENERGETIC development of the cycle car is perhaps the most crying need for the 1921 competition season. In pre-war days it was quite unusual for a man to remain faithful to the cycle car. He bought one because his income at last justified a more ambitious vehicle than a motor cycle, and did not as yet run to a car. He probably sold his first cycle car at the end of its first season, because he now saw his way to ordering a car, or because his business had not prospered, and a relapse to the motor cycle became prudent. Thus few users lasted long enough to become enthusiasts, and a market so limited and fluctuating did not tend to build up a stable industry. The root trouble was that the best sidecar outfits cost £150, and that a brand-new light car of the best-class could be bought for £25 more. Under such conditions the cycle car had about as much chance of making good as an Italian ice cream vendor in the Antarctic.

1921 has transformed the situation. Up to £250 is now charged for a first-rate sidecar outfit *de luxe*; but, on the other hand, the average light car is listed at round about £500. It is hardly likely that the space between these two boundary lines will be narrowed appreciably. If car prices sink, motor cycle prices will sink for similar reason. The cycle car is assured room to stretch its wings. Already there are signs that the existing price gap will be filled by an infinite variety of light passenger vehicles, all displaying affinities more or less pronounced with motor cycles on the one hand and motor cars on the other. The two extremes may be illustrated at the moment by the Carden cycle car, which has a very simple engine, and sells at a motor cycle price (£100); and the sporting A.B.C. car, which is a car in every item of its specification except the engine (an air-cooled flat twin). Between the price extremes of these two types a bewildering selection of hybrid machines are already on offer, including at least six different makes of three-wheeler, and at least one popular "car," the 8 h.p. Rover, the makers of which employ a night-shift even in these hard times.

The attitude of the general public towards the majority of these hybrid vehicles is one of good natured suspicion. The G.N., the Morgan, and the G.W.K. have already proved themselves in competition. The Rover won its early orders on the strength of the Rover reputation, and is now selling by the recommendation of private owners. The A.B.C. got its start in life, thanks to Mr. Bradshaw's name. Few of the other cycle cars have any asset of a kind which appeals to the man in the street; and money is now so tight that adventurous extravagance is over; nobody will any longer "chance" a purchase, as thousands did in the motor famine of 1919-1921. In the meantime a host of potential cycle carists are waiting eagerly for a lead. They will buy cycle cars as soon as they are given the necessary information for sorting out the good specimens from the duds (if any). They will *not* buy till they get this information. Until such information is forthcoming, would-be owners will remain motorless, and thousands of artisans will be kept unemployed. (As a proof of this, the 8 h.p. Rover has already caused many people to become motorists who had no such intentions until they saw this little car, and heard good accounts of it.)



A little cycle car on approved car lines—the French shaft-driven Peugeot quadrilette, which has a 667 c.c. water-cooled four-cylinder engine much smaller in capacity than the majority of twin sidecar outfits.

An Urgent Need.

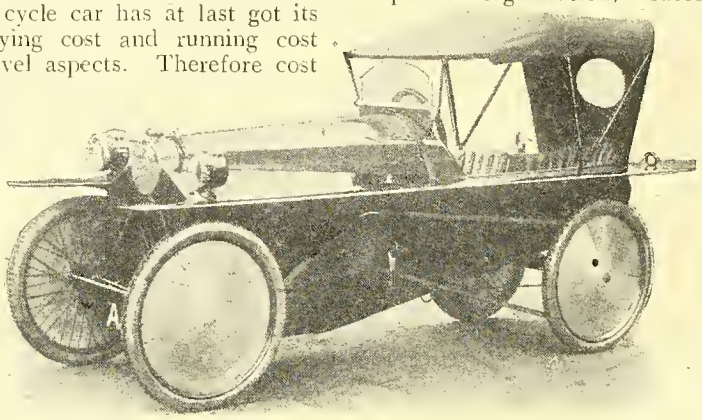
A Six Days Cycle Car Trial is urgently needed by the public, by the manufacturers, and by the men of those unions which supply the motor industry with its labour.

At once the difficulty arises—who is to organise such a trial? At the present moment three-wheeled cycle cars are "controlled" by the A.C.U., and four-wheeled by the R.A.C. Two separate events are quite impracticable. There are not enough makes of three-wheeler runabouts to con-

Wanted—a Cycle Car Trial!—

stitute an imposing trial. If the R.A.C. attempted to include four-wheeled cycle cars in an event to which light cars were admitted, the more expensive and refined machines would overshadow the genuine cycle car, just as the plucky little 7 h.p. twin-cylinder Swift was blanketed in the 1914 light car trial.

Great care will be needed to prevent the three-wheelers from being overshadowed by the four-wheelers in a combined trial. But the trial *must* be of the "combined" type because COST is the vital factor throughout. The cycle car has at last got its opportunity, because buying cost and running cost have assumed entirely novel aspects. Therefore cost and weight, and not the number of wheels, are the principles of identification. But we do not yet know whether the man with £250 or £300 to spend would be better advised to buy a four-wheeler or a three-wheeler. It follows that the trial should include all the three-wheelers, and some of these four-wheelers which in price and specification have more affinities with the motor cycle than with the motor car.



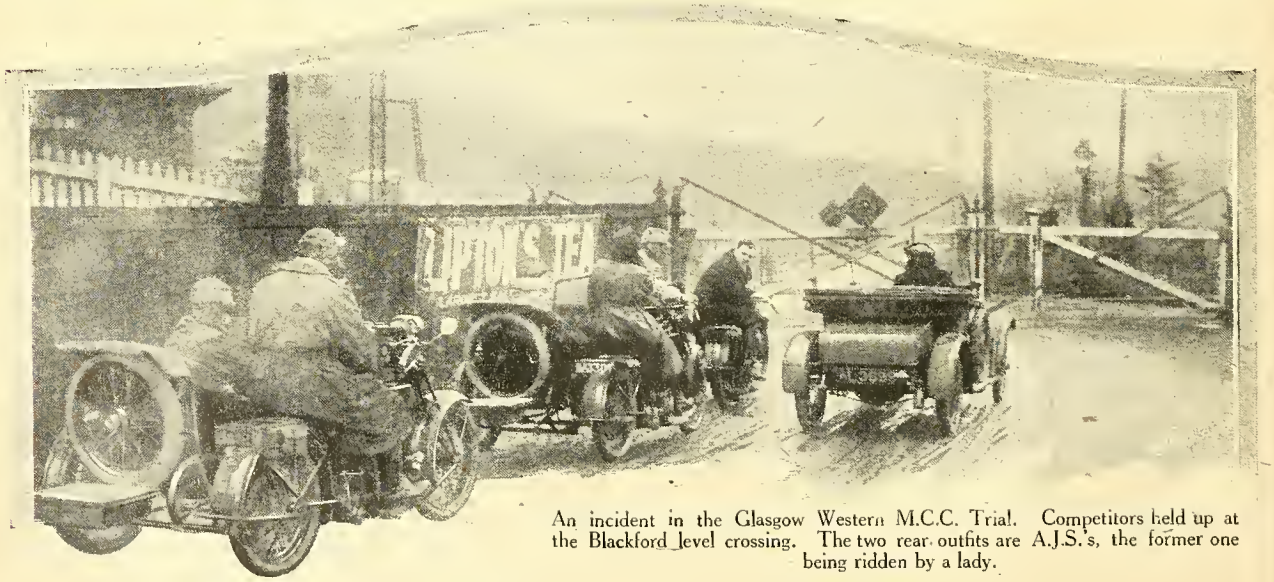
A cycle car which may be said to be a re-arranged motor cycle—the popular little Tamplin.

Before such a trial can be held, a regrouping of the control is indispensable; and the body which ultimately undertakes the responsibility will have to decide the basis of admission most carefully.

The organisers might be: (1) the A.C.U., (2) the R.A.C., or (3) a mixed committee, to which the A.C.U. and R.A.C. might delegate the job with careful instructions.

Few cycle car enthusiasts will regard the R.A.C. as the ideal management. The R.A.C. contains members who know a great deal about cycle cars and care a good deal for them. But there is no guarantee that these members would be entrusted with the work. Some of the leading cycle car experts and enthusiasts are not members of the A.C.U. On the other hand, the A.C.U. gave the G.W.K. and the Morgan their best chances of publicity. If a mixed committee cannot be arranged, the A.C.U. is the best alternative; for nobody else has ever cherished the cycle car, if we except a little rather casual assistance from Brooklands, the J.C.C., the M.C.C., and the Edinburgh M.C.C.

Some ardent spirits will doubtless claim that a special organisation, based on and corresponding to the Junior Car Club, should immediately take over this urgent task. This might prove to be a good solution. There are two objections to it. The first is that the Junior Car Club is not—as yet—a national organisation. It may grow into one; but at present its position is rather analogous to that of the M.C.C., except that it has less experience of running big trials. The second is that the future of the cycle car is at present extremely vague. Which type prophesies the predominant vehicle of to-morrow? The Tamplin, the G.N., the Morgan, the Rover, or another? Or will there always be room for them all? If we stereotype definitions and organisations too rigidly to-day, we may have to recast them to-morrow; and the history of motoring organisations contains sad evidence of the fashion in which clubs cling to any prestige which they have attained, even at the cost of dividing our energies, hampering our development, and weakening our forces. I am all in favour of rather tentative and provisional treatment for the cycle car at present. A joint committee, nominated from the A.C.U. and the R.A.C., would best meet the emergency.



An incident in the Glasgow Western M.C.C. Trial. Competitors held up at the Blackford level crossing. The two rear outfits are A.J.S.'s, the former one being ridden by a lady.



Widnes M.C.

The above club is holding its annual meeting and dinner to-day.

Surbiton and District M.C.C.

Surbiton and District M.C.C. have chosen the date of May 28th, for their inter-club team trial for Maudes' Challenge Shield. It is hoped that any clashing of events will be avoided by this early notice.

Bristol M.C.C.

As the "hares" were not caught in the Boxing Day trial, briefly reported last week, the results (now to hand) were decided on a 20 m.p.h. schedule. There were four prizes, as follows: 1, V. Courtney (3½ Sunbeam); 2, W. Le Brun (3½ Rudge sc.); 3, G. F. Tozer (2¾ O.K.); and 4, Rex Foweraker (3½ Sunbeam sc.).

North Wales M.C.C.

The first annual dinner and distribution of prizes will take place at the Bull Hotel, Denbigh, on January 18th. The chair will be taken by Mr. William Edwards, the president. All are cordially invited. Tickets, 5s. each, are obtainable from the secretary, 1, Ruthin Road, Denbigh.

Bucks County M.C.C.

At the annual meeting of the High Wycombe and District Motor Cycle Club, held at headquarters, the question was thoroughly discussed with regard to forming a county club, and it was, in consequence, resolved to alter the name of the club to the Bucks County Motor Cycling Club, as it was thought that it would give a much larger scope to motor cycling in the county.

The hon. sec., Mr. W. F. Johnson, 17, Priory Avenue, High Wycombe, Bucks, will be pleased to supply any information to motor cyclists desirous of joining the club.

North West London M.C.C.

The Reliability Trial held on New Year's Day over a circular course, including the well-known hills in the Chilterns, proved one of some severity under the appalling weather conditions prevailing. There were several mechanical failures in the earlier part of the course, but otherwise competitors arrived to time up to lunch.

After lunch, Kop Hill, which, with Pink Hill, was on the non-stop section, proved too much for several.

In the end the special cup for best motor cyclist's performance would appear to be safe in the hands of Hal Hill (7 Zenith), with P. G. Averill (6 A.J.S. sc.) second.

Wallington and District M.C. and L.C.C.

The club will held a fancy dress dance at the Parish Hall, Wallington, on February 19th, 1921, at 7.30 o'clock. Tickets, which are 6s. 6d. single and 12s. double, may be obtained from the secretary, Mr. C. M. Bowen, The Chalet, Woodcote Avenue, Wallington, Surrey.

Western Centre A.C.U.

Entry forms and particulars of the Western Centre A.C.U. Open Reliability Trial will be available shortly from the honorary trials secretary, "St. Moritz," Wyche Road, Malvern. The regulations have been so framed that the private owner should have an equal chance with the trade rider to gain highest honours.

New Tredegar and District M.C.C.

The first annual dinner of the above club was held on December 30th, 1920, when a large number of motor cyclists accompanied by their lady friends, gathered together for the final meet of the year. Invitations were given to prospective members, of which many appeared. The dinner was carried out with great success, everyone being highly pleased with the arrangements made. Following the dinner was a concert, over which Mr. J. Cordingley presided.

The Public Schools M.C.C.

The first annual dinner since the war will be held at the Café Royal, Regent Street, on Thursday, January 27th. The dinner will be 15s. 6d., exclusive of wine. Members are invited to bring friends who are likely to join the club. Prizes will be distributed after dinner and the annual general meeting will be held after the speeches. The president of the club, Colonel F. Lindsay Lloyd, C.M.G., will occupy the chair. Secretary, H. B. Browning, 2, Morpeth Mansions, Victoria, London, S.W.1.

Dublin and District M.C.C.

The Dublin and District M.C.C. held a winter reliability trial over an exceedingly stiff course on the Christmas Bank Holiday. Though only sixty miles in length, it embraced all the well-known South Co. Dublin and North Wicklow test hills.

The following eleven, made up of three sidecar outfits and eight solos, completed the course approximately on time: T. E. Green (6 Enfield sc.), H. McAllister (6 A.J.S. sc.), D. Allen (4 Norton sc.), Maj. J. Waters (2¾ Velocette), J. A. Carville (4 Triumph), P. H. Hurse (4 B.S.A.), R. Humphreys (2¾ Velocette), J. McTaggart (7-9 Indian), A. Carton (4 Indian Scout), and P. McGrath (2¾ Velocette).

Taunton and District M.C.C.

The Taunton and District M.C.C. are holding their annual general meeting at 6.30 p.m., on Thursday, January 13th, at the Castle Hotel, Taunton, to be followed by a dinner and concert.

Loughborough and District M.C.C.

The above club is holding a whist drive in the Corn Exchange, Town Hall, on Tuesday, January 18th. Tickets, 2s. 6d. (including refreshments), may be had from the hon. sec., 64, Frederick Street, Loughborough.

Ealing and District M.C.C.

This club will hold a cinema show and dance on January 24th at 8 p.m. A hearty welcome is extended to all motor cyclists. Tickets, price 5s. 6d., can be obtained from Mr. F. A. Longman, 17, Bond Street, Ealing, London, W., and Mr. F. H. Douglas, 100, Great Portland Street, London, W.1.

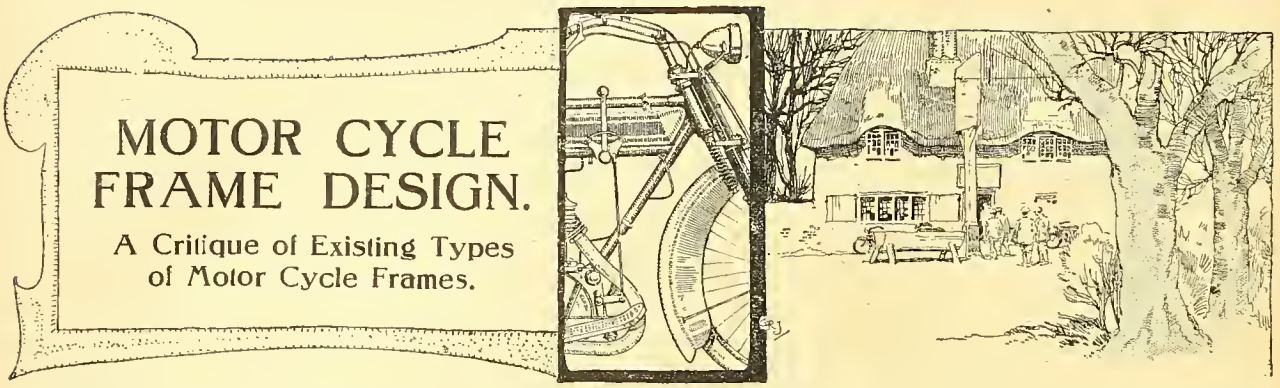
The Motor Cycling Club.

The M.C.C. annual general meeting will take place at Pagani's Restaurant on Wednesday, January 26th, at 7 p.m. Members who have the interests of the club at heart are requested to attend this meeting. It is hoped that the opening on Saturday, March 12th, will be to Brighton, as usual.

Sheffield and Hallamshire M.C.C.

A Boxing Day trial for the Stewart trophy was held over a main road route from Sheffield, *via* Rotherham, Doncaster, York, Malton, to Scarborough. After lunch the return journey was made over the same route. Fine weather prevailed during the whole day, but the competitors encountered very severe conditions, having to contend with bad roads, pot-holes, inches of mud, and, on the outward run, a strong head wind. These severe conditions caused a good few retirements *en route*, but, despite all this, two competitors ran through all known and secret checks without the loss of a single point. Another very fine performance was made by E. Sneath, who piloted a 2¾ h.p. Wilkin and sidecar over the whole course, and duly checked in at the finish. The results were as follows:

Stewart trophy and replica each, E. A. Wheatley (4 Triumph) and S. Sawer (4 Norton sc.) tied for first place; 2, W. Kantlehem (3½ Wilkin sc.); 3, E. Cross (6 A.J.S. sc.). Club silver spoons for finishing within a specified time: G. Fletcher, W. G. Brown, E. Searle, and E. Sneath. The last named was presented with a special prize by a member for the most meritorious performance on a sidecar machine.



MOTOR CYCLE FRAME DESIGN.

A Critique of Existing Types of Motor Cycle Frames.

THERE are few parts of the modern motor cycle which need, or are capable of, such drastic alteration as the frame. It is true that present day frames do not often give trouble under normal conditions, but their success is achieved by unnecessary weight rather than by scientific construction. With this in mind, the paper read by Mr. Douglas Leechman before the Institution of Automobile Engineers on December 30th is of especial interest. After giving a brief history of the cycle and motor cycle frame from the earliest days, and explaining how existing defects came into general use, the author attacked the actual problem, and we publish extracts from his valuable lecture.

The Problem.

Primarily, the designing of a motor bicycle frame is a bridge proposition. The simplest form of frame would consist of a single beam supported upon the axles of the two wheels (fig. 2).

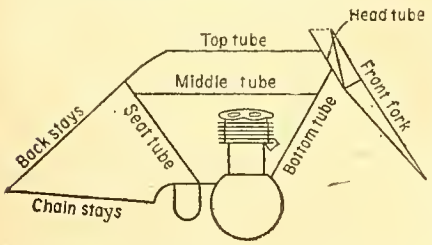


Fig. 1.

In addition to the ordinary function of a bridge of carrying a load over a gap, the motor bicycle frame (apart from anti-vibratory and transmission adjustment considerations) must be capable of resisting longitudinal, tensile, and compressive stresses set up by forces tending to vary the distance between the wheel centres, and (apart from steering consideration) the frame must also be capable of resisting forces tending to deflect the wheels from the longitudinal vertical plane about vertical or horizontal axes or a combination of both.

As the principal part of the load, namely, the rider, is to be carried at a certain height, the beam may be made of such a depth that the top of it will reach up to the saddle, less a few inches for adjustment and spring motion. Behind this point the beams may be tapered off to the rear axle, to economise material and reduce weight. Were it not for steering considerations, the beam would be similarly tapered off right from the saddle towards the front axle, leaving an ideal form deepest where the concentrated load is applied, and reducing regularly in depth as the bending moment decreases. (See dotted lines in fig. 2.)



Fig. 2.

Here we are met with one of our most serious problems. The best kind of steering demands that a large gap shall be cut upwards in the front part of the beam to allow for the deflection of the steering wheel when the bicycle is describing curves, fig. 3. Incidentally, it also allows of a certain amount of tapering at the extreme front end of the beam.

In this connection we have to remember that while the strength of a beam varies directly as its breadth and inversely as its span, it varies as the square of its depth. Thus, a cut only half way up from the under (tensional) side reduces the strength of a beam to one quarter of what it is in its complete form. The demand for such a deep gap as is required by the steering is calculated to make the ordinary bridge engineer gasp. The importance of leaving the uncut section at A as deep as possible and of even inclining the upper surface of the beam towards the front in order to increase the effective depth at this point is surely sufficiently glaring, and yet "awful examples" are not lacking in which the designer has actually gone out of his way to carry the gapping to extremities by reducing the section at the head to practically a point. Such designers are fortunately few, but there are many who fail to give practical recognition to the fact that the stresses on the head bearing are in inverse proportion to the distance between the two rings of balls.

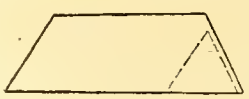


Fig. 3.

Plane Figures.

In any skeleton structure of more than three sides, and not triangulated by diagonal bracing, the permanence of the form depends primarily upon the resistance which the joints are able to offer to distortion, provided that the load is applied at one of the angles. For example, take a tube and lug rectangle, such as ABCD, fig. 4. If forces be applied at A and C, as indicated by the arrows, the points of intersection of the axes of the tubes at B and D may be regarded as fulcra, and the full leverage will be expended on the lugs, tending to close B and D and to open A and C. If the lugs be strong enough to resist the force, the portions of the tubes just clear of the lugs will be called upon to resist the bending moment, and if these be enabled to resist the force by means of suitable butting or liners, the force will be expended on the plain and middle portions of the tubes. While the leverage is greatest at the lugs, it is least at the middle sections of the tubes, and in an ideal construction of this kind the strength would be perfectly graded all along from the ends to the centres, in proportion to the leverage. Such structure would resist any stress (up to the elastic limit) without fracture or even permanent set, and would spring back to the original form when the load was removed.

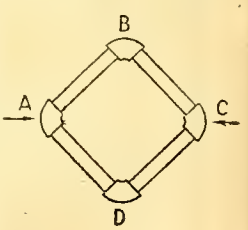


Fig. 4.

In an open polygonal motor bicycle frame, the stresses on the joints differ little if at all from those generally characterising such figures, and the strength necessary to safety can only be secured with a weight greatly in excess of that easily attainable with a correctly trussed frame.

Requirements.

The frame members must be arranged not as an open quadrilateral or polygon, but as an assembly of triangles, so that the whole constitutes a single trussed beam. The load or loads must be applied at the angles, that is, at the joints, and not on and transversely to any of the sides.

Two triangles must not be connected only by one angle of each.

The plane of the beam must be arranged in the plane of the load.

Let us examine the standard type of frame in the light of these principles. First, we observe that it is not an

Motor Cycle Frame Design.—assembly of triangles only, but, apart from the front fork, comprises a triangle, a quadrilateral, and a polygon—all of doubtful lineage. Breaking the first law leads to infraction of the second. The fourth law is very fairly complied with, so far as solo machines are concerned.

The essential wrongness of arranging one load-carrying tube to bear on or be joined to another at an intermediate point on the latter may be shown as follows: Let the first tube AB (fig. 5) be joined to the second CD at B. Two forces AB and CD are acting on the point B. Whether the values of those forces be proportioned to AB and C*b*, or whether they have any other practical value, it is evident that their resultant cannot be in the direction BD; that would be to assume that the value of the force AB was zero. Hence, the arrangement AB, C*d* involves a transverse stress on CD, which will shear after the force has been applied a greater or less number of times.

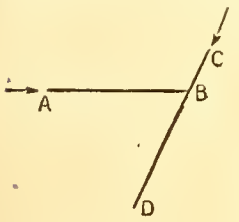
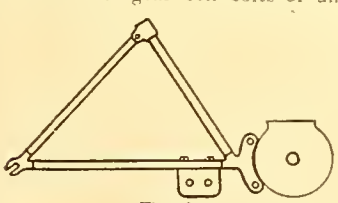


Fig. 5.

The Rear Triangle.

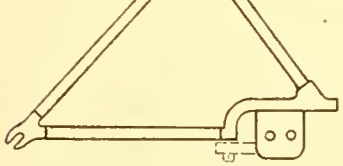
Referring now to the rear triangle, a heavy casting is often found at the junction of the seat tube and back stays—and a heavy casting spells bad design. The casting is mainly horizontal, and its forward end extends to the engine, see fig. 6. The gear box is suspended from this casting by bolts passing up through holes in the casting, the holes being slotted to allow of adjustment of the front chain. The countershaft thus lies some inches below its point of support, and the stresses on the bolts are much more severe than they either should or need be. Seeing that the tension set up in the chains by the transmission of the driving force tends to draw the gear box towards the crankshaft in the one direction and towards the axle of the driving wheel in the other direction, it follows that the struts between the engine and gear box should lie in the plane of the crankshaft and countershaft, and that the struts between the gear box and back axle should lie in the plane of that axle and the countershaft.

Correct design of these parts would not only relieve the gear box bolts of undue


Fig. 6.

transverse stresses, and the chain stays of a wasteful tendency to bow upwards, it would also offer direct resistance to any tendency the gear box may evince to twisting out of parallel with the driving wheel axle while, say, hill-climbing. Some machines exhibit a sort of mute acknowledgment of these principles, the rear end of the casting being curved down so that the chain stay tubes actually lie in the plane of the driving wheel and the gear box axles, fig. 7, but as the forward ends of the tubes do not reach the gear box by some inches, little benefit is derived from the arrangement. A substantial improvement would be secured by providing the back of the gear box with lugs which would extend to and overlap the forward ends of the chain stays themselves, and be bolted thereto in a way which would allow for the necessary adjustment. The author would suggest that the chain stays should be duplicated, the upper pair running from the rear fork-ends to the top of the crank case, and the lower pair from the fork ends to the bottom of the crank case or to a part of the frame adjacent thereto, see fig. 8. The stays would thus act as torque tubes to the engine. The gear box would lie between the pairs of stays which would be provided with parallel upper and lower beds on which the box would be mounted adjustably. Or the box could be hinged to one pair on a transverse axis and locked, after adjustment, to the other pair. In either case, the gear box would form the third side of a triangle to both pairs of stays.

The equivalent lesson in pedal bicycle construction, namely, the direct staying of the bottom bracket, was learnt thirty

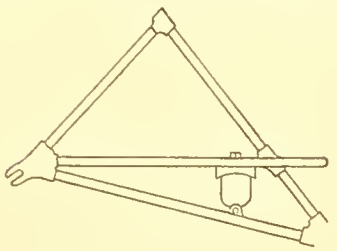

Fig. 7.

years ago, and yet it seems to have been lost on the motor cycle designers of to-day.

As already indicated, bending of the chain stays and seat stays should be avoided as far as possible. They should be straight in rear elevation and in plan as well as in side elevation. This may involve a longer back axle, but that is almost wholly an improvement, as it means a wider hub and stronger wheel; and it also gives the opportunity, which should not be missed, of bringing the sprocket or the belt rim, as the case may be, between the ball races of the wheel bearing, see fig. 9.

The Polygon.

Unfortunately, the great majority of motor bicycles to-day embody an aggravated instance of the application of a transverse stress to a tube in the arrangement of the middle tube. The result is that when the front wheel encounters an obstacle, the head tube endeavours to rotate backward about a transverse axis drawn through, say, the top head bearing. As the bottom of the head tries to go back, the upper end of the bottom tube tries to swing back, too, but the tendency is resisted more or less completely by the middle tube, which in effect delivers a sharp kick to the bottom tube every time it attempts to stir. This kind of action can only be repeated a limited number of times before fracture ensues. To guard against it we find a ponderous casting, comprising the whole of the head and often extending along the down tube to below the joint with the middle tube. If the casting is massive enough to preclude the occurrence of either of these failures, the defect exhibits itself elsewhere, as,


Fig. 8.

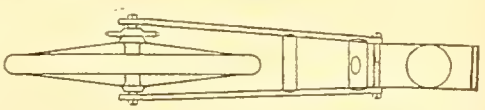
for example, by breaking the seat tube where the rear end of the middle tube is joined to it, or the top tube (particularly if curved) behind the head lug.

Provided that the top tube is neither curved nor kinked, the polygon can be converted into a triangle by the simple expedient of raising the middle tube until it reaches from the saddle-pillar lug at one end to the bottom of the head at the other.

The Quadrilateral.

To describe the lower panel of the main frame as a quadrilateral is a euphemism, but the term will serve in place of something which could only be more veracious by being less polite. Three of the sides are constituted by the middle tube and portions of the seat tube and bottom tube; the fourth side is constituted by the engine in a manner which the author believes, and hopes, is unique in constructional engineering.

It is admitted that the crank case, owing to its hollow cylindrical formation, is in itself a very strong article, and is unlikely to give trouble as a member of the frame. To that extent it may be well adapted to act as, say, a king-post, the function which it performs in the Scott frame. But that is not all. The engine is no inert mass, but a powerful generator, struggling at every explosion to rotate backwards around its crankshaft, and wrenching some thousands of times a minute at the fixings which attempt to retain it in place. A body of such an active nature is essentially unsuited to form one of the elements of a frame, the functions of which are characteristically those of a passive resister.


Fig. 9.

Roll.

The engineer, on first dealing with the subject of bicycle frame design, is apt to disregard the possibility of roll. He imagines, perhaps not unnaturally, that as the bicycle is a balanced vehicle there are no material forces acting on the frame other than those of which the directions

Motor Cycle Frame Design.—

are in the plane of the frame. As practical riders, we know that, even when riding along a straight road, a frame which is weak torsionally will exhibit an unsteadiness which may be not only uncomfortable but actually dangerous. This weakness may arise to some extent from the front fork being indirect in form, or constructed of too light members, or to it being flimsily connected to the spindle.

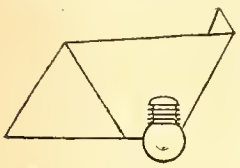


Fig. 10.

The main rolling action appears to take place, however, about an axis coincident with a line extending from the bottom of the head to the point of contact between the rear wheel and the ground. It may be due to too short a head, to a reduction of the depth of the frame section behind the head (fig. 10), to the use of tubes which are too small in diameter or in gauge, or which are bent instead of straight.

In view of claims put forward on behalf of pressed steel for motor bicycle frame construction, it may be of value to note that a steel tube of a given size is as efficient when functioning as a long strut as a mild steel channel section of rather more than five times the weight.

By way of practical summary, a design of motor bicycle frame is submitted in

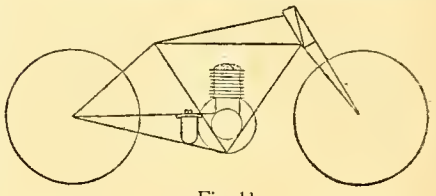


Fig. 11.

fig. 11, which, without any claim to perfection, may be considered as avoiding most of the defects above referred to, and as according with the elementary principles of a tubular structure.

LONDON-EXETER RESULTS.

THE results of the M.C.C. Boxing Night run to Exeter and back to London on December 28th, 1920, have now been passed by the committee of the Motor Cycling Club and are tabulated below.

It will be seen that the percentage of gold medallists to starters is greatest in the car class, while almost equal ratios obtain in the case of the solo, sidecar, and three-wheeled classes.

Probably the outstanding performance of the whole trial was the running of the 8 h.p. Matchless outfits. Of the nine which started eight secured gold medals, the remaining one qualifying for a silver. This excellent team work was closely approached by the Harley-Davidson riders with ten golds to one silver out of thirteen riders, and the Morgans with four golds and three silvers to the credit of seven starters.

ANALYSIS OF ENTRIES.

Class.	Entries.	Starters.	Finishers.	Gold.	Silver.	No Award.	Disqualified.	Held over.
Solos	80	60	49	34	12	–	1	2
Sidecars	80	70	47	30	14	1	2	–
Three-wheelers	13	13	12	6	6	–	–	–
Cars	64	54	46	36	6	1	3	–
Total	237	206	154	106	38	2	6	2

A.B.C.
Retired. W. S. Jameson (3 h.p.)
Retired. D. F. Bonham Carter (3 h.p.)
Gold. A. Milward (3 h.p.)

A.J.S.
No award. E. W. Choldcroft (6 h.p.*)
Silver. W. C. Hemy (7 h.p.*)
Retired. Rev. E. S. Powell (6 h.p.*)
Gold. F. W. Giles (6 h.p.*)
Gold. D. H. Noble (7 h.p.*)
Retired. S. Julian (6 h.p.*)
Retired. W. J. King (6 h.p.*)
Retired. R. H. Bywater (6 h.p.*)

ALECTO.
Retired. R. Dequin (2¾ h.p.*)
Disqual. R. L. Richardson (2¾ h.p.)

ARIEL.
Gold. L. Pulham (3½ h.p.)
Retired. C. Bourlet (3½ h.p.)

BEAUMONT.
Gold. G. W. Shepherd (2¾ h.p.)

BLACKBURNE.
Silver. S. G. Woolridge (4 h.p.)
Retired. R. B. Whiffen (8 h.p.*)
Retired. H. Clenell (4 h.p.*)

BROUGH.
Gold. H. Carslake (5 h.p.)
Gold. F. W. Stevenson (3½ h.p.)
Silver. S. S. Debenham (5 h.p.*)
Retired. K. V. Chidley (5 h.p.*)

BROUGH SUPERIOR.
Gold. G. Brough (8 h.p.)

B.S.A.
Retired. R. H. Attwood (6 h.p.*)

CASTLE THREE.
Retired. W. R. Cornwall (8 h.p.†)

CLYNO.
Disqual. W. A. Kay (8 h.p.*)
Gold. F. Smith (8 h.p.*)

CONNAUGHT.
Silver. W. M. Greenwood (2½ h.p.)

CORONA.
Silver. J. Harrison (4 h.p.)
Retired. E. G Operman (4 h.p.*)

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Silver. W. Bray (4 h.p.)
Gold. H. F. Edwards (4 h.p.)
Retired. H. Guy (2¾ h.p.*)

COVENTRY EAGLE.
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DALTON.
Gold. F. Begley (4 h.p.)

DE DION.
Retired. B. F. C. Fellows (2¾ h.p.)

DOUGLAS.
Gold. P. W. Moffat (3½ h.p.)
Retired. F. G. Waters (2¾ h.p.)
Retired. A. H. S. Love (2¾ h.p.)
Gold. E. Clark (4 h.p.*)
Silver. E. Clark, jun. (6 h.p.*)

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GRIGG.
Retired. S. C. Marshall (1½ h.p.)

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Gold. F. G. Spikins (7-9 h.p.)
Gold. C. A. McKeand (4 h.p.)
Gold. O. Wilson-Jones (7-9 h.p.)
Gold. J. R. H. Knight (7-9 h.p.)
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Retired. J. I. R. Jenson (7-9 h.p.*)
Gold. J. A. Masters (7-9 h.p.*)
Gold B Newit (7-9 h.p.*)
Retired. A. C. Rowe (7-9 h.p.*)
Gold. J. D. Marvin (7-9 h.p.*)
Silver. S. E. Longman (7-9 h.p.*)
Retired. S. C. Tait (7-9 h.p.*)
Gold. F. C. Temple (7-9 h.p.*)
Gold. B. S. Allen (7-9 h.p.*)

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Silver. H. F. O. Evans (4½ h.p.*)

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Gold. C. C. Labin (4 h.p.)
Retired. I. Macdonald (7-9 h.p.*)
Gold. H. Le Vack (4 h.p.*)

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Silver. H. A. Reyre (5-6 h.p.*)
Gold. H. H. Saddington (6 h.p.*)
Retired. C. Crosthwaite (6 h.p.*)

MARTINSYDE.
Retired. H. Bashall (6 h.p.*)
Silver. A. G. Fenn (6 h.p.*)
Silver. J. T. Bashall (6 h.p.*)

MATCHLESS.
Gold. L. Arnold (8 h.p.*)
Gold. W. H. Julian (8 h.p.*)
Gold. G. Packman (8 h.p.*)
Gold. F. J. Ellis (8 h.p.*)
Gold. T J Ross (8 h.p.*)
Gold. G. D. Hardee (8 h.p.*)

MATCHLESS (*Cont.*)
Gold. J. Hoult (8 h.p.*)
Silver. D. S. Parsons (8 h.p.*)
Gold. F. W. Guiver (8 h.p.*)

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Silver. W. Pattison (10 h.p.†)
Gold. H. W. Holmes (10 h.p.†)
Silver. H. E. Sawtell (10 h.p.†)
Gold. C. E. Bennett (8 h.p.†)
Gold. W. H. Elce (10 h.p.†)
Gold. D. G. Prentice (8 h.p.†)

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Retired. A. H. Harrison (8 h.p.*)

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Retired. H. J. Scale (3½ h.p.)

NORTON.
Retired. R. Knowles (4 h.p.)
Gold. D. Bradbury (4 h.p.*)
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Gold. G. A. Gibbs (8 h.p.)

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Gold. W. A. Fell-Smith (8 h.p.*)

ROVER.
Gold. W. C. Boyer (5 h.p.)
Retired. G. Lee White (5 h.p.*)

ROYAL ENFIELD.
Gold. A. F. Pulling (8 h.p.*)

ROYAL RUBY.
Gold. H. Dale (8 h.p.*)
Retired. L. A. Apsey (8 h.p.*)

SCOTT.
Silver. H. B. Browning (3¼ h.p.)
Gold K. Don (3¾ h.p.)
Gold. J. Baker (3¾ h.p.)
Retired. P. Pike (3¾ h.p.*)

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Retired. T. Morgan (3¼ h.p.)
Gold. H. F. Fellows (3½ h.p.
Retired. A. Bridge (3½ h.p.)
Gold. L. Keevil (3½ h.p.)
Silver. P. Street (3½ h.p.)
Silver. A. Wooding (3½ h.p.)
Gold. A. S. Guthrie (3½ h.p.)
Gold. P. W. White (8 h.p.*)
Gold. A. M. Knill (3½ h.p.*)

T.B.
Gold. F. Spouse (10 h.p.†)
Silver. F. E. Douglas (10 h.p.†)

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Gold. R. C. Staunton (4 h.p.)
Retired. H. E. Symons (4 h.p.)
Gold. A. S. Pinchbeck (4 h.p.)
Retired. E. L. F. Taylor (4 h.p.)
Gold. C. Smith (4 h.p.)
Silver. C. F. Edwards (4 h.p.)
Silver. R. B. Roberts (4 h.p.)
Gold. B. J. Sims (4 h.p.)
Silver. S. J. Marks (4 h.p.*)
Silver. E. Hillary (4 h.p.*)
Retired. G. S. White (4 h.p.*)
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VELOCETTE.
Gold. G. Richardson (2¼ h.p.)

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Pending. W. G. Churchill (2¾ h.p.)

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Silver. R. McRitchey (2¾ h.p.)
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Retired. V. Gayford (6 h.p.)
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Retired. D. J. Stone (8 h.p.*)

UNSPECIFIED.
Retired. E. H. Fielden.

*Sidecar.
†Three-wheeler.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

SELECTING A MACHINE.

[?] As you have so much experience of motor cycles, I take the liberty of asking if you would be good enough to give me information as to which is the best motor scooter on the market—not for racing but for all-round general use.—A.J.

It is not feasible to recommend any particular machine in preference to all others of the same type, since the products of the various makers have each their own special advantages. If you forward the names of any you select, together with particulars of the work you expect from them, we will endeavour to advise you on the suitability of your choice.

CAM OVERLAP.

[?] I have a 1916 2¾ h.p. Douglas W.D. model, and a friend a 1915 2¾ h.p. Douglas. Both machines run well on the whole, but the 1913 pulls far better at low speeds, especially when hill-climbing, though it is, and always has been, a slow machine. The 1916 is, for an untuned machine, really very fast, and will climb well, provided the revolutions are kept high enough. I am willing to sacrifice some speed in order to get better pulling at low speeds, and have been comparing the two machines to see how to accomplish this. My spark is set a little more advanced, but not enough to make any appreciable difference, but the valve timing is altogether different. I should be much obliged if you could let me know whether an alteration in the valve timing would give the desired result, and can I carry this out with the present cams, or should I have to write to the makers for new cams? I note you say in a recent number that a little overlap is allowed, but my engine has 35°, and surely this is rather much; the exhaust also is open for more than half the explosion stroke, and is still open after suction has commenced, while the exhaust of the 1913 engine is only open a few degrees before the bottom of the firing stroke. I have tried various jets in the carburetter, but all to no purpose. —T.A.M.

Apparently the 1916 machine was fitted with an overlap cam which is suitable for racing purposes. You would be able to obtain a cam similar to the one used on the 1913 model from the makers, and this would no doubt give you the results you desire. If you obtain the makers' instruction booklet you will find several diagrams showing the valve periods with the various cams which can be obtained, and you could then select the one which you think would be most suitable. For ordinary touring work, and especially for hill-climbing, the amount of overlap on your own machine appears excessive.

OIL RELEASE THROUGH ENGINE PULLEY

[?] I have a 1913 Triumph, which throws oil and smoke out of the pulley end of the crankshaft on to my boot. The hole in the shaft is quite clear. Although I oil the engine about one pumpful every four or five miles, I never see any smoke or vapour come out of the exhaust pipe, and am inclined to think the exhaust gases must pass the rings and get out *via* the crankshaft. The exhaust valve lifts all right, and I fitted new rings about two months ago. The compression is very good, and the engine pulls well, and will take sidecar (with passenger) almost anywhere.—R.D.

If the compression is good and the engine pulls well, as you say it does, it is rather unlikely that the exhaust gases are passing the piston rings to any great extent. Apparently you have over-oiled the engine, and you might try the effect of cutting down the supply to one pump in every six or eight miles. The blowing of oil vapour through the centre of the pulley is usual on this machine, especially if there is too much oil in the crank case. We should advise you to fix up some form of shield immediately opposite the end of the pulley. We once saw an old tablespoon adapted for the purpose.

A SIX-STROKE ENGINE.

[?] As I am desirous of turning a 1½ h.p. stationary petrol engine into a gas engine, will you please put me right on the following: (1.) It already has an American magneto fitted, but this is not very satisfactory, and for ease in starting and reliability I propose fitting a tube ignition. Shall I have to fit some kind of cut-out on one of the strokes of the engine so that the red hot tube is not protruding into combustion space during both strokes? (2.) An acquaintance, who thinks he knows quite a lot about the matter, tells me that some engines are made to fire on every third stroke. Somehow I cannot quite understand how he means to do it. Is this possible? Also would this system benefit the engine in any way as regards cooling and gas consumption?—A.B.

(1.) We should not advise you to convert the engine to tube ignition. If the present magneto is not a satisfactory one, try to obtain another of British manufacture. (2.) Probably your friend refers to an engine working on the six-stroke principle. In a gas engine fitted with extremely heavy flywheels this can be done: perfect scavenging and better cooling result.



This Excelsior taxi sidecar is already available for private hire in Glasgow, but an application for a hackney carriage licence is under consideration by its owner.

GEAR RATIOS AND IGNITION TIMING.

I have a Charter-Lea machine fitted with two-seater sidecar (8 h.p. J.A.P. engine). The weight of this outfit is 4¾ cwt. At present the machine is geared 4⅝ to 1 on top. Is this too high a gear? The weight of passengers being 24 stone, makes the total weight 7¾ cwt. If too high, what gear would you advise me to use? I am troubled with pre-ignition when driving on top. Binks carburretter, jets 00.2 and 6.—E.M.

Considering the weight of your outfit, the gear ratios are too high. You would get an improvement by lowering the top gear to 5 or 5½ to 1. Pre-ignition may be due to a variety of causes, the chief being excess of carbon deposit in the cylinder head, or an unsuitable type of sparking plug. In all probability the ignition is too far advanced to suit the present gear ratios, and the symptoms may disappear when the gear is lowered.

SINGLE-GEARED SIDECARING.

I have a 1912 3½ h.p. clutch model machine, the engine of which has just been thoroughly overhauled by the makers. I am anxious to fit a light sidecar for the summer months, but do not wish to go to the expense of fitting a change speed gear. The machine is not intended to tour the Lake District and such places. (1.) Do you think the machine powerful enough without fitting a two or three-speed gear? (2.) What type of sidecar do you advise? (3.) What gear ratio would you advise me to use? The adjustable pulley fitted to the machine will, of course, allow of suitable ratios for solo or sidecar work.—J.A.H.

(1.) The machine would be fairly satisfactory with a very light sidecar, but we strongly recommend that you fit some simple form of variable gear, such as the Philipson pulley; this does not in any way necessitate alteration of engine or frame. (2.) A lightweight sporting model would be best. (3.) If you intend using a single gear, about 5½ to 1 will be most satisfactory.

READERS' REPLIES.

EFFECT OF PROLONGED WEAR.

I have experienced the same trouble, of jerky running in the second gear of the Sturmey-Archer gear box, described by your correspondents, and I ultimately found that the defect was due to the dogs occasionally disengaging, not from any fault in the dogs, but due to wear at three points in the second speed locking device, viz.: The sides of the middle slot in the locking quadrant were too rounded; the point of the locking plunger was too flat and the sides of this last were a bad fit in its socket. By altering the shape of the second speed slot in the quadrant, and making a new plunger with a smaller included angle between the inclined sides, and also of a slightly larger diameter to suit the socket after reboring it to produce a round hole, I have had no further trouble.—C. C. LEACH.

I notice that "H.C." (issue of December 9th) and W. A. Bourne (December 23rd) have been troubled with "jumpiness" in second gear of W.D. Triumphs. They will probably be able to remedy this by fitting a new pair of gear connection pins (No. 3188 in the Triumph repairs and parts catalogue). A new short gear lever swivel (No. 3185) may also be required. Wear on these parts makes it impossible to keep the second gear in correct adjustment, and so causes snatch in the drive.—W. W. KILBY.

The "jumpiness" in second gear experienced by "H.C." and W. A. Bourne is evidently due to wear in the layshaft sliding pinion of the Sturmey-Archer gear. Wear of the internal dogs occurring, no amount of adjusting of the controls will do any good, and the best remedy is a new pinion—easily obtainable from the makers. If "H.C." and W. A. Bourne follow the above advice they will find the trouble disappear.—H. T. JACKSON.

Important Dates.

Jan. 7th to 17th—
Amsterdam Motor Cycle Exhibition.

Jan. 20th—
F.I.C.M. Conference, Brussels

Jan. 28th to Feb. 5th—
Scottish Motor Exhibition, Kelvin Hall Glasgow.

Feb 25th—
A.C.U. Silencer Trial—Brooklands.

March 25th—
Richmond Meet.

March 26th—
M.C.C. London-Land's End Trial.

April 27th—
A.C.U. One-day Winter Trial for Stock Machines.

May 14th—
M.C.C. London-Edinburgh Run.

DEFECTIVE WORKING OF DRIP FEED.

"F.H.M.Y.'s" trouble referred on December 30th, 1920, namely, the presence of an excess of oil in the sight chamber of his drip feed lubricator, can only be caused by one of three things: *(a)* Defective non-return valve. *(b)* Unsound sight chamber. *(c)* Oil delivery pipe choked. *(c)* Is very unusual and would immediately be detected, because it would prevent the oil getting to the engine. This leaves *(a)* and *(b)*, and the fact that oil is splashed over the tank would indicate that there is a big leak in the sight cup. Seeing that the non-return valve has been replaced by a new one, we should be inclined to think that the trouble would cease if the sight cup were made sound, and this can be done by replacing the glass if cracked, and the washer if worn; if both these are already in order, then the top cap wants firmly screwing down to make an air-tight joint. The principles involved in the above remarks apply to any make of sight feed.—B. B. BLACKBURN, Managing Director, Best and Lloyd, Ltd.

I note that "F.H.M.Y." complains in your issue of December 30th of blow-back of oil through drip feed from front cylinder of 4 h.p. flat twin. I had the same trouble with a new 4 h.p. Douglas in the summer, and, possibly, he may be able to cure it in the same way that I did. I took apart the non-return valve and found that the upper surface of the perforated stud on which the pen-steel disc beds was rough with turning marks. I filed it dead flat with a smooth file, finished off on an oilstone, and since then have had no trouble whatever. Of course, the oil pipe and valve must be kept free from grit and fluff, otherwise the latter is bound to function incorrectly. —F.A. (Cumberland).

UNEVEN RUNNING.

On page 881 of your issue of December 30th you published a letter of your correspondent "R.P." in which he complained of the harsh running of his 2¾ h.p. Douglas. I have just cured much the same trouble on a similar machine, and send my experience herewith in the hope that it may prove useful to "R.P." The harshness was almost entirely due to running with two gauzes (air) on the carburetter. This point is referred to in the Douglas handbook, which recommends two gauzes for jets 27 and 28 and one gauze for jet 26. Personally, I am getting every satisfaction from jet 25. A little tappet adjustment effected a complete cure. Irregular firing was found to be due to a "sticky" rocker arm on the magneto.—E. M. GROSE.

AN ILLUSIVE NOISE.

Under this heading in *The Motor Cycle* of the 30th ult., "H.R." writes on the above subject, and he may find his trouble in the ratchet of the free wheel insufficiently disengaging with the ratchet on the chain wheel in his gear case. If his machine has a late pattern Enfield gear, this will be overcome by oiling the clutch on the chain wheel on the starting handle, which he may have omitted to do. On the earlier pattern I understand there should be a small spring between the two ratchets to throw them apart when the engine starts.—L.D.H.

EXPERIENCES WANTED.

"H.J.B." (Old Trafford).—Hopley, or other folding sidecars.

"N.W." (Bournemouth).—Degory carburetter on Scott.

"D.B.M." (Jerusalem).—Dry battery lighting sets. Life of batteries.

"S.W." (Norwich). — Beardmore-Precision engine. Speed and wear.

"R.W.C." (Stowmarket). — Coulson-B. (4 h.p.). Strength of frame compared with machines of similar power.

"D.B.M." (Jerusalem).—1920 Scott and sidecar. Reliability, accessibility, and starting in daily use all weathers; life of chains, kick starter, etc.

"Notsip" (Dublin). — Success or otherwise of reboring 7-9 h.p. 1913 Indian cylinders; are aluminium pistons advisable?

RECOMMENDED ROUTE.

CARLISLE TO WARWICK (AVOIDING LANCS.). —H.E.P.

Carlisle, Penrith, Shap, Kendal, Kirkby Lonsdale, Ingleton, Clapham, Settle, Skipton, Ilkley, Otley, Poole, Harewood, Collingham, Boston Spa, Tadcaster, Sherburn, Ferrybridge, Doncaster, Bawtry, East Retford, Tuxford, Newark, Leicester, Lutterworth, Rugby, Bilton, Princethorpe, Warwick.



A Cold Job.

"Fifty-Two Week" Road Service.

A.A. Road Service operates continuously and efficiently in midsummer sun or mid-winter snow. It contains no "weather permitting" restrictions, and omits no reasonable requirement. The photograph at the head of this article shows one of the A.A. patrols assisting a motor cycle member during the cold snap last month, and bears witness of the truth of the Automobile Association's slogan "At your Service, Always."

In order to increase the utility of the patrol organisation, A.A. patrols are being mounted on motor cycles, but, when heavy falls of snow or other conditions prevent the use of these cycles, the patrols use their push cycles, or cover the roads as best they can

Valuable adjuncts to the patrol service are the roadside telephone boxes—which are adapted for use by members at any hour of the day or night—roadside motor fuel supply stations (complete with Bowser storage tank and delivery pump, a New Pelapone engine and electric generating set) and "mechanical first-aid" machines carrying spares and tools necessary for light repairs to cars or motor cycles.

These are all innovations in Road Service only to be obtained by membership of the Association.

Other A.A. benefits which are at the service of all members, year in, year out, include free legal defence in any proceedings under the Motor Car Act in Courts of Summary Jurisdiction in the United Kingdom, free legal advice on any matter directly arising out of the use and ownership of cars or motor cycles, and free legal representation in approved civil cases resulting from the use and ownership of such motor vehicles

The Association provides all possible assistance to members touring with their cars or motor cycles either at home or abroad. Home touring facilities include the preparation of routes to suit individual requirements; foreign touring assistance comprises the supply of routes, triptyques and international certificates, also the privilege of taking a car or motor cycle into a 45 per cent. tariff country without paying one penny piece in customs dues.

Members can obtain the advice of qualified engineers on the choice of motor cycles, and the services of competent experts for the examination and trial of any motor vehicle, the purchase of which is contemplated.

A special insurance policy, officially-appointed agents and repairers, A.A. hotels, and the A.A. handbook are other advantages included in the complete service provided by the Association.

The claim that "every need of the reasonable motorist is met by the Association" is, therefore justified, and every motor cyclist who does not carry the A.A. badge should join up at once.

Full particulars of the benefits mentioned above are contained in the booklet, "The Key to the Open Road," a copy of which can be obtained, post free, from the Secretary, The Automobile Association, 21, Fanum House, Whitcomb Street, London, W.C. 2. Write for a copy to-day.

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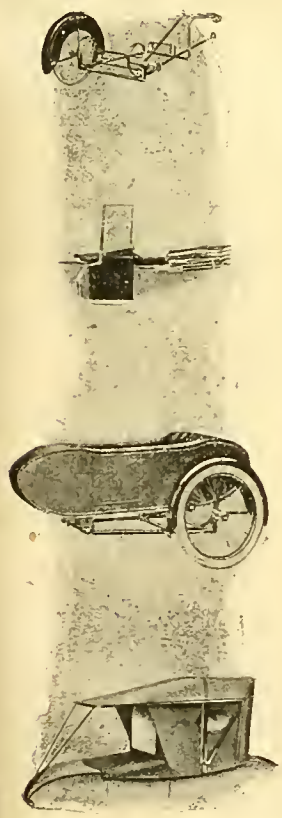
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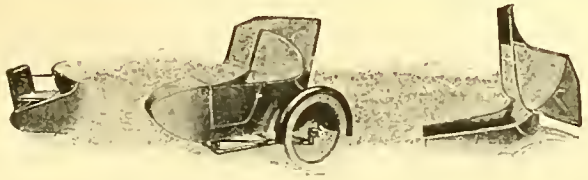
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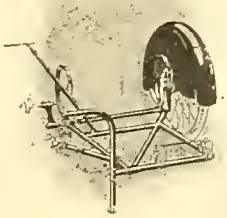
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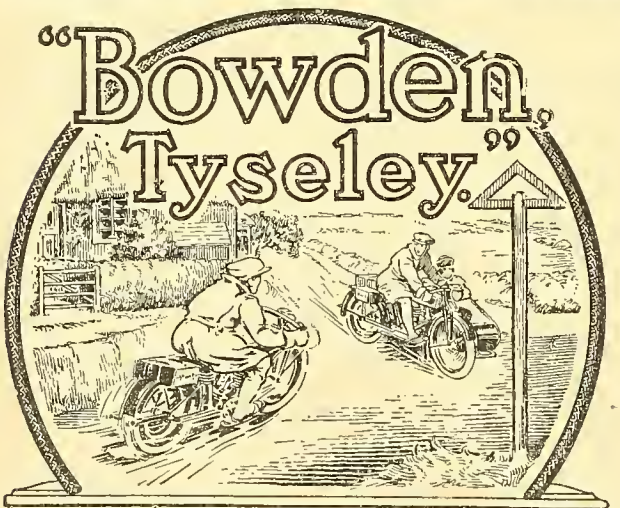
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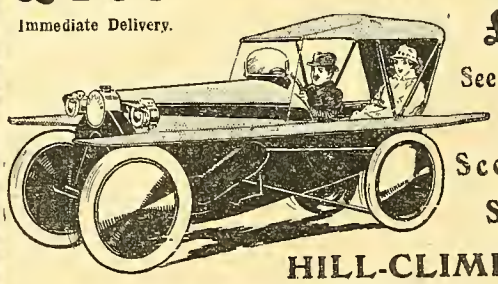
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All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

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For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

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£110	5	2¾	h.p. **VERUS - BLACKBURNE**, 2-sp., kick-starter	£85	0
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£65	0	2¾	h.p. **PORTLAND-J.A.P.**, 2-speed	£58	0
£157	10	3½	h.p. **ARIEL** Combination, 3-speed, kick-starter	£142	10
£145	0	4½	h.p. **QUADRANT** Combination, kick-starter	£130	0
£202	0	3½	h.p. **ROVER** and Sidecar	£177	0
£135	0	4	h.p. **BLACKBURNE**, 3-sp., kick-starter	£120	0
£126	0	4	h.p. **VERUS - BLACKBURNE**	£102	0
£130	0	3½	h.p. **LEA-FRANCIS**, 2-sp.	£117	0
£204	0	8	h.p. **ZENITH** Combination	£180	0

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Having purchased another consignment of ex-W.D. Harley-Davidson Motor Cycles, we are able to still further reduce the price, and believe we can now offer better value in

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7-9 h.p., spring frame, 3-speed, all-chain drive, finished in maker's colours, and overhauled—
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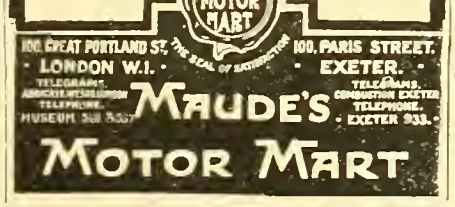
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MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, kick starter, lamps, horn, speedometer, 1,500 miles; £100; Gloucestershire.—Box 1,338, c/o *The Motor Cycle.* [5786

1920 A.B.C., brand new, but slightly shop-soiled; first cheque £110.—Charles Sidney, Ltd., 140-142, Manningham Lane, Bradford. [X4764

1920 A.B.C., lamps, horn, speedometer, etc., delivered November, perfect condition throughout; bargain, £125.—Bond, Sutton Benger, Chippenham. [6064

A.B.C., 1920, 4 speeds, complete with Swan sporting sidecar, all accessories, as new; £160; one ditto, shop-soiled, solo, £120; exchanges.—Carfax Motors, Ltd., Cobham, Surrey. [6206

3½h.p. A.B.C. Motor Cycle, dynamo lighting model, only ran about 300 miles, condition as new; cash £150, may be obtained on Harrods deferred payment system for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [5964

1920 A.B.C. Special Racing Combination, Swan sidecar, fitted with special racing cams, valves, carburetter, etc., winner of twenty-five medals, many extras, and spare tyres, as new; £130, bargain.—King, 76, King St., Southport. [6410

Abingdon.

1916 Abingdon 3½h.p., discs, lamps; £45, bargain.—Whitbread, 26, Reginald Rd., Bexhill. [5820

1920 Abingdon Kick Dick Combination, 8-7h.p., 3 speeds, clutch, and kick starter, all lamps, delivered June, guaranteed; £140; exchanges or easy payments.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6358

Acme.

ACME 8h.p., with coachbuilt sidecar, 1920 demonstration model, only run 200 miles, spare wheel and tyre; £195, complete.—Box 1,377, c/o *The Motor Cycle.* [0405

A.J.S.

1915 2¾h.p. A.J.S., in running order; wants tuning up; £42.—Cross, Agent, Rotherham. [X4773

A.J.S. 1920 6h.p. Combination; best offer.—Firth, Market Place, Meltham, near Huddersfield. [6103

A.J.S. 1920 Combination, brand new; £200.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5516

A.J.S. 1920 Combination, mileage 300; £180.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5517

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7999

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [2472

BRIGHTON, Hove, and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

1919 6h.p. A.J.S. Outfit, complete, lamps, horn, spare wheel; £139.—Cross, Agent, Rotherham. [X4774

1921 A.J.S. 7h.p. Combination, equipped with Lucas acetylene lamps; in stock.—Philpot, Motors, Canterbury. [6072

A.J.S. 2¾h.p., enclosed C.D., 3-speed, K.S., accessories, handsome condition; £55.—19, Streatley Rd., Kilburn, N.W.6. [6066

A.J.S. 1921 6h.p. Combination, new, £195; A.J.S. 1921 7h.p. models; early delivery; book now.—Taylor's Garage, Wednesbury. [5827

1916 A.J.S. Combination, interchangeable wheels, perfect condition; any trial; £85, no offers.—Woolf, 84a, Gray's Inn Rd., W.C. [5713

A.J.S. Brand New 6h.p. Combination, complete with horn and lamp; £195.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4006

A.J.S. Combination, September, 1920, dynamo, hood, every accessory, new condition; £235.—T., 67, Egerton Rd., Withington, Manchester. [5790

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. A.J.S. combination, 1920, all accessories, excellent condition, £195; easy terms. [6293

A.J.S. 1921 Models, delivery guaranteed when required; deferred payments arranged.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4009

NEW 1921 7h.p. A.J.S. Combination, £215; new 1921 6h.p. A.J.S. combination, £195; immediate delivery from stock.—Mareton, 31, Bridge St., Chester. [6145

A.J.S. 1915 6h.p. Combination, lamps, generators, horn, speedometer, 3in. tyres, excellent condition; £120; seen at Harrow.—Box 1,363, c/o *The Motor Cycle.* [5911

6h.p. A.J.S. C.B. Combination, good condition, 3-speed, K.S., speedometer, lamps, hood, Easting, carrier, etc.; £118. — Smith, Osmondthorpe Lane, Leeds. [6236

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. 1912 5h.p. Combination, 2-speed, clutch, kick start, all chain; £65; exchange less power.—Reed, Lime Park Lodge, Herstmonceux, Sussex. [5758

1920 A.J.S. Combination, complete, Lucas lamps, horn, Tan-Sad, legshields, any examination, perfect; £185.—Southern, Grocer, Gloucester. Tel.: 189. [6116

F.O.C.H. for A.J.S. Combinations, 1914 and 1920.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5898

A.J.S. 1920 8h.p. Combination, dynamo lighting, speedometer, hood, screen, side curtains, Klaxon, Tan-Sad, spare wheel, as new; £245.—Parker's, Bradshawgate, Bolton. [X4723

A.J.S. Combination, May, 1920, electric lamps, accumulator, horn, Tan-Sad, side screen, spares; £190; wanted 8-10h.p. W.C. engine.—Mulliner, Wergs, Wolverhampton. [6231

A.J.S. 6h.p. 1921 Models.—A limited number can be supplied by ordering now; 7h.p. models, delivery early date.—S. E. Clapham, 27, Stockwell St., Greenwich, S.E.10. [6407

1919 (Nov.) 6h.p. A.J.S. Combination, 3,000 miles, recently overhauled, spare wheel, screen, lamps, horn, etc., in excellent order; £150.—Marsh, 9, Gold St., Northampton. 'Phone: 774. [X4602

1920 A.J.S. Combination, carefully ridden, purchased July, in splendid condition, fitted with F.R.S. lamps, horn, etc.; £200, or offer.—Wootten's Garage, Oxford. 'Phone: 308. [6273

A.J.S. 1916 6h.p. Combination, unused 3 years, spare wheel, overhauled makers June, everything perfect; £125; great bargain.—72, Longridge Rd., Earl's Court. 'Phone: Western 1344 [6235

A.J.S. 1918 Combination, hood, screen, spare wheel with unused tyre, Lucas lamps, knee-grips, Klaxon, 700×80 all round, mileage under 1,500, perfect condition; £170.—17, Penrhyn Rd., Colwyn Bay. [5724

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

1917 A.J.S. Combination, in splendid condition, complete with A.C.C. lamps, £95, or £100 with Lucas dynamo and switchboard with cut-out, brand new, wants fitting.—Ellis, 17, Staines Rd., Sunbury-on-Thames. [5857

1920 A.J.S. Combination, fully equipped, speedometer; also 1920 2-stroke Clyno, both accumulator, lighting, Hunt lamps, all tyres unpunctured, splendid condition; buying car; what offers?—Barnley, Grove Hill Lodge, Middlesbrough. [5887

1920 A.J.S. Combination, mileage under 2,000, excellent condition, 3 Lucas lamps, Lucas horn, Watford trip speedometer, spare wheel, spring seat-pillar, screen, apron; £175; Gloucestershire.—Box 1,376, c/o *The Motor Cycle*. [6263

A.J.S. 1920 6h.p. Combination, dynamo lighting, Cowey trip speedometer; this outfit was only supplied last month, and gained a medal in London to Exeter Trial, easily climbing Trow and Peak hills; the total mileage is 744, and the outfit is absolutely unscratched, and runs better than new; first cheque for 200 gns. secures this splendid outfit.—Julian, 84, Broad St., Reading. 'Phone: 1024. [6307

Alder.

ALDER, Vitesse 2-stroke, 2-speed gear box, hand clutch, splendid condition; bargain, £45.—Hurdle, Lyon St., Bognor. [5739

Alldays.

ALLDAY'S Matchless, 1914 2-stroke, running order; £20.—3, Courtlands Av., Lee, S.E.12. [6230

1918 2¾h.p. Alldays Allon, new tyres, little used; £35.—Shaw, Park St., Wellington, Salop. [X4771

3½h.p. Alldays Combination, 3 speeds, clutch; genuine sale, £65.—Cherry, 5, Bayard St., Gainsborough. [5599

3h.p. 1920 2-stroke Allday and Onion Motor Cycle, as new, with Lucas lamp set and horn; £65.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [6342

NEW 2¾h.p. Alldays Allon Model de Luxe, 2-speed, clutch, and kick starter; £85, or on Harrods unique easy payment system of 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5966

American X

1920 American X. 10h.p. Combination, electrically equipped, as new; £175.—C. Hanson, Grange, Wraysbury. [5625

1920 American X. 10h.p. Solo, mileage under 100, very fast, unscratched; £160.—C. Hanson, Grange, Wraysbury. [5626

AMERICAN X. 1920 7-9h.p. Combination, complete with lamps, Easting wind screen; £175, near offer.—Hereford Motor Co., Ltd., Hereford. [5002

73 GNS. Below List.—1920 American X. 7-9h.p., dynamo lamp set, unused, and brand new; price nett 100 gns.—308, Upper Richmond Rd., Mortlake. [X4641

1916 American X. 7-9h.p. Combination, 3 speeds, clutch, and kick starter, overhauled, and in perfect order, very fast; £115; exchanges or easy terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6364

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REGISTERED H-A-H TRADE MARK

Accessories.
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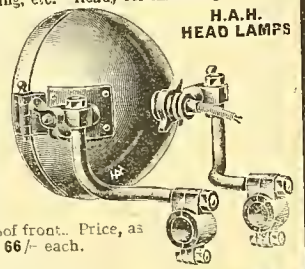


Fig. 895. Best quality finish throughout. Very massive and strong. Adjustable focus. Adjustable brackets. Special dust and weather-proof front. Price, as illustrated, **66**/- each.

Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. Price, as illustrated, **55**/- each. Black plated.



Fig. 880. **HEAD LAMP,** as illustrated, big, with special new stem fitting. Complete with adjustable holder, switch, etc., for screw bulls. Price, nickel plated, **40**/- each; black plated, **43**/- each.



Fig. 573. Shows red danger signal, lights No. plate. Complete with switch bulb wire, clip, etc. Price **9**/6 ea. "Force" Hellesen Battery, **9**/**11**

386. Special metal case for "Force," **10**/**6**

Complete rear-set, **29**/**6**.



Fig. 347. **'Speedolite' H.A.H.** Patent Speedometer Lamp, **7**/**6** each. Clips direct on to Speedometer and has coloured bulb to prevent glare.

Fig. 358. **Garage Inspection Lamp** as illus. but without bulb. **8**/**6** ea.

NEW MODEL SWITCH.

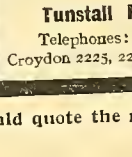
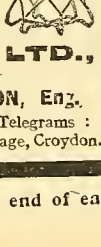


Fig. 428. Has a positive screw up or down action. Cannot shake on, totally insulated. Complete, as illustrated. Price **3**/**6** each.



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MOTOR CYCLES FOR SALE.

Ariel.

1919 3½h.p. Ariel Combination, electric lighting, horn, wind screen, as new; £125. — Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [6277

ARIEL 1920 6-7h.p. Combination, in practically new condition, all lamps, horn, etc., very little mileage; £120.—104a, Fluchley Rd., N.W.3. Hampstead 7822. [6385

ARIELS.—Order now for 1921 all-chain and chain-cum-belt models; spares in stock.—Geo. Taylor, Ariel Agent, 28, Lower Addiscombe Rd., East Croydon. [8165

ARIEL 1920 6h.p. Combination, combined hand and foot control, Klaxon horn, Cameo wind screen, and grid, mileage 800, condition perfect; £162.—Whitaker, Eversley, Gerard Rd., Rotherham. [5794

ARIEL.—Orders now booking for the new all-chain models, which will be the Rolls-Royce of motor cycles. All spares stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [8231

1920 Ariel (July), 3½h.p. solo, 3-speed, countershaft, complete with horn, speedometer, accessories, mileage 800, in perfect condition, guarantee given; trial by appointment; sidecar machine; nearest offer to £100.—98, Malden Rd., Malden. [4936

1920 (late August) Ariel Twin Combination, 6-7h.p., perfect condition, 1,200 miles, P.H. lamps, bulb horn, Cowey speedometer, luggage carrier; owner going abroad; 160 gns., or reasonable offer.—18, Ladysmith Av., Seven Kings, Essex. [6234

ARIEL.—Some agency is the Ariel, and we hold this for North London. We are practical riders and gold medal winners with this wonderfully efficient and reliable motor cycle. Have you seen the new 4½h.p. comb.? it is a glorious outfit; immediate delivery; 3½ h.p. solo, 3½h.p. comb., and 6-7h.p. comb., 4 models in stock; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10 and at Woodside Parade, North Finchley. [0378

Bat.

1920 Bat Model 4, shop-soiled; £135.—Wright's Garage, Saffron Walden. [6251

BAT 6h.p., 3-speed, brand new; £134.—Clark, 7, Exhibition Rd., S.W.7. [6379

1920 6h.p. Bat Combination, spare wheel, usual equipment; offers.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [6278

BAT 1921 Models.—We are now accepting orders for early delivery. Your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3256

BAT, 6h.p., fully equipped as makers' specifications; shop-soiled; at greatly reduced price; also second hand combination, same make.—Mebes, 154-156, Gt. Portland St. W.1. 'Phone: 3426 Mayfair. [7177

1920 8h.p. Bat, 3-speed, Swan sporting sidecar, big F.R.S. lamp, mechanical horn, speedometer, perfect condition; price £115, cost £225.—Edwards, 50, Harriogton Rd., South Kensington, S.W.7. Tel.: Kensington 3709. [6356

1920 Bat Combination, 8h.p., 3 speeds, clutch, and kick starter, Cameo screen, Volex dynamo lighting, Binks, guaranteed; £150; exchanges or easy terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6355

1920 Bat-Jap 8h.p., and No. 1 Montgomery sidecar, lately completely overhauled, accumulator and acetylene lighting combined, tools, good tyres, Easting wind screen, luggage and petrol carrier, whole in excellent order, under 3,000 mileage, new licence paid, insured till August; price £160.—Ivens, Bacombe Cottage, Wendover, Bucks. [6147

Beardmore.

BEARDMORE, perfectly new, shop-soiled only; can never repeat; £85.—138, Gray's Inn Rd., W.C. [5705

NEW 3½h.p. Beardmore-Precision, 2-stroke, 2-speed, immediate delivery; £105.—White's Garage, Hinckley. [X4615

BEARDMORE-PRECISION 1921 Model, in stock for immediate delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3255

BEARDMORE, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7177

Blackburne.

1921 Blackburne, latest models; immediate delivery; lists free. — J. C. Phipp, Shersto Malmesbury, Wilts. [61

1920 4h.p. Blackburne Combination, all lamps, speedometer, 2 horns, Easting wind screen; £150. Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W. [62

BLACKBURNE 1920 4h.p., 3-speed Sturmey; lamps, Klaxon, Cowey, knee-grips, T.T. bars, perfect condition, small mileage.—Fletcher, 39, South Parade, Oxford. [56

BLACKBURNE 4h.p., 1920, Watford speedometer, horn, W.S.R. jet, 2,500 miles; £105.—Seen at Adams Engineering Works, 99, High St., Merton, S. 'Phone: Wimbledon 517. [58

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS, 1921 new improved 2¾h.p., 2-speed model; £85; in stock.—Herbert Robinson, Ltd., below.

DOUGLAS, 1921 new 2¾h.p., 3-speed gear, hand controlled clutch and kick starter; £105; in stock. Herbert Robinson, Ltd., below.

DOUGLAS, 1921 new 4h.p., 3-speed, £130; with fine finish coachbuilt Douglas sidecar, £170; in stock.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [6412

1920 4h.p. Douglas Combination, mileage under 500; £140.—Goodwin, Alderwick House, London Rd., Dunstable. [5661

5 GNS.—Douglas Four 1918 C.B. combination, as new, dependable; bargain.—Derby Arms Garage, Portlake. [X4640a

DOUGLAS, 3½h.p., 1914, and sidecar, kick start, good running order; £75.—87, Ashburton Av., Hillscombe [6081

1917 2¾h.p. Douglas, 2-speed, splendid condition, enamel and plating as new; £48.—41, Anerley Park, S.E.20. [6003

DOUGLAS 2¾h.p., 2-speed, 1919, equipped, and fast; £54.—Hillier, 90, Cornwall Rd., North Kensington, W. [4875

3h.p. Douglas, 1915 T.T., fine condition, lamps, leg-shields, pillion, horn; £50.—Gentry, 215, Old Kent Rd., S.E. [5743

DOUGLAS, Bosch, B. and B., P. and H. head lamp, Klaxon, wants tuning; nearest £25.—Worsfold, Shere, Guildford. [5702

DOUGLAS 2¾h.p., 1916, with accessories; accept £55; any trial.—Cobley, Mitre, Golborne Rd., North Kensington. [5736

FOR Sale, a Douglas 1916 motor cycle, 2 new tyres, all accessories, very fast.—Mellor, Cowbroke Garage, Worwick. [5622

PLUMP Bargain.—1916 2¾h.p. 2-speed Douglas; £45; any trial; not dealers.—Sharpe, 325, Essex Rd., Islington, N.1. [5947

1920-21 Douglas, 2¾h.p., 3-speed, clutch, K.S., unused, as delivered; £90.—104a, Finchley Rd., N.W.3. Hampstead 7822. [6386

1919 4h.p. Douglas Combination, complete with accessories, in perfect order; any trial; £155.—Kirkley, The Oaks, Sunderland. [5760

1920 2¾h.p. 3-speed Kick Start Douglas, perfect condition; best offer.—66, High Lane, Chorlton-cum-Hardy, Manchester. [5848

DOUGLAS 1921 Solo £85, £100, £105; combination £170; cash, exchange, or easy payments.—Motories, Horton St., Halifax. [5905

1920 (July) 4h.p. Douglas Combination, fully equipped, little used; bargain, £130.—Stocks, Carlstone, Sheffield. (D) [X4757

DOUGLAS 1915, re-enamelled, plated, footboards, speedometer, lamps, horn, etc.; £55.—11, Banner St., Battersea, S.W.11. [5759

DOUGLAS 1915-16 2¾h.p., 2-speed, buffer head, fully equipped; £46; exchange.—1, Albert Cottages, Marlborough Rd., S.E.1. [6094

1921 Douglas Models, immediate delivery. Write us your requirements. Trade supplied.—Moffat, Douglas Agent, Yeovil. Tel.: 50. [5043

SPEED Douglases.—Each machine prepared to individual requirements.—Robert Bamford (see Motor Consulting Engineers). [6693

DOUGLAS 4h.p., 1918, new condition, guaranteed perfect order, any trial, lamps; £72.—64, Forthbridge Rd., Clapham Common. [6162

DOUGLAS 1920 2¾h.p., 3-speed, as new; £90.—Newnham Motor Co., 223, Hammersmith Rd., 'Phone: Hammersmith 80. [6324

4h.p. Douglas Combination, 1917, 3 speeds, splendid condition and appearance; £68; trial London. Box 1,369, c/o *The Motor Cycle*. [5929

3½h.p. Douglas, late 1916, 1920 frame, tank, other parts, quite equal new; £60, near offer.—Parker, Lidwell Lane, Cromford, Matlock. [5687

1920 2¾h.p. Douglas, 3-speed, clutch, and kick starter, lamps, horn; any trial; £90.—Marshall, Horner Lane, Stocksbridge, near Sheffield. [5727

1919 Douglas 2¾h.p., 2-speed, smart perfect machine; £58; fully equipped; exchanges.—60, Kingford Av., N. Kensington, W. [6037

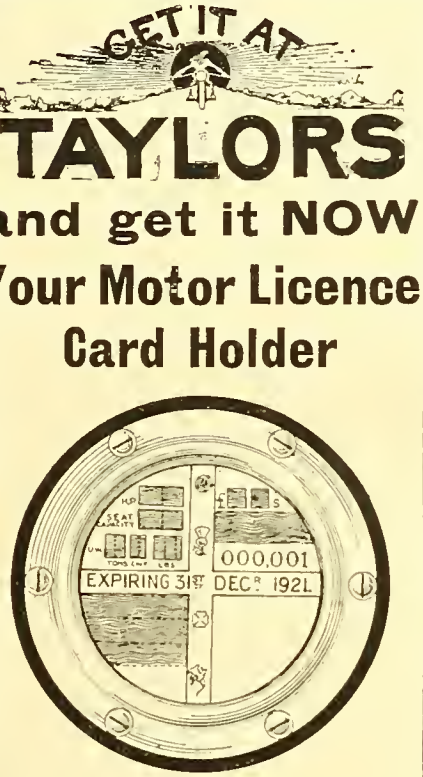
DOUGLAS 4h.p. Combination, fully equipped, for 2-seater or 2¾h.p. Douglas; cash either way.—Sandycoombe Rd., Kew Gardens. [6011

1920 2¾h.p. 3-speed Douglas and accessories, in good condition, done very little mileage; £92.—Hands, 223, High Rd., Kilburn, N.W. [5958

DOUGLAS 2¾h.p., 1915, 3-speed, K.S., clutch, excellent condition; first reasonable offer.—South-Side Garage, The Downs, Wimbledon. [5707

1916 Douglas 2¾h.p., top-hole condition, just been enamelled and plated like new.—For particulars, 1 to 8, Pear Tree St., Waterloo Rd., S.E. [5846

1918 4h.p. Douglas Combination, lamps, horn, etc., everything good; £90, or near offer.—Eton and Co., Ltd., 260, Balham High Rd., S.W.17. [5621



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Douglas.

DOUGLAS 2¾h.p., 2-speed, 1914, clutch, kick starter, speedometer, Tan-Sad, lamps, all accessories; £60.—40, Old Rd. West, Gravesend. [6139

1920 Douglas Combination, 3 lamps, mechanical horn, registered Sept., as new, expert examination invited, room wanted; £155.—Gibb, Motors, Gloucester. [6340

1920 Douglas Combination, only done 1,000 miles, wind screen and all accessories, in good condition; £125.—Bounds, 223, High Rd., Kilburn, N.W. [5956

1917 4h.p. Douglas Solo, good condition, just overhauled; £50 secures; owner going abroad.—Apply, Cronch End Motor Co., Coleridge Rd., Crouch End, N.8. [5806

1917 4h.p. Douglas Combination, engine recently overhauled; £90; any trial.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [6415

1920 4h.p. Douglas, solo, brand new, £118, or with new Douglas sidecar, £152.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [4748

4h.p. Douglas Combination, 1917-1918, all accessories, perfect mechanical condition.—For prices and arrangements to view, write Box 69, c/o *The Motor Cycle*. [5774

2¾h.p. Douglas.—We have a few reconditioned machines which we are prepared to clear at £50 each, guaranteed lower than cost.—Autoveyors, 84, Victoria St., S.W.1. [5830

4h.p. Douglas Combination, complete with lamps, hood and screen, sidecar just painted; a bargain, £70; after 7 o'clock, or week-end.—Lyndhurst, Woodhouse Rd., North Finchley. [5612

1914 Douglas, 2¾h.p., T.T., fully equipped, splendid condition, guaranteed in every way; £50; easy payments.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6366

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

£55—1917 2¾h.p. Douglas, 2-speed, Thomson-Bennett, Amac, new P. and H. head lamp, makers' colours, plating, enamel like new, several new parts.—63, Solon Rd., Brixton, London. [6032

NEW 1921 Douglas 2¾h.p., 2-speed, £85; new 1921 Douglas 2¾h.p., 3-speed, £100 and £105; new 1921 Douglas 4h.p., 3-speed, £130; immediate deliveries from stock.—Marston, 31, Bridge St., Chester. [6153

F.O.C.H. have a late 1919 Douglas combination, many accessories, as new, cheap.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5897

1920 2¾h.p. Douglas, 3-speed, P. and H. lamps, Klaxon, Cowey speedometer, knee grips, new spare chain, many new spares, mechanically perfect, condition as new; £82.—Geach, Quarry View, Banstead Rd., Carshalton. [5729

2¾h.p. Douglas, W.D., delivered from makers 1920, enclosed chain, Watford trip speedometer, lamps, P. and H., Cowey aluminium horn, mileage negligible, absolutely new; any trial; 59 gns.—88, Brook Green, Hammersmith. [6205

1920 4h.p. Douglas Combination, splendid condition, practically new, Eastinz, Lucas lamps, tools, lots of spares, overalls, etc.; £145; not run since August; bought car.—Richardson, 92, Oakfield Rd., Cannon Hill, Birmingham. [5901

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. Douglas machines, 1921, kick start models, 3 speeds, clutch, £105; 4h.p. combinations, £170; 4h.p. solos, £130; also 2¾h.p. W.D. Douglas, supplied from Douglas works, £85. Easy terms arranged or exchange. [6291

DOUGLAS Motor Cycle on easy terms of payment; 4h.p. combination, £170; 2-speed solo model, £100; 3-speed clutch and kick starter model, £105; plus a small charge for delivery from works to London. The above are makers' list prices. For easy payments 4% extra is charged, only one-fifth deposit, balance payable by 12 monthly instalments. Write for latest lists of other machines in stock, etc.—Harrods, Ltd., 118, Brompton Rd., London. [5969

Edmund.

NEW 1921 Edmund-Blackburne, spring frame; £105; immediate delivery from stock.—Marston, 31, Bridge St., Chester. [6152

SEPT., 1919, Edmund, spring frame, 2¾h.p. J.A.P., Enfield 2-speed, as new throughout; sacrifice £60.—Wolton, Dawson Sq., Burnley. [X4686

EDMUND 2¾h.p. J.A.P., fitted with Enfield 2-speed gear and clutch, spring frame, shop-soiled only; bargain, £84.—P. J. Evans, 81-91, John Bright St., Birmingham. [0359

Enfield.

NEW 1920 Enfield, 2-stroke, 2-speed; £75; in stock.—Randal, Andover. [0369

1920 6h.p. Enfield Combination, brand new; £150.—35 Bishop St., Shrewsbury. [6112

ENFIELD Combination, 6h.p.; any trial; special price £82/10, no offers.—63, Walm Lane, Cricklewood, N.W.2. [X4746

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Enfield.

1921 Royal Enfields; 8h.p. combination £160, 2¼h.p. 2-stroke 2-speed £65.—Stacey, 12, Ecclesall Rd., Sheffield. [X3796

1915 Enfield, all on, with hood and screen; any trial: very good order; offers.—98, Park Rd., West Ham, E.15. [5952

ENFIELD Combination, as new, all accessories; no reasonable offer refused.—Grimes, 18, Bruton Place, Bond St., W.1. [6312

ENFIELD 2-stroke, late 1919, with 1921 piston, excellent condition; exchange modern 4-stroke.—41, Anerley Rd., S.E.19. [5733

ENFIELD 1920 2-stroke, 2-speed, all-chain, electric light, mileage 200; £55.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5521

1920 Enfield Magdyno 8h.p. Combination, bought 2 weeks ago, Easting screen; £170, or offer.—Spurling, 8, Courthope Rd., Hampstead, N.W.3. [5878

ENFIELD Combination, 1917, 8h.p., dynamo lighting, best cycle in this district; £135.—374, Grove Green Rd., Leytonstone. 'Phone: Wanstead 48. [6351

1920 Enfield 2-stroke, horn, large P. and M. lamps, mileage 600; £75, or exchange 1914 Scott or Douglas and cash.—15, Nursery Av., Hale, Cheshire. 6124

1921 Enfield Combination, dynamo lighting, with or without dynamo, in stock, immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

ENFIELD Combination, 1914, 6h.p., Bosch, Binks, unused 1917-1919, perfect order, accessories, spares; £95; trial.—Kingsteignton Vicarage, Newton Abbot. [5745

ENFIELD 6h.p. Combination, electric lighting, Easting, first-class condition; £92/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6322

ENFIELD (Royal) Twin, 2-speed, free engine, all-chain drive, under 200 lbs. weight, ready to drive away; what offers? Would entertain exchange.—61, South Norwood Hill, S.E.25. 5619

2¾h.p. Twin Enfield, engine No. 2C11116088, En-24 field 2-speed gear, all-chain drive, Bosch mag., good tyres, good running order; must sell; £35.—123, Rugby Rd., Leamington. [5824

1920 Enfield 2-stroke, brand new and unregistered, 2 speeds, chain drive; sacrifice, £65; exchanges or easy terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6363

1916 6h.p. Enfield Combination, Lucas head lamp and generator, Lucas horn, tyres good, mechanical condition excellent; £125.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [6416

8h.p. Enfield Combination, to makers' specification, for early delivery, £160; dynamo lighting model, £182 plus delivery from works; deferred payments for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [5976

1916 8h.p. Enfield Combination, splendid condition, very fine engine, all accessories, new oversize tyres, electric lighting; viewed by appointment week-ends; £130, or near offer.—13, Green Dragon Lane, Winchmore Hill. [5709

1919 Enfield Combination, 6h.p., dynamo lighting, fitted hood, screen, carrier, in splendid order, only wants seeing; £140; exchanges or easy terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6362

1918 Enfield Combination, 6h.p., fitted hood, screen, all lamps, carrier, horn, in splendid condition, guaranteed in every way; snip, £110; easy payments.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6361

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—1921 new 8h.p. Royal Enfield combinations from stock, dynamo lighting model £182, standard £160; new 1921 2¼h.p. Royal Enfield 2-stroke, £65. Cash, exchange, or easy terms. [6292

ROYAL ENFIELD 1913 Combination, 6h.p. J.A.P., Bosch, 2 speeds, adjustable tappets, sprung boards, luggage grid, cane body, 700×80 metal rubber, Avon driver, Dunlops, 2 lamps, all splendid condition, new Renolds; trial; £95.—Rowe, Basted, Boro' Green, Kent. [5740

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1921 Enfield Combination, 8h.p. Vickers engine, Enfield hood, wind screen, Lucas Magdyno set, special tyres and saddle to order, Watford trip speedometer, horn, leg-shields, new this week, costing £209, sacrifice, £195, tax paid; owner bought solo machine.—37, Albert Rd., Handsworth, Birmingham. [X4742

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EXCELSIOR, June, 1919, 2¾h.p. J.A.P., 4-stroke, single.—Ashley, Probus, Cornwall. [0371

EXCELSIOR 2¾h.p., Sept., 1920, perfect, 2-speed Villiers; or exchange combination, cash.—Thos. Lacy, Grasby, Lincoln. [5731

F.N.

4-CYL. F.N. Combinations and Solo Singles actually in stock.—Grimes and Co., 18, Bruton Place, New Bond St., W. [6308

F.N. Combination, 5h.p., 2 speeds, lamps, tyres, in good condition, recently overhauled, roomy coach built sidecar.—Offers to K., 75, Talgarth Rd., Baron's Court. [5837

4-CYL. F.N., mechanical valves, saddle, tank, sloping top tube, 2-speed gear, handle-bar clutch, and conchbuilt sidecar, wind screen, hood, new Dunlop 3in. tyre on back wheel and sidecar wheel; lowest price £85; trial here by appointment.—Riches, 61, Union St., Bedford. [X4747

F.N. 5h.p. Sports Model, enamelled red, 2-speeds, clutch, kick starter, dynamo lighting, Cowey M.H. speedometer, mechanical horn, all tools, exceptionally fast and economical, new Dunlop tyres, complete, and as new; absolute bargain at £55.—A., 136 Ravensbury Rd., Earlsfield, London, S.W. [6043

Griffon.

GRIFFON Twin, in good going order and condition lamps, etc.; £30.—A. Wyeth, The Hollies, East Oakley, Hants. [X4601

Harley-Davidson.

HARLEY Sports, new, fully equipped; £142.—Clark 7, Exhibition Rd., S.W.7. [6381

95 GNS.—1918 Harley, Cancelet, electric, all perfect.—Derby Arms Garage, Mortlake. [X4641

HARLEY Combination, 1916, nice order; exchange for Ford van.—302, London Rd., Croydon 'Phone: 2237. [6381

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross, 86, High Rd., Lee. [5661

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole agents, Bambers', Southport, Lancashire. Tel.: 607. [5001

120 GNS.—1919 Harley with genuine bulbous side car, brand new condition, exceptional engine.—54, Coval Rd., Mortlake. [4641

HARLEY-DAVIDSON 1919 7-9h.p. Combination, fully equipped, low mileage, equal to new; £195.—Parker's, Bradshawgate, Bolton. [X4721

1920 Harley-Davidson Model J., with Mills-Fulford sidecar, new 3 months ago, as new; £210.—Stacey, 12, Ecclesall Rd., Sheffield. [X3731

1920 Harley-Davidson and Henderson de Luxe side car, 7-9h.p., small mileage, spares; buying cash £175.—Wall, 20, Promenade, Southport. [5661

1918 7-9h.p. Harley-Davidson, 3-speed, K.S., with new Canoelet sidecar; £100, bargain.—J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [6351

1919 Harley, 1920 sidecar, fully equipped, new condition, many spares; £150, or lightweight and cash.—17, Charles St., Hatton Garden, E.C. [5811

HARLEY-DAVIDSON, 1920, 7-9h.p., electric model as new, discs, speedometer, mileage 200; £150.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5521

HARLEY-DAVIDSON 1919 7-9h.p. Combination, tools, mileage 1,200, electric lighting; £195.—West, 71, Norbury Crescent, Norbury, S.W.16. [0311

HARLEY-DAVIDSON, shop-soiled 4h.p. twin, complete with speedometer and Klaxon horn, for immediate delivery; £150.—The Walsall Garage, Walsall Tel.: 444. [4001

HARLEY-DAVIDSON 7-9h.p., 1918, plating, enamel tyres as new, mechanically perfect; exceptional bargain, 85 gns.—Railway Arch Garage, Denmark Rd., Camberwell. [5711

1920 Flat Twin Harley-Davidson, 4h.p., with Model A Henderson sidecar, all accessories, only 3 months old; £160.—Apply, Pavilion Garage, Sloane Sq., London. [6131

1919 7-9h.p. Harley-Davidson Combination, just overhauled and re-enamelled, new tyres throughout, in excellent condition.—Tel.: Museum 6626.—A.S., 60, Mortimer St., W.1. [6211

HARLEY-DAVIDSON, 1918, ex-W.D., mechanically sound and good running order; £80; approval, carriage paid both ways.—Owen, 59, Scholefield Rd., Upper Holloway, N.19. [X4401

HARLEY-DAVIDSON Combination, 1917 (Dec.), electric model, speedometer, 2-seater sidecar (detachable seat), 2 wind screens; £130.—22, Princes Rd., Finsbury Park, London. [5911

HARLEY-DAVIDSON Combination, 7-9h.p., 1919 model, electrical, fully equipped, de luxe sidecar, hood and screen; cost £250; what offers?—Parkhouse Cottage, Fife Rd., East Sheen. [5711

BRAND New 7-9h.p. Electric Model Harley-Davidson, complete with lamps, horn, speedometer, and Mills-Fulford de luxe sidecar, cost £243/10; price for cash, £210.—D. Weston, 59, Cowley St., Den[illegible] [5611

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Harley-Davidson.

HARLEY, 1917, not W.D., dynamo lighting, special accumulator, electric horn, Tan-Sad, speedometer, odometer, excellent condition throughout; quick sale, £93.—Heath, 10, Amblecote Rd., Grove Park, S.E.12. [5601

LATE 1920 Harley-Davidson 4h.p. Flat Twin, only 3 months old, practically new, speedometer, lamps, Klaxon, perfect condition; bargain, £140, or nearest offer.—Tabah, 24, Oxford Rd., Birkdale, Southport. [5843

1916 Harley-Davidson T.T. Road Racer, 7-9h.p., clutch model, complete with lamps, mascot, Klaxon, mirror, Jones speedometer, 80 m.p.h., many spares; £115.—W. Owens and Sons, Brunswick Rd., Buckley. [X4758

LATEST Model 7-9h.p. Harley-Davidson Combination, £220; latest Model W Harley-Davidson, £150; latest Model J Harley-Davidson solo, electric lighting, £190; immediate deliveries from stock.—Marston, x 31, Bridge St., Chester. [6147

HARLEY-DAVIDSON 1918-1919 Models, thoroughly overhauled and guaranteed, solo £100; with new Montgomery sidecar, £130; easy payments £43/10 down, 8 payments of £8, solo; £59/15 deposit and 8 payments £10 for combination.—Maudes', 200, Ct. Portland St., W.1; and Paris St., Exeter. [6419

1920 Harley-Davidson, nearly new, mag. ignition, full equipment of electric lamps, and 2 large batteries, speedometer, 2 horns, hood and screen with side curtains, luggage grid, pillion seat, discs on all wheels, specially designed leg-shields, saddle back-rest, mirror and clock; cost £325, for quick sale £250 will be accepted, for cash or on deferred payments, £84 deposit, balance plus 2½% payable by 12 monthly instalments of £14/3/8.—Harrods, Ltd., 118, Brompton Rd., London. [5978

Hazlewood.

5-6h.p. Hazlewood Combination, 1918 engine, 3-speed, K.S., hood, screen, etc.; £90.—187, Lansdowne Rd., Tottenham, N.17. [6114

HAZLEWOOD-J.A.P. Combination, 1920, 5-6h.p., new and unregistered; £165.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5530

NEW 5-6h.p. Hazlewood Combination, 3-speed, clutch, and kick starter, a thoroughly reliable outfit; Harrods have a large stock of these, slightly shop-soiled, £186 each, or on deferred payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5960

Henderson.

8-10h.p. Henderson Combination, in good condition; £135.—183, Belgrave Gate, Leicester. [X4756

8-10h.p. Henderson, 4 cyls., 2 speeds, clutch, handle start, guaranteed; lowest £90.—106, Barlow Moor Rd., West Didsbury, Manchester. [5854

ONE 10h.p. Henderson Motor Cycle, 2-speed, handle start, new heavy Dunlop tyres, ready to ride away. For further particulars apply to Stores Dept., John Beathcoat and Co., Tiverton. [5893

Hobart.

1920 2¾h.p. Hobart-Jap, 2-speed, kick start, Sturmey-Archer countershaft, mileage 300; £55.—37, Ellington Rd., Surbiton. [5992

Humber.

HUMBER 3½h.p. C.B. Combination, 2-speed, H.S., perfect order; bargain, £68.—49, Sulterford Rd., Notting. [6054

HUMBER, 2h.p., 1913, just overhauled makers, 3-speed; £45. — Plummer, 40, Cavendish Rd., Clondesbury. [6077

HUMBER T.T. 2¾h.p., V twin, believed 1916, just overhauled, new tyres, under 200 lbs.; £30.—16, Woodville Rd., South Woodford, E.18. [5950

1¾h.p. Humber Combination, 3-speed S.A. (perfect), engine overhauled, perfect condition; any trial; £42.—Ford, Sotwell, near Wallingford, Berks. [X4754

HUMBER 1921 4½h.p. Flat Twin Model, run only few miles, guaranteed as new; £130.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6328

1914 2¾h.p. Twin Humber, recently rebuilt at cost of £20, new spring frame and forks, bars, belt, engine rebushed, tyres good, 1920 special Binks with lamps, hooter, tools; nearest £38.—Entwistle, Garage, West Haddon, Rugby. [5718

1919 3½h.p. Humber and Mills-Fulford Corvette Sidecar, electric lighting set, bulb horn, Stewart speedometer, appearance and mechanical condition excellent, low mileage; £125.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [6417

Indian.

INDIAN 1919 Red Powerplus, as new; £90; snip.—73, Courtlands Av., Lee. S.E.12. [6229

1921 Indians, latest models; immediate delivery; lists free.—J. C. Phipp, Sherston, Malmesbury, Wilts. [6122

INDIAN Scout 4h.p., lamps, horn, speedometer, new July; £130, or exchange Morgan.—W. Smith, 27, Clarence Rd., St. Albans. [5983

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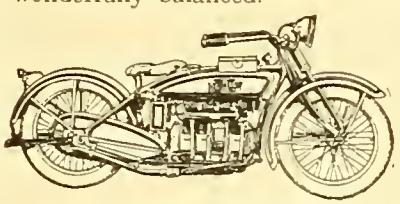
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LATEST Model Indian Scout, £135; or with special sporting sidecar and speedometer, £165.—Marston, 31, Bridge St., Chester. [6154

INDIAN 7-9h.p. 1915 Solo, speedometer fitted, £70; Radco 2-speed 2½h.p., £42; both good condition.—Hill, 54, Eign St., Hereford. [6087

1916 Red Indian 7-9h.p. Twin, mag., 3 speeds, clutch, spring frame, must sell; gift, 59 gns.—88, Replingham Rd., Southfields. [5993

1919 7-9h.p. Indian and 1920 bulbous back sidecar, almost new; any trial; £135.—Conner, 86, Victoria Rd., Strond Green, N.4. [X4752

INDIAN and Sidecar, 1915, 3-speed, clutch, K.S., all lamps, in perfect condition; £60.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5523

£90.—1915 5-6h.p. Indian, 3-speed, etc., Swan sidecar, new Dunlops, lamps, accessories, new condition.—63, Solon Rd., Brixton, London. [6033

1914 Indian Road Racer, 7-9h.p., clutch model, sporting bars, tyres excellent, mechanically sound; 48 gns.—Appleton, 16, Ribble Rd., Blackpool. [5756

INDIANS.—Six 1917-18-19 7-9h.p., 3 speeds, Powerplus engines, saddle tanks, clutch, kick starters; from £70 to £100.—Parker's, Bradshawgate, Bolton. [X4726

1920 Indian Combination, sporting Swan sidecar, dynamo lighting, all spares, as new; £180.—Greaves, 43, Lithos Rd., South Hampstead, London. [6222

INDIAN 1920 4h.p. Scout Model with sporting sidecar to match, fully equipped, indistinguishable from new; £155.—Parker's, Bradshawgate, Bolton. [X4717

INDIAN 1915 7-9h.p., speed model, clutch, lamps, mechanical horn, tools, new tyre, chain, splendid order; £55.—Bramwell, 4, Market Sq., Stony Stratford, Bucks. [6107

1920 Indian Powerplus, dynamo lighting, speedometer, ampmeter, Millford de Luxe bulbous sidecar, screen, tools; £185, nearest.—33, Victoria St., Coventry. [X4838

BARGAIN, 1916 Indian 7-9h.p. Powerplus, 3-speed, good lamps, chains, tyres, very good last machine; £65; or exchange late B.S.A. or 4h.p. Douglas.—Blanden, Lakenheath, Suffolk. [5652

INDIAN, 3½h.p., clutch model, 2-speed gear box, lamps, etc., ready to ride away; nearest offer to £50 secures; can be seen and tried by appointment.—61, Ivy Rd., Cricklewood. [6219

1920 (July) Powerplus Indian Combination, dynamo lighting, speedometer, Tan-sad, Easting screen, mileage under 3,000, insurance, trial by appointment; £175.—Clifford, Thornhill, Stelybridge. [6063

INDIAN, 1920 (April) Powerplus Combination, excellent condition, Mills-Fulford sidecar, Easting wind screen, Klaxon horn, electric lighting and horn, luggage carrier; £200.—Lismore, 169, Hatfield Rd., St. Albans. [5695

1920 Indian Powerplus and Sidecar, complete with dynamo lighting, wind screen, spares and accessories, condition as new, perfect in every way, mileage 3,000; £175.—Elton Morris, The Gaer, Hereford. [5395

1915-16 Indian, 5-6h.p., T.T., all lamps, Bonniksen speedometer, knee grips, guaranteed perfect in every way; £85; exchanges or easy payments.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6369

INDIAN Mills-Fulford Combination, 7-9h.p., 1915, 2-speed, H. and F. clutch, spring frame, engine excellent order, owner mechanic, any trial, lamps horn, etc.; £100.—Sage, c/o Power House, B.S.D., R.A.F., Kingsnorth, Hoo, Rochester. [5761

1920 Indian 7-9h.p. Combination, spring frame, dynamo lighting, electric horn, speedometer, hand and foot clutch control, Tan-Sad, mileage 2,000, splendid condition, unpunctured, spare valves and tube; £160.—Bramble, 9, Cambridge Av., Lincoln. [5858

1919 (Late) 7-9h.p. Indian Powerplus Combination, electric model, speedometer, mileage under 5,000, perfect condition, absolutely sound, all tools and spares, licensed for 1921; bargain, £175.—Banister, Heathbank, Vine St., Kersal, Manchester. [4933

SPORTING 7-9h.p. 1916 Indian Combination, T.T. bars, Phœnix torpedo sidecar, discs all round, hand and foot clutch and 3-speed, brand new tyre (Goodyear) on rear, beautiful condition thoroughout; bargain, £90, or near offer.—Karslake, 11, Montpelier Sq., S.W. 'Phone: Kensington 4098. [6095

INDIAN (Hendee Special) 1914 7-9h.p. Combination, 2-speed, kick starter, speedometer, underslung coachbuilt sidecar, Orto screen, stormproof cover, outfit recently overhauled, costing £30, fully equipped, equal to new; bargain to immediate purchaser; selling owing to drastic Irish motor restrictions.—Gracey, Monaghan. [6088

Ivy.

IVY Cycles.—1921 models in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [1796

IVY 1921 Models.—Sole District Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72 [5006

IVY 1919 2¾h.p., 2-speed, T.T. bars, large P. and H. lamps, disc wheels, Dunlop tyres, insured for £70; bargain, £55.—R. D. Varty, Thundersley, Essex. [3710

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IVY, the aristocrat of its type; delivery of all models from stock; prices and catalogue post free.—Sole District Agents, The Walsall Garage, Walsall. Tel.: 444. [4011

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Henly and Co., London and District Agents, 91, Gt. Portland St., W.1. Mayfair 4084. [0022

James.

JAMES 4¼h.p., 1916, fully equipped, 3-speed; 48 gns. —17, Heaton Rd., N. Mitcham. [5994

NEW 1920 5-6h.p. James Combination; £190.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0340

JAMES Combination, 1915, 3-speed, countershaft, fully equipped; £68.—202, Munster Rd., Fulham, S.W.6. [5954

1920 5-6h.p. James Combination, electric lights; £165; exchanges.—70, Beecher Rd., Cradley, Staffs. [X4689

JAMES 4½h.p. 3-speed Combination, 1915, recently overhauled; £70.—Brookman, 5, St. Albans Rd., Watford. [5677

JAMES 3½h.p. Twin, 3 speeds, solo model; in stock for immediate delivery.—Philpot, Motors, Canterbury. [6074

1921 2-stroke James, Miller lamps, horn, tools, insured, little used, unpunctured; £65.—Klein, 6, Northampton Place, Swansea. [6224

JAMES New Combination, all models for immediate delivery from stock.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4012

1920 3½h.p. James Twin, Lucas lamps, horn, speedometer, spare cover, tube, and accessories; £120.—Chidlow, Bromsgrove Rd., Redditch. [X4619

JAMES, January, 1920, 2¼h.p., 2-stroke, 2-speed, horn, Miller lamps, excellent condition, ready to ride away; £55.—Rose, Booth St., Ripley, Derbyshire. [5803

1920 5-6h.p. James Combination de Luxe, mileage 1,800, tyres unpunctured, Lucas lamps, Binks, Cowey, unscratched, as new; £160.—Priest, 12, Lewin Rd., Streatham, S.W. [6075

1919 5h.p. Twin James, 28in. wheel model, and Grindlay de Luxe sidecar, hood, screen, luggage grid, etc., fully equipped; property of a client ordering 1921 model; bargain, £105 spot cash.—Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. 'Phone: 751. [6408

J.A.P.

1920 2¾h.p. Jap-British Excelsior, lamps, horn, speedometer, as new; £60, or exchange Triumph.—145a, Howard Rd., Walthamstow, E.17. [6181

Kerry.

KERRY 3½h.p., excellent condition; £25.—Apply, 57, Long Lane, Boro', S.E. [5859

KERRY 2¼h.p., adjustable pulley; seen after 7 p.m.; £12.—Vaoder Beeck, Turpington, Bickley, Kent. [5841

Lea-Francis.

LEA-FRANCIS, M.A.G., brand new; £116.—Clark, 7, Exhibition Rd., S.W.7. [6378

LEA-FRANCIS Twin Combination, 2-speed, clutch; £85.—H.S., 33, St. Stephen's Rd., Bow, E. [5691

1920 Lea-Francis Twin Solo £120, combination £135 —Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [6282

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 3½h.p. Lea-Francis from stock; £115; cash, easy terms, or exchange. [6289

LEA-FRANCIS 1917 3½h.p., 2 speeds, clutch, fitted with brand new J.A.P. engine, perfect; £90.—Parker's, Bradshawgate, Bolton. [X4718

LEA-FRANCIS 1920 3½h.p. Twin, run few miles only; £100.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6325

LEA-FRANCIS, 1921.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.1. [0099

LEA-FRANCIS 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3260

LEA-FRANCIS, M.A.G., os makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [5792

NEW Lea-Francis, 2-speed, clutch and kick starter. M.A.G. engine; at list price, £130, or on deferred payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd. 118, Brompton Rd., London. [5962

Levis.

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GENTLEMAN'S Popular Model, £60; lady's Popular Model, £60; immediate delivery. Levis specialists and sole distributors for London and district. Spare parts stocked, repairs undertaken.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., (off Oxford St.), Bond St., W.1. [0384

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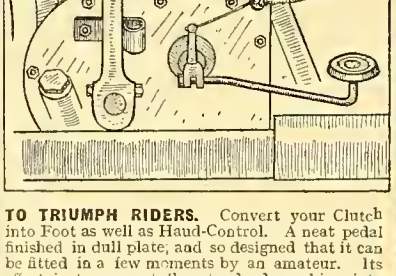
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Levis.

1916 2¼h.p. Levis, new E.I.C., new Dunlops; £33.—Shaw, Park St., Wellington, Salop. [X4770

1916 Levis 2¼h.p., 2-stroke, 2-speed; £32.—Moffatt, 139, Burntwood Lane, Earlsfield, S.W.18. [6051

LEVIS Baby, 1920, full kit, lamps, Cowey speedometer, watch; £55; seen any time.—58, Thornbill Rd., N.1. [5882

LEVIS 1920 2-speed, mileage 800, lamps, accessories, good condition; £67, or nearest offer.—Molineux, Winscombe, Somerset. [5771

LEVIS, the finest 2-stroke in the world; delivery from stock, £60.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4013

2¼h.p. Levis Popular Model, brand new from works £60, or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London [5970

LEVIS, 2-stroke, overhauled, in perfect order, no accessories; £35; easy payments. — Official agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6361

1921 Levis Popular, the super 2-stroke, for immediate delivery from the official agents at £60, easy payments or exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6361

LEVIS, exceptional opportunity, 5 only shop-soiled 2¼h.p. motor cycles, used for one test only, otherwise new; £55 each, carriage paid; first cheques secure.—Butterfields, Ltd., Levis Works, Stechford, Birmingham. [X4631

Lincoln-Elk.

3½h.p. Lincoln-Elk, running order; £22; would exchange geared machine, cash adjustment; offers —102, Kenyon St., Fulham. [5857

LINCOLN-ELK 3½h.p. Motor Cycle, good running order, Bosch mag.; £14/10.—Syd. Pearson, Gate House, Cheylesmore, Coventry. [X4821

PRACTICALLY New 3h.p. Lincoln-Elk, Philipson pulley, lamps, B. and B., enclosed Bosch, tax 30/-; £40.—63, Solon Rd., Brixton, London. [6034

L.M.C.

L.M.C.—Mebes and Mebes are the sole London and Home Counties agents; early delivery of all 1921 models; trade enquiries esteemed.—154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3251

L.M.C., suspension and ordinary models, shop-soiled as makers' specifications, at greatly reduced prices also 6h.p. and 4½h.p. combinations, second-hand; a bargain prices.—Mebes, 154-156, Gt. Portland St., W.1 'Phone: 3426 Mayfair. [7181

Martinsyde.

MARTINSYDE-NEWMAN 1921 Models.—We are now accepting orders for early delivery, all models; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3261

MARTINSYDE Combination, 2 months old, Lucas Magdyno lighting set, electric horn, hood with side curtains, wind screen, luggage carrier, Tan-Sad complete, condition excellent; £205.—Hewin's Garage Ltd., The Real Service Firm, Taunton. [6301

MARTINSYDE-NEWMAN.—Sole agents for London Essex, Bucks, Surrey, Middlesex, and Hertford also Cornwall and Devonshire, for Martinsyde-Newman combination; £170; delivery ex stock; trade supplied exchanges and deferred payments.—Maudes', 100, Gt. Portland St., W.1., and Paris St., Exeter. [5771

Matchless.

1921 Model H Matchless in stock; list price.—Cross Agent, Rotherham. [X4771

MATCHLESS.

1921 Models now ready; all the latest improvements. You can have one now, or book delivery for any forward date. Every combination personally tested by the Matchless specialist. Spares of all dates in stock.—J. Tassell, 1a, Bloomfield Rd., Plumstead. [6881

VICTORY Matchless, fully equipped, mileage 2,000 best offer.—3, Bolina Rd., South Bermondsey. [5671

1920 Matchless Combination, as delivered, shop soiled; £175.—Wright's Garage, Saffron Walden [6251

1921 Matchless Combination in stock for immediate delivery; £205.—Stacey, 12, Ecclesall Rd., Sheffield. [X3791

MATCHLESS Combination, 1914, M.A.G., counter shaft, 3-speed, perfect; £88.—Toop, Caterham Valley. [6111

1921 Matchless Standard, lamps, horn, spare wheel, screen, mileage 100, 2 weeks old £182.—Below.

1920 Matchless, Magdyno, speedometer, hood, spare wheel, screen, brand new, £195, list price £241; another, without hood and speedometer, £185 —Edwards, 50, Harrington Rd., South Kensington S.W.7. Tel.: Kensington 3709. [6351

MATCHLESS Combination, delivered new 1921, been used, but as new, complete with speedometer; £185:—Pitt, Amesbury. [5861

1920 8h.p. Matchless, Magdyno, speedometer, tool cost £240, 2,000 to 3,000 miles; offers.—2, Buckland House, Blandford St., W.1. [5661

MOTOR CYCLES FOR SALE.

Matchless.

ATCHLESS 8h.p. Spring Frame Combination, hood, screen, all accessories, very slightly soiled; O.—Marston, 31, Bridge St., Chester. [6157

19 Matchless Combination, splendid condition, spare wheel, all accessories; bargain, £135.—Eton and Ltd, 260, Balham High Rd., S.W.17. [5620

ATCHLESS Combination, M.A.G., 1921, just delivered, unused, tax paid; £195; exchange considered.—25, Davisville Rd., Shepherd's Bush. [5879

ATCHLESS 1921 Combinations in Stock; exchanges arranged.—Authorised agents, R. B. k and Co., 7, Exhibition Rd., S.W.7. Kensington 5. [4334

ATCHLESS Combinations, any model; delivery from stock; deferred payments 5%, including rt service.—Prior, Motor Engineer, near Station, hfields, S.W.18. [6125

ATCHLESS Combination, 1918, W.D. model, with spare wheel and tyre and all accessories, good ition; £130.—Hewin's Garages, Ltd., The Real ice Firm, Taunton. [6303

20 Matchless Combination, Model H, fully equipped, mechanically perfect, special engine, and paid, mileage 2,200; offers near £185.—Wainwright, fields, Wolverhampton. [X4474

20 Matchless Model H., M.A.G. engine, Lucas Magdyno, hood, screen, Cowey speedometer, Cowey , mirror, watch, all accessories; £210.—Griffin, Warwick St., S.W.1. [5838

ATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 ls; deliveries guaranteed strictly as per order re- d; a large assortment of 1919 and 1920 models in stock. [5668

ATCHLESS Model H Combination, to makers' specification, £205; dynamo lighting model, 7/7/6, or on Harrods unique easy payment system small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [5977

20 Matchless, Magdyno, hood, triple screen, step, mudshield, speedometer, 6×3it. waterproof cover, pillion seat, exceptionally good; £220.—90, Croft Park Rd., S.E. [6005

20 Matchless, Model H, M.A.G. engine, hood, screen, speedometer, Lucas gas lamps all round, bsolutely new condition; £185; exchanges or easy ents.—Homac's, 243, Lower Clapton Rd., N.E. ne: Dalston 2408. [6365

20 Matchless Model H., Magdyno lighting, J.A.P. engine, Lucas horn, spare wheel and luggage grid, screen, leg-shields, perfect throughout, mileage ; sacrifice £200; expert inspection invited.—Ingle, main, Feckenham Rd., Redditch. [X4743

ATCHLESS 1914 Combination, chain drive, clutch, K.S., Millford sidecar, Easting, electric lighting, ge carrier, 700×80 tyres (all new), not another like it in London, specially fitted and tuned; £90. a, Finchley Rd., N.W.3. Hampstead 7822. [6387

ATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically ed Matchless combination; the Rolls-Royce of wheels; immediate delivery from stock; for cash, ed payments, or exchange; trade supplied; all s in stock.—Jones' Garage, Muswell Hill, N.10, a Woodside Parade, North Finchley. [0381

ATCHLESS 1921 Models.—Immediate delivery or date to suit clients. Buy a new model now and in comfort during 1921. If your funds will not o a new machine, we have for disposal several competition gold medal winner models, late rty of well-known riders; secure one of these.— address of Matchless Specialists: S. E. Clapham ors), 27, Stockwell St., Greenwich, S.E.10. [6406

Minerva.

.p. Minerva, C.A.V., B.B., Druids, perfect; £29. —141, Framfield Rd., Hanwell. (Seen Sunday.) [5933

New Hudson.

16 New Hudson 3½h.p. 3-speed Combination, all accessories; £46.—Allen, 10, Freshford St., Earls- S.W.18. [6062

W HUDSON 1914 Combination, splendid condi- ion; sacrifice £60; must sell.—T. Woods, Park e, Lostock Hall, near Preston. [5603

20 New Hudson 2¼h.p., brand new; £63.— Edwards, 50, Harrington Rd., South Kensing- .W.7. Phone: Kensington 3709. [6357

DSON 2¼h.p., 1920, in splendid condition, acces- sories, complete; best offer accepted; inspection l.—E. Reed, Edenham, Bourne, Lincs. [5940

3 4h.p. New Hudson, Jap engine, perfect, Bosch, B. and B., 3-speed, low gear needs adjusting, belt good; £40; ano trial.—Wood, Brightwell, [X4639

0 New Hudson 2-stroke, 2-speed, electric lighting, speedometer, horn, Tan-Sad, spare tyre, belt; 60 nearest; perfect, must sell.—115, Earlsfield Rd., Swerth. (D) [5672

4 4h.p. 3-speed K.S. New Hudson Coachbuilt Combination, lamps, speedometer, screen, apron, tored 3 years; sound bargain, £55, near offer; ny time.—T.S.L., 76, Dagnall Park, South Nor- S.E.25. [5949

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1920 **DIAMOND-VILLIERS**, 2¾ h.p., 2-stroke, 2-speed, clutch, and kick-starter	78 gns.	
1920 **COULSON-B**, 4 h.p., 2-sp.	£90	0
1920 **NEW IMPERIAL-J.A.P.**	£80	0
1920 **PRIORY**, 2¾ h.p., 2-stroke	£60	0
1920 **ARDEN**, 2-stroke, 2-speed	£58	10
1920 **NEW IMPERIAL** Comb.	£150	0
1919 **HARLEY-DAVIDSON**, electric model	£150	0
1919 **TRIUMPH** Combination, complete with electric lighting	£135	0

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MOTOR CYCLES FOR SALE.

New Imperial.

19 20 New Imperial Combination, as new; £110.— Wright's Garage, Saffron Walden. [6254

19 20 New Imperial-Jap, 2-speed, condition as new; bargain, £65.—Putterill, Harpenden. [5953

NEW IMPERIAL-J.A.P., 2-speed, countershaft, lamps, all accessories; £39.—17, Manor Drive, Wembley, Middlesex. [6221

NEW IMPERIAL 1919 8h.p., Sunbeam sidecar, fully equipped, Easting, excellent condition; £150.— Parker's, Bradshawgate, Bolton. [X4719

NEW IMPERIAL 1919 8h.p. Combination, complete with lamps, Easting wind screen, etc.; £140.— Hereford Motor Co., Ltd., Hereford. [5003

BARGAIN, 1916 2¾h.p. New Imperial-Jap, 2-speed, good condition, and spares, accessories; £40.—40, Wellington Rd., St. John's Wood, N.W. [5773

NEW IMPERIAL 1916 2¾h.p., 2-speed, semi T.T. bars, complete with lamps and horn; bargain, £38.—R. D. Varty, Thundersley, Essex. [3712

NEW IMPERIAL, 1920, latest design, 2¾h.p. J.A.P. engine, 2-speed, clutch, kick start, fully equipped, as new; 75 gns.—Baldwin, Totnes, S. Devon. [5748

19 19 New Imperial 2¾h.p., 2 speeds, kick starter, clutch, lamps, Klaxon, spares, splendid condition; £65.—11, Sandford Av., Eldon Rd., Wood Green, N.22. [5982

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.— New 2½h.p. 1920 New Imperial-Jap, 2-speed, clutch and K.S., £80; with 2-speed only, £73; easy terms. [6297

NEW IMPERIAL-J.A.P., 1921 model, 2¾h.p., 2-speed, kick starter, hand clutch, brand new, unused; immediate delivery; 85 gns.—Central Garage, Henley-on-Thames. [1074

19 19 8h.p. New Imperial Combination, excellent condition, mileage under 1,000, electric lighting, speedometer, Cowey horn, Cameo screen; owner going abroad; £120.—86a, Bedford Rd., Clapham, S.W.4. [5863

NEW IMPERIAL Motor Cycles and Combinations supplied at manufacturers' list prices for cash, or on Harrods unique easy payments system for a small extra charge; full particulars on application.— Harrods, Ltd., 118, Brompton Rd., London. [5972

19 21 New Imperials, all models in stock; combination £186/18, Model 1 £80/17, Model 2 £89/5; exchanges or easy payments.—Official agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6370

New Scale.

NEW SCALE Motor Cycle; original price £85, sacrifice £65; unused.—64, Bishopsgate, London. [0393

19 20 New Scale Combination, 3½h.p., 2-speed, K.S., Cowey speedometer, lamps, horn, perfect condition; £105.—Apply, 74, Blundfields St., Balham, S.W.12. [5680

BARGAIN, £80.—New Scale 3½h.p. Precision, Burman 2-speed, hand clutch, Miller lamps, oversize new Clincher, speedometer, Klaxon, new Aug. last, practically unscratched, very low running costs, owner (Ireland) cannot use.—Capt. Griffith, Kilbride Camp, Dublin. [5730

Norton.

NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [6126

19 21 Norton Big Four in stock for immediate delivery.—Philpot, Motors, Canterbury. [6073

SEPT., 1920, T.T. Norton, fully equipped, mileage 1,500.—41, Tavistock Drive, Nottingham. [5819

BRAND New Isle of Man 1921 Norton, 3-speed, T.T.; £130; Surrey.—Box 1,370, c/o *The Motor Cycle*. [6257

NORTON Motor Cycles.—Place that order with me; early delivery dates.—Cook's Garage, Shifnal, Salop. [8136

NORTON 1921 Models.—Sole District Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5005

NORTON 1921 Models, Big Four and 3½h.p., 3-speed sports; immediate delivery.—Charles Sidney, Ltd., 140-142, Manningham Lane, Bradford. [X4767

19 21 Norton Big Four, with Montgomery 30 gn. purple sidecar, brand new turnout, unused; £165, or exchange solo.—Shaw, Durkar, Wakefield. [6256

19 19 3½h.p. T.T. Norton, 3,000 miles, Binks, lamps, speedometer, new back tyre, good condition; £75, or offer.—Corlett, 1, Crosshall St., Liverpool. [6245

NEW 1912 Norton Big 4 Sporting Model, £135; new 1921 Norton 3½h.p. sporting model, £132; immediate delivery from stock.—Marston, 31, Bridge St., Chester. [6146

19 20 3½h.p. No. 16 Model Norton, special competition machine and winner of several awards, guaranteed in perfect condition throughout, and very fast; £105.—Norton, Bryanston, Leominster. [5649

N.S.U.

3½h.p. N.S.U., 2-speed, will take sidecar, good condition; first £20 secures; bargain.—Bennett, King St., Rochester. [5664

MOTOR CYCLES FOR SALE.

N.S.U.

N.S.U. Combination, 3-speed, countershaft, lovely condition, late engine; £32/10.—Pearson, Gate House, Cheylesmore, Coventry. [X4836

N.U.T.

1920 N.U.T. 3½h.p., Lucas Magdyno, brand new; first cheque £140.—Charles Sidney, Ltd., 140-142, Manningham Lane, Bradford. [X4766

1920 N.U.T. 3½h.p., horn, speedometer, F.E.W. valve attachments, Magdyno, many spares; 140 gns.—18, Shawfield Park, Bromley, Kent. [6168

N.U.T.—Delivery from stock of all models. Sole wholesale and retail agents for Staffordshire; the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [4014

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery; write or 'phone for particulars.—Tel.: Yeovil 114. [6023

N.U.T. 1914 (?) 2¾h.p. Twin, o.h.v., single speed, lamps, Stewart horn, speedometer, tyres new, in good condition, sporting; £50.—H. Surtees, 28, Basil St., S.W. [5767

GOLD Medal Winner A.C.U. Trial, 1920 N.U.T., Magdyno, Lucas electric horn, magnificent condition, as new; sacrifice at £145.—Pearn, 69, Birchfields Rd., Rusholme, Manchester. [5747

N.U.T. 1920, Lucas Magdyno, condition perfect, J.A.P. twin, Sturmey-Archer 3-speed, original tyres, barely used, exceptionally fast, cost £170; first cheque over £140 secures; despatch, carriage paid, with guarantee of accuracy of above description.—Fisher, 25, Scale Lane, Hull. [5653

O.K.

2¾h.p. O.K., little used, good tyres, fast; £27.—Shaw, Park St., Wellington, Salop. [X4769

NEW 1920 O.K.-Junior, shop-soiled; 45 gns.—Cross, Agent, Rotherham. [X4776

£30.—Lightweight O.K., 2¼h.p., very reliable, 2 speeds.—Palmer's Garage, Tooting. [6137

O.K.-UNION, 1920 Model, unused, shop-soiled only; £45.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6304

O.K.-Villiers 1920 Model, brand new, unused; list price 48 gns., offers cash or exchange.—103a, High St., Wandsworth, S.W.18. [6394

1920 O.K. Union 2¾h.p., 2-stroke, lamps, horn, spares, complete, as new; £40, or near cash offer.—Haining, Ashby Parva, Lutterworth. [5864

Omega.

1920 Omega 2-speed; £75; in stock.—Randall, Andover. [0368

OMEGA 2-stroke 2¾h.p. for sale, good condition, lamps; £31.—63, St. Mary's Rd., Reigate. [6225

OMEGA Model C, 1920, discs, Lucas lamps, Cowey horn, good running order; £80.—Below.

OMEGA Model O, 1920, with accessories, discs, excellent running order; £79.—Hughes, St. John's, Llandrindod Wells. [6316

P. and M.

P. and M., December, 1919, splendid machine, as new.—Ashley, Prolus, Cornwall. [0370

P. and M., 1912, Millford sidecar, new cylinder and piston; £55.—Ashbridge, Grove Park, Wanstead. [5877

1918 P. and M. 3½h.p. and C.B. sidecar, full equipment; £65.—Dunn, 326, Euston Rd., N.W.1. [6374

1918 P. and M. 3½h.p., condition as new, lamps, etc.; £78.—Baker, Lewsom St., Teynham, Sittingbourne. [5860

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3½h.p. P. and M., 1920, £95; also 3½h.p. P. and M., 1919, £85; easy terms. [6294

1916 P. and M. W.D. Model, in first-class mechanical condition, good tyres; price £35.—Hall's Garage, Ltd., Stevenage, Herts. [5657

1919 P. and M. Combination, guaranteed perfect throughout, accessories, not W.D.; £85.—Langford's, 37, Cricklewood Broadway, N.W.2. [6232

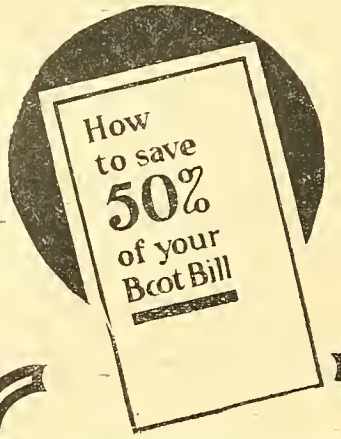
P. and M. Combination, in first-class condition, coachbuilt sidecar and screen, and numerous spares; £85.—Mr. Allen, 28, Hanworth Rd., Hounslow. [6079

P. and M., just overhauled and guaranteed by makers, all accessories, spares, insured; offers over £82.—E.N.E., 10, Cobham Rd., Kingston Hill. [6204

1918-19 P.M. and Sidecar, hood, screen, electric or acetylene lighting, spare chains, good mechanical condition, engine No. 8397; £70.—Knight, 4, Pavement, Coulsdon, Surrey. [5985

P. and M. Combination. Duahill sidecar and storm apron, lamps, etc., fully equipped; £100, great bargain.—Mebes, 154-156, Gt Portland St., W.1 'Phone: 3426 Mayfair. [7188

P. and M., 1920 model, splendid condition, very low mileage, Lucas lighting, Cowey horn, trip speedometer, Brooks carrier case; cost £135, accept £115.—75, Brigstock Rd., Thornton Heath, Surrey. [5979



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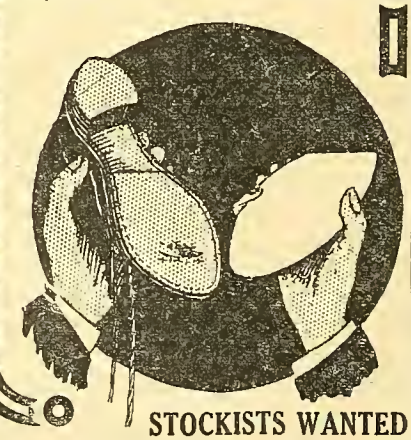
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P. and M.

P. and M., 1918, 2 speeds, re-enamelled and plated makers' colours, guaranteed perfect and as new throughout; £70, nearest; going abroad.—Roselawn Station Rd., New Barnet. 'Phone: 231. [620

PHELON and Moore ex-W.D. Models, thoroughly overhauled and guaranteed, tanks re-enamelled, front brakes, chain cases; £78. Similar models overhauled and guaranteed by makers, £95; with sidecars, £100 and £110; easy payments 7½% extra.—Maudes, 100 Gt. Portland St., W.1, and Paris St., Exeter. [642

Premier.

PREMIER Combination, new engine, new belt, tyres unpunctured, perfect condition; owner unable to ride; best offer over £40.—70, High St., Grays, Essex. [584

£60.—Premier 4h.p. combination, 2-speed gear box, clutch, kick starter, Dunlops, latest B. and B. enclosed Bosch, excellent condition.—63, Solon Rd, Brixton, London. [603

Quadrant.

QUADRANT 3½h.p., mag., carburetter, spring forks; £12 secures.—Prout, Canon St., Taunton. [624

NEW 1920 4½h.p. Quadrant Combination; £145. Shepherd, Enfield Highway. Tel.: Waltham Cro 31. [034

QUADRANT 7-9h.p., Enfield gear, new condition pillion seat; £90.—H.S., 33, St. Stephen's Rd Bow, E. [563

QUADRANT 3½h.p., spring forks, Bosch, £17/1 wicker sidecar, £5/10; gift.—Bambridge, 43, Rive side, Kingston-on-Thames. [X463

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4. New 4½h.p. 1921 Quadrant combination, wi wind screen, £147/15; also 4½h.p. 1920 Quadra combination, excellent condition, £120. [62

1920 Quadrant Combination, fitted Cameo scree all lamps, horn, etc., as new, mileage und 300; bargain, £130; exchanges or easy terms Homac's, 243, Lower Clapton Rd., N.E. 'Phon Dalston 2408. [63

CLIFFORD WILSON Mfg. Co., 70, Royal Hospi Rd., Sloane Sq., S.W.3. Tel.: Kensington 71 Quadrant sole agents and wholesale distributers London, Southern and Eastern Counties. Immediate livery from stock of new 4½h.p. and 5h.p. models; spares. Single and 2-seater sidecars ready for imm diate fitting. Deferred payments arranged. [54

Radco.

£30.—Radco 2-stroke, excellent condition, m.p.g., electric light.—Seen, 35, Freegrove R Holloway, N.7. [62

RADCO Lightweight, single-speed, as makers' spe fications, shop-soiled; at greatly reduced pri now is the time to buy.—Mebes, 154-156, Gt. Portla St., W.1. 'Phone: 3426 Mayfair. [7

Raleigh.

RALEIGH.—We can give delivery of this new mo early in February. Book now and avoid appointment. — The Wimbledon Park Engineer Works, Ltd., 74, Arthur Rd., S.W.19. Tel.: Wimbledon. [6

Reading-Standard.

1921 Reading-Standard Combination, dynamo li ing, electric horn, Stewart horn, Tan-Sad, B ing screen, disc wheels, mirror, £20 worth spa mileage 400; cost £240, accept £160; exchange A.J.S. Sunbeam, Matchless, Triumph.—60, Wall lord Av., N. Kensington, W. [6

Rex.

3½h.p. Rex, free engine, less mag.—Apply, Gar 2 Laindon, Essex. [6

REX Combination, 4h.p., handle start, 2-speed, ex lent condition; nearest to £35.—102, Harold Upton Park. [5

REX Twin, 6h.p., 2-speed, 1913, stored 5½ y splendid condition; £60, or exchange lower po —Box 1,323, c/o *The Motor Cycle*. [5

£28.—3½h.p. Rex, new mag., Grado gear, belt, good tyres, splendid appearance; sacrifice, Parnaby Terrace, Hunslet Carr, Leeds. [5

3½h.p. Rex, powerful machine, semi-T.T. bars, 2 justable pulley, P. and H. lighting, Klaxon h sacrifice £32.—Wright, 14, Gordon Rd., Aldershot. [

Rover.

1919 6h.p. Rover, splendid condition; £1 Wright's, Saffron Walden. [

ROVER, 2¾h.p., recently overhauled; £15. — Phineas Pett Rd., Well Hall, S.E.9. [

NEW 1921 Speed Model Rover, 75 m.p.h., imme delivery; £115.—Marston, 31, Bridge St., Ch [

6h.p. Rover, 2-stroke, Bosch mag., hood, screen, good running order; £50, or near.—Botting, B stoke. [

1919 3½h.p. Rover, T.T., Philipson pulley; £ Newbury, Friars Stile Lodge, Richmond Surrey.

1914 3½h.p. Rover Combination, 3-speed, l horn; £42/10.—Writer, 163, Kennington London. [

MOTOR CYCLES FOR SALE.

Rover.

1h.p. Motor Cycle, Rover frame, tank, footboards, 2 Triumph hack forks; offers.—Bird, 91, Pelham South Kensington, S.W.7. [6163

9 16 3½h.p. Rover, Philipson, Cowey, overhauled, complete, perfect, insured; £55, or offer.— 1,375, c/o *The Motor Cycle*. [6262

9 19 3½h.p. Rover Combination, excellent condition, for late model lightweight and cash.—Yates, 3, rs Rd., Cradley Heath, Staffs. [5772

9 20½ Rover, new July, 3½h.p., 3-speed, done 1,500 solo only, horn, lamps, speedometer, as new; 15.—Box 1,374, c/o *The Motor Cycle*. [6261

OVER 1919 T.T., guaranteed perfect throughout, pass anything, fully equipped; must sell; £82, near.—4, West End Terrace, Southport. [8170

OVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery.—Collard, Cook's Garage, Shifnal. [2684

6h.p. Rover Combination, new Feb., 1920, all-chain enclosed drive, Easting wind screen, accumulator tric lighting, Klaxon, Watford speedometer, mirror; 5.—Fasken, Spreadeagle Hotel, Midhurst, Sussex. [5064

OVER Combination, 5-6h.p., run 300 miles only, fully equipped, as new; great bargain, £145.— one: Wanstead 48.—374, Grove Green Rd., Leyton- ne. [6350

OVER 3½h.p., countershaft model, also T.T. model, Philipson pulley, as makers' specifications, shop- d; at greatly reduced prices; now is the time to .—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 6 Mayfair. [7191

EW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick starter, and with smart conchbuilt ar; £180, or on deferred payments 5% extra, one rter deposit, balance by 12 monthly instalments.— rods, Ltd., 118, Brompton Rd., London. [5965

20 3½h.p. Rover, 3-speed, countershaft, clutch, kick starter, fully equipped, lamps, Klaxon, ford speedometer, knee grips, fitted Cox Atmos uretter, perfect condition, mileage 2,000, as new; ain, £98.—E. W. Larby, 14, Whitworth Rd., h Norwood, S.E.25. [6397

Royal Ruby.

20 Royal Ruby 3h.p., spring frame, as new; £85, for quick sale.—Mosedale, 30, Canterbury Rd., urn, N.W.6. [5765

18 8h.p. Royal Ruby, 3-speed, all-chain, like new; genuine bargain, £85.—20, Queen St., Hammer- h Broadway, W.6. [6020

20 Royal Ruby 3h.p., spring frame, kick start, 2-speed; immediate delivery; £120.—The Clydes- Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

19 Royal Ruby Combination, 4h.p. J.A.P., 3-speed Sturmey countershaft, Millford sidecar, hood, etc., diddy equipped; £85.—24, Cottage Grove, Surbiton. [5991

OYAL RUBY 1920 3h.p., spring frame, 200 miles; cost November equipped £130, sell £120, or ex- ge more sporty 'bus.—Box 1,324, c/o *The Motor* [5716

p. Royal Ruby, spring frame, 2-speed, clutch and kick-starter, equipped with Tan-Sad pillion seat, s, mechanical horn, etc., very little used and con n as new; £100; may be obtained on Harrods red payment system.—Horrods, Ltd., 118, Bromp- Rd., London. [5963

Rudge.

DGE 3½h.p., perfect running order; £45.— Marston, 31, Bridge St., Chester. [6155

16 Rudge Multi 3½h.p., lamps, horn, tools; £55. —Redland House, Carshalton Rd., Sutton. [5856

DGE 1919 Isle of Man Model, full T.T. bars, long exhaust, very fast; £80.—Parker's, Bradshaw- Bolton. [X4720

20 I.O.M. Rudge Multi, brand new, £95; W.D. Douglas 2¾h.p. part exchange.—70, Beecher Rd., y, Staffs. [X4690

Deposit paid on Rudge Multi, to be delivered 1921; cannot finish paying. Sell £10.—Box 1,162, *he Motor Cycle*. [4852

4 3½h.p. Rudge Multi, excellent condition through- out, stored 4 years; sacrifice £40.—Walton, Daw- n., Burnley. [X4685

DGE Multi 1915 3½h.p. Clutch Model, T.T. bars, lamps, horn, speedometer; £48.—R. D. Varty, ersley, Essex. [3711

DGE Multi 1920 3½h.p., unused, with Canoelet linor sidecar, complete with lamps, etc.; £125. lford Motor Co., Ltd., Hereford. [5004

p. Rudge Multi, T.T. bars, fully equipped and egistered, only done 100 miles, as new; sacrifice White's Garage, Hinckley. [X4611

0 Rudge Multi, as new, with lamps, horn, tools, nly done 500 miles; bargain, £95.—Apply, Barks- tation Parade, Gerrards Cross, Bucks. [5600

CST Model 6h.p. Rudge Combination, £150; itest model T.T. 3½h.p. Multi, £110/5; imme- deliveries from stock.—Marston, 31, Bridge St., [6148

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RUDGE I.O.M., 1920, mileage 800, overhauled by makers, very fast, with or without lightweight sidecar; best offers.—L. West, 71, Norbury Crescent, Norbury, S.W.16. [0376

£40.—3½h.p. T.T. Rudge Multi, believed 1915-16, clutch, kick starter, wide tank, foot oiler, excellent condition, guaranteed.—89, East Hill, Wandsworth, S.W.18. [6102

RUDGE Multi and Sidecar, fully equipped, condition equal to new; bargain, price £75.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6326

1920 I.O.M. Rudge, Lucas lamps, Cowey speedometer, in superb condition; £95; exchanges or easy payments.—Blomac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6372

RUDGE, 3½h.p., N.S.U. gears, good order throughout, lamps, spares, tools, under 200 lb., must sell; accept £42 lowest.—Spindler, Little Glemham, Suffolk. [6084

1913-14 3½h.p. Rudge Multi and C.B. Sidecar, hand clutch, new back wheel, new handle-bars, engine overhauled by makers, lamps, tyres good condition, full kit tools, spares, etc.; £50.—Yates, 151a, Clapton Common, E.5. 'Phone: Dalston 1475. [6164

Scott.

SCOTT Combination, 1915, mechanically perfect; £50; must sell.—Moss, 496, Oxford St., W. [5698

IMMEDIATE Delivery 1921 Scott motor cycle and combination, in stock.—Millards, Chesterfield. [4003

1914 Scott, perfect order, £11 spent on sundries; sell £34.—Sinclair, Blencathra, Walton-on-Thames. [5913

NEW 1921 Scott Semi-T.T. Model; £130; immediate delivery from stock.—Marston, 31, Bridge St., Chester. [6150

SCOTT, 1920, and sidecar, mileage 200, as new, fully equipped; £140.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5520

1920 Scott, absolutely as new, done very little mileage; £110.—Seen at Enterprise Cycle Co., Queen's Rd., Nuneaton. [6110

SCOTT (Nov., 1919), and sidecar, good condition, low mileage, lamps, tax; what offers?—Norton, Storth House, Fulwood, Sheffield. [6056

1920 T.T. Scott, mileage under 500, condition as new, tyres unpunctured; price £95; any trial.—Hall's Garage, Ltd., Stevenage. [5656

1920 Scott Combination, speedometer, electric lamp set, horns, done 500 miles; what offers?—Grimes, 18, Bruton Place, Bond St., W.1. [6310

SCOTT, 1920 sports model, horn, tools, very small mileage, enamel as new, plating fair, perfect order; £110.—D. Lavin, Old House, Sonning, Berks. [5090

1920 Scott and Canoelet Sidecar, new July, D.A. cylinder, little used, excellent order; £130, or exchange solo machine and cash.—Martin, 212, Harrowby Rd., Grantham. [5762

SCOTT Combination, 1915-16, completely overhauled, enamelled and plated, all new tyres, chains, etc., as new; £95.—Mylam, 197, London Rd., Croydon. 'Phone: 2379. [6160

SCOTT, 1919, with all 1920 improvements, fitted with dynamo lighting, Binks carburetter, oversize driving tyre, spare chains, spare tube, special footrests, 1920 Scott sidecar with specially built aluminium body; price £135.—Wharfedale, Box 66, c/o *The Motor Cycle*. [X4679

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NEW 2½h.p. Sparkbrook, Villiers engine, single-speed £69, 2-speed £75; or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5967

SPARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra finish, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7195

Sun.

1920 Sun-Vitesse, 2-speed, fully equipped, as new; £53.—36, St. Thomas Rd., Hackney, E.9. [5935

4½h.p. Sun-Precision C.B. Combination, sprung wheel, speedometer, lamps, horn, 2 generators, tyres good, mechanically perfect.—62, Galloway Rd., W.12. [5881

NEW 2¼h.p. Sun-Vitesse, 2-stroke engine, single-speed, £55; 2-speed, £64; ditto, with clutch and kick starter, £70; lady's model, ditto, £73; or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5971

Sunbeam

NEW 1920 Sunbeam 3½h.p. Solo; £155/8; in stock. —Randall, Andover. [0366

1921 Sunbeam, £5 under list price.—Full particulars, apply Goodman, Ellesmere, Northampton. [5798

SUNBEAM, 1920, 3½h.p., brand new; £140.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5526

NEW 3½h.p. Sunbeam Combination, in crate, for immediate delivery; £200.—Merilees, Cedar Av., Chelmsford. [X4738

MOTOR CYCLES FOR SALE.

Sunbeam.

SUNBEAM Brand New 3½h.p., solo model, complete with Lucas lamps and horn; £157/10.—The Walsall Garage, Walsall. Tel.: 444. [4008

1919 3½h.p. Sunbeam Combination, speedometer, lamps, horn, tools, etc., as new.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [6281

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

SUNBEAM 3½h.p. 1919 (French Military Model) Combination, all accessories, excellent condition; £145.—Gaussen, Potten End, Berkhampsted. [6188

8h.p. Sunbeam Combination, 1919, in good condition, electric light, quantity spares, including overalls; £160, or near offer.—Liddiard, Downing St., Cambridge. [5785

SUNBEAM Combination de Luxe, 8h.p. (1919¾), full Sunbeam equipment, wheel, hood, screen, speedometer, Tan-Sad, insurance; £220, nearest.—Brady, Dentist, Blyth. [5606

SUNBEAM 3½h.p. Combination, fully equipped, excellent appearance and order; £110.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6323

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—1919 8h.p. Sunbeam combination, spare wheel, hood, screen, lamps, speedometer, mirror, warning signal, tools, condition as new; 190 gns.; easy terms. [6299

SUNBEAM.—We are Wolverhampton agents. Spare parts in stock. Repairs and overhauls. Estimates upon request for re-enamelling and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

1920 3½h.p. Sunbeam, perfect, mileage under 200, semi-T.T. bars, leg-shields, latest Binks 3-jet carburetter; owner bought car before delivery; cost £160/10, first offer £140 secures.—Capt. Clark, Aerodrome, Upavon, Wilts. [5755

3½h.p. Sunbeam, 1920 model, oil bath chain cases, laminated front spring fork, lamps and horn, Sunbeam No. 1 sidecar fitted two months ago, tyres almost unmarked; cash offers invited.—G. Smith, *The Motor Cycle*, Coventry. [X3306

SUNBEAM Combination, 8h.p., Lucas Magdyno lighting set and horn, hood with side curtains, wind screen, luggage carrier, leg shields, handle-bar muffs, etc., mileage 500, condition absolutely as new; cost £285; £240.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6302

1920 Sunbeam 8h.p. Combination, Lucas dynamo lighting, electric and mechanical horns, speedometer, hood, screen, spare wheel, luggage carrier, mileage 2,000; owner buying 1921 outfit; cost £290 in August, accept £245.—Philpot, 34, St. George's St., Canterbury. [6071

SUNBEAM 1918 8h.p. Combination, M.A.G., overhauled, excellent condition, electric lights, 9in. head lamp, wind screen, spare wheel, tyre, luggage grid, speedometer, recently insured; £210, nearest £175; exchange and cash for touring car.—Barnett, 17, Lanehan St., Scunthorpe, Lincs. [6316

Triumph.

NEW 1921 Triumph S.D. Solo; £140; in stock.—Randall, Andover. [0365

1920 (July) Baby Triumph 2-stroke; £68; as new.—39, Cecil Av., Enfield. [5776

NEW 1921 Triumph S.D. Combination; £195; in stock.—Randall, Andover. [0364

1920 T.T. 4h.p. Triumph Solo, shop-soiled; £100.—Wright's Garage, Saffron Walden. [6255

4h.p. Triumph, re-enamelled 1920 colours; must sell, £60.—1, Othello St., Liverpool. [5869

1916 Triumph, countershaft, 3-speed, hand clutch; £68.—36, St. Thomas Rd., Hackney, E.9. [5934

60 GNS.—Triumph 1915 C.B. combination, nice lot.—308, Upper Richmond Rd., Mortlake. [X4643

TRIUMPH 3½h.p., variable gear, perfect running order; £35.—Marston, 31, Bridge St., Chester. [6156

4h.p. Triumph; solo £105, combination £125.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [6283

TRIUMPH, 4h.p., countershaft, 1920, brand new; £120.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5531

TRIUMPH Combination, variable gears, dynamo, B.B., Bosch, spares; £55, offer.—169, Harvist Rd., Kilburn. [5807

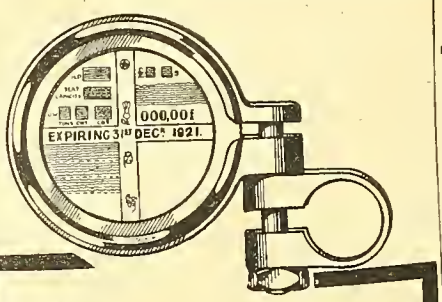
1916 Triumph 2-stroke, thoroughly overhauled, new tyres; £38.—12, The Quadrant, Winchmore Hill, N.21. [5228

1917 Triumph T.T. 4h.p., countershaft, new lamps, complete; any trial; £75.—Burnett, Rowsley, Derbyshire. [X4759

TRIUMPH 1920 4h.p., Triumph sidecar, speedometer, etc.; £175, as new.—Parker's, Bradshawgate, Bolton. [X4721

TRIUMPHS.—A fine selection of Triumphs in stock, fully guaranteed; inspection invited.—Ross, 86, High Rd., Lee. [5671

1920 Triumph, all-chain, 3 weeks old, mileage 70, unscratched; £119; after 6.—41, Madrid Rd., Barnes, London. [6356



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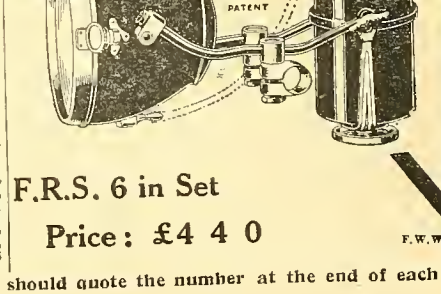
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MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH-GLORIA, Nov., 1919, screen, luggage grid, all accessories; £135.—28, Hambledon Rd., Southfields, S.W. [5725

TRIUMPH T.T., 1915, perfect condition, as new, all accessories; £60, offers.—Garaged at 537, Holloway Rd., London, N. [5849

TRIUMPH Coachbuilt Combination, new 1919, hood, screen, horn, and spares; £105.—K., 38, Marlow Rd., Anerley, S.E. [5937

1914 Triumph Coachbuilt Combination, 3-speed clutch, good condition; £65.—29, Broughton Rd., West Ealing. [6183

TRIUMPH, 1918, C.S., discs, lamps, horn, in perfect condition; £80.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5521

TRIUMPH 1914, 3 speeds, clutch, new saddle, belt, tyre, electric light, perfect condition; £55.—60, Why Mark Av., Wood Green. [5981

1921 4h.p. Triumph, countershaft model, in stock for immediate delivery.—J. Smith and Co., 52,54, Hampstead Rd., N.W.1. [0351

1914 4h.p. Triumph, 3-speed hub clutch, all accessories, good mechanical order; £48.—61, Gosset St., Bethnal Green Rd., London. [5601

1920 Triumph Gloria Combination, perfect; accept reasonable offer; buying car.—Parkinson, Milfield Drive, Monton Green, Manchester. [5725

3½h.p. Triumph, clutch model, overhauled and enamelled as new, Duplops, all accessories; £40.—Reeve, Cooper's Lane, Potter's Bar. [6181

TRIUMPH Combination, 1918, equipped, hood, wind screen; £110, or exchange for lightweight and cash.—143, Ravensbury Rd., Earlsfield, S.W. [6177

TRIUMPH C.S., renovated by makers, Nov., 1920, done 500 miles since, lamps, horn, speedometer, perfect; £85.—Dunn, 326, Euston Rd., N.W.1. [6321

TRIUMPH, 1920, countershaft model, run 8 miles only, not renovated; £100.—H. Richardson, 1, Kelton Villas, Hawks Rd., Kingston-on-Thames. [6177

1917 Triumph Combination, countershaft, just been overhauled, guaranteed perfect, accessories; £8 —Langford's, 37, Cricklewood Broadway, N.W.2. [6277

TRIUMPH 1916 Countershaft 4h.p., lighting set, excellent condition; 70 gns.; take lightweight in exchange.—51, Kendall Rd., Beckenham, S.E. [6077

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, mileage about 500; £68.—D. Lavin, Old House, Sonning, Berks. [5677

TRIUMPH Combination, 1919, countershaft, Sunbeam 45 gn. sidecar, all lamps, horn, tools, new condition; £125.—Sutton, Pier Av., Clacton-on-Sea. [6077

BABY Triumph, new June, 1920, perfect order and condition, complete with tools and accessories, insured (transferable); £58.—3, Finchley Av., Finchley, N.3. [6177

1920 Triumph Combination, wind screen and accessories, done very little mileage, in good condition; £145.—Bounds, 223, High Rd., Kilburn, N.W. [5977

1919 Triumph, hulhous back sidecar, speedometer, lamps, spares, etc., insured for £175, excellent condition; £125.—Stoate, 46, Ruthin Rd., Blackheath, S.E. [5977

APRIL, 1920, Triumph and Gloria, perfect condition, mileage 1,500, all lamps and accessories, first offer over £125.—Hunter, 254, Firs Lane, Leigh, Lancs. [5977

TRIUMPH, 1918-19, countershaft, speedometer, accessories complete, thoroughly reliable, ready to go anywhere; £90; week-ends.—64, Ballock Rd., Catford. [6177

1920 Triumph and B.S.A. sidecar, 2,600 miles, luggage grid, Stirling legshields, horn, lamps, speedometer, etc.; £145.—Verity, Longfield House, Longfield, Herts. [X4777

TRIUMPH 4h.p., Sturmey countershaft, new unused; £117 (makers' price £127/10); make contract delivery date January 20th.—16, The Mount, Whitley, Reading. [6177

1914 3½h.p. Triumph Coachbuilt Combination, 3-speed S.A., engine, gears overhauled, in good condition throughout; £65; trial.—Ford, Sotwell, Wallingford, Berks. [X4777

JUNIOR Triumph, 2-speed, excellent condition, equipped, leg shields, undershield, large P. and plated lamp set, Lucas horn; £55.—Marks, 121, Lane, Chiswick, W.4. [6177

4h.p. Triumph Projectile Combination, 1914, exceptional condition, 3-speed, clutch, K.S., electric, insured all on; £65; exchange 2¾h.p. Douglas and cash.—Lytton Rd., Leytonstone. [6177

TRIUMPH, 1918, as new, 3 speeds, clutch, kick start, etc., £88; also 1913, free engine, and Canoelet sidecar, £55.—Dentistry, 769, Romford Rd., Manor Park, London, E. [6177

1919 (October) Triumph, Millford sidecar, electric lighting, Easting screen, oversize tyres (nearly new), discs, speedometer, Klaxon, spares, and mileage under 3,000, in excellent condition; open for examination; £135, or exchange with cash for Enfield; seen by appointment.—Searle, The Putney Heath Lane, S.W.15. [6177

MOTOR CYCLES FOR SALE.

Triumph.

1919 Triumph Gloria Combination, lamps, speedometer, horn, perfect throughout; £107.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. Tel.: Kensington 3709. [6355

TRIUMPH 4h.p. Combination, as new, 3 speeds, clutch, kick start, speedometer, lamps, etc.; any trial; £110; Saturday or Sunday morning.—3, West Gardens, Robinson Rd., Tooting. [6002

TRIUMPH 1921 Models in stock for immediate delivery; exchanges arranged; also Triumph Model H., renovated by makers, as new, £105.—Eagles and Co., 275, High St., Acton, London. [X4737

TRIUMPH, 1919 (June), tyres new, spare valve, Lucas lamps, horn, coachbuilt torpedo sidecar (nearly new), complete, apron, large locker, 6 months' insurance; £105.—Gibson, 42, Murray Rd., Rugby. [X4730

1914 Triumph 4h.p., Sturmey-Archer 3 speeds, and clutch, Bosch, lamps, etc., in excellent condition, just overhauled by makers, new spare tyre; 50 gns.—Borrow, Padnell Farm, Cowplain, Cosham, Hants. [6058

1920 Baby 2-stroke Triumph, only done 300 miles, complete with 2 Lucas lamps and horn, new spare tube, fully insured, and 1921 tax paid; owner bought car; £67/10.—Hadon, 6, North St., York. [6213

1919 (Sept.) 4h.p. Triumph with Mills-Fulford sidecar, Cowey speedometer, 3 Lucas lamps with generators, Lucas horn, and Triumph mudshields; £135.—Brook Bros., Barnham-on-Sea, Somerset. [5654

TRIUMPHS.—We are the North London agents, and can give immediate delivery. Chain drive, chain-cum-belt, and renovated models.—Jones Garage, Maswell Hill, N.10; and at Woodside Parade, North Finchley. [0382

BARGAIN.—Triumph-Gloria combination, new just over 12 months' ago, engine No. 66758, lamps, horns, Easting, tools, appearance suffered slightly, mechanism excellent; first £95 no P.C.'s or offers.—Keen, Leominster. [6061

NEW 1921 Triumph, all-chain model, £140; new 1921 Triumph, chain-cum-belt, £127/10; new 1921 Triumph Junior, £75; 4h.p. W.D. B model Triumph, £105; immediate deliveries from stock.—Marston, 31, Bridge St., Chester. [8149

TRIUMPH, 1919, with Gloria Sidecar de Luxe, only done 4,700 miles, in splendid condition, spare tyre, 2 spare inner tubes, hood, Tan-Sad, 2 wind screens, speedometer, lamps, horn, etc., and all spares; £160.—W.C., 19, Tillotson Rd., Ilford. [5607

TRIUMPH 1921 4h.p., countershaft model, £127/10; 4h.p., Type W.D.B., £105; 4h.p., all-chain drive, £140; 4h.p., fixed engine, sporting, £105.—Cambridge agents for Triumphs, Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995, T.A.: Bicycles. [6413

1920 Triumph Combination, 1,200 miles only, Lucas lamps, horn, Watford speedometer, handle-bar clock, aluminium footboards, Gloria sprung wheel sidecar, Easting wind screen, luggage and petrol carrier, Dunlops, unpunctured; price £145, or near offer.—Spurr, 144, High St., Stevenage, Herts. [5658

1920 Triumph Spring Wheel Gloria Combination, latest all-chain, as illustrated page 830, "The Motor Cycle," Dec. 16th, perfect condition, Watford speedometer, Easting wind screen, detachable extra seat in sidecar, horn, lamps, clock, Tan-Sad, spares; £180; owner going abroad.—Bartholomew, Old Woking. [5618

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4h.p. 1921 Triumph solo, delivery from stock, £127/10; also new 1921 4h.p. Triumph combination, all-chain drive, £195; new 4h.p. 1921 Triumph solo, all-chain, £140; and 4h.p. W.D. Triumph solo, £105; also 1920 4h.p. Triumph combination, £152/10; 4h.p. Triumph, 1915, £65; and 4h.p. Triumph, 1914, £55. Easy terms or exchanges arranged. [6235

Trump.

4h.p. Trump-Jap, tyres, belt new, Bosch, B.B., long exhaust; any trial; £31.—Ford, Sotwell, near Wallingford, Berks. [X4753

Velocette.

1919 Velocette, 2-speed, chain drive, lamps, perfect; £42/10.—1, Othello St., Liverpool. [5870

1914 Velocette, nearly new tyres, lamps and belt; 32 gns.—Allston, Bergholt, High St., Harpenden. [5987

1921 Velocettes, latest models; immediate delivery; lists free.—J. C. Phipp, Sherston, Malmesbury, Wilts. [6121

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [4708

VELOCETTE, 2-stroke, 2-speeds, all chain drive, new tyres, lamps, horn, tools, in splendid condition; £34.—A., 136, Ravensbury Rd., Earlsfield, London, S.W. [6048

IMMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¾h.p., 2-speed, all-chain drive; £75.—Agents: W. Sparrow, Ltd., Osborne Garage, Yeovil. [1632

VELOCETTE, the lightweight with a big heart, in stock for immediate delivery, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W1. 'Phone: 3426 Mayfair. [7196

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£38 down and 8 monthly payments of £7/10 secures a brand new shop-soiled 1920 Verus-Blackburne 2-speed 2¾h.p.—Maudes' (below).

£40 down and 8 monthly payments of £8/15 secures a brand new 4h.p. 3-speed Verus Blackburne.—Maudes', 100, Gt. Portland St., W.1; and Peris St., Exeter. If these prices do not meet with your approval read our centre page advertisement, and you will see our other offer. [6421

Villiers.

VILLIERS-WOLF 2¾h.p., semi-T.T., 2-speed, fully equipped, insured till March, late model, mileage 900, buying car reason; £50.—Neeson, 74, High St., Erith. [5636

Wilkin.

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7197

Williamson.

WILLIAMSON Combination, 8h.p., Douglas engine, 2-speed, kick start, electric lights, all on; £120; lower power part — 67, Kenbury St., Camberwell, London. [6198

WILLIAMSON Combination, 8h.p., K.S., water-cooled, oversize tyres, in perfect condition, all on; trial any evening; price £100.—Thompson, 10, Ulverstone Rd., West Norwood, S.E.27. [5821

Wolf.

2¾h.p. Wolf-Jap, thorough good order; any trial here; £28.—The Lord Kitchener, Coppermill Lane, Walthamstow. [6207

1920 Shop-soiled Wolf Machines, fitted with Blackburne, J.A.P., and Villiers engines, and Sturmey-Archer gear boxes; cheap to clear.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [6284

Wooler.

WOOLER, 1920, unused, with all lamps, tools, footboards, etc.; offers.—11, Rochester Terrace, Camden Rd., N.W.1. [6194

WOOLER, 1920, as new, many spares, electric lights; £78.—Henry, 22, Grosvenor Rd., Chiswick, W.4. 'Phone: Chiswick 1186. [6092

WOOLER 1920 Model, second-hand, good condition, accessories; price £85.—On view, Cyclo Dept., A.N.C.S., Ltd., 105, Victoria St., S.W. [5632

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. Wooler 1921 touring models from stock, £103/10; also 2¾h.p. Wooler, 1920, £75; easy terms. [6296

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7192

Zenith.

ZENITH 5h.p. Sports, 1920, as new, mileage 200, £105.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5528

ZENITH 8h.p. Sports, 1920, new, unregistered; £120.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5529

NEW 1921 Zenith 5h.p. Sporting Model; £123; immediate delivery from stock.—Marston, 31, Bridge St., Chester. [6151

ZENITH 1920 Sports Model, 8h.p.; £98.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6327

1920 8h.p. Zenith Combination, Klaxon, speedometer, electric lights; best offer, must sell.—17, Garden Av., Mitcham, S.W. [6111

GENUINE Bargain.—Zenith 8h.p. sporting solo, 1920, new; £125.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [0319

ZENITH 1921 Models.—We are accepting orders for early delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3262

ZENITH Combination, 4h.p., nearly new C.B. body, leather belt, and Wood-Milne back, engine recently overhauled; £40.—96, Wickham Rd., Brockley, S.E. [5875

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7193

ZENITH 1919 8h.p., countershaft, original tyres, and belt almost new, perfect order, semi-T.T bars; £115.—H. Robinson, Brewery, St. Helens, Lancashire. [6109

1916 Zenith 8h.p. Combination, countershaft model, kick start, perfect condition, carry 3 anywhere; £85, bargain.—Marks, 3, Shoe Lane, E.C. 'Phone: Holborn 3116. [5714

LATE 1919 6h.p. Sporting Zenith, done 3,000, new tyres, full accessories, very fast; any trial; £85 for quick cash sale.—'Phone: Hampstead 5982.—3, Belsize Place, N.W.3. [5640

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1920 Zenith 4-5h.p. Sporting, actual Olympia Show Model, complete with tools, spare belt, belt box, etc., perfect condition; £95.—Guard, 22, Vicarage Rd., Henley-on-Thames. [6009

1920 5h.p. Sports Zenith, specially tuned by J.A.P.'s, tungsten steel racing valves, mileage approx. 500, new condition; £100.—Williams, 55, Beckenham Lane, Bromley, Kent. [5931

ZENITH 6h.p. J.A.P., 1914, recently overhauled, splendid running order, good tyres, lamps, etc.; £65, or exchange for lighter machine.—Shilvock, 47, Spaney Hill, Addlestone, Surrey. [5611

ZENITH, 6h.p. J.A.P. engine, 1919, clutch, kick starter, countershaft, coachbuilt Gloria sidecar, wind screen, every refinement in accessories; £140.—103a, High St., Wandsworth, S.W.18. [6396

1919 4-5h.p. Sports Zenith and light Millford coachbuilt sidecar, speedometer, lamps, mechanical horn; £93; or solo £90.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [3842

MUST be Sold.—Zenith-Gradua 8h.p., sports model (guaranteed late 1919), and Mills-Fulford C.B. sidecar, complete with lamps and tools, in perfect condition; first £100 secures.—Carter, The Lawn, Sheffield Rd., Chesterfield. [X4741

ZENITH-J.A.P. 8h.p. 1915 Combination, clutch, countershaft, electric horn and lighting, screen, speedometer, Bosch, Binks, accessories, with insurance; £110, no offers.—Clark, 31, Ferndene Rd., Herne Hill, S.E.24. [5865

NEW 8h.p. Zenith Model H Combination; £204, or on deferred payments; one-fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd 118, Brompton Rd., London. [5968

1920 8h.p. Sporting Zenith, perfect appearance and mechanical condition, Bonniksen speedometer, mileage 1,050, Lucas lamps, Cowey horn, knee-grips, D.A. cylinders, etc.; £130.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [6414

ZENITH (Sept., 1919) Sports Model, mileage under 3,000, fitted with Canoelet sporting sidecar, with coachbuilt cover, aluminium dash, Auster Triplex screen, and disc wheel, acetylene head, side and tail lamps, hand Klaxon, speedometer, and usual toolkit, sporting outfit, in splendid condition, and a bargain at £150.—Appointment to view, etc., Edgar, 1, Warwick Rd., Ealing, W.5. [5662

Ladies' Motor Cycles.

1917 Lady's Ivy, 2-speed, 2-stroke, in perfect order; £32, first cheque secures.—Write, 9, Melbourne Rd., Leicester. [X4772

DOUGLAS 2¾h.p., lady's frame, good running order, 3-speed, kick start, accessories; what offers?—Williams, 47, Mill St., Bridgnorth. [4693

1921 Triumphs, Scotts, Bradburys, James, Rudges, Campions, Morgans, etc.—Ewens, Garage, King's Lynn. [3659

Miscellaneous.

BARGAINS.—1920 Harley and sidecar, £175; 1920 6h.p. Ariel and sidecar, £135/10.—Booth's Motories Halifax.

BARGAINS.—Shop-soiled Harleys, Ariels, O.K.'s, Omegas, Quadrants; cheap.—Booth's Motories, Halifax.

BARGAINS.—1919 P. and M. and new sidecar, £120; 1914 Rudge Multi and sidecar, £59/10.—Booth's Motories, Halifax.

BARGAINS.—3-speed Indian and sidecar, £59/10; 7-9h.p. Harley and sidecar, £92/10; 6h.p. Rex combination, £49/10.—Booth's Motories, Halifax.

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BARGAINS.—1914 Scott, £55/10; 2¾h.p. Imperial-Jap, 2-speed, £38/10; 1919 Royal Ruby 6h.p., 3 speeds, £95/10; 1920 Scott and sidecar, small mileage, £145. Exchanges.—Booth's Motories, Portland Place, Halifax. Tel.: 1062. [5917

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JONES' Garage.—1917-18 4h.p. Douglas combination, accessories and wind screen; £87/10.

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JONES' Garage.—1916 Levis, all accessories, in good order; £35.

JONES' Garage.—1914 4h.p. 3-speed Triumph, overhauled, perfect; £52/10.

JONES' Garage.—1920 2¼h.p. Villiers, 2-speed, as new, perfect; £52.

JONES' Garage.—Late 1919 P. and M. combination, all as new, not W.D.; £110.

JONES' Garage.—1914 Indian 7-9h.p., 2-speed, overhauled, as new; £70.

JONES' Garage.—1919 2¼h.p. Enfield 2-stroke, all accessories, and as new, 2-speed; £57/10.

JONES' Garage.—1920 Hobart, 2¼h.p. Villiers, brand new; £50; £10 under list price.

JONES' Garage.—1919 Ariel 3½h.p., competition machine, 1919 Edinburgh gold medal with sidecar, 1919 Six Days with sidecar silver medal, 1920 Edinburgh gold medal, London-Exeter finished to time with sidecar but disqualified; this machine is as good as new, fully equipped, and some 3½h.p.; bargain, £100.

JONES' Garage.—1920 8h.p. Bat, unused, list price £165, soiled; price £145.

JONES' Garage.—1918 7-9h.p. Harley combination, thoroughly overhauled, perfect, a real bargain, not W.D.; £110.

JONES' Garage.—1919 7-9h.p. Harley combination, not W.D., electric model, all accessories; a real snip, £147/10.

JONES' Garage.—1919 James 6-7h.p. twin combination, all accessories, perfect; £130.

JONES' Garage.—1920 Metro-Tyler Model S, not done 50 miles, guaranteed perfect, cost £94, one of the neatest 2-strokes on the road; £65.

JONES' Garage.—1917 Norton Combination, 3-speed, all chain drive, all accessories; a real good snip, £110.

JONES' Garage.—1920 O.K. Union, brand new; we have several to dispose of, dirt cheap; £44; £6/8 under list price.

JONES' Garage.—1917 4h.p. Triumph, 3-speed, T.T. bars, perfect order; £77.

JONES' Garage.—1917 4h.p. Triumph, 3-speed, T.T. bars, and almost new, Millford sidecar, perfect order; £100.

JONES' Garage.—1919 2¼h.p. James 2-stroke, 2-speed, all accessories; bargain, £52/10.

JONES' Garage.—3½h.p. Triumph, 1917, Philipson pulley, all in perfect order; dirt cheap, £40.

JONES' Garage.—1917 8h.p. Sunbeam combination, M.A.G. engine, Lucas dynamo, electric light throughout, hood, screen, spare wheel, etc., a real good outfit; a gift, £155.

JONES' Garage.—1920 4h.p. Douglas combination, absolutely as new; a snip, £145.

JONES' Garage.—1919 3½h.p. Rudge Multi, like new; £82.

JONES' Garage.—1920 2¾h.p. Wooler, brand new; list price £103, accept £87/10.

JONES' Garage.—We have a great number of new machines, all at bargain prices for cash; deferred payments; list price no extra. Our stock consists of Ariels (3 models), B.S.A. (model H, A, B, C), Bat, Blackburne, Clynos, Douglas, Enfields, James, Levis, Matchless, New Imperial, O.K., Rovers (2 models), Triumph (models H and S.D. and renovated).

JONES' Garage.—All tax paid on machines purchased from this date. Our motto is fair and square dealing, which cannot be found everywhere. Any machine sent upon the deposit system, or upon the deferred system. Send for our big list.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [5924

£23, 1915 Peco 2¾h.p., 2-speed, good condition; also 6h.p. Bat, clutch, £30; bargains.—22, Princess Rd., Finsbury Park, London. [5942

MOTORCYCLETTE, open frame model, Wall unit, 2-speed, footboards, undershield, weight 80 lbs.; bargain, £27; approval; photo, stamp.—Sanguinetti, Egerton, Kent. [6306

REAL Bargains in Motor Cycles, sound machines, ready to ride away; £20, £30, £40. Engines, magnetos, oddments; cheap.—M. Flanagan, 86, Copenhagen St., Islington, London. [6267

2¼h.p. Motor Cycle for Sale, in good condition, 22 ready for the road, £28; also 3½h.p. air-cooled Bat engine, on stand, suitable for stationary work, £4.—51, Ratcliffe St., Leveushulme, Manchester. [X4623

BARGAINS.—Please peruse our advertisements in small columns. We are disposing of our large stock of shop-soiled models at greatly reduced prices. Do not wait. Come and buy at once. The offer may not occur again.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7194

MOTOR CYCLES FOR SALE.

Miscellaneous.

BUY it Now at Lamb's. New and second-hand outfits at ridiculous prices. Deferred terms if desired.—Lamb's, 287, Euston Rd., London, N.W.1, 151, High St., Walthamstow, and 50, High Rd., Wood Green, N. [5889

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Little used Douglas combination, £120; Ixion 2-stroke, £32; Campion-Villiers, 2-speed, £45; Enfield 2-speed 2-stroke, leg shields, electric lighting; new A.B.C., N.U.T., Lea-Francis, Ivy, Cedos; also Coventry Premier super runabout. [X1881

MOTOR Cycles (New Models), sidecars, and bodies actually in stock: B.S.A., Allee, New Scale, Radco (3 models), Triumph, Douglas, Sun Vitesse (for which we are the sole agents for the City of London), and others at lowest manufacturers' prices; carriage paid.—Bancroftian Co., 64 and 78, Bishopsgate, Leadee, E.C.2. [0356

1920 Hoskison-Blackburne 2¾h.p., countershaft gears, kick starter, clutch, X'all saddle, 2½in. Dunlops, 7in. guards, speedometer, Lucas horn, new condition throughout, £75; also 1921 Union 2-stroke, 2-speed, T.T. bars, 7in. guards, 2¾in. heavy Dunlops, X'all saddle, £50; compulsory sale.—105, Milner Rd., Selly Park, Birmingham. [6067

INDIAN 5-6h.p., clutch, good condition, bargain, £30; Metro-Tyler 2-stroke, 1919, as new, £35; Alldays Allen T.T. 2¾h.p., perfect condition, £32/10; King Dick 3½h.p., Grade gear, good running order, £22/10; A.C. carrier, 6-cwt., perfect order, £47/10; Smyker van, 15-cwt., good running order, good body, £60. Any exchange entertained.—Apply, Geo. A. Sax, 619, Garratt Lane, Earlsfield, S.W.18. [6100

E.O.C.H for new and second-hand cycles, combinations, and runabouts at low prices. Inspection invited. Agents for Triumph, F.N., Zenith, B.S.A., A.J.S., etc., also the famous Kingsbury Junior, Bleriot-Whippet, G.N. We will purchase your present machine for cash or arrange an exchange.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone Hampstead 3752. Hours 9-7, including Saturdays. [5900

BATCHELOR'S Bargains.—1920 Ariel combination, electric light, £115; 1920 Douglas 4h.p. combination, £125; 1920 4h.p. Triumph and sidecar, £125; 1920 P. and M. combination, £115; 1920 8h.p. Enfield combination, brand new, £150; 1918 Douglas 4h.p. combination, £85; 1918 Triumph combination, £105; 1918 8h.p. Clyno combination, £100; 1914 4h.p. Precision, twin, combination, £55; 1920 Douglas 2½ h.p., 3-speed, £75; 1916 Douglas, 2-speed, as new, £50; 1914 Douglas, 2-speed, £35.—Batchelor's, Clarence St., Kingston-on-Thames. [6333

BATCHELOR and Co., 36, Clarence St., Kingston-on-Thames (est. 1898), 'phone 1809, can supply from stock 1921 Triumph, chain drive, £140; 1921 Triumph, Model H, £127/10; 1921 Baby Triumph, £75; Triumph 4h.p. W.D.B., £105; 1921 Enfield 2-stroke, £65; 1921 Enfield 8h.p. combination, £160; 1921 Douglas, 3-speed, £100; 1921 Douglas, 2-speed, £85; 1921 Douglas, clutch, £105; 1921 Douglas combination, £170; 1921 Matchless combination, dynamo, £230; also 1921 Rover, Ariel, A.J.S., Allon, Bradbury, B.S.A. motor cycles; exchanges arranged. Montgomery sidecars, all models stocked; catalogue sent. [6334

MOTOR ATTACHMENTS.

AUTO-WHEEL, good condition; 11 gns.—E. Barker, 22, Vauxhall St., Lambeth. [5855

WALL Auto-wheel for sale, in perfect running order; £9/10.—Robinson, Salcombe Rd., Newbury, [D] [5645

FOR Sale, 1½h.p. 2-stroke Simplex engine for attachment to pedal bicycle, excellent condition, hardly used, owner having bought motor cycle; no reasonable offer refused.—Box 1,360, c/o *The Motor Cycle.* [5908

TRICARS FOR SALE.

A.C. Sociables, modern, fully equipped, mechanically sound, good appearance, from £60 to £85; trial.—9, Allsop St., Upper Baker St., London, N.W. [5809

TRICYCLES FOR SALE.

ARGSON Hand and Motor Propelled Tricycles, for invalid and disabled.—Particulars, Argson Eng. Co., Ltd., 3, Kendalls Mews, George St., W.1. [2647

MOTOR SCOOTERS.

A.B.C. Scootamota, new, £45; one slightly used, £35. —White's Garage, Hinckley. [X4613

MOBILE Pup Scooters, slightly used, from £22/10; new ones from £30.—White's Garage, Hinckley. [X4612

EGERTONS, Northgate, Ipswich, can deliver from stock A.B.C., Skeotamotas, and Mobile Pups. [4863

SKOOTAMOTA, perfect condition, hardly used; any trial given; £30, or near offer.—H. Mallieson, Woodlands, Ledbury, Herefordshire. [5045

A.B.C. Scootameta.—Exceptional opportunity of securing our demonstration machine, new last summer, splendid order; £32.—Ward Motors, Ltd., 2, Hustler St., Bradford. [6015

HOODS, WIND SCREENS, ETC.

WIND Screen, Easting, slightly soiled, unused, perfect; price £3/10, great bargain.—64, Bishopsgate, London. [0398

THE HALIFAX MOTOR EXCHANGE

New Address—
25, HORTON STREET,
HALIFAX.

EXCHANGES WANTED.

1921 NEW MODELS.

LAGONDA, 11.9 h.p., coupé, dickey	£495 0
CALTHORPE, 4-seater	495 gns.
COVENTRY PREMIER, 3-wheeler	£288 15
L.S.D., 8 h.p., 3-wheeler	£245 0
REX-BLACKBURNE, Model 55, 8 h.p., Combination, 28×3, spare wheel	£218 18
DOUGLAS 4 h.p. Combination	£170 0
DOUGLAS, 2¾ h.p., 3-speed,	£100 0
DOUGLAS, 2¾ h.p., 2-speed	£85 0
SCOTT, 3½ h.p., 2-speed frame	£130 0
ROYAL RUBY, 3 h.p., frame	£120 0
NORTON, Big Four, 3-speed and Sidecar	£187 10
NEW IMPERIAL, 8 h.p., and Sidecar	£186 18
NEW IMPERIAL, 2¾ h.p., 2-speed	£80 17
B.S.A. 4¼ h.p. 3-speed all-chain Combination, hood, screen, and carrier	£161 15
RUDGE-MULTI, 3½ h.p., I.O.M. Model	£110 5
SCOTT Combination, 3in. Palmers	£183 10
BRADBURY, 6 h.p., and Sidecar	£187 10
ENFIELD, 2½ h.p., 2-speed, lightweight	£65 0
HENDERSON, 4-cylinder, latest model	£220 0
TRIUMPH, countershaft, and Sidecar	£181 0

SPECIAL BARGAIN.

Brand New 1920 MERRALL-BROWN, three-wheeler, 10 h.p., Caventry Simplex engine, hood, screen, horn, 700x80 tyres. Extras, aluminium bannet and side plates, electric head and tail lights, 80 amp. battery, switchboard, discs to all wheels, spare wheel and tyre. List price, £375. THE BEST CASH OFFER OVER £275 to Monday, January 17, 1921, secures.

AGENTS FOR

AMERICAN EXCELSIOR, ACME-J.A.P., BRADBURY, DOUGLAS, ENFIELD, HENDERSON, NEW IMPERIAL, NORTON, REX, SUNBEAM, SCOTT, and TRIUMPH Motor Cycles; L.S.D., COVENTRY FREMIER, and MERRAL-BROWN 3-wheelers; AIREDALE, DOUGLAS, CALTHORPE, and LAGONDA Light Cars. MILLS-FULFORD and SWAN Sidecars. Exchange enquiries solicited.

SECOND-HAND MACHINES.
Guaranteed in Running Order.

Solo Machines.

A.B.C., 1920, dyno lighting, speedometer, electric horn, 700 miles	£152 10
CLYNO, 1920, 2½ h.p., 2-speed, like new	£82 10
ARIEL, 3½ h.p., 3-speed countershaft	£105 0
ROYAL RUBY, 2-stroke	£38 10
TRIUMPH, 3½ h.p., single-speed	£30 0
DOUGLAS, 2¾ h.p., 3-speed, discs	£72 10
METRO-TYLER, 2-speed, red	£82 10
WOLF, 2¾ h.p., spring forks	£29 10
B.S.A., 3½ h.p., clutch model	£39 10

Passenger Machines.

LAGONDA 1920 11 h.p. coupe	£425 0
MORGAN, w.-c., Grand Prix	£165 0
MORGAN, 8 h.p., sporting, hood, etc.	£145 0
MORRIS-OXFORD, 1920, 11.9 h.p., 2-seater, 900 miles	£475 0
BRADBURY, 6 h.p., Grindlay Sidecar, lamps, etc., 1920 Combination	£162 10
B.S.A., 1920, 4½ h.p., all-chain Comb.	£135 0
ARIEL 3½ h.p. 1920 3-sp. Combination	£125 0
VINDEC, 5 h.p., 2-speed, and Sidecar	£55 0
HARLEY, 7-9 h.p., 1920, and new latest type bulbous back Sidecar	£198 10
INDIAN 7-9 h.p. spring frame Combination, very fine condition	£99 10
DOUGLAS 1919 4 h.p. Combination	£135 10
DOUGLAS 1920 4 h.p. Combination	£152 10
SUNBEAM, 1916, 8 h.p., mag. engine, coach Sidecar	£165 0

Easy payments arranged.

NEW ACCESSORIES.

Easting Windscreen, standard	£4 10 0
C.A.V. Magnetos, for Triumph, B.S.A., etc.	£7 17 8
Thomson-Bennett Magnetos, from	£7 17 8
Cowey Horns, 50 -; Klaxons	£1 18 0
Capac 1920 Carburetter, nearly new	£2 12 6
Cowey Speedometers	£8 0 0
Bonniksen, Trip	£6 16 8
Smith, Trip	£6 15 0
Binks Carburetters, post free	£4 16 10
Capac Carburetters, post free	£4 8 0
New Army Knapsacks, 13½×11in.	5 6
Plated T.T. Bars for Triumphs	£1 5 0

Carriage extra.

HOODS, WIND SCREENS, ETC.

HERCULES Hoods, best and cheapest on the market, made to fit any body.

HERCULES Hoods, 52/6, 65/-, and 80/-; write for list.—Hercules Hood Co., 698, Seven Sisters Rd., South Tottenham, N.15. [4547

RENNOC Sidecar Co. are actual manufacturers of hoods, wind screens, etc.

RENNOC Co., 155a, Marlborough Rd., Holloway, N.4. —See advert. under Sidecar Attachments. [6248

BODIES.

VENUS Step Bodies are the best for old chassis.

VENUS Bulbous Bodies are roomy and very smart.

VENUS Tandems hold 2 persons. Strong and light, but not unsightly. Get one.

VENUS Bodies are made in a factory and supplied direct. Catalogue free.

VENUS Sidecar Co., 6-14, Gourley St., S. Tottenham [2298

2-SEATER Bulbous Back Body, almost new, off American Excelsior; £9/10.—19, Wilcox Rd., South Lambeth, London, S.W.8. [6027

ROYAL Leicester Sidecar Bodies fit any chassis, first-class finish. Several bodies (new) to clear cheap. Write for designs.—The Willowbrook Co., Manufacturers, Leicester. [0336

RENNOC Sidecar Co. always hold the largest stock of bodies in the trade, racing, touring, and tandems; taxi bodies and tradesmen's carrier boxes a specialty; see advert. under Sidecar Attachments.—Rennoc Sidecar Works, 155, Marlborough Rd., Holloway, N.4.

RENNOC Sidecar Bodies, a large quantity, all models; clearance at knock-out prices. Write for clearance list. [6249

BASTONE'S for Sidecar Bodies. Latest new type sporting models, lightweights, bulbous back, torpedo, step, and other patterns at low prices; no better or cheaper house; trade supplied.—228, Pentonville Rd., King's Cross, London, N.1. Tel.: 2481 North. [5534

SIDECAR Body Designs for the trade only. Working, coloured, pencil, or line drawings of original designs, also working drawings, full-sized or to scale.—Cooper's Vehicle Journal, Ltd., established designers to the coach trade for over 80 years. Consult us when designing new ideas.—20, Tudor St., London, E.C.4. [0004

SIDECAR ATTACHMENTS.

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SANDUM, the Smart Sidecar Specialists.

SANDUM Sidecars.—Best value in Olympia Show.

SANDUM Models.—The Exquisite £24/10, and Sports £28/10, are of distinctive appearance.

SANDUM Elite Sidecar, £28/10; the smartest sidecar on the road; highly recommended in "The Motor Cycle."

SANDUM Dual Purpose Sidecar (patented). A single or 2-seater sidecar as required in 5 seconds. Size of body as our single-seater Elite. Luxuriously comfortable seating for 2 adults, with the weight in correct position over rear axle. Finished in colours to suit any make of machine, £45, bodies only, £22/10. The latest development of the 2-seater as designed by us, and approved by the recognised experts.

SANDUM Featherweight Streamline Body, smart and racy, weight 18 lbs.; price £4/17/6.

SANDHAM Engineering Co., Ltd., 336, Gray's Inn Rd., W.C.1. 'Phone: Holborn 933. Factories: 162 to 165, Pentonville Rd., N.; and Britannia Works, Britannia St., W.C. [0010

STEVENS Sidecar Bargains.—Great clearance of late 1920 models at cut prices.

STEVENS Bulbous Back Model Sidecars; price now £22/10, usual price £35.

STEVENS Torpedo Racing Model; price new £17/10, usual price £22/10.

STEVENS Lightweight Model; price new £15, usual price £20.

STEVENS Bulbous Back Model, to suit spring frame Indian, finished red; price now £25, usual price £40.

STEVENS Lightweight Chassis; price new £7 each, usual price £12.

STEVENS Sidecars.—Fittings can be supplied to suit any type of motor cycle required.

STEVENS Sidecars.—The above cut prices refer only to present stocks, and cannot be repeated when these are exhausted.

STEVENS Sidecars, 184-186, Penteville Rd., King's Cross, London. 'Phone: Central 10264. Illustrated catalogue on request. [6238

HARLEY Sidecars, complete, quite new; £25.—Grimes, 18, Bruton Place, W.1. [6311

SIDECAR ATTACHMENTS.

FOR Sale, Indian sidecar, torpedo, new condition; £11.—Matthews, Stansted, Essex. [5818

CANOELET Sidecar, new condition, suitable Harley; £25, offer.—Burnett, The Clyde, Woolwich. [5616a

COACH Sidecar, shop-soiled only; cost £30, sell £20. —Sinclair, Blencathra, Walton-on-Thames. [5812

RENNOC Sidecars, bodies, hoods, screens. Largest stock in London; actual manufacturers throughout.

RENOC Co. have the finest selection of complete sidecars in the trade.

RENNOC Sidecar Co. have 18 different model sidecars, racing, touring, and tandem models.

RENNOC Sidecar Co. have actually in stock 26 various design sidecar models.

PHŒNIX Sidecars.—All parts supplied from stock, and repairs for this make by the Rennoc Co.

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RENNOC Sidecar Co. undertake repairs to any make of sidecar; complete renovations a speciality.

RENNOC Sidecars are manufactured to fit every make of motor cycle; Harley-Davidsons a speciality.

RENNOC Sidecar Co. have 70 clearance sidecars and bodies to clear at knock-out prices; room wanted. Note.—Send for special clearance list.

RENNOC Co. invite correspondence. Send for 1921 catalogue.—Rennoc Motors, Ltd., Victoria Rd., London, N.4. 'Phone: Hornsey 850.

RENNOC Co. invite clients to view their works and see the famous Rennoc sidecars and bodies being actually built throughout. [6250

COACHBUILT Sidecar Body, roomy, canoe shape, green; £10.—Burton, Lewie Lane, Cirencester. [X4762

MILLFORD Sidecar, coachbuilt, perfect, suit Triumph; £8/10.—W. Ayres, Garage, Kensington Palace. [5754

4 h.p. Douglas Sidecars, fitted with new bodies, latest colours; £17/10.—Snow, 91, Mapledene Rd., Dalston. [5927

1920 Scott Sidecar, with special polished aluminium body; £23.—D. Smith, c/o *The Motor Cycle*, Coventry. [X4750

SWAN Sporting Sidecar, off Harley, good condition, wind screen, luggage grid; £20.—52a, Chertsey Rd., Woking. [5770

SIDECAR, coachbuilt, 4-point attachment, 26in. wheel, roomy; must sell; £7/10.—9, Tollington Place, N.4. [5741

SIDECAR, slightly soiled, but unused, coachbuilt; price £15/10, original price £22/10.—64, Bishopsgate, London. [0399

LICENCE Holders, circular, suit motor cycles or cars, conforming to Transport Ministry regulations.—Below.

LICENCE Holders, black, 3/6; brass, 4/-; aluminium, 4/-; plated, 4/6; postage 6d. Money returned if not satisfied.—Middleton's, below.

MIDDLETON'S are standardising their patent applied for spring wheel sidecars for coming season; rigid sidecars to order.

MIDDLETON'S Spring Wheel Sidecars are guaranteed for 3 years on usual conditions.

MIDDLETON'S (patent applied) one-piece unbreakable chassis axle, with spring wheel, is fitted to all our 2-seaters and sidecars for heavy, powerful machines.

MIDDLETON'S undertake all classes of repairs to motor cycles and sidecars, bodywork, etc.

MIDDLETON'S, London's oldest established sidecar makers, 27, Stroud Green Rd., Finsbury Park. 'Phone: Hornsey 1584. [4809

BASTONE'S for Sidecars and Bodies; no better or cheaper house. Kindly inspect our models before purchasing elsewhere.

BASTONE'S.—New 1921 sporting and other models in stock. Bodies from £4/10; complete sidecars from £16/10.

BASTONE'S.—We have a few soiled sidecars and bodies to clear at low prices.

BASTONE'S.—Distributing agents for the famous Montgomery sidecars. Latest 1921 sporting and other models in stock; trade supplied.

BASTONE'S (Sidecar Dept.), 228, Pentonville Rd., King's Cross, London, N.1. Tel.: 2481 North. [5533

ROYAL Leicester Sidecars to suit all machines, roomy bodies, comfortable upholstery, excellent springing; prices from £19/10 upwards.

SEND Your Sidecar to us for renovation. New hoods, wind screens, and aprons fitted. Write for catalogue.

THE Willowbrook Co., Royal Leicester Sidecar Works, Belgrave Gate, Leicester. [0335

HARLEY Sidecar, right-hand, latest colour, good condition, 1918 metal body; offers.—Larter, Twyford Rd., Bishop's Stortford. [6007

1920 Watsonian Coupe, nearly new, mileage 30, large locker, wind screen, dash, side wings; £35.—13, Alfred Place, South Kensington. [5886

CRABTREE & SON, Ltd.,

Motor Engineers,

WISBECH.

Spring 1920

Licence.

REBUILT GOVERNMENT MOTOR CYCLES

overhauled, stove-enamelled, replated, tanks in makers colours, new tyres, guaranteed, complete with tool bags, kit, and pump.

Douglas 2¾ h.p. - - £65

Douglas 4 h.p. - - £85

Douglas Combination, with new body - £105

Triumph 4 h.p. - - £95

2,500 New Covers

(Ex Government Stock).

28 x 3 Kempshall, Macintosh, and Wood Milne.

26 x 2½ Clincher de Luxe.

30/- each.

Carriage Extra.

UNRENOVATED EX GOVERNMENT MOTOR CYCLES.

Still a large quantity to clear from the Slough Depot at **SCRAP PRICES**. Make an appointment by writing:

"Motor Cycles,"
ROYAL HOTEL,
SLOUGH.

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SIDECAR, Scott coachbuilt underslung, 4-point attachment, tyres good, very comfortable; £15/5 —Ainsworth, 52, Victoria Rd., Romford. [5944

COACHBUILT Sidecar, with Orio triple screen, excellent condition, £10/10; also cane body, off Indian, £1.—Aldridge, 114, Lillington St., S.W. [5932

SIDECARS.—The Paragon folding sidecar solves the storage difficulty. Call and see it demonstrated.—Wincycle Co., Ltd., 236, High Holborn, W.C.1. [0387

SIDECAR, cane Canoelet, off Triumph, underslung, 4-point, good Dunlop, attachments, luggage grid, perfect condition; £6.—Cornwell, Ticehurst, Sussex. [6223

MILLS-FULFORD, cane body, 4-point attachment, sound, with electric side lamp; £7; can be seen at The Firs, Cranford, Middlesex.—Apply, J. Easte, 26, Palace St., S.W. [5634

HENDERSON Sidecar.—Large stock of all models, shop-soiled, at greatly reduced prices; now is the time to buy.—Mehes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7198

SIDECAR, coach, underslung, almost new, £12/10; Canoelet, cost £35, sell £25; coach body, £2/10; cane body, £1; few belts, covers, tubes, cheap.—57, Kenbury St., Camberwell, London. [6200

100 Douglas Sidecar Chassis, with wheels, £2/15 each to clear; lots of five at £2/10 each. Come early and take your choice.—Holliday Bros., 20, Queen St., Hammersmith Broadway. [6024

CANOELET Special Touring Model Sidecars, underslung, bulbous backs, coverall aprons, 28×3 wheels, with heavy Dunlop tyres; special models for Harley-Davidson, new, half list price.—Holliday Bros., 20, Queen St., Hammersmith, Broadway. [6021

PARAGON (patent) Folding Sidecar saves storage, has seven years to its credit, and has proved itself absolutely reliable. Fits any make of motor cycle, and when folded combination will pass through a 30in. doorway. Call and see it demonstrated.—Wincycle Co., Ltd., 236, High Holborn, W.C.1. [0388

SIDECAR.—Have a Hopley folding sidecar. No need to pay garage. You can keep motor at home; will go through passage 28in. when folded on any motor. Any shape body fitted. They have been well tested for six years on motors up to 8h.p.—Hopley, Upper Highgate St., Birmingham. [0152

RUNABOUTS AND CYCLE CARS.

1920 8h.p. Tamplin; £165, or see Gray and Raynes advt. Exchange columns. [5782

G.N. Cycle Car, Nov., 1920, perfect, 1,000 miles only.—Watts, Lydney, Glos. [5595

1921 Richardsons, Morgans, Triumphs, Scotts, Rudge, etc.—Ewens, Garage, King's Lynn. 'Phone: 122. [4599

GLOUCESTERSHIRE, G.N. cycle cars, 60 m.p.g., 45 m.p.h., full details.—Watts, Lydney, Glos. [5596

1919 A.V. Monocar, J.A.P., electric light; offers.—Amory, Knightshayes, Tiverton, North Devon. [5643

MORGAN, Grand Prix, disc wheels, wide body, top-hole condition; £185.—86, Rosebery Av., E.C.1. [5937

BLERIOT Whippet Car, new June, 1920, insured; £200, quick sale.—W. J. Jones, Broadway, Newbury, Berks. [6010

3-WHEEL Runabout, 2 speeds, climb anything, 2 new covers, lamps, etc.; photo, trial.—Fougler, Alice St., Keighley. [5693

SCOTT Sociable.—We are now booking for early delivery.—Jameson and Foster, Motor Works, South Shields. [X4606

G.N. Cycle Cars; latest models always in stock.—Best deliveries from Drake and Mount, Ltd., Motor Agents, Bracknell. [3936

G.N. Cycle Cars, latest models, in stock, £271/17/6; dynamo lighting model, £241/17/6.—Taylor's Garage, Wednesbury. [5829

NEW 1921 Rover Light Car, 8h.p., dynamo lighting; £300; immediate delivery from stock.—Marston, 31, Bridge St., Chester. [6141

MORGAN Grand Prix, 10h.p. M.A.G. engine, electric lighting, in very good condition; £200.—Marston, 31, Bridge St., Chester. [6143

ROVER 1921 Models, £300; write for literature; motor cycles taken in exchange.—R. B. Clark and Co., 7, Exhibition Rd., S.W.7. [6376

ROVER Light Car, 1921 model, 8h.p., in stock for immediate delivery; £300.—Godfrey's, Ltd., 208, Gt. Portland St., London, W.1. [0350

NEW 1921 Premier Super Runabout, dynamo lighting; 275 gns.; immediate delivery from stock.—Marston, 31, Bridge St., Chester. [6142

BUCKINGHAM Cycle Car, 1914, twin water-cooled, electric lighting, fast, sporting, accessories; £92. London.—Box 1,340, c/o *The Motor Cycle*. [5788

MORGAN Runabout, late 1918, in good condition, all lamps, etc.; £160; no reasonable offer refused.—Liddiard, Downing St., Cambridge. [5784

BLERIOT Whippet Cycle Car, to makers' specification; £250, or on deferred payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5975

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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The British Magneto.

ONLY those directly concerned with the production of British magnetos can fully appreciate the difficulties overcome in bringing about the present high quality of magnetos fitted to post-war motor cycles. Prior to 1914, the magneto industry was practically a German monopoly, and, despite the warnings from *The Motor Cycle* and *The Autocar*, nothing was done to remedy this state of affairs until after the war had broken out.

At long last, however, the Government recognised the gravity of the situation, and promises were made to the then young British magneto industry which, by exhaustive research work and experimenting finally produced ignition apparatus which has proved to be superior to the German article. Thus a new industry sprang up, making the motor users of this country independent of outside supplies.

So far—after two years of peace—nothing has been done in spite of promises, and, in the meantime, the British industry is faced with a possibility of severe price competition from Germany, which threatens the whole fabric built up with such painstaking care.

At the moment, motor cyclists have a prejudice against German goods, and this prejudice makes motor cycle manufacturers hesitate about fitting the German magnetos now offered at cut prices.

Very shortly now Parliament will reassemble, and the question of key industries will be discussed. Will the Government realise the importance of the magneto sufficiently to make its manufacture a key industry? We sincerely hope so, otherwise a few years may see the British article gradually ousted by ruthless price cutting until the same conditions prevail as in 1914.

The present rate of exchange is all in favour of the German magneto, and, while every motor cyclist desires to see a reduction in prices, we feel sure he does not wish to save a small amount at the expense of a vital industry.

Elsewhere in this issue we publish some rather disturbing facts concerning the magneto industry, the fate of which appears to hang in the balance.

Car Practice and the Motor Cycle.

IMMEDIATELY after the Olympia Show, we gave an article on motor cycle design from a car owner's point of view, and two weeks later published a fair criticism of the views expressed therein; the criticism expressed confidence in present day motor cycle design.

It has long been what may be termed a habit of critics to assume that modern car practice is an ideal to be applied to motor cycles, and the articles already mentioned serve to show that the single track machine has no need to seek ideals outside its particular sphere. The two types of vehicle are so totally different that it is doubtful whether either can gain much from the other. One thing is certain—if motor cycles were designed to embody all the points favoured by the car expert, there would no longer be the wide difference between their prices. Such car features as internal expanding brakes, interchangeable wheels, and dynamo lighting equipment have all contributed to the extra cost of the modern motor cycle as compared with the pre-war type, and while no one will deny the advantage of such refinements, it is clear that every extra step towards car practice only tends towards extravagance in design. It may be an ideal to produce a car on two wheels, but ideals are not always profitable either to maker or user. Not only is such over-elaboration costly and unnecessary, but it is extremely doubtful whether a too ready acceptance of car features is desirable from a mechanical point of view.

We agree with our contributor, who urges that each type of vehicle be allowed to develop without outside influences, and have sufficient confidence in the British manufacturers ultimately being able to produce machines which are as perfect from the motor cyclist's point of view as are cars in the eyes of those critics who are in another field.

An Index to the advertisements in this issue will be found on the page facing the back cover.



Audacity.

ONE of the fundamental defects of the bureaucrat is that he thinks in terms of the Strand and the dictaphone. He fancies that a square furlong of the West End is typical of the whole of England, and that because he can enforce his will on Piccadilly by an Order in Council, therefore his writ will run in Cumberland or Cornwall. Consequently, I yelped with glee when I read that Sir Eric Geddes was going to wash out warning signs on main roads where they make a plus sign with byroads; and throw the onus of safety and caution on traffic debouching from the byroads. Mind you, in theory I wholly agree with him. Cheap, fast transport plays a bigger part in prosperity for England than many people understand, and it is a crime to retard important through traffic for the sake of Hodge, who dreams of his lady-love as he crosses the London-Birmingham artery with a cartload of mangold-wurzels.

Bravo, the A.C.U.!

I HAVE so often been rude to the A.C.U. that I really must eat humble pie to-day, and congratulate them that, if their 1921 Six Day notions are more than kite-flying, they have at last recognised the physical difference between a chamois and a motor cycle. I have seldom studied so statesmanlike and sensible a competition programme. The sporting riders will doubtless form an unholy alliance of protest with any chuckle-headed makers who don't understand that the average rider is a close relation of Poy's John Citizen, and would pay £5 rather than try to climb Park Rash. But the sporting riders will still be able to find all they want in the Scottish Six Days, not to speak of innumerable one day events. Meanwhile, the A.C.U. Six Days looks like evolving just the kind of 'bus which most riders want, and which most agents can sell. Nevertheless, is it wise to make all machines of over 350 c.c. tow a sidecar?

A Sidecar Six Days?

EVER since motor cycle trials began, organisers have been groping for some dodge which would allow every involuntary stop to be registered and penalised. Oldsters like myself can recall trials in which continuous observation of the riders by travelling marshals was attempted; in which each rider acted as a spy upon another rider; in which we were put on our honour, like schoolgirls, to confess our own lapses from grace at the end of the day. All these methods broke down. So organisers were driven to undesirable and foolish expedients. The A.C.U. went baldheaded for freak hills, the M.C.C. for split seconds, and so on. To judge by the present proposals, the A.C.U. is now coquetting with the plan of concentrating the real torture at Brooklands, planing down the road trial into triviality, and making all machines over 350 c.c. carry an official observer in a sidecar. The stunt is extraordinarily attractive at first sight. It would enable us to find our winner by commonsense, instead of by some weird and idiotic trick. But, as the draft rule runs, it isn't fair on the bigger engines, and it threatens to strangle the movement towards weight reduction. Perhaps the spring discussions will wangle some scheme for retaining the non-stop notion without doing real harm in other directions.

The Outside Flywheel.

"CRITICUS" denounces inside flywheels because of oil friction. "Wharfedale" approves them as being cheaper to make, more easily enclosed, and as lending themselves better to motor cycle transmissions. Neither gentleman so much as mentions the flywheel magneto. This gadget is still in its infancy, but surely it is possible that it will have a big effect on design in certain classes?

Lubrication Problems.

THE car owner attacks our oiling systems because they are extravagant of oil, non-uniform in action, and produce rapid carbonisation. "Wharfedale" admits the over-oiling, but deprecates any slavish copying of car systems. Briefly, there are three leading systems:

1. The hand pump. Entirely dependent on the rider's *memory*.
2. The drip feed. Largely dependent on the rider's *sight*, but the drip is often invisible (darkness, oily glass, driver distracted by other matters, etc.). Consequently many amateurs use the drip much as if it were a hand pump, and oil by memory, giving a pumpful every five miles or so.
3. Automatic systems.

It is obvious that the first two systems must always be inaccurate and wasteful, except with a remarkably methodical and painstaking rider. Where either of these systems is properly handled, and obtains the best results, those results are obtained at too great a cost. No sane motor cyclist desires to have his thoughts concentrated on his engine all day long. One of the crying needs of the British motor cycle trade is the development of the best automatic lubrication system.

Car Brakes.

ON the other hand, I am wholly in agreement with "Wharfedale" when he pleads for the retention of the belt-rim brake. I have yet to own a rim brake or an external band brake which could be deemed ideal. Internal-expanding brakes are neat and

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

compact. When they are new, their action is delightful. As they age, one begins to criticise them. The friction arcs gradually shrink to a couple of humps, and subsequent wear is very rapid. It is generally rather a job to fit new shoes, and the same applies if lined shoes are utilised; the average amateur is hardly equal to the riveting and truing up which are needed. The records of the Patent Office bristle with suggestions for perfecting the internal expanding brake, but nobody has yet managed to work out a pattern which is cheap and simple, as well as efficient.

Paying Up.

ON January 4th I duly received (unasked) one of the new registration forms from the County Council concerned. The Ministry of Transport has carried into practice its anomaly of allowing car taxes to be paid by quarterly instalments, provided you pay 20% extra on the year: but compels motor cycle prices to be paid annually in one bite. So if your 8 h.p. three-wheeler weighs 897 lb., you can either pay £8 down or pay £9 12s. in four quarterly instalments; but if your 8 h.p. three-wheeler weighs 895 lb., you only pay £4. but you must disgorge that sum right away. Funny how the brains of super-bureaucrats work, isn't it? Presumably the quarterly permission in respect of car taxes is to cheer up the owner of a single Ford taxi; but I don't know that he needs more consideration than the small canvasser, who uses a Morgan for his business rounds.

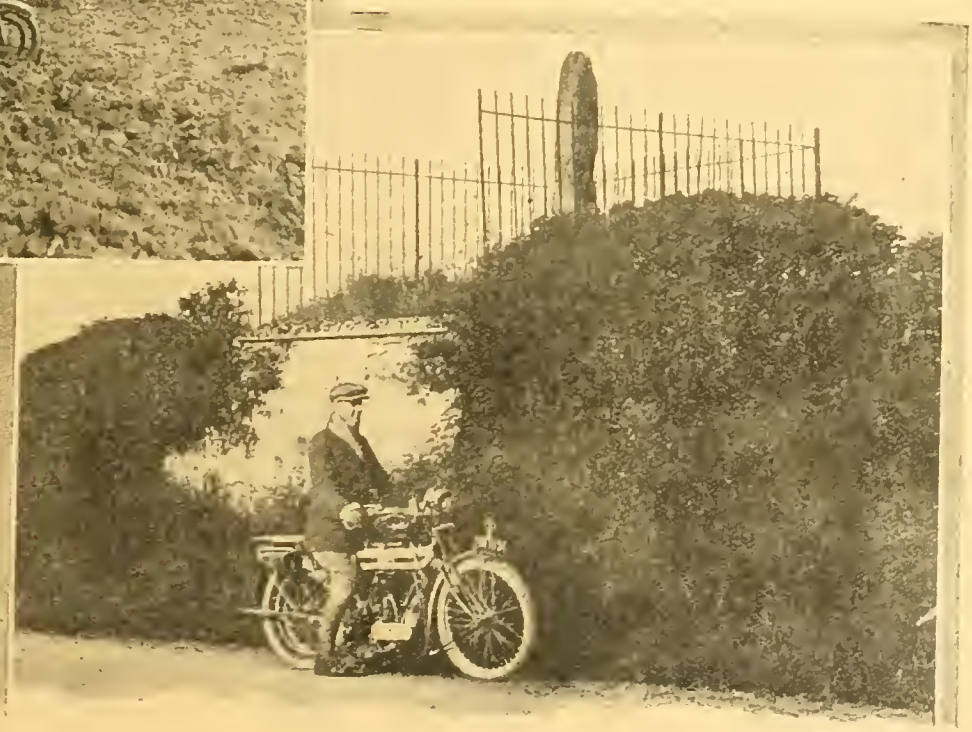
Of course, my personal rage is due to the fact that I do not keep many of my machines for as long a period as one year, so that somebody else will get the benefit of half my taxes.

A Question of Diagnosis.

THE amateur who recently described in our columns how he renovated an aged and neglected Morgan found that the rear wheel spindle was U shaped. He ascribed this to the machine having sustained a violent skid at some time in its history. It may be so. But I once knew a joyous agent who amassed his living principally out of a single customer, to whom he had sold a Morgan. This customer was of the breed who are fundamentally incapable of performing two different actions simultaneously—you remember the old parlour trick of patting your head and rubbing your tummy simultaneously, and how few people can do it at the first try? So this customer used in careful series to (1) open his throttle wide; (2) take out his clutch; (3) engage bottom gear; and thus (4) take his foot off the clutch pedal.

The immediate result was a buckled back spindle. He placed a standing order for a new spindle every Monday morning. I think our contributor may have bought that Morgan!



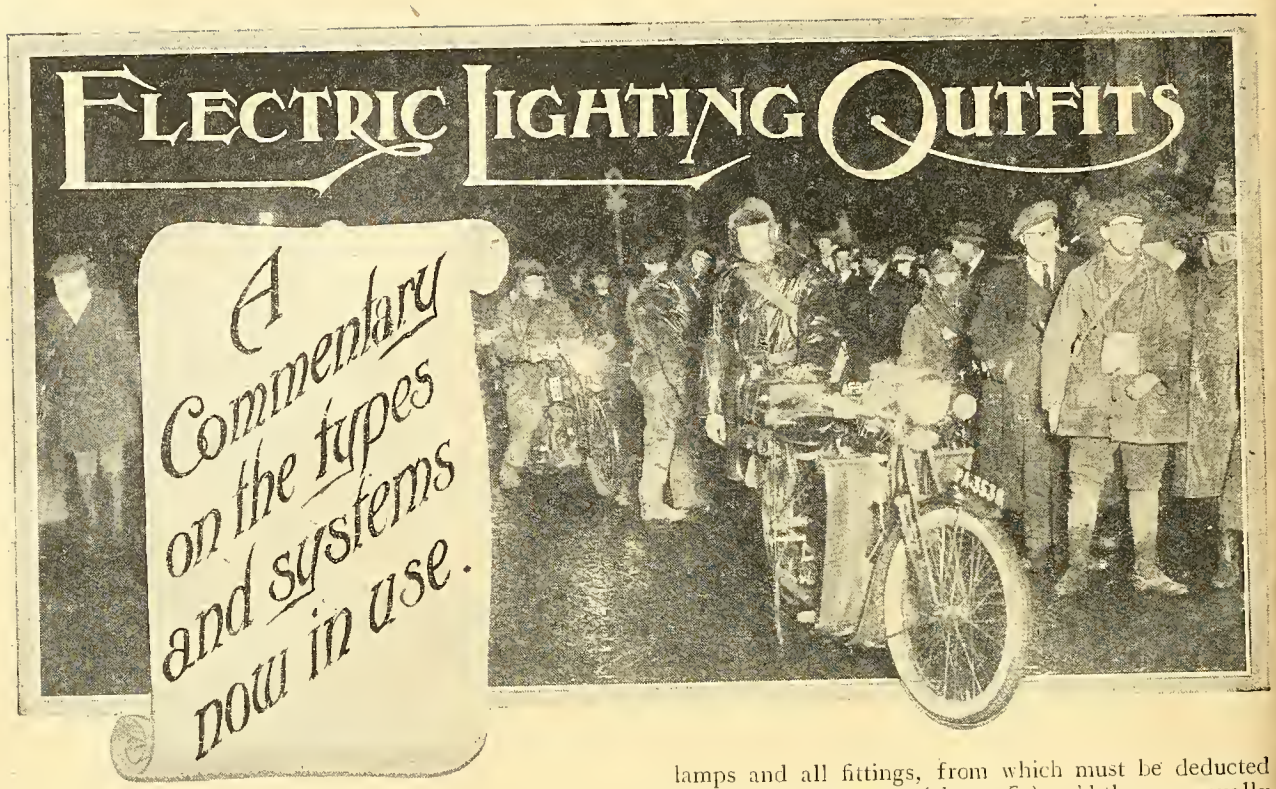


ROADSIDE CURIOSITIES.

(Left) Even ploughed fields did not deter the B.S.A. owner—who is evidently an enthusiastic archæologist—from inspecting at close quarters this so-called "Devil's Arrow," situated on the Great North Road, near Boroughbridge.

(Right) Another wayside relic—Legg's Cross, between West Auckland and Gainford, Durham. Legend has it that King John sat upon this stone to survey the surrounding country.

ELECTRIC LIGHTING OUTFITS



A Commentary on the types and systems now in use.

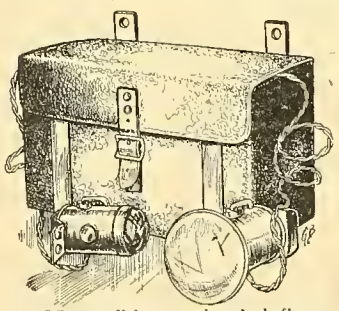
THE motor cyclist of to-day enjoys a choice between five different types of electric lighting outfits, viz.:

1. Dynamo sets separate from the magneto, and so requiring a special transmission.
2. Dynamo sets combined with the magneto.
3. Accumulator sets, minus a dynamo.
4. Dry battery sets.
5. The B.T.H. "Sparklight," which utilises surplus current generated by the magneto, and dispenses with the need for a dynamo; it is at present only applicable to small two-stroke engines.

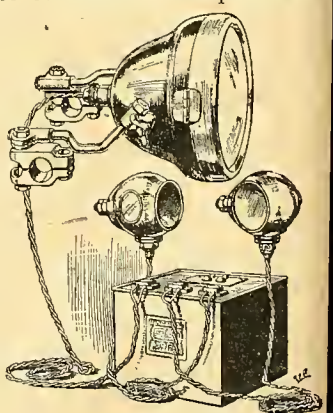
With such a wealth of choice available, the inexperienced rider may be glad of a few notes on the pros and cons of these different outfits.

Combined Ignition and Lighting Systems.

The magneto-dynamo installations, namely, the Lucas Magdyno and the M.L. Maglita, are unquestionably the most attractive for touring machines when a new mount is being purchased and the necessary capital is available. Their "cons" are obvious. They add about 7 lb. to the weight of the motor cycle, as compared with an acetylene outfit. They cost from £25 to £30 complete with lamps and all fittings, from which must be deducted the price of a magneto (about £7), and the sum usually paid for a gas set (about £6); so that they are an extravagance to the tune of at least £12. No price, however, has been standardised for such outfits; in some cases, after allowing for magneto, the figure is £28. Of course many are quite prepared to put up with the small increases of weight and price in order to obtain the utmost convenience and efficiency in their lamps. The advantages are unquestionable. The illumination is superb, and very reliable. The devices are extremely compact and sightly. The Maglita entails no additional drive of any kind, there being but one revolving armature. The Magdyno lighting armature is driven by enclosed gears packed in grease, and is just as reliable as the distributer drive of a multi-cylinder car type magneto. In neither case is the ignition interfered with or rendered less dependable. The Magdyno will furnish the usual ignition spark if the dynamo is completely removed from the instrument, a job which a raw novice can perform in a few seconds. The Maglita will light the lamps without the aid of a battery. Both instruments include "dimming" devices, and the bulbs generally may be focussed to give a short, broad beam.



The well-known electrical firm of Siemens favour dry batteries for their lighting equipment.

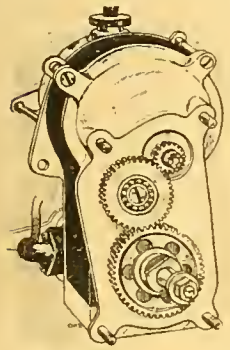


Volex dry battery lighting equipment made by Ward and Goldstone.

Electric Lighting Outfits.—

or a long narrow beam. The uncertainty and messiness of an acetylene generator are eliminated.

Other dynamo sets (Type I.) will often be preferred when a rider wishes to convert an existing motor cycle to electric lighting; for he has to buy a new source of ignition if he wishes to fit the Magdyno or Maglita, and he may not be able to obtain a high price for his old magneto. The separate dynamo sets are, in most cases, honest electrical jobs. Their drawback is that a special drive has to be faked up, which may take the form of a link-grip belt or a friction drive off the tyre or off a special friction pulley clipped to the spokes; these friction drives are not always satisfactory, whilst a belt drive ought to include a mechanical adjustment for the tension. When these separate dynamos are installed, the machine is apt to look rather "patchy"; but the system remains the most workmanlike method of economical conversion, though it is not so neat as installing a magneto-dynamo set after selling the old magneto.



The Magdyno in which the magneto and the dynamo are separate units but driven together through the medium of a gear wheel between the two armature shafts.

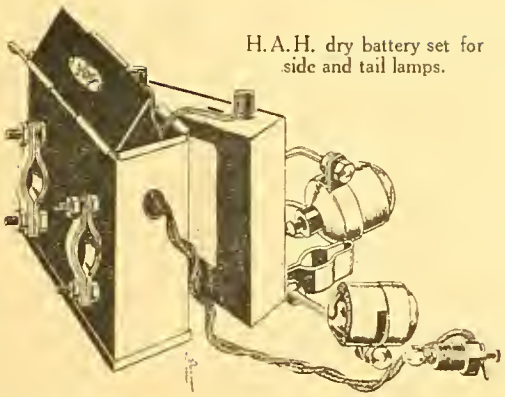
Accumulator Sets.

Many riders employ accumulator sets without fitting a dynamo of any kind. In this case the accumulators must be removed from the cycle at least once a month—oftener if much nightwork is done—and recharged at a garage, at a power station, or off the domestic lighting circuit. The conditions essential to success with this form of lighting are obvious, viz.:

(a) The rider must either be a fair electrician, or must be able to trust the person who charges the cells for him (at some public charging stations the work is slipshod).

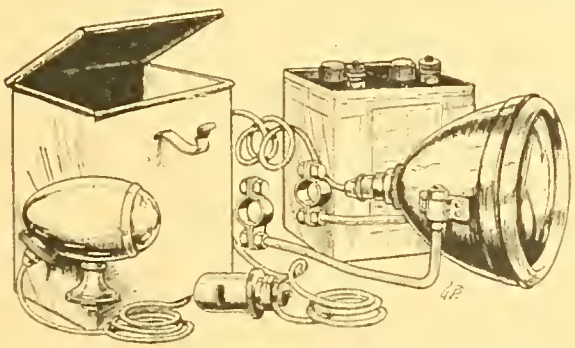
(b) Regular nightwork in winter over a good mileage will necessitate frequent recharging.

(c) Storage must be found on the machine for a well-constructed accumulator of good capacity. (Suitable storage is easily rigged up in a sidecar, but is a real problem on a solo mount.) A battery of which the road work is all discharge and no charge must be larger and better than a battery which is simultaneously discharged by the lamps and recharged by an engine-driven dynamo.



H.A.H. dry battery set for side and tail lamps.

Dry battery sets have earned widely differing verdicts from their users. Their chief drawback lies in the fact that no dry battery thrives on heavy and continuous discharges; therefore regular and prolonged night work soon compels the purchase of a new battery, which is nowadays a really expensive item. (Dry batteries cannot be recharged. They can be freshened up a little by drilling holes in the case and soaking the cells in a saturated solution of sal ammoniac: but the effect is evanescent.) For similar reasons it is not practicable to obtain the maximum light from a dry battery head lamp; the heavy discharge rate of a really powerful bulb will soon exhaust the cells. The writer's personal experiences with such sets all go to indicate that they are best reserved for intermittent work over short distances: but a dry battery tail lamp is a good auxiliary to a gas head lamp, and is far more reliable than the average gas tail lamp.

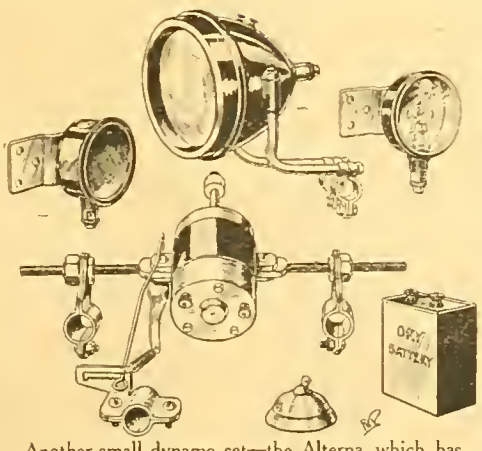


The Meteor accumulator set includes a metal case for the battery.

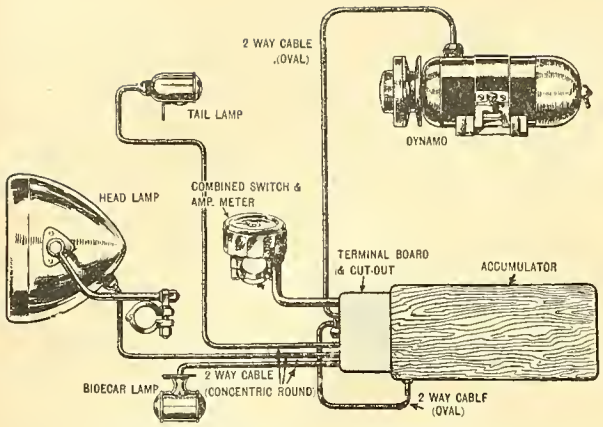
For Minature Two-strokes.

The B.T.H. Sparklight is a real boon for baby two-strokes. It is extremely light and cheap, and should certainly be specified when a new baby two-stroke is ordered. Its operation is entirely automatic, it cannot upset the ignition, and it will light the lamps without the aid of the battery, should the latter get out of order; of course, under these circumstances the lamps will only light up with the engine running at about 500 r.p.m. or over.

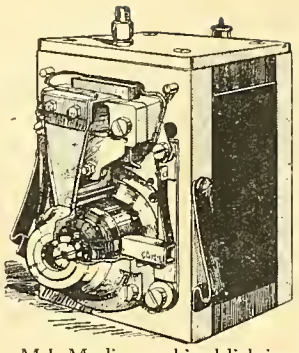
It is not altogether easy to compare the relative costs of the various lighting systems. But it is only fair to say that the acetylene generator sets are still the cheapest to maintain. The dissolved acetylene outfits are not much dearer to buy than a gas generator set, and afford the most reliable light in the world; short of exhausting a cylinder unex-



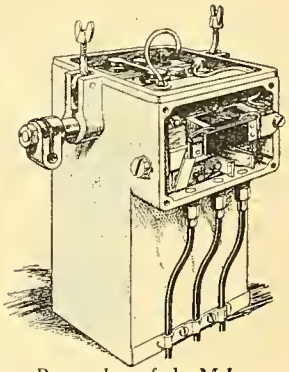
Another small dynamo set—the Alterna, which has a dry battery for service when the engine is not running.



Powell and Hanmer's dynamo lighting set.



M-L Maglita combined lighting and ignition apparatus.



Battery box of the M-L set which is carried in the position usually adopted for gas generators.

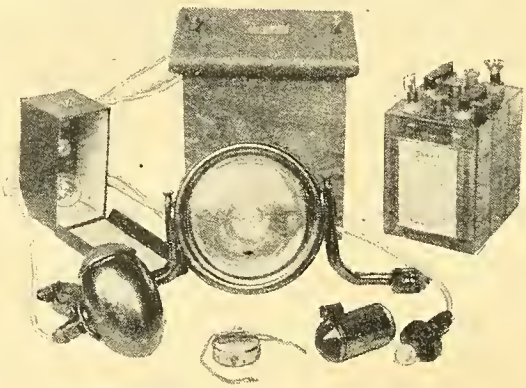
pectedly, no roadside trouble can occur, and this mishap may be guarded against by using a pressure gauge before long runs, or by carrying a reserve cylinder in the sidecar. Replacement cylinders now cost 6s., and the same value in carbide will give a longer light.

An accumulator set is hardly more costly than a gas generator set, and will give upwards of four hours' light on a charge, according to the capacity of the battery and the consumption of the bulbs. The cost of charging varies from 1s. upwards.

Dry Batteries.

The running expenses of a dry battery set are frightfully heavy if a powerful head lamp is used for long distances, as a glance at a price list of replacement cells will indicate. On the other hand, the cost of maintaining a dry battery rear lamp is very reasonable; and if the machine is only used intermittently at nights (as most machines are), the head lamp battery may last for weeks or even months, according to the distance covered.

Dynamo outfits require very little outlay after purchase, but in considering their financial economy the loss of interest on capital must be charged. If the outfit costs £10 over and above the cost of an ordinary magneto and the lamps, the lost interest is 12s. a year. A certain number of new bulbs will probably be required, and head lamp bulbs may cost 3s. apiece.



A good example of the modern accumulator set—produced by Godfreys.

A duffer will probably seek professional help once or twice in a season for some slight defect or adjustment. A length or two of wiring may suffer accidental damage and extra petrol is consumed in driving the dynamo. It is doubtful whether these sets are any cheaper to maintain than a gas outfit.

Wherever an accumulator is used, economy will largely hinge upon the care with which it is maintained.

Care of Cells.

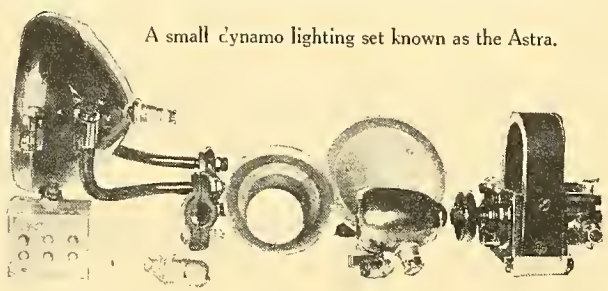
The essential points are as follows:

1. Never let the accumulator stand when discharged. If it cannot be charged up on the machine immediately, remove it, and get it charged elsewhere without delay.

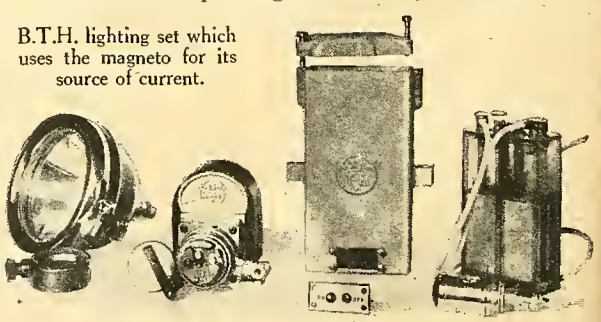
2. Never let the liquid in the cells fall below the tops of the plates. Replace small losses with distilled water. Replace serious losses (*e.g.*, after upsetting a cell) by adding a solution made up of one part of pure brimstone sulphuric acid to five parts of distilled water. N.B.—Always *add acid to water*, and allow solution to cool before pouring into the cells. (Note particularly that it is very dangerous to add water to concentrated acid.)

3. Remember that vibration is very bad for accumulators. It causes the plates to shed their paste, which may produce an internal short circuit. Pack the accumulators in their case with care, insulating them with rubber packing so that they cannot move.

A small dynamo lighting set known as the Astra.



B.T.H. lighting set which uses the magneto for its source of current.



RE-BUILDING OUR CREDIT OVERSEAS.

Exports of British Motor Cycles nearly Six Times Greater than Imports.

£2,340,557 is the total value of British motor cycles and parts (not including tyres ordered apart from machines) exported during 1920.

It is a figure that will take some explaining away by the pessimist who affirms that our manufacturers are neglecting the Overseas market. £1,672,903 of this amount represents the value of 21,304 actual motor cycles exported, while the remaining £567,654 was expended on "parts," viz., component parts, accessories, and spares. A simple division sum makes the value of each machine to be approximately £78 10s., which, after allowing for traders' discounts, still proves that a great many lightweights find their way abroad. It is unfortunate that no statistics classifying the types of machines are available, for we feel sure that the proportion of low-priced lightweights must be very high.

But these, remarkable as they are, are not the only interesting facts that may be culled from the summary of our Overseas trade in the Board of Trade monthly returns for 1920. Import figures, for example, provide further food for thought.



A graphical illustration of the fluctoating monthly totals of motor cycle imports.

Last year we imported no fewer than 4,305 motor cycles—almost wholly, of course, from America—to a net value of £285,820, and a gross value, including "parts" (but, again, excluding distinct tyre consignments), of £407,429. Average values in this case work out at approximately £66 5s., but a 33⅓% *ad valorem* duty brings the total almost up to three figures. Apart from other sources of information, we are obviously justified in considering the majority of these machines to be heavyweights. Incidentally, the Exchequer benefits to the extent of £135,808 on this importation.

As we indicated last week, a comparison of 1920's total imports and total exports of motor cycles and parts reveals the reassuring fact that the value of the exports is nearly six times the value of our imports. This is even more satisfactory when it is observed that a similar comparison of the grand totals of *all* goods and merchandise entering and leaving the United Kingdom during the same period shows a ratio of approximately 19 to 13 *in favour of the imports;* but it must also be noted that in 1919 our motor cycle exports were more than *eight* times as valuable as the imports.

Records—Not at Brooklands.

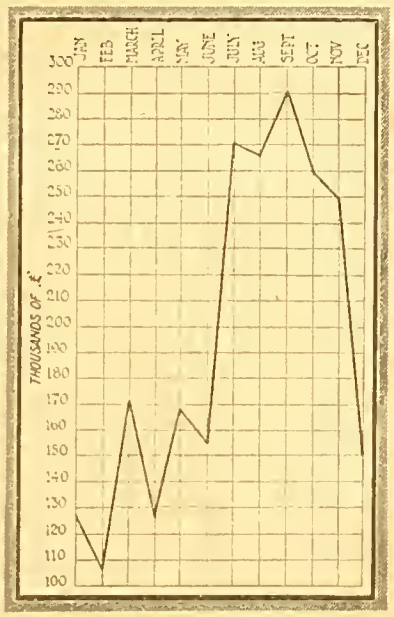
As may also be observed from Table I. on this page, export figures have more than doubled, and imports trebled 1919 amounts. In both cases, of course, 1920 totals are much higher than any previously attained, although the actual number of exported machines in 1913 (which is regarded as a record year, and when they averaged only £43 apiece!) reached the fine total of 16,850 compared with 21,304 in 1920.

Turning to monthly returns, which we show graphically, two most interesting diagrams are provided. Taking exports first, the seesaw fluctuations of the earlier half of the year are somewhat mystifying, but such sharp contrasts as are exhibited in March and April are probably more due to the laws of chance than the more definite law of supply and demand.

It is customary, but probably wrong (although no reliable statistics are published), to assume that the majority of our exported motor cycles go to the Southern Hemisphere; and, although the high line from July to November may be taken as evidence of a Southern "spring demand," it seems more feasible to assume that only when the demand in this country eased off somewhat did our manufacturers turn really seriously to exportation. Although December is a disappointment, it is, nevertheless, at a considerably higher level than December, 1919.

Rapid Decline in Imports.

The import line zigzags almost unaccountably, until we recall that *supply* and *demand* must be considered independently on this market. For example, the demand was very great in May, although actual supply was low; and, by the time the supply got really adequate, the demand had begun to slacken off. The rapid decline following is the most understandable feature of a hectic year. December's figure is less than half that of the corresponding month in 1919; and only half of the £16,820 represents complete machines (just 106 all told).



On this diagram the great activity in the export market from July to November last year is shown in a striking manner.

Last year, as we have indicated earlier, tyres were tabulated independently; and, as automobile and perambulator types are also lumped in, their figures are probably not of engrossing interest to our readers. £5,577,078 of these tyres were imported, and £6,500,761 exported: a rather curious state of affairs.

207,739,144 gallons—say it in words!—of motor spirit, to a declared value of £23,360,119, entered this country last year: an increase over 1919 of 30% in value, but only 4% in amount. Only half this amount was imported in 1913.

Finally nothing serves to emphasise the satisfactory and nationally helpful state of the British motor cycle industry more than a comparison with the corresponding trading figures from the automobile world: for last year the value of exported cars failed to reach half the value of similar imports.

TABLE I.

	1913.	1919.	1920.
British Exports.			
Number of British motor cycles exported	16,850	8,368	21,304
Total value of British motor cycles and parts exported	£950,500	£809,177	£2,310,557
Imports.			
Number of motor cycles imported	1,728	1,485	4,305
Total value of motor cycles and parts imported	£166,021	£107,572	£107,429

TABLE II.
MONTHLY VALUES OF IMPORTS AND EXPORTS DURING 1920.

	Imports.	Exports.
	£	£
Jan.	38,265	126,830
Feb.	25,522	106,730
Mar.	40,057	170,327
Apr.	46,703	125,968
May	23,910	168,082
June	29,418	154,586
July	51,179	271,078
Aug.	65,884	265,566
Sept.	22,774	291,273
Oct.	26,406	259,810
Nov.	20,491	249,689
Dec.	16,820	150,618
Total	£107,129	£2,340,557

The New "Six Days" Scheme.

Points of the Suggested A.C.U. Regulations for the 1921 Big Trials.

THERE is a sense in which all sporting riders and all veterans will regret the proposed changes in the organisation of the Six Days Trial. Ever since its inception in 1903 the Trial has topped the competition programme, furnished a most sporting week, and strung the interest of riders throughout the kingdom to a very high pitch. Now the event is to be boiled down to four days of roadwork—restricted to fair surfaces and easy gradients—and the remaining two days will be occupied in a series of technical tests, reminiscent rather of the bench acceptance tests of an aero engine or a tank engine, than of the old "hell-for-leather" business.

Nevertheless it is quite beyond question that the change is wise and statesmanlike. If some association interested in perambulators were to offer gold medals for the best ascent of a telegraph pole by a perambulator containing twins, the spectators would enjoy unlimited fun, and the successful nursemaids would undoubtedly deserve their medals. But the resulting type of perambulator would not necessarily be such as the twins and their mother might desire. It is on such Heath Robinson principles that the last Six Days was run. If the new proposals are carried out in their entirety, they will tend to develop the sort of machine which nine out of every ten riders want. The novel factors which are to be introduced include the following items, all of which are vital to the satisfaction of the average owner:

1. Petrol and oil consumption.
2. Mudguarding.
3. Springing.
4. Oil retention.

Reliability will be severely tested by the seventy-five mile high speed test which concludes the actual riding. Brooklands test hill will guarantee the climbing power. Brakes are to be tested separately (this will surely arouse much controversy about front wheel brakes). The only points which have been overlooked are comparatively secondary, and may possibly be incorporated in the 1922 event. Obvious omissions of great interest to the private owner are:

5. Ease of cleaning.
6. Accessibility (especially in reference to tyre repairs on all machines, and to mechanical adjustments on sidecar outfits).
7. Quality and design of tool outfits.
8. Value for money.

As recorded in our issue for December 23rd, it is intended to introduce several new features in this year's A.C.U. Six Days Trials.

The start will be from Brooklands, where the machines will be subjected to a preliminary examination and certain eliminating tests, including a test of mudguarding over a prepared surface, top gear slow running and silencer tests.

Brooklands is also to be the scene of the finish of the Trial when the surviving competitors will be required to maintain certain specified mimimum speeds for 25 laps.

It is also suggested that every machine over 350 c.c. shall be required to be fitted with a sidecar.

A Drastic Change.

The suggestion that all engines exceeding 350 c.c. must pull sidecars through the trial may mean a great deal more than is stated in the draft. It may imply that the A.C.U. intend to equip the bulk of the entry with an official observer, and to run the event on a non-stop basis, with a penalty for every stoppage of any sort or kind. At first sight this possibility is exceedingly attractive. Non-stop trials have been very largely responsible for developing cars to what they now are. Petty stops are far too common with many makes of motor cycle. This innovation would show up the "class" of the different types and different makes with great faithfulness. The adoption of the non-stop principle is probably impossible unless sidecars are made compulsory, and in most directions it would be extremely beneficial.

But there are two or three equally serious snags about it. For example, if I may take familiar names in vain, the 4 h.p. Triumph, the 3 h.p. A.B.C., and the 2¾ h.p. Douglas all sell freely to solo enthusiasts. Of this trio, the Triumph and A.B.C. exceed 350 c.c., and would therefore have to pull sidecars. These machines would necessarily be far more severely tested and far more closely observed than the Douglas. Given reasonable roads, the Douglas (or its equivalent) could easily take a sidecar through the road portion of the trial with credit, as could many of the little two-strokes and J.A.P.-engined lightweights now on the market, but it would be unfair and disastrous. The multi-lap high-speed test at Brooklands would be much more severe on a 350 c.c. sidecar outfit than on a genuine dual-purpose machine like the sturdy Triumph. It would tend to increase the weight of the 350 c.c. machines, whereas there is real need for their weight to come down.

Discouraging the Solo Mount.

No wise enthusiast will hastily denounce careful efforts to run the Six Days on a non-stop principle. But two preliminary cautions are essential. If the non-stop principle is applied, it must be applied fairly, and it must not hamper the new movement towards lighter solo machines. The new taxation scheme tends to encourage machines which weigh under 200 lb. Popular demand was already pushing in the same direction; the new light Sunbeam, Coulson, etc., were already showing the folly of building one and the same 'bus for the solo tourist and the sidecar potterer. The A.C.U. must encourage this tendency, instead of crabbing it.

Can they find a way out of this dilemma? It is difficult to find an escape. Personally, I value the non-stop principle so enormously that I dare not denounce it offhand and without reserve, though it threatens great sacrifices. I wonder whether the A.C.U. can devise some other method of encouraging the light solo 'buses if they should be penalised in the Six Days by this suggested rule. Could they be given compensating attention in a series of shorter trials? What would be the effect of making sidecars compulsory on all Six Day entries exceeding 200 lb.? Could the problem be dodged by including in the Six

The New "Six Days" Scheme.—

Days a special solo class, in which the entering manufacturers pledged themselves to deliver duplicates with the usual guarantee plus a voidance clause in the event of a sidecar being fitted? I doubt whether any satisfactory solution can be found, and in that event I fear the non-stop principle ought to be abandoned.

The scheme is considerably more audacious than it appears, for although it is easy to frame, it is very difficult to carry out. It will demand the most meticulous organisation and a host of first-class minor officials. However admirably it is planned and staffed, it will unfortunately be extremely boring to the participants and to the spectators. It should prove worth the trouble, for it will produce rapid acceleration of development in the points which matter. A strictly limited entry would appear desirable.

The pitfall of a limited entry is that the results are apt to flatter the trade and humbug the public, seeing that almost any firm can prepare a single super machine and provide a super tuner. There may consequently be some suggestion that the A.C.U. should after receiving entries purchase examples of the entered makes at random from the stocks of local dealers, instead of accepting machines selected and prepared by the entrants. I doubt whether any such complicated system is necessary. A glance at the items selected for rewards and penalties indicates that they are mostly elements of design rather than matters of tune. No doubt the machines which do best in the 1921 Trial will differ from the 1921 machines sold to the public. But twelve months should set this right. The new mudguards, the new springing, the new oil trapping devices, the new carburetter design will surely grace the 1922 models. A trial fulfils its purpose when it forces upon the manufacturer's next year model such alterations as the greater bulk of his customers desire.

B. H. DAVIES.

The 1921 Grand Prix.

An Important Continental Event for Motor Cycles, to be held at the Time of the Car Race.

AS announced in last week's issue, a Motor Cycle Grand Prix will be held in France next July, in conjunction with the three-litre motor car race, near Le Mans. This event will be the most important motor cycle speed contest of the year on the Continent, and will be under the direct control of the Union Motocycliste, which is the national body controlling motor cycle races and competitions in France.

It will be remembered that the Automobile Club of France decided, several months ago, to revive its Grand Prix race in 1921, this event having been interrupted by the war and the unsettled conditions since the Armistice. Every indication pointed to the selection of a course near Strasbourg for this important event; but, owing to the slowness of the Alsatian authorities to give the guarantees required by the Automobile Club, this body suddenly decided to accept the offer of Le Mans to prepare a course and pay an important subsidy for the race.

The Grand Prix having been fixed for Saturday, July 23rd, the decision was taken at a recent meeting of the Sporting Commission of the Automobile Club of France to hold a motor cycle event on the preceding day and over the same course. The rules have not yet been drawn up, for motor cycling in France is under the control of the Union Motocycliste, and not directly in the hands of the Sporting Commission. It is understood, however, that the French Motor Cycle Grand Prix will be over a distance of three hundred miles. Solo machines only will be admitted.



On the course at Le Mans, where the Grand Prix Race will be held in July. Top: Through the pine forests near Le Mans. Bottom: One of the best stretches.

The circuit is ten and a half miles, the roads are fairly level, the country is wild and deserted, and there are three sharp turns, only one of which, however, will cause any real difficulty to riders. For the Grand Prix it is intended to relay the entire road surface.

A Monocar with a Dickey Seat.

A Promising Cycle Car, embodying Well-known Motor Cycle Engine and Gear Units.

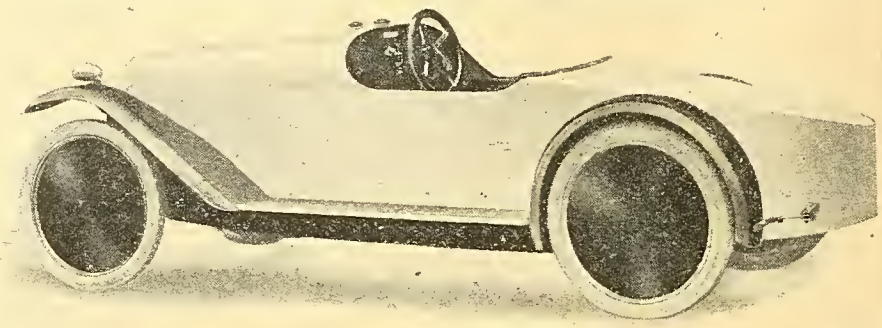
ALTHOUGH there is undoubtedly a demand for an efficient monocar, it suffers, like the solo motor cycle with a carrier, in that a second passenger cannot be carried. The designer of the Baughan monocar illustrated no doubt appreciate this, and has taken his cue from the number of solo motor cycles now fitted with Tan-Sad and similar seats, for, although all the advantages of a solo four-wheeler are retained, in addition a convenient dickey seat forms part of the equipment.

An Unusual Transmission.

The Baughan is a new proposition introduced by Messrs. Baughan Motors, of Lower Street, Stroud, Gloucestershire, and has an 8 h.p. twin Blackburne engine placed across the front end of the frame. The primary drive is by shaft to a small gear box behind the driver's seat, containing a bevel gear, from the cross-shaft of which a "spider" conveys the drive to the outer member of the clutch of a Sturmey-Archer three-speed gear box. A short chain is used for the final drive to the rear axle, a shock absorber being embodied.

Quarter-elliptic springs are used at both ends, and at the rear girder-constructed rods are used and the spring ends allowed to slide in their housings. The specification also includes 650×65 mm. tyres on detachable wheels, Capac carburetter, domed-shaped mudguards, and an efficient cooling fan.

The price is £222 10s. with dickey seat, and a wider model, seating two passengers side by side, and having a third seat at the rear, is also to be marketed for £255, complete with hood, screen, and electric lighting.



The Baughan runabout, primarily designed as a monocar, but capable of taking a second passenger in a neatly arranged dickey seat.

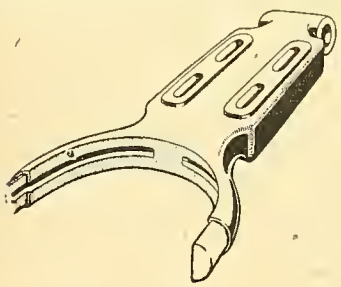
Countershaft Gear Conversions.

FREQUENTLY we are asked by owners of single or hub-geared machines if it is possible to fit a countershaft gear. An answer is supplied by the accompanying illustration of a 1913 hub-geared Triumph, which has been converted for use with a Sturmey-Archer three-speed countershaft gear. Such conversions, it must be noted, however, are not so easily made as might appear.

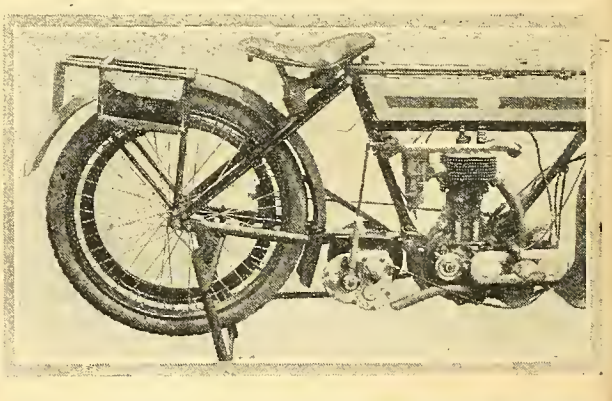
The work was carried out by the Sheldon Engineering Co., of Bailey Lane, Coventry, who specialise in such conversions. Their method includes a new rear portion to the frame, and new wheel as well, of course, and the gear box. Almost any type of machine can be converted for a price in the neighbourhood of £27, though the figure varies somewhat according to the amount of work required in attaching the new rear frame and altering brake gear and controls.

A very substantial bottom bracket lug is incorporated to carry the Sturmey-Archer gear, and plenty of room is provided for adjustment of the primary chain.

During our visit to the firm we were able to examine several different makes of machine which were undergoing conversion, and it may be said that certain forms of frame offer involved problems in the way of modification. So far, however, the Sheldon Engineering Co. have overcome all these difficulties.



Sturdy bottom bracket used by the Sheldon Engineering Co. in their conversion sets.



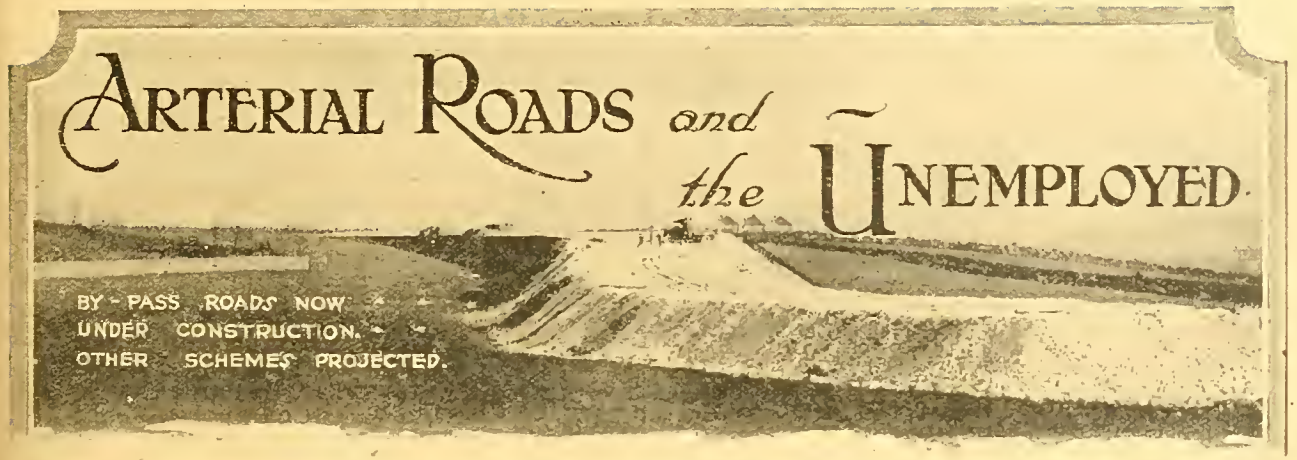
Rear portion of an early model Triumph, which has been converted from a hub to a countershaft-geared machine by the Sheldon Engineering Co.

MOTOR CYCLES IN SWEDEN.

WE have had a very interesting letter from Mr. Gustav Göthe, a Swedish motor cyclist and enthusiastic reader of *The Motor Cycle*, who gives us some very useful information concerning the motor cycle sport and pastime in his country. He tells us that the Swedish Motor Cycle Club has now developed into a firm and powerful organisation, well-known, and acknowledged in the whole of Sweden. Last year it joined the F.I.C.M. Consequently the Swedish Club is going to make this year's May Trials at Whitsuntide an international affair, and sincerely trusts that British motor cyclists will go over and compete. He says that the Swedes have earned an international reputation for their hospitality, and he promises that motor cyclists who visit his country will have no reason to regret it

Mr. Göthe has studied motor cycle conditions in this country carefully. He is secretary of the Competitions Committee of the Swedish Motor Cycle Club, and tells us that the motor cycle, both as a sporting vehicle and for practical purposes, has gained ground tremendously during the last few years. Before the war motor cycles were comparatively rare, but now they are in use all over the country. He regrets to have to tell us that most of the motor cycles are American, due to the difficulty in getting supplies of British machines after the war. This year, however, he hopes to see an alteration. He is very enthusiastic concerning the qualities of British-made machines.

ARTERIAL ROADS and the UNEMPLOYED



The new road between Purley and Waddon Stations in course of construction.

IT has been known for a long time that steps are being taken to improve the roads in the Metropolis.

The approaches to and exits from London, as many of our readers are aware, are in places dangerous and bethronged with traffic. The construction of new roads, too, is providing work for the unemployed, and consequently some reference to the scheme is of double interest.

We may first make mention of the Eltham by-pass, which will enable traffic passing from London to Maidstone to avoid Eltham High Street. The northern extension of this by-pass will serve as a useful connection between Greenwich and Woolwich. The Shooters Hill by-pass, which is four miles in length, will branch from the Dover road at Blackheath so as to avoid the 250ft. climb over Shooters Hill, rejoining the Dover road at Welling. Two circular roads are also projected one in the south through Woolwich, and one in the north through Willesden, Edmonton, Walthamstow, etc., both of which will allow the congested centre of the city to be avoided.

The western avenue through Hammersmith and Acton will, it is hoped, continue through Ealing and Greenford, and will join the Oxford road beyond Uxbridge. The eastern avenue will traverse the marshes of the Lea through Hackney and Leyton, and will cross the Lea valley between the Bow road and Lea Bridge road. It is hoped that this avenue will eventually be prolonged through Wanstead and Ilford, and join the main Colchester road beyond Romford, forming a road from the north of London eastwards without going through Whitechapel, Bow, and Stratford.

There is yet another scheme which concerns the new Cambridge road through Tottenham, Edmonton, and Enfield, rejoining the old Cambridge road after Cheshunt.

Modern Motor Ways.

The Ministry of Transport contemplates the construction of highways of at least 100ft. between fences. In the case of the 100ft. road there will be an 8ft. footpath next to each fence. On each side of the footpath a 5ft. grass track and a 3ft. gravel strip between it and the 24ft. carriage-way. Next to the carriage-way will be a 20ft. track for fast traffic or tramways. Beyond the 20ft. track will be another 24ft. carriage-way similar to that on the other side of the central track.

At the present moment the intention is to prepare the roads roughly throughout their full width, and only to complete the footway, grass track and narrow strip, and one of the carriage-ways, which will have a 6ft. footpath on the right-hand side. The remainder of the roads (54ft.) will probably be let out in temporary allotments pending the time when they can be completed. Other roads will have to be of smaller dimensions

This gives briefly an idea of the work on which the unemployed are being engaged, and it is interesting to note that preference is being given to ex-Service men.

Ten Millions for Roads.

A sum of ten million four hundred thousand pounds is to be made available for distribution for new road construction by the Ministry of Transport, and of this sum five million two hundred thousand pounds form a fund from which further grants towards road schemes can be made, while a similar fund is available for roads at Government rate of interest. Half of the largest sum is being allocated for the Metropolitan area, and the balance for arterial road schemes in other districts. Not less than 50% of the cost is to be expended on wages for unskilled men.

So far the Minister of Labour has sanctioned expenditure in thirteen areas inside the Metropolitan area and sixty-six areas outside the Metropolitan area. In the Metropolitan area the county councils have been approached and pressure has been brought to bear upon them to undertake the necessary work with a 50% grant and a 50% loan, but so far the councils have agreed only to undertake a small portion of the work. When there is any excessive degree of unemployment in any particular district the Ministry of Labour notifies the Minister of Transport, whereupon the latter communicates with the local authorities so as to ascertain whether any road construction schemes are in existence in that district. The amount offered to the local authority is based on the number of unemployed ex-Service men in the area concerned.



Thousands of tons of chalk are being conveyed by lorries to raise the foundations of the road to the required height.

Prices of Second-hand Motor Cycles.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

Make, H.P., and Date.	Classified Prices.	Average Price.
A.B.C. 3h.p., 1920	£80, £100, *£110, £120, *£120, £125, £125, £135, †£150	£118
A.B.C. 3h.p. sc., 1920	£130, £160	£145
Abingdon 5-7h.p. sc., 1920	£140	—
Acme 8h.p. sc., 1920	£105	—
A.J.S. 6h.p. sc., 1920	£175, £180, £185, £190, *£200, £200, †£210, †£235, †£245	£202
A.J.S. 6h.p. sc., 1919	£139, £150	£145
Allon 2¾h.p., 1920	£65, £85	£75
American X 7-9h.p., 1920	†£105, £160	£132
American X 7-9h.p. sc., 1920	†£170, £175	£172
Ariel 6h.p. sc., 1920	£120, £162, £168	£150
Ariel 3½h.p., 1920	£100	—
Bat 8h.p. sc., 1920	£115, †£150, £160	£141
Beardmore 3h.p., 1920	*£85, *£105	£95
Blackburne 4h.p., 1920	£105, *£120	£112
Blackburne 8h.p. sc., 1920	£175	—
Brough 5-6h.p. sc., 1920	£150	—
B.S.A. 4½h.p., 1920	£100, £100, *£107, *£110	£104
B.S.A. 4½h.p. sc., 1920	£110, £120, £120, £123, †£125, £130, £138, £140, †£145	£128
Calthorpe 2¾h.p., 1920	£63, £80	£71
Cleveland 3h.p., 1920	£65, £70	£77
Clyno 2¾h.p., 1920	£50	—
Clyno 8h.p. sc., W.D.	£60, £140	£100
Connaught 2¾h.p., 1920	£52, £52	£52
Coulson-B. 4h.p., 1920	£85, £124	£104
Coulson-B. 2¾h.p., 1920	£82	—
Coventry Eagle 2¾h.p., 1920	£75	—
Douglas 2¾h.p., 1920	£82, £90, £90, £90, £92	£89
Douglas 4h.p. sc., 1920	£125, £130, £140, £145, £152, £155	£141
Edmund 2¾h.p., 1920	£105	—
Enfield 8h.p. sc., 1920	£150, £175	£162
Enfield 8h.p. sc., 1921	†*£175, †*£195	£185
Enfield 2¾h.p., 1920	£55, £65, £75, £75	£67
Harley-Davidson 7-9h.p. sc., 1920	†£150, £175, £210, †£210, £250	£199
Harley-Davidson 4h.p., 1920	£140, *£142, *£150	£144
Hazlewood 5-6h.p. sc., 1920	*£165, *£186	£175
Hobart 2¾h.p., 1920	£55	—
Humber 4½h.p., 1920	*£130	—
Indian 7-9h.p. sc., 1920	†£160, †£175, †£175, †£185, †£200	£179

†Dynamo lighting.

Make, H.P., and Date.	Classified Prices.	Average Price.
Indian 4h.p., 1920	£130, £135	£132
James 5-6h.p. sc., 1920	£160, £165, £190	£171
James 2¾h.p., 1920	£55, *£65	£60
Lea-Francis 3½h.p., 1920	£100, *£116, £120	£112
Levis 2¼h.p., 1920	£55, £55	£55
Martinsyde 6h.p. sc., 1920	†£205	—
Matchless 8h.p. sc., 1920	£175, £180, £182, £185, £185, £185, †*£195, †£200, †£210, †£220	£191
New Hudson 2¼h.p., 1920	£63, *£63	£63
New Imperial 8h.p. sc., 1920	£110	—
New Imperial 2¾h.p., 1920	£65, £79, £89	£77
New Imperial 8h.p. sc., 1919	£120, £140, £150	£137
New Scale 3½h.p. sc., 1920	£105	—
Norton 4h.p. sc., 1921	*£165	—
Norton 3½h.p. model 16, 1920	£105, £130	£112
N.U.T. 3½h.p., 1920	†£140, †£140, †£145, †£147	£143
O.K. 2¾h.p., 1920	£40, *£45, *£47	£44
Omega 2½h.p., 1920	£75, £79, £80	£78
P. and M. 3½h.p., 1920	£115	—
P. and M. 3½h.p., 1918-19	£68, £70, £70, £82	£72
Quadrant 4½h.p. sc., 1920	£130, £145	£137
Reading Standard 8h.p. sc., 1921	£160	—
Rover 3½h.p., 1920	£98, £115	£106
Rover 5-6h.p. sc., 1920	£120, £145	£132
Royal Ruby 3h.p., 1920	£85, £100, £120, £120	£106
Rudge 3½h.p., 1920	£95, £95, *£95	£95
Rudge 3½h.p. sc., 1920	£125	—
Scott 3½h.p. sc., 1920	£130, †£135, £140	£135
Scott 3½h.p., 1920	£95, £110, £110	£107
Sun 2¾h.p., 1920	£53	—
Sunbeam 3½h.p., 1920	£140, *£140	£140
Sunbeam 3½h.p. sc., 1920	*£200	—
Sunbeam 8h.p. sc., 1920	£220, †£240, †£245	£235
Triumph 4h.p., 1920	£100, £119, *£117, *£120	£114
Triumph 4h.p. sc., 1920	£125, £145, £145, £115, £180	£148
Triumph 4h.p. sc., 1919	£105, £105, £107, £125, £125, £135, £135, £160	£127
Velocette 2¼h.p., 1919	£42	—
Wooler 2¾h.p., 1920	£78, £85	£81
Zenith 8h.p., 1920	£98, *£120, *£125, £130	£118
Zenith 5h.p., 1920	£95, £100, £105	£100

*Unused.

A Floatless Carburetter.

The Parmor Vaporiser—a Well-made Instrument embodying Several Novel Features.

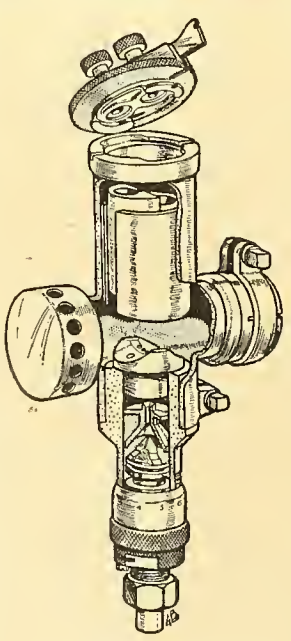
EVER since the introduction of the spray carburetter a certain number of designers have given their minds to the problem of eliminating the float and its attendant mechanism. We have before us a recent example of floatless carburetter, which embodies several features of interest, and which has been tested by a well-known Midland firm with satisfactory results.

This instrument is known as the Parmor floatless carburetter, and is marketed by Parmor Carburetters, Ltd., Carlton House Extension, Birmingham.

Graduated Adjustment.

Petrol is fed directly to one or more small jets drilled in the face of a wide cone. When at rest these jets are sealed by an internally-coned valve which takes its seating on the surrounding face. This valve has a vertical hole drilled through the centre and lies immediately below a series of spraying jets. By means of a milled cap the height of the main coned member may be adjusted, thus regulating the permissible travel of the valve. The cap is provided with a scale and a locking device, so that once the correct adjustment has been found it may be retained indefinitely, or modified to suit existing conditions. It will be clear that engine suction will raise the jet covering valve and thus allow petrol to pass to the atomising jets.

Air and throttle barrels are of normal construction, the former being D shaped and sliding within the latter, while the cap of the carburetter is secured by a bayonet joint locked in position by a simple spring clip. At the present time the carburetter is made for "big singles" only, though further models are under way.



Part sectional view of the Parmor floatless carburetter, showing the conical jet and its covering valve.

Advantages Claimed.

Since a Parmor carburetter is in the course of being fitted to a staff machine we will confine our description to this brief outline of the instrument with a view to giving our actual experiences on the road at an early date. We may state, however, that we have seen reports from competent and independent sources which state that the carburetter has given excellent results as regards power, flexibility, and consumption, and that there are no symptoms of drip when the machine is at rest. The main claims of the manufacturers are: easy starting, low consumption, great flexibility, and prevention of "konking."

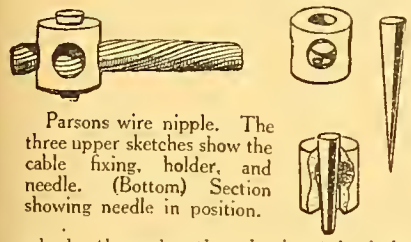
REVERSE GEAR ON SIDECARS.

EXHIBITED at the Amsterdam Motor Cycle Show there was a four-cylinder Henderson fitted with a reverse gear. Such equipment seems unnecessary complication and cost.

The majority of sidecar outfits can turn in their own length, but there are exceptions, and to the makers of these we recommend that they increase the wheel lock. We do this, not because we think there is the remotest possibility of them considering a reverse, but because no sidecar outfit should require the full width of the road in which to turn.

A BOWDEN WIRE NIPPLE.

AN ingenious and effective method of fitting a Bowden wire has been introduced by Mr. L. Parsons, 277, Ley Street, Ilford, Essex. The nipple is made of brass, and through it is a hole drilled eccentrically. A further hole is drilled through below this, and still another, which does not quite penetrate the nipple, at right angles. The end of the wire is first sweated and then



Parsons wire nipple. The three upper sketches show the cable fixing, holder, and needle. (Bottom) Section showing needle in position.

pushed through the horizontal hole, while an old gramophone needle is next driven through the vertical hole. The effect of this is to force the wire upwards into the hole partially drilled through the nipple, thus securely anchoring the cable. The method appears to us to be quite good, and should be entirely satisfactory.

A SELF-HEATING SOLDERING IRON.

A SIMPLE and ingenious soldering iron, heated by methylated spirit, is handled by Gordon Uren, 11, Rue Descombes, Paris (XVIIe), France. Known as the Ki-soude, it will certainly

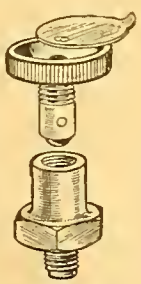


A French self-heating soldering iron.

appeal to those motor cyclists who do their own repairs. Filled with a pennyworth of methylated spirit, the iron will keep hot for half an hour and should prove very useful to the motor cyclist for small repair work.

A PRACTICAL COMPRESSION TAP.

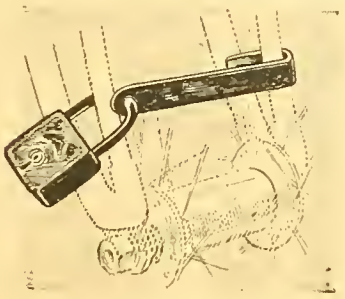
AN ingenious motor cycle compression tap has been produced by Messrs. Ross, Courtney, and Co., Ltd., Ashbrook Road, Upper Holloway, London, N.19. It is made in two portions, a main body screwed into the cylinder and a detachable portion fitted complete with dust cover and terminating in a steel ball which engages with the seating of the main body. The design of the tap should prevent all leakage, and should be entirely satisfactory for ordinary use.



The Ross-Courtney dust and compression tight injection tap.

A SIMPLE LOCK.

A MOTOR cycle lock which is none the less secure despite its simplicity is marketed by Messrs. H. Taylor and Co., Ltd., 21a, Store Street, Tottenham Court Road, London, W.C.1. It consists merely of a piece of flat steel bent into the shape of a hook with a hole at the opposite end. The hook is



Taylor's simple motor cycle lock.

passed round one member of the front forks, while the other end is secured to the opposite side by means of an ordinary padlock, the hasp of which is slipped through the hole. In that position the motor cycle cannot be wheeled, and it would take an expert thief some time to cut through the steel bar with a hacksaw.

A FLYWHEEL BRAKE.

IN our pages of readers' ideas the suggestion of a flywheel brake has often arisen, and lately Messrs. James Grose, Ltd., 4, Old Jewry, London, E.C.2, have submitted to us a sample brake, which may be used on Douglas motor cycles as well as on many other machines provided with outside flywheels.



Grose's flywheel brake for Douglas and other outside flywheel machines.

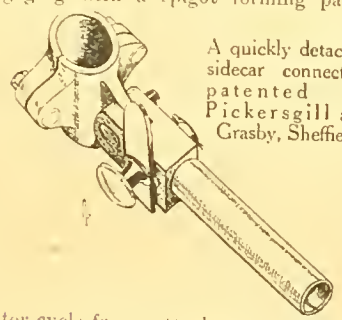
The same firm also handle a comfortable foot muff for sidecar use, which should be specially welcomed by lady sidecar passengers at this time of the year.



A foot-muff for sidecar passengers It is made by J. Grose, Ltd.

A QUICKLY DETACHABLE SIDECAR COUPLING.

ANY device which will enable a sidecar to be quickly detached must, of necessity, be welcome. A coupling designed with this end in view has been produced by Messrs. Pickersgill and Grasby, 237, Attercliffe Common, Sheffield; it is known as the Quick clip, and consists of a lug in which a slot is cut engaging with a spigot forming part of

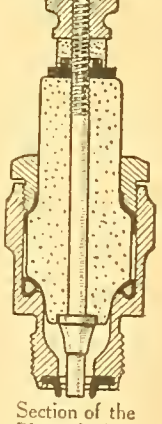


A quickly detached sidecar connection patented by Pickersgill and Grasby, Sheffield.

motor cycle frame attachments. When the slot is engaged with the spigot a taper pin is pushed through; the pin is then covered by means of a slide which, when twisted into position, fits close up against the countersunk head of the pin and prevents it from moving. The slide is fitted with a self-locking device which renders the coupling absolutely secure.

A PLUG TEST.

WE have had under test for the last two or three months a couple of new type plugs, manufactured by Messrs. Bluemel, Ltd., of Wolston. These have been given a very hard test on a big twin sidecar outfit, and have stood up to many severe gruellings on the road when long bursts and fast speeds have been indulged in. The mileage done with these plugs has been about three thousand, and the fact that we intend to retain them in use for the future is sufficient evidence of their excellent qualities.



Section of the Bluemel plug.

The only alteration which we made to the plugs as sent out by the makers was to widen the gap slightly, otherwise they have been untouched since they were first put into the engine. A sectional view of the plug is illustrated herewith.

IMPERIAL MOTOR TRANSPORT CONFERENCE.

Copies of the report of the proceedings of the Imperial Motor Transport Conference held at Olympia in October are now available at a charge of 8s. 6d. (post free). It is obtainable from the hon. secretary to the Council, Mr. Horace Wyatt, Royal Automobile Club, Pall Mall, S.W.1.

WEIGHT AND PRICE.

How a Weight Limit Encourages the Moderately-priced Cycle Car.

THERE has always been a difficulty in deciding on a dividing line which will distinguish between the cycle car and the miniature car, and so long as engine capacity alone is used for the purposes of identification this difficulty is bound to exist. Whether the limit be fixed at 1,100 c.c. or any other arbitrary figure, both air-cooled radial and four-cylinder water-cooled line ahead engines are included, while if price is chosen as a basis, one is apt to find certain American productions which can hardly be described as cycle cars included in the definition. Let it be stated here and now that there is obviously no objection to the standard line ahead four-cylinder engined cycle car *provided the initial cost and running expenses can be kept low enough to compete favourably with a high-class motor cycle and sidecar.*

The whole crux of the situation appears to lie in the fact that the successful cycle car must compete equally with the more luxurious sidecars.

Effect of Weight Limitation.

And now to explain how a suitable weight limitation will ensure this desirable end. There will be few who will deny that weight is one of the most important factors in upkeep, granted, of course, the machine is strong enough to be roadworthy. Weight also has a great bearing on the question of initial cost provided, again, that the machine is designed and not guessed at. Let us examine the question briefly, commencing with the all important power unit.

For the purposes of this article all types of engine likely to be used at the present time, V twins and flat twins, will be henceforward referred to as "radials," since it is obvious that the former is the simplest form of single line radial, and the latter the simplest form of two line radial (radials with cranks in more than two places are not worth considering at the present moment).

It must be obvious to the average intelligence that a single line radial is the lightest and cheapest form of engine for a given number of cylinders, since it involves only a single throw crankshaft of such short length that it can be made sufficiently stiff with a minimum of weight and machining. (Against this must be set the necessity for balance weights which, however, are easily constructed.) A short crank case also with the minimum of metal is required, and if an outside flywheel is used, the castings will weigh but a few pounds. Both crankshaft and crank case will cost proportionately less than the long shaft and case of the conventional four-cylinder, which must be made unduly heavy in order to attain the necessary amount of rigidity.

The radial has another very great advantage in that, being short in itself, it enables the chassis to be shortened without reducing the seating accommodation. At first sight the advantage thus gained is not so obvious, since few of the non-technical public realise the amount of extra weight involved by the addition of 6in. to the wheelbase. Such lengthening increases the weight, not only by the extra 6in. in the frame and drive length, but also if the frame has been correctly designed in the first instance by a considerable increase in the depth or section of the frame members, and possibly of the propeller-shaft. It is true that a long wheelbase provides additional comfort at speed, but if the seating accommodation is kept well within the wheelbase and the springing is well carried out, the difference is not likely to be very noticeable.

So far, no mention has been made of the respective merits of air and water-cooling, but the air-cooled engine obviously scores in the matter of both price and weight, though in the latter respect the difference in the near future is not likely to be so great as might be expected, since designers are beginning to realise that to obtain the best and most even cooling, a considerable mass of metal is required in air-cooled cylinder castings. (The use of aluminium and composite cylinders is not contemplated on the score of increased cost.)

Since the engine and chassis will be considerably lighter in the case of the air-cooled radial, the springs, axles, and tyres can be made lighter, thus again reducing the cost of material and a very important factor, unsprung weight.

Saving Production Costs.

Now if an air-cooled radial engine is designed so that both (or all) the cylinders are identical, the combined saving in weight and cost is going to make a considerable difference in the first cost and upkeep of the machine, and the car type engine will have its time cut out to compete with the less orthodox type.

It is hardly in the province of this article to deal in detail with the most suitable type of air-cooled radial, but it is to be hoped that sufficient has been said in explanation of the fact that, given suitable weight limit, the car type with its greater initial price and upkeep will be automatically excluded from the true cycle car class. If, however, a true and roadworthy light car can be built within the limits of, let us say, 1,100 c.c. and 8 cwt. complete, and still appeal to the prospective cycle car buyer with a low price, it deserves all the credit that it will undoubtedly earn.

STEERING HEAD BEARINGS.



Some Notes on an Important Item of Design.

A LETTER published in *The Motor Cycle* of December 2nd brings home to me the fact that a little more explanation and fuller details should be added to my remarks on bearings and their adjustment in the series of articles intended for novices. Let me say first that on many points I am in agreement with the writer of the letter mentioned whose connection with the Skefko Ball Bearing Co. naturally suggests some knowledge of the subject.



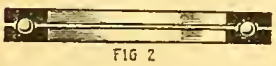
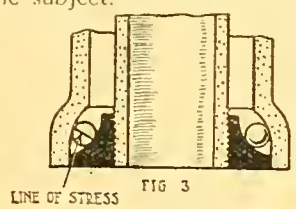
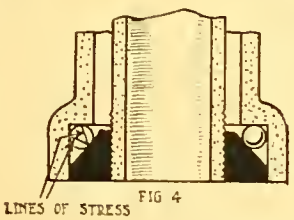


Fig. 1.—A conventional thrust bearing.
Fig. 2.—A more suitable type of thrust race.





Figs. 3 and 4.—Adaptation of cycle wheel bearings applied to the steering head, as suggested by our contributor.

There is probably much difference of opinion as to the desirability of journal bearings for motor cycle wheels. Doubtless they will run with less friction than the cycle bearings usually employed, and if Skefko or other double row ball bearings are used there will be no question of their not being up to their work on solo machines, but they have the disadvantage of not being adjustable, and I think they have still to prove their worth on sidecar outfits. The Timken taper roller bearings are excellent for this purpose, provided that dirt can be rigidly excluded.

The Best Bearings for the Head.

It is, however, on the matter of the head bearings that I differ from Mr. Walker (whose letter appeared in the issue for December 2nd). The usual thrust bearing would not do at all, and it is only by deepening the cups that the bearings can be even reasonably efficient (see figs. 1 and 2). Even when the cups are deepened the wear takes place principally on the edges of the cups rather than at the bottom, and there must come a time when the depth of the cups is insufficient to allow of enough adjustment to take up the lateral movement.

Suppose fig. 5 to be a diagrammatical representation of the front part of a motor cycle having a rake of 30° from the perpendicular. Let the line through the centre of the head produced meet the ground at the point of contact of the tyre. Now, if the top of the head be 36in. from this point, the head 6in. between the bearings, and the load on the front wheel 100 lb., we obtain the following figures (see fig. 6). The resistance of the road (R) will be equal to the weight on the front wheel (100 lb.), and will act vertically upwards. This force can, by means of the parallelogram of forces, be resolved into two component forces acting at right angles, one directly through the steering head, which will represent the force with which a thrust bearing can cope; the other at right angles to this, which will represent the force for which journal bearings are best suited. The angle R C B being 30° we have now a triangle equal to half an equilateral triangle, and the sides will be in the proportion of 1, 2, and $\sqrt{3}$. This gives a force of 86.6 lb. acting directly through the head as a plain thrust, and a force of 50 lb. acting at right angles to the line of the head at C, the point of contact with the ground. We will take the distance between the head bearings A B as 6in., and the distance of the top bearing to the point where the wheel touches the ground A C as 36in. If we suppose for a moment that the head can swing about A, the force at B, the lower head bearing, for which a journal bearing is required, is 300 lb., for A C is a lever of the second class.

A Compromise.

Thus we have in the lower bearing 86.6 lb. suited to a thrust bearing, and 300 lb. suited to a journal bearing. Hence I maintain that a combination of these bearings is necessary for complete efficiency. Considering the top bearing in the same way we find that the thrust is equal to nothing, for the weight is only pressing the bearings apart, and the radial force 250 lb. in the opposite direction to the same force at B.

Failing a combination of thrust and journal bearings I am in favour of such bearings as that used on cycle wheels (fig. 3), or that shown in fig. 4. Where the balls touch at two points only the line of stress must pass through these two points and the centre of the ball, and in cycle bearings this line can be set in the most suitable direction for withstanding the various forces by a proper arrangement of the curves in the cups and cones. Fig. 4 shows a three-point bearing, and the lines of stress for the radial and end thrusts will be situated in different parts of the ball. Neither will be quite as good as separate thrust and journal bearings, but both will serve their purpose if properly and carefully designed. J.H.W.

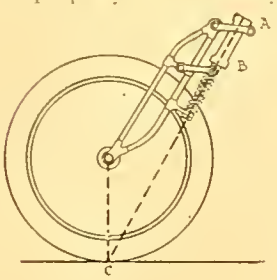


Fig. 5.

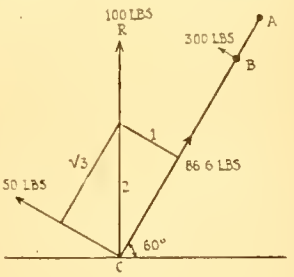


Fig. 6



WINTER WEAR

by ROAD RIDER

The motor cyclist on the left favours a woollen cap, a long rubber coat, and a pair of Hamel's "quick-fastener" overalls tucked inside snow boots. A leather helmet is worn by the other, who, having efficient leg guards, does not trouble to wear "extras" on his lower limbs.

Some Notes of Clothing for Head, Body, Hands, Legs, and Feet.

ONCE more the audacious motor cyclist who does not put away his machine with his cricket gear in September is obsessed by the problem of keeping warm and dry. As one of that pugnacious class who consider no weather too inclement for their favourite hobby I propose to set out a few precious maxims bought in the hard school of experience and suffering. In order to maintain some sort of logical sequence these notes shall commence at the rider's head and work gradually downwards.

Head Gear.

A weird assortment of hats and caps may be viewed at the start of a London-Exeter, but riders for whom every winter day is an instalment of a continuous London-Exeter will perceive immediately that two-thirds of the entry are badly dressed. The obvious first essential is to keep the ears warm. Rolls and flaps are used for the purpose. Rolls facilitate hearing, but do not make for warmth at low road speeds in a side wind. Flaps are certainly preferable except in very heavy traffic. Oddly enough, the *forehead* feels cold more readily than any part of the head except the ears, and the cap or helmet should be thickly padded in front.

Helmets are all very well, except that they do not protect the eyes. In blinding snow or a hailstorm anybody's eyes need protection, and goggles cannot be worn. In an icy wind most men's eyes are apt to stream with water; as a cure goggles may be worn if the air is clear; in this case the goggles should not be lowered over the eyes until 100 yards after starting, or they will mist. Eye protection in snow or hail is not provided on any storm cap of my acquaintance; a stiff peak (*e.g.*, with an aluminium liner) resembling that of a jockey's cap is required.

I use two types of headgear in winter, viz.:

1. A waterproof flapped helmet by Shekman, of Tyne Dock, which is excellent, except that its peak is flabby and soft. With a stiff, long peak it would be fine. In fair weather it can be furled up into the sort of cap once known as the "polo" type, but now associated with Bolshevists.

2. A seafaring man's headbag with face-hole and neck skirt, for which see below.



A storm cap made by M. Shekman and Co., of Tyne Dock.

Neck Gear.

The blazing crime of nearly all motor cycling coats is that they do not seal the gap round the neck against the entrance of rain. Tailors doubtless imagine that the seal is perfect. So do riders until they venture out. Then they wind long soft scarves round their necks, and in half an hour the sodden feeling becomes miserable, and an Alpine rivulet trickles between the shoulders. Good motor cycling tailors like Irvine Smith find it necessary to sew a protective flap along the buttoned front of a jacket to stop rain blowing in; from which it can be imagined that the problem of a dry neck is acute in really bad weather. I believe Dunhill has a poncho-necked coat drawn



Two of Barbour's (South Shields) specialities mentioned by our contributor—the Blizzard helmet and oilskin mitts.



Waterproof twill gauntlets with hide palms—speciality of Dunhills.



Combined mitts and gloves as supplied by Dunhills to the troops in Russia.

tight by a string. I have never tried it, and the old "umbrella neck" of elastic rubber is the only waterproof neck I know. Since umbrella coats became unobtainable, I have relied on the enormous oilskin bags in which sailors encase their heads. Barbour, of South Shields, makes a good one. The chief merit of such bags is that they have an ample skirt, which overlaps the coat collar; so they shoot water off the head on to the shoulders, and the shoulders shoot the wet off on to the road. But they are ineffably hideous. Bold as I am, I dare only wear them in the dark, or in districts where I am unknown.

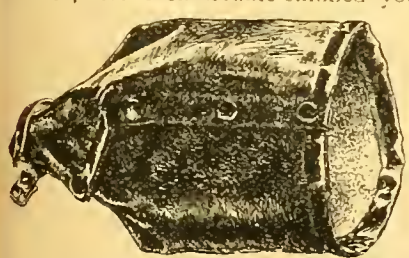
Failing such a head-bag, the best plan is that usually followed. Get a coat cut to fit your neck as closely as possible, and caulk the joint with many wrappings of a soft scarf.

The Coat.

Leather for warmth and oilskin for "dryth" is the old motto. Nothing but a thick, close-textured stuff like leather will ward off winter winds at motor cycling speeds. Put on as many undercoats as possible, one of which should either be leather or solid rubber sheeting; and cover the lot with a genuine waterproof, such as a Beacon oilskin. Windcuffs are not necessary, as gauntlets will certainly be worn. Barring the difficulty of the neck, emphasized above, the coating is perfectly simple, and is merely a matter of quantity. A belt, of course, is essential, or the draughts work up from beneath, and make you feel as the emperor of the fable did in his new clothes.

The Hands.

Hand-comfort hinges on circulation. Nobody can keep his hands warm indefinitely on a motor cycle in winter, not even double-skinned youngsters, such as G. P. Mills was in his prime. Any of us can start a ride with his hands warm, and cover his hands with non-conducting materials, which will retain the starting heat for a variable period. A man with a bad circulation may have to stop and warm his hands at a fire or by performing physical jerks within half an hour. A man with a good circulation can keep going for an hour or two. The desirable accessories are:



Wool-lined waterproof handle-bar muffs by the Cameta Rubber Co., Birmingham.

1. Handle-bar muffs. (Essential in Arctic weather and long distance work.)
2. Two or three pairs of thin, soft gloves (silk or wool).
3. An overall glove which is both wind and waterproof.

I agree with my colleague "Ixion" that the German "Continental" glove has never been equalled. I am now using in its stead a pair of mitts made for the Archangel field force, warmly lined and finished in waterproof twill. I also possess a pair of gloves on similar lines by Dunhill, and a pair of Beacon oilskin mitts.

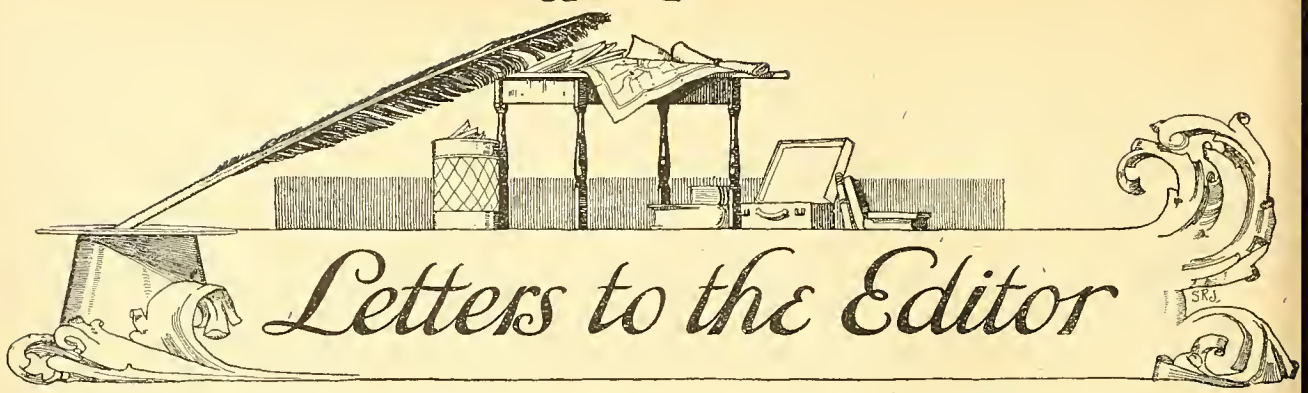
The Legs.

Leggings come in the same category as coats. Almost anything will do. If we except one detail, leggings are more a matter of quality than quantity. The exception is the spats. Ninety-nine leggings out of every hundred are spatted. The spats are cut to fit an ordinary boot. One pair of walking boots spells frostbite in real winter motor cycling; but if the feet are properly clad, the spats won't fasten over the feet. Ergo, the winter rider must eschew shaped and spatted leggings and wear trousers. His exact specification for leggings will thus vary according to what he intends to wear on his feet. Later on, as the weather gets worse, I shall appear in a pair of knee gum boots, which are the warmest boots ever made, but need careful precautions to prevent water running down into them. So when I don the gum boots, I wear oilskin trousers right over them, and strap the hems of the trousers round the ankle to prevent them singeing on the engine or catching in spiky parts of the machine.



The College "foot overall," which is adjustable, and has a leather insole and waterproof outsole.

A regular wardrobe, you say, gentle reader? Certainly. But without, proper winter motor cycling ceases to be a pleasure, and ranks rather as a graveyard filler.



Letters to the Editor

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

CROSS ROADS RIGHT OF WAY.

Sir,—I have just read in your paper that nothing has been embodied in the new recommendation of the Ministry of Transport to indicate a prior right of way at cross roads.

I beg to suggest that the "cross roads" sign visible to a driver should indicate that he has prior right of way when the sign is in black lettering, and against him when in red lettering. It would cost no more, and it is just as easy to do the right thing at the commencement.

A. W. BAILEY.

A SUBSTITUTE FOR TROW HILL.

Sir,—As you say in your description of the London-Exeter, Trow Hill seems to have lost its old terror for motor cyclists. I also think so. I can climb it on my 2¼ h.p. Radco, and when the hill is quite dry I can get up on top gear on my two-speed 7-9 h.p. Indian.

As a "new venture," why not bring before the M.C.C. Committee Chine Way Hill between Ottery and Lyme Regis? It would not be a single mile out of the way (rather less than the Trow Hill route if anything).

I admit this hill is only about the same gradient as Trow, and it has no corners, but it invariably has a very loose surface, and would be just as likely to cause failures as Trow (if not more so). I merely mention this as a keen motor cyclist, but, perhaps, it might receive the attention of the M.C.C. Committee, if they were to hear of it.

RICHARD SHEPPERD.

TWO YEARS ON A SOLID TYRE.

Sir,—I was pleased to note "L.J.G.'s" query *re* solid tyres in your issue of the 6th.

I have been riding for the last twenty years, and although engines have improved vastly in the meantime, pneumatic tyres have not, and, until we can afford to fit Rapsons, we are still subject to the puncture bugbear.

To avoid this, I have used a solid tyre on the driving wheel of my 2½ h.p. motor cycle for the past two years with great success. It may slow the machine a trifle, but it certainly makes for peace of mind, and the worst and flintiest roads have no terrors!

It is made by the British Airless Tyre Co., Ltd., cost about 57s., and was obtained from the local agent of Curry's.

H. S. CHARLTON.

A.C.U. AND CYCLE CARS.

Sir,—As a more than satisfied owner of a Tamplin cycle car, I welcome the proposal of the A.C.U. to take over this type of vehicle from the R.A.C. This little car is a motor cycle on four wheels pure and simple, with 8 h.p. a.c. engine, S.A. three-speed gear box, belt and chain drive, and motor cycle wheels and tyres; and, in my opinion, it is absurd that such a machine should be classed with pukka light cars of four times the weight and cost. There is an immense future for the true cycle car if developed on the right lines, and I entirely agree with you that it is only by competition and comparison with the sidecar and three-wheeler that this can be brought about satisfactorily. At the same time, I think the utmost care must be used in striking a dividing line, and would suggest that weight is even more important than c.c. If these were fixed at 8 cwt. and 1,000 c.c. respectively there could be no genuine argument against control by the A.C.U., and it would remove the absurdity of such cars as the Singer, Deemster, etc., being classed as cycle cars and compelled to compete with motor cycles and three-wheelers.

Further, I feel convinced that once the true cycle car is under A.C.U. control, future taxation will be based on the same basis as three-wheelers. Under present taxation the monocar and light two-seater cycle car are doomed, and I am surprised that those who are supposed to represent the type do not appear to realise this? TAMPLINITE.

Birmingham.

A.A. SUBSCRIPTIONS—ANOTHER VIEWPOINT.

Sir,—I am in full sympathy with "An Ungrateful Member of the A.A" regarding his comments upon the increased cost of everything connected with his motor cycling; but in regard to his objection to the increased subscription for A.A. motor cycle members, may I put him right on one point?

The A.A. made very stringent efforts to get the new tax reduced, and in my Minority Report on this taxation I laid particular stress upon the cases of the large number of motorists who, by force of circumstances, use their vehicles occasionally, or at week-ends. I had in view the case of the worker who, like "An Ungrateful Member of the A.A.," could not afford to let his motoring, amounting only to a few hours each week, cost much.

Because the A.A. did everything possible to prevent the imposition of this tax, and intends to continue its fight, your correspondent, if he is really anxious to see a reduction of motor taxation, should continue to support us. A fight cannot be maintained without a war chest, and "An Ungrateful Member of the A.A." and his friends should realise that by cutting out their membership of the A.A., they are capitulating to the enemy, and that in these circumstances conditions will certainly not improve, but are likely to become worse.

STENSON COOKE,
Secretary the Automobile Association and Motor Union.

T.T. ENTRANCE FEES.

Sir,—Some time ago one of your correspondents pointed out the desirability, nay the necessity, of a reduced entrance fee for the genuine "private owner" in this year's T.T. Probably owing to the length of time which then existed before the event became reasonably near, the epistle did not attract the attention it deserved. With the race now less than five months distant, however, it is time to make a protest against the excessive high fee of £21 which, I understand, has been settled for trade and amateur riders alike. A private entrant should certainly not be called upon to pay such a high penalty for what is, after all, only a sporting run, from his point of view. The private owner's chances of success are naturally 100 to 1 against the trade rider's. A fee of £10 is certainly high enough for him. Such a fee is "solid" enough to prevent any overcrowding.

It might also be pointed out that incidental expenses in connection with the T.T. are greater than those of any other competition or trial in England. The trade and the locality where the event takes place stand to gain more by this event than by either of the English or Scottish Six Day Trials. Nevertheless, though the first event occupies only a single day (for each competition), the fee charged for entrance is six or seven times greater than that required for an event of a week's duration. RICHARD McAULEY.

MECHANICAL OIL PUMPS IN COLD WEATHER.

Sir,—I must beg leave to disagree with Mr. David Todd in his diagnosis of the trouble in lubricating motor cycles mechanically during cold weather. I submit that the size of the pump makes no difference to the draw or pace exerted on the oil. This is a question of elementary hydrostatics.

As a matter of practical experience, I was recently able to observe the behaviour of the Best and Lloyd mechanical pump which I have had fitted to my Matchless since last August. It must be admitted that on one or two mornings during the month of December the temperature was as low as is generally experienced in this country during winter. I was therefore rather surprised to notice that there was no check on the action of the pump and apparently no lessening of the oil supply. F. J. NESBIT.

MOTOR CYCLE TAXIS AND THE NEW TAXATION.

Sir,—Some uncertainty has existed as to the position of motor cycle taxis under the new taxation, and it was thought that they would be classed as hackney carriages, and thus be liable to a tax of £15, which would be a serious blow to this new development of the motor cycle industry.

With a view to obtaining an authoritative statement, we waited upon the chief taxation officer for Birmingham, and were informed by him that, under the "Roads Bill" now passing through Parliament, it is definitely stated that "where a hackney vehicle of the class mentioned in pars. 1 or 2 of the second schedule to the Finance Act, 1920, it shall be charged with duty under par. 1 or par. 2, as the case may be, and not under par. 3 of that schedule."

Par. 1 refers to motor bicycles with right to draw sidecar or trailer, weight unladen not exceeding 8 cwt., £4.

Par. 2, tricycles not exceeding 8 cwt. unladen, £4.

Par. 3, motor hackney vehicles, £15.

In view of the importance of this point to your readers, may we ask that you will give it prominence?

THE COUNTY CYCLE AND MOTOR CO.,
FAWKENER BIRCH.

SOME MORE DOUGLAS LUBRICATION HINTS.

Sir,—Referring to Mr. Cecil Emery's letter in a recent number of *The Motor Cycle*, I would strongly advise against the use of soft solder in the main oil lead of the 4 h.p. Douglas.

When my machine was first taken down after 2,000 miles there was no trace of carbon or oil in the rear cylinder, the cause being a blob of solder in the pipe. Whether this was due to careless soldering of the joints or an endeavour to restrict the bore I cannot say. What I have done is to cut the oil pipe below the T joint and solder in a small brass tap. The oil supply is now under absolute control from the saddle.

With regard to petrol consumption, I am now getting 75 m.p.g. with a Binks, with sidecar and passenger, and, having just fitted a hot air pipe, I hope to improve this as the engine now takes full air on a No. 1 second pilot jet with Aviation. SOUTHCOMB MAY.

TO SAVE SHOE LEATHER!

Sir,—For many moons past, I have been a humble neophyte in the motor cycle world, studying your invaluable columns and hoping that some rich uncle would die and do the necessary. To my unbounded joy, I recently acquired an ancient grid, wherewith I have considerably startled the villagers (and myself).

Tongue cannot tell, nor pen delineate, the joy of roaring up hills (quite frequently), merely by waggling a lever, instead of pushing the wretched pedals round, as previously. Exquisite the pleasure, until it was painfully borne upon me that there is no unalloyed bliss on this unfortunate planet.

I have come to the conclusion that the plague of mankind is (or are) dogs. Millions of them! Whether it is my rowdy exhaust or merely my homely countenance, I know not; but no sooner do I set forth, than I am beset by pups. Hounds of birth and curs of low degree, the butcher's mastiff and the grocer's dachshund all seem bent on hari-kari in my front wheel. Not that I am disobliging, really, but old ladies scream so, and "bobbies" have an unfortunate habit of flourishing note books.

I had thought of a sort of miniature machine gun swivelling on the handle-bars, capable of shooting tin-tacks, but the thought of the tyres following after deterred me.

In my less lurid moments, I bethought me of an excellent remedy—a veritable cerebral undulation! Observing the joyful bang of a disused electric bulb, I wondered if this could be developed. Why not have a number of very thin glass eggs, full of "negative pressure," carried in a soft-lined bolster on the tank? One of these, discreetly dropped in front of a bellicose tyke, should give it pause, not to say shatter its morale.

I have even thought out a scheme (all rights reserved) whereby the eggs could be dropped into a flannel-lined exhaust-pipe (by means of b.w. control), to be projected with terrific force against the unhappy canine nose. They could be made of such thin glass that they would disappear in dust, on impact, and, of course, would cause no lasting harm to the offending poodle, except, perhaps, shell shock! If any accessory dealers would care to take the matter up I should be glad to confer such a boon on my fellow handle-bar clutchers. BOW-WOW BANG.

Edinburgh.



A meet of the Hertfordshire Hounds at Ayot St. Lawrence. Local motor cyclists reveal an interest in horseflesh and a rival sport.

B7

SPORTING OR SCIENTIFIC TRIALS.

Sir,—In the past our Six Days Reliability Trials have been fairly sporting for the riders who participated in them, and, as a competition rider, I wish to point out, in all good spirit, that by killing the personal element in competition riding and by making six days events duller for the rider than they have been hitherto, we are inevitably hastening the doom of the reliability trial, which I, and I believe all sportsmen, would sincerely regret.

In the past the few bright spots in our English Six Days have been the freak hills. The Scottish Six Days is always bright, on account of the ever-changing scenery and the general spirit of good sportsmanship which pervades it. I suppose the time has come when the competition rider is the last man to be entitled to voice his opinion. He is merely a puppet, and it remains for others to pull the string. Perhaps the following of the rules of the game without question or quarter is half the sport of modern competition riding. I believe it is. We succeed or we fail. We curse, or we grin. Always we endeavour to be Bohemianly cheerful, while others decide our fates. But as one who occasionally rides as a trade rider purely for sport I cannot help but comment on the A.C.U. project for next year's Six Days. Apparently, it is to be a deadly monotonous affair for those who participate in it. It is to be scientific rather than sporting; but does the A.C.U. realise that the British public is sporting and not scientific? It will follow and remember the results of a sporting trial. Such a trial will influence the public, but the scientific trial will leave the latter cold and unmoved.

Also what is the matter with the mountain track and river bed variety of trial? Has the good machine ever failed to show up in its true colours, or the dud to go under? The "trial of destruction" is the only kind which shows the public what a machine is capable of enduring, and though some of the ideas in the new scheme are good, I do not think that freak hills, etc., should be excluded.

If the A.C.U. carry its present scheme into effect we must look to our Scottish friends even more than hitherto. It will be left to them to retain the sport of the pastime in the competition world. Now is their chance. I sincerely hope they will grasp it. H. MORTIMER BATTEN.

Sir,—I was very much surprised to see a clause in the A.C.U. ruling of the 1921 Six Days Trials which says that all motor cycles of over 350 c.c. will be required to be fitted with sidecars.

One imagines the reason for this to be the development of the sidecarette; but surely it is, at the same time, a hit at the small, but important, portion of the community who favour the sporting single gear machine of 500 c.c., such as you often uphold in your valuable paper. They may be a minority, but are usually the enthusiastic element who do more to uphold the true sport of the pastime than any other portion of the community.

It is such riders as these that know their engines inside out, and interest themselves in keeping their machines in perfect tune—so different from a great and apparently increasing number of present-day motor cyclists who drive a machine on the highest of their many gear ratios until the little end appears through the cylinder head, having had more difficulty to knock its way through the carbon deposit than through the cylinder head itself! WINKLE.

Burslem.

HIGH TAXES OR MANY TAXPAYERS—WHICH?

Sir,—The new taxes are due, and when I look around me, here in Sheffield, and see the harm already done by this senseless scheme it makes me wonder where it is all going to end.

We who are interested in the manufacture of steel, for which this city is famous, were hoping that the motor trade would absorb a large amount of our enterprise, and our hopes were realised until this new taxation was mooted.

Not so very long ago our legislators sent men to impress upon us that only by hard and constant industry could we hope to redeem our position, and they then follow it up by this.

In my humble opinion it would be much better to increase the number of motorists by letting the old taxes remain, and reap the benefits in trade and revenue which would automatically follow.

Sheffield. W 7755.

SUGGESTED 4 MM. SPARK GAP FOR TWO-STROKES.

Sir,—Now that the flywheel magneto is a practical proposition on two-strokes, why not take advantage of the increased electrical output to eliminate the four-stroking defects of this type of engine?

Over nine years ago I proved to my own complete satisfaction that four-stroking when running light, and after sudden throttle changes, was mainly a matter of ignition.

The standard magneto and plug, as developed for four-stroke engines, is totally inadequate for the ignition of the attenuated and adulterated charges prevalent, at times, in two-stroke engines.

What is really necessary is a magneto giving a current capable of jumping at least 4 mm. at low speed, also a larger size plug giving a gap of 4 mm. without risk of shorting.

I can assure manufacturers of two-stroke engines that experiments in this direction will give surprising results.

Coventry. W.H.T.

A QUESTION OF COST.

Sir,—Several motor cycle manufacturers have commenced during the past two years to use steel in place of malleable iron frame lugs, and some are now making a great advertising point of this.

The lugs to which these advertisements refer are the steering-head and other vital lugs of the frame. These steel lugs, *bored out from the solid stampings*, are obviously a deal more costly than were the old malleable lugs.

Can the designers, who advertise the advantages of these expensive lugs, say why this additional cost should be imposed upon the long-suffering motor cyclist?

To the ordinary rider with a little knowledge of metals and of frame building, this steel lug business appears to be only one of those expensive fads which many designers have, the accumulation of which goes a long way to increase the cost of the present-day motor cycle.

A little information from the responsible designers would be helpful. ANTI-FAD.

Birmingham.

CAR PRACTICE IN MOTOR CYCLE DESIGN.

Sir,—Surely your correspondent, "Patient Pete," can have had no experience of the Cox-Atmos carburetter?

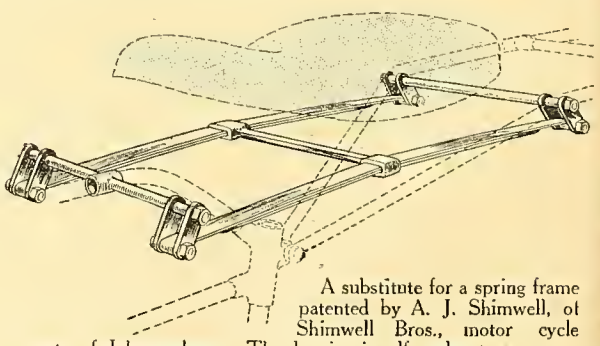
He states that, on any motor cycle not fitted with a kick-starter and variable gears, "an automatic carburetter is hopelessly out of place, as it will not supply sufficient power from cold to let the rider get away easily."

I beg leave most emphatically to disagree with your correspondent.

My machine is an early 1914 single-geared (no clutch) Rover, and to it I fitted one of the first motor cycle carburetters that Messrs. Cox Carburetters turned out of their works, and it is no exaggeration to say that it literally transformed my machine. I could (and, after a season's mileage of 10,000 odd, still can) paddle away from cold, accelerate to forty-five or more miles per hour in two or three hundred yards, whilst the slow running was a revelation.

The hill-climbing abilities of my old single-speed 'bus have been well proved in more than one trial of the Birmingham M.C.C. Besides winning two silver medals, it won a special mention in *The Motor Cycle* report of the Llangollen trial.

As for economy on long runs, I have obtained 140 m.p.g. on benzole. E. H. SEYMOUR TYE.



A substitute for a spring frame patented by A. J. Shimwell, of Shimwell Bros., motor cycle agents, of Johannesburg. The drawing is self-explanatory.

FURTHER OPINIONS WANTED

Sir,—Might I make a suggestion on a subject that concerns most all weather motor cyclists, namely, cleanliness. Even on the best machines in dirty weather one is liable to collect a certain amount of mud. Prevention is, of course, better than cure, but prevention being apparently impracticable, I suggest that the A.C.U. or any other large club, should fit up a house as a "changing room" and garage, for the convenience of provincial motor cyclists, within easy reach of a tube station on the outskirts of London, at, say, Hammersmith, where for a small fee one could garage the cycle and change into more orthodox attire before proceeding "up town," or to an hotel.

In time this scheme might be extended, the local club at each large town might be responsible for the "changing house."

Personally I should welcome such a convenience at half-a-crown a time. D. G. MACASHIL.

AUTOMATIC LUBRICATION.

Sir,—With reference to "Ixion's" plea for automatic lubrication in a recent issue, we describe below our patented system. The attached sketch should elucidate its general principles.

A small pipe from the engine exhaust supplies pressure to the top of the tank and forces the oil up the rising main past the needle valve to the small chamber surrounding the valve, whence it flows by gravity to the engine.

The following points are to be noted:

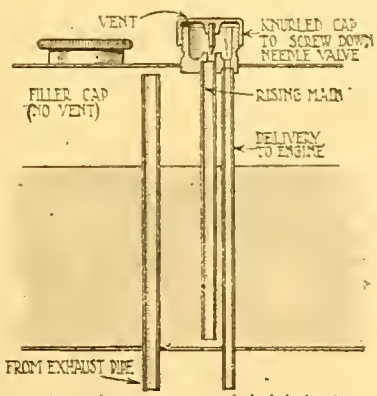
1. Automatic Control of Supply.

The manner in which this system controls the supply as compared with existing systems is illustrated in the table given. From this it will be apparent that a pump or other mechanical device, unless its supply is further controlled in conjunction with the throttle, must, assuming it is designed always to deliver sufficient oil, be at times delivering too much. Other existing systems must inevitably be wrong—their only safe method of operation is to supply always too much oil, causing unnecessary carbon and unnecessary expense. The Peters system, with the needle valve once correctly adjusted, will supply always, at all speeds and powers, the correct minimum oil supply adequately to lubricate the engine—and no more.

VARIATION OF OIL SUPPLY WITH THROTTLE OPENING AND ENGINE SPEED.

	Hand Pump or Gravity Drip Feed.	Mechanical Pump.	Peters System.
Low throttle Low revs.	Either constant or erratically varied by the rider	Small supply	Small supply
Full throttle Low revs. (*i.e.*, labouring)		Identical with above	More than above
Full throttle Full revs.		Large supply	Large supply
Low throttle Full revs. (*i.e.*, downhill)		Identical with above	Less than above

2. No Variation with amount of Oil in Tank.—In a plain drip feed lubrication system, the head forcing the oil past the needle valve may vary as much as 100% between full tank and empty tank. In the Peters system, the oil is forced past the needle by a pressure equal to several feet head of oil—hence the few inches variation of level in the tank has no material effect on the supply.



An exhaust pressure-fed lubrication system referred to in the letter of Mr. D. Esdale.

3. Automatic Starting and Stopping.—It will be noted that the chamber round the needle valve is vented to the atmosphere. When the engine is stopped, the pressure in the tank blows off through the exhaust pipe, and the oil in the rising main drops back to the mean level. The oil contained in the delivery pipe runs into the engine, providing a little free oil for starting up. The vent prevents any possibility of a syphon action keeping up the flow of oil. On restarting the engine the system begins to operate at once.

You will thus see that the system is fully automatic, with not even a tap to turn off when starting and stopping, and the oil supply is controlled perfectly to suit the requirements. DONCASTER ENGINEERING CO.
D. ESDALE.

SUMMARY OF CORRESPONDENCE.

Encouraged no doubt by recent letters, several correspondents have sent us (more or less) authenticated accounts of extraordinary speed work. In one case this interesting subject provoked the Muses, as follows:

"'Tis indeed a troublous question—the true answer I can't place—
Does racing make men liars? or do only liars race?"
(H. G. Chapman.)

We have received a letter over the signature "Official M.C.C.," in reference to an article on a competitor's experiences in the London-Exeter by "H.E.S." "Official M.C.C." takes our contributor to task for his reference to an "inevitable blind"; and he further states that he is not surprised that a workman, near Sidmouth, made some disparaging remarks in regard to noise. He alleges that this competitor rode an extremely noisy machine, and even had he finished the Trial he would probably have been disqualified on this account.

Under the pen-name of "Gadget," a correspondent revives the old suggestion that pedal cyclists, too, might contribute to the revenue, and thus partially relieve the big burden of the motor cyclist. Several readers, however, write in an entirely different strain, and suggest that, if one can afford a £100-£200 sidecar outfit, one should be prepared to pay the comparatively small sum of £4 in taxation. It is somewhat late in the day now to criticise the new taxation rates with a view to modifying them, and for this reason we are compelled to hold over several letters on this subject.

Many correspondents have written to point out various advantages they have gained from membership of the A.A. and A.C.U., and "F.G.H.H." considers the previous subscription (10s. 6d.) to the former Association to have been absurdly low. He does not think that the A.A. should be perturbed because "An Ungrateful Member of the A.A." and several other correspondents have announced their intentions of resigning from that body.

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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

VARIABLE JET ADAPTERS.

Will you kindly tell me the advantages of fitting a variable jet adapter to my Amac carburetter on a 2¼ h.p. Radco motor cycle? I wish to improve the mileage per gallon, which is rather low. Can the adapter be fitted by a novice without any alteration to the carburetter?—R.S.

The jet adapter will permit you to adjust the size of the jet while the engine is running; also, it allows a small jet for economical running on the level and a large jet for obtaining full power on hills. It can be quite easily fitted to the Amac carburetter, provided that no projecting parts of the engine interfere with the clearance below the jet plug at the base of the throttle chamber.

WHICH WHEEL LIFTS?

Will you kindly let me know on which bend—a right-hand or left-hand—a sidecar with passenger is liable to lift when going at a fair speed? My friend persists that it is a right-hand, and I wish to convince him that it is not. We have decided to accept your statement as final.—D.E.S.

The question you raise has been answered innumerable times in these columns, and it can be tested practically by anyone who has a motor cycle and sidecar. When turning to the left the sidecar tends to lift. At extremely high speeds it is possible, of course, to lift the motor cycle when taking a right-hand bend, but this does not happen usually until 40 m.p.h. is exceeded.

STOPPING ON THE RELEASE VALVE.

When stopping on a two-stroke by closing the throttle and lifting the compression release, the machine stops sooner than if the throttle is closed and compression release not used. Why is this, since in the latter case the cylinder and crank case compression would both tend to stop the machine sooner, and in the former only the crank case compression would be acting? The engine is revolving and the clutch is not used.—W.M.P.

When you close the throttle there is a partial vacuum on the crank case, and, consequently, very little work is expended in inducing and compressing gas. If you open the compression release while the throttle also remains open, a good deal of work is done in inducing and ejecting gas through the release valve, and it is the gas friction at the latter point which chiefly accounts for the difference in effect which you notice.

REMOVING RUST

I should be obliged if you could let me know if there is anything on the market which is really capable of taking rust off the nickel parts of a motor cycle.—L.W.

We know of no preparation which will remove rust from nickel parts. All you can do is to clean it off with fine emery cloth; of course, a slight amount may yield to applications of paraffin or metal polish.

LUBRICATING THE GEAR BOX.

I have been much troubled with oil splashing out along the shaft and on to the belt and clutch plates, causing slip, on my Sturmey-Archer gear box fitted to 1920 Triumph. I have taken the box down and cleared out the lubricant and now suggest repacking with Ambroleum. (1.) Will this, in your opinion, be suitable? (2.) If this grease is too thick, is there any way in which I could thin it down? (3.) If altogether unsuitable, what would, in your opinion, be the thickest grease I could use with safety?—D.K.F.

The trouble you describe is uncommon, and it is quite likely that it is due to the gear box being over lubricated. (1, 2, and 3.) The grease you mention should be quite satisfactory, although thick engine oil is the usual lubricant.



At Maude's Motor Mart. Dealing with some of the mail orders from those who were attracted by the firm's offer of a new 4 h.p. Verus-Blackburne for the customer whose order was opened first. Seated at the table is Mr. W. Pratt, well known before the war as a keen competition rider, and at his elbow, Mr. Geo. Pettyt, the manager.

USING PARAFFIN.

(1.) I should be glad of your advice generally re using paraffin for a 4 h.p. Triumph. (2.) One "expert" in a garage says that a special paraffin carburetter is required; another that he has used his ordinary carburetter without special adjustment. Would it be necessary to heat the carburetter? (3.) Has paraffin a deleterious effect?—N.F.A.

(1.) Paraffin can be used, but it is not to be recommended, as the running is usually very harsh and the engine prone to knock. (2.) A special carburetter is not necessary, but one has to start up on petrol or benzole. (3.) It has no serious effect on the engine if the piston rings are in good order, but it is advisable to drain the oil from the crank case and renew it regularly every 500 miles.

ADJUSTMENTS FOR BENZOLE.

My machine is a 3½ h.p. three-speed Rover (1919) with a B. and B. carburetter. (1.) As I wish to run on benzole, do you recommend me to use a variable jet adapter instead of using a different sized jet? (2.) The gear seems very low for solo work, as it will take me up almost all the hills round Lincoln on top. If I fitted a smaller belt pulley on the rear wheel, would it damage or put a strain on the machine? I want more speed on the level. (3.) If I removed the silencer and merely had a long exhaust, how would it affect the speed? I do not think the noise would be very objectionable if I did this.—J.S.

(1.) If your B. and B. carburetter is one fitted with a variable jet operated by a taper needle on the throttle a variable jet adapter cannot be fitted. There is really no need to alter the jet when using benzole, but it is advisable to lower the level slightly. (2.) It would be easier to fit a larger sprocket on the engine-shaft, and probably the makers of the machine will be able to supply one. (3.) Not to any appreciable extent.

DISMANTLING A CRANK CASE.

? I should be obliged if you would kindly inform me how to separate a 1911 3½ h.p. Humber crank case. —W.H.H.

If you have removed the pulley from the engine-shaft and also the pinion from the shaft on the timing gear side and all the crank case bolts, you should have no difficulty in separating the two halves of the case itself. It is merely held together by the ball bearings, which are a light push fit on the main shaft. Hold the crank case and flywheel assembly horizontally with the driving-shaft upwards, taking the whole of the weight on the top half of the crank case. A few taps with a mallet on the end of the shaft should cause the crank case to come away. A bundle of old sacking should be placed underneath, so that no damage will be done when the flywheels and the timing side of the case drop away.

STOPS WHEN HOT.

? I have a 2¾ h.p. two-stroke machine, which runs perfectly well for about twenty miles, and then the engine gets hot, when the machine will slowly pull up. Afterwards it will run for a few miles and stop again. The timing is correct. (1.) What makes it pull up when hot, and what causes white vapour to come from the exhaust? (2.) Is a 28 jet too large? (3.) What causes a loud whistling from the engine only when hot? (4.) Is T.T. Mobiloil a suitable oil for a two-stroke?—A.J.C.

(1.) The overheating of which you complain might be due to under lubrication, an unsuitable sparking plug, or excessively rich mixture. Blue smoke from exhaust indicates over-oiling. (2.) A 28 jet is rather large; probably 26 would be better, and the petrol level should be $\frac{1}{16}$in. below the top of the jet. (3.) The noise might possibly be due to a partially seized bearing, but we cannot speak definitely as to this without seeing the machine. (4.) The oil mentioned is suitable for your engine.

INCORRECT TIMING OF TWIN.

? I have recently purchased a second-hand 2¾ h.p. Royal Enfield twin (1913, I believe), and cannot get it to fire properly. I have had both cylinders off, and everything appears to me to be in perfect order. The trouble seems to be that one cylinder sucks through the carburetter and blows out through the exhaust, while the other blows out through the carburetter and sucks in through the exhaust. I fancy this is caused through the fact that the pistons follow one another round very closely. By this, I mean that when one piston is on top dead centre the other one is nearly so, though, as far as I can see, they are connected to the crank quite all right. —A.H.S.

You could have no variation in the movements which the pistons make in relation to each other, since both are connected to the one crank pin. It would appear that the valves in your engine are timed incorrectly. The exhaust valves should just close when the piston reaches the top of the exhaust stroke, and the inlet valves at this point should just be commencing to open.

READERS' REPLIES.

BELT WEAR.

As a rider of a 5 h.p. Zenith I should like to inform your Brighton reader, who complains of excessive belt wear, that I had the same trouble until I fitted a John Bull, which is differently constructed from the majority of belts. I get a splendid mileage from this.—X.B.64.

IS IT A PISTON TAP?

I feel sure that noise complained of by "B.R.B." in the issue for January 6th is not a piston tap. Having suffered agonies myself from that "metallic knock or clanking" with an old Triumph, I adjusted and renewed practically everything except the actual cause of the trouble—which proved to be the pulley side shaft bearing. I have experienced this trouble twice, so am sure of the cause. The first time the noise gradually grew until I thought the whole engine must be wrecked; yet examination showed no fault at all at first. Then I found that the crank case housing of the bearing in question was cracked and allowed a slight movement. I had the aluminium welded and packed the ball race, and the noise disappeared. The welding gave way, so I got a new crank case. Then the noise commenced again! In desperation, for the "umpteenth" time I took down the engine, and found that the previous hammering had worn the ball race, allowing a slight play. I have just fitted a new ball bearing in the new crank case, and now the engine runs like a Triumph should do! The noise has disappeared completely.—CLANK.

In your issue of the 6th inst., "B.R.B." is anxious to know the cause of a knock in his W.D Triumph, and I, therefore, venture to suggest that if "B.R.B." holds a piece of rag or something similar against the two bottom fins round the valve ports, he will find that his knock has disappeared. I hope that this tip may help to solve "B.R.B.'s" troubles. —H. S. NOKES.

A BELT THAT TWISTS.

With reference to "W.M.H.'s" enquiry in your issue of January 6th concerning a twisting belt on a 6 h.p. 1914 outfit, perhaps the following advice may be useful to him. Should his machine be a Zenith, the trouble may be due to one of the small chain sprockets in the gear-operating mechanism being loose and allowing back lash on the push rod moving inside the rear frame stay. This would cause one end of the hub spindle to move less than the other when the gear was changed, thus throwing the wheel out of track. I remember having the same trouble on a 1912 8 h.p. machine, which I traced to this defect.—E.H.R.

SOLID TYRES WANTED.

I should advise your correspondent, "L.J.G." (Queries and Replies), to use Rubberine tyre filling, made by Rubberine, Ltd., 17, Market Road, Caledonian Road, N. I find that this filling is very resilient (more so than a "board-hard" tyre), is, obviously, unpuncturable, and the money he gives for his tubes will pay for it, as no inner tubes are required. Mileage of covers is increased fully 50%, as they can be worn down to the canvas.—H.W.L.

EXTRA AIR INLET.

A correspondent in your issue of the 6th inst. asks some questions under the above heading with regard to m.p.g. on a Rudge Multi fitted with a Senspray carburetter. He obtains only 60-65 m.p.g., which is very poor for this machine. I offer a few suggestions which have helped me on an identical machine to get 100 to 110 m.p.g. on the open road and 80-95 m.p.g. in towns. (1.) Loosen the carburetter on the induction pipe, and rotate it so as to lower the float chamber slightly in order to lower the level of petrol in the jet. (2.) A 36 jet should be tried instead of the 38 fitted as standard. The all-out speed will decrease probably, but one cannot have extremes of m.p.h. and m.p.g. at the same setting. (3.) The "dope" tap in the inlet dome should be used when possible. If the carburetter has the latest variable adjustment, put this over to "Petrol—less," and use the instrument as a two-lever carburetter. (4.) Do not always blame the carburetter; faulty valve timing may, and very often does, account for low m.p.g. The engine should be timed as follows (retiming a Rudge is delightfully simple): inlet valve opens at about $\frac{1}{32}$in. (measured on flywheel) after T.D.C. if the machine is 1919 or earlier, and at T.D.C. exactly if a 1920 machine. Give the spark as much advance as it will take for normal running, and retard when starting. (5.) Gold size the joints in the inlet system. (6.) Read "Rudge Wrinkles" carefully: the makers will send it on request.—L. W. E. HARTLEY.

Important Dates.

Jan. 20th—
F.I.C.M. Conference, Brussels.

Jan. 28th to Feb. 5th—
Scottish Motor Exhibition, Kelvin Hall Glasgow.

March 25th—
Richmond Meet.

March 26th—
M.C.C. London-Land's End Trial.

April 27th—
A.C.U. One-day Winter Trial for Stock Machines.

May 14th—
M.C.C. London-Edinburgh Run.

May 25th—
A.C.U. Silencer Trial—Brooklands.

July 22nd—
Grand Prix Race—Le Mans.

EXPERIENCES WANTED.

"S.E.J.L." (Redhill).—General running of Beardmore-Precision with sidecar, and 4½ h.p. Quadrant sidecar outfit.

"R.B." (Torrington).—Tamplin and Gibbons cycle cars: steadiness on road, life of belts, wear of chassis, speed on hills, and springing.

RECOMMENDED ROUTE.

LONDON TO CATTERICK.—J.B.

London, Barnet, Hatfield, Welwyn, Stevenage, Baldock, Biggleswade, Eaton Socon, Buckden, Alconbury, Norman Cross, Stilton, Stamford, Grantham, Newark, Tuxford, Retford, Bawtry, Doncaster, Ferrybridge, Aberford, Wetherby, Boroughbridge, Leeming Lane, Catterick. Approximately 223 miles.

The British Magneto Industry Menaced.

An Unsatisfactory State of Affairs Due to Government Apathy.

DUE to Government delay in redeeming promises made during the war, the British magneto industry is in danger of extinction. Prior to the war, the various branches of the motor industry were entirely dependent upon Germany for magneto supplies. Only the crisis which occurred in 1914 brought this state of affairs home to the Government, though warnings had repeatedly been thrown out, notably in *The Motor Cycle* and *The Autocar*. Quite a furore of excitement was created in German houses on this side when in 1913 the true state of affairs was boldly exposed in the two journals named.

Danger Ahead.

What happened subsequently is common knowledge. Hastily electrical experts got to work, but not for a long time was Government support forthcoming. Indeed, mild rebukes were offered, such as "No firm in this country could make magnetos." Were it not for the fact that stocks of German magnetos were held in this country and America, the position might have been impossible. As it was, a crisis was narrowly averted by the co-operation and wholeheartedness which characterised British enterprise in the electrical field. A small band got to work—thanks largely to Admiralty encouragement—and not many months after the outbreak of war, steady and increasing supplies of magnetos for all types of vehicles and aircraft were forthcoming. From small beginnings the British industry developed its output until the whole of the huge requirements of the British forces were able to be met.

During the war the British magneto industry was acknowledged as an essential key industry, and protection was to be afforded, when peace arrived, to prevent any possibility of a resumption of the old unsatisfactory conditions. Yet, incredible though it may seem, the promised measure of protection is not yet forthcoming, and an industry represented by fourteen firms of manufacturers is in danger of collapse. Last week, at the annual dinner of the British Ignition Apparatus Association, these unpalatable facts were openly talked of, revealing a state of affairs which is to be deplored.

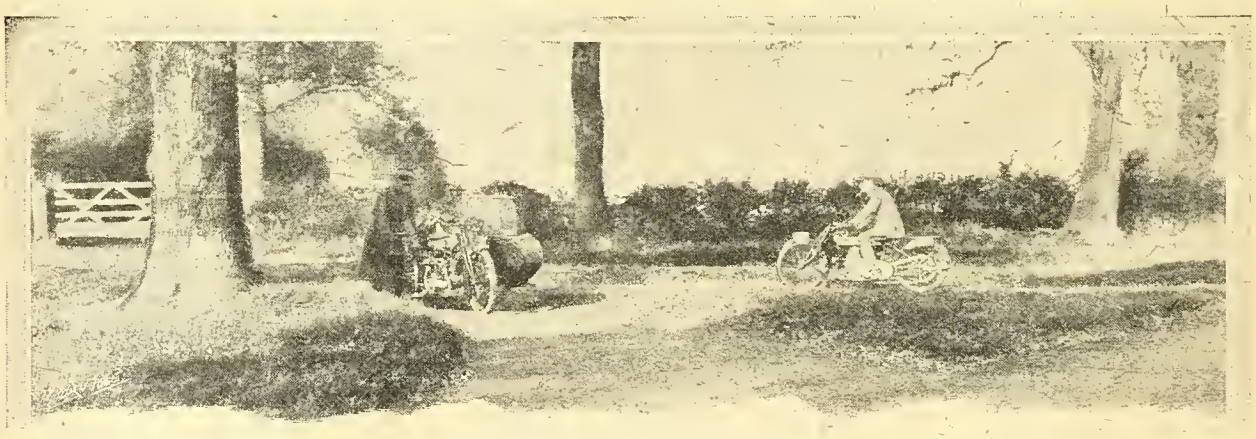
Evidence was provided by the chairman, Mr. Peter F. Bennett, C.B.E., that German magnetos were now arriving in this country in fairly large quantities, and at no fixed prices, the intention being apparently to undercut the British article, and so undermine the British industry which assisted so materially in winning the war. The only hope of preserving national security, he contended, was the introduction of the long promised Bill to protect key industries. British magnetos had proved their worth during and since the war, a long list of notable achievements being instanced, such as the flight across the Atlantic, to the Cape and Australia, the motor cycle T.T. Races, and innumerable successes on road and track. Prices, too, were but 75% above pre-war standard.

Mr. Edward Manville, M.P., opened the eyes of those present when he stated that, in the early months of the war, Britain so badly needed magnetos and Germany was so short of tyres that surreptitious bargaining went on, a set of solid tyres being exchanged for a magneto. Mr. Clem Edwards, M.P., later characterised such action as scandalous, and argued that there should be no risk of that again. Our national safety demanded that such a condition of things in the future could never be tolerated. The magneto industry, he contended, was an essential key industry.

The Need for Immediate Action.

Parliament reassembles next month, when this all-important question of the protection of key industries will come up for discussion. Surely no serious-thinking man can allow the magneto industry to drift slowly back into the hands of the Germans. The British industry proved itself a national asset during the war—an essential key industry, in fact, and the much needed protection then promised is already much overdue, and, to say the least, this is disturbing.

Although the precise terms of the Government's Bill dealing with the protection of key industries is not known, according to *The Times* there is some possibility that it will include magnetos. "Some possibility," however, is altogether too vague.



WHEN SCHEDULE SPEED SUFFERS.

If one sets out to cover a certain distance "against the clock," there is often much time lost through overshooting a corner. It is finding the way that saves the time when off well-beaten tracks.

CLUB NEWS.

Proposed Club for Letchworth and North Herts.

It is proposed to form a club for motor cyclists and car owners, with headquarters at Letchworth Garden City, Herts. Will those interested please communicate in the first instance with Mr. C. F. Plowman, 37, Broadwater Avenue, Letchworth. A meeting will be called shortly to appoint officers and discuss 1921 programme.

Bridgwater and District M.C. and L.C.C.

The annual dinner of the above club will take place at the Golden Ball Hotel, on Tuesday, February 15th, at 7 p.m. Prizes and medals won last year will be presented, and a programme for 1921 discussed. It is hoped that all members will make a special effort to attend. Tickets may be obtained from the hon. secretary, Mr. J. W. Hooper, Wembdon.

Eskdale M. and M.C.C.

This club has had a most successful year. The membership having increased considerably. At the annual general meeting held in the Crown Hotel, Langholm, on December 29th, the office bearers for the coming year were duly elected. It was proposed that if the membership be large enough, steps should be taken to have the local roads improved. It was decided that a club room be opened in the new headquarters at the Eskdale Hotel. This has now been done, and members may have full use of the club room from 9 a.m. till 10.30 p.m. daily. The hon. sec., Mr. James Bell, Eskdale Border Garage, will be pleased to hear from those interested.

Worcester M.C.C.

Mr. W. T. Thorne gave the second of his series of lectures at the Pack Horse Hotel on Monday, the 10th inst., before an appreciative audience of nearly fifty members and non-members. So thoroughly did he deal with his subject, "Ignition," that he was unable to complete the lecture, and he will therefore speak again on the 24th inst.

Rugeley and District A.C.

Despite its title of an automobile club, we understand this newly formed organisation will just as completely cater for the motor cyclist as any of the purely motor cycling clubs. Major J. Selby Gardiner, of Cedar Lodge, Brereton, Rugeley, is president, and the hon. sec. is Mr. H. E. Beasley, 43, Brereton Road, Rugeley.

The Northern M.C.

Nearly 300 guests (with very few exceptions all in fancy dress) made carnival in the best Continental style at the First Annual Bal Masque and Carnival. Thousands of streamers, balloons, and rose petals, and dancing 'neath the kaleidoscopic rays of the limelight, coupled with excellent music, all contributed to the success of one of the most delightful and brilliant dances held in the district for some time. The first annual dinner of the club will be held at the "Turk's Head," Newcastle, on the 20th inst. Prizes and medals awarded during 1920 will be presented. The annual general meeting will take place on the 28th inst. at the "Crow's Nest."

Glasgow Western M.C.C.

The annual dinner of the above club takes place on February 3rd. Further details will be announced later.

Coventry and Warwickshire M.C.

It is proposed that the opening run for 1921 shall be on Saturday, February 5th, when the members will hold a "parade of licences." An effort is being made to have an inspection by the local authorities, and afterwards there will be a short speed judging competition and tea at a popular rendezvous.

Gorseinon and District M.C.C.

Instead of the usual dinner, a whist drive and entertainment formed the evening's programme at the club's first annual prize distribution on January 6th. Mr. J. M. Bailey took the chair in the absence of the president, and Mr. Cransh, hon. secretary, Neath Motor Cycle Club, made a very able speech. Intending members should note that meetings take place every Tuesday evening.

Essex M.C.

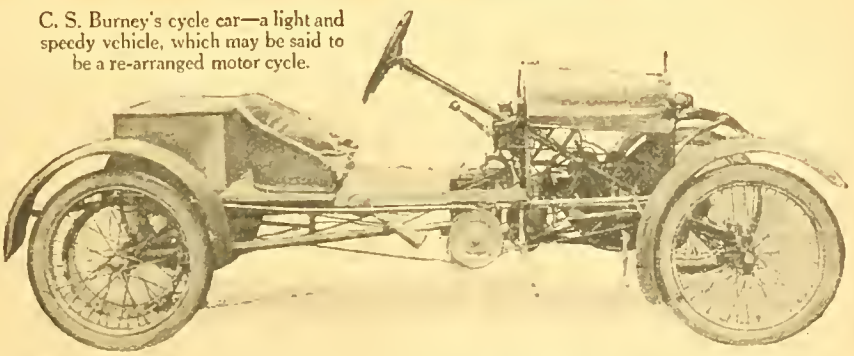
For the purpose of arousing interest among the unattached motorists of Essex and the eastern suburbs of London, the Essex M.C. is holding a cinema and lantern slide exhibition of topical motoring films and slides at the Castle Hotel, Woodford, Essex, on Monday, January 24th, at 7.30 p.m. Admission is free, and the captain of the club, Mr. D. S. Parsons, 119, Kingston Road, Ilford, Essex, will be pleased to forward tickets and particulars to any interested.

A Home-made Cycle Car.

A Blackburne Engined Four-wheeler, with Three Speeds and Reverse.

FROM time to time we receive particulars of ingenious home-made cycle cars built by the originators for their own use. Particular interest attaches to the one described herewith, not only on account of the unusual features which it embodies, but also because it has been constructed by Mr. C. S. Burney, whose name is well known to most motor cyclists. It is engined with an 8 h.p. air-cooled Blackburne, which drives a Juckes three-speed and reverse gear box through a short chain, a second short chain driving a countershaft carried in Hoffmann roller bearings. Two long belts convey the drive to the rear wheels. The chain centres are short, and in each case adjustable.

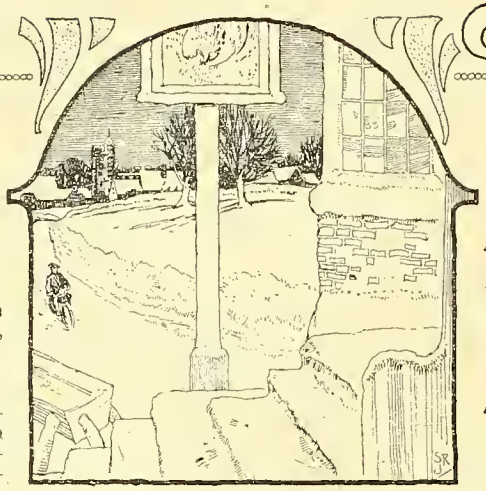
C. S. Burney's cycle car—a light and speedy vehicle, which may be said to be a re-arranged motor cycle.



Frame Construction and Springing.

The framework is tubular, Chater-Lea lugs being used throughout, and both axles are trussed by means of a king-post and tie-rod. A similar method of staying the longitudinal frame members is employed, but in this case the ends of the tie-rods are anchored to brackets placed below the pivoted centre of the full cantilever springs; thus a shock delivered to the front or rear wheel on either side increases the tension on the tie-rod on that side, and relieves the frame tube to some extent. 28×3in. Palmer Cord tyres are fitted throughout, and the steering is effected by duplicated wires passing over a "bobbin" on the steering column. (This column, by the way, is mounted on ball bearings.) One other unusual feature is the fact that all three brakes—a band brake on the countershaft and a shoe brake operating in each belt rim—are operated at the same time, either by pedal or hand lever. The rod which actuates the band brake is extended rearwards to a crossbar carried on the radius rods to which the belt rim brakes are attached. The adjustments are simple, and in practice the brakes are most effective. After about forty miles road experience with this little machine, which in its present form is fitted only with aeroplane seats, we came to the conclusion that it was an excellent climber, sufficiently fast for all purposes, and fairly well sprung. An accumulator lighting set is used, oil is fed through a Best and Lloyd sight-feed drip, and a four-gallon petrol tank is mounted inside the bonnet. The main features, including the stout tubular mudguard stays, are clearly visible in the above illustration of the outfit.

CURRENT CHAT



Times to Light Lamps

Jan. 20th	... ...	4.56 p.m.
,, 22nd	... ...	4.58 ,,
,, 24th	... ...	5.2 ,,
,, 26th	... ...	5.6 ,,

Mexican Oil.

It is reported that petroleum has been discovered in the State of Oajaca, Mexico, on a concession held by a British firm.

Horses and the Roads.

A Committee of the Ministry of Transport has been investigating the problem of horses on slippery roads, but apparently horse owners have insufficient interest in the experiments suggested.

Hard Luck.

E. A. Burney, a well known motor cyclist, who is responsible for the design of the Powell motor cycle, has had a nasty spill during a night ride. He was unlucky enough to break his leg about four inches above the knee. He writes that he is doing as well as can be expected, but it will be some time before he is about again.

An Air Force Reunion.

So many late members of the R.A.F. are motor cyclists that we make no apologies for publishing in these columns the announcement of a reunion dinner for officers of the Aeroplane Experimental Establishment, Martlesham Heath, to be held in London on Friday, February 25th. Old members of the station are asked to communicate with Capt. P. G. Robinson, Room A 139, Air Ministry, London, W.C.2.

The Paris-Nice Trial, 1921.

We have received a letter from M. Hamon, of the Moto Cycle Club de France, on the subject of this year's Paris-Nice trial, which will start on a date between February 21st and 27th. The same route as last year will be followed to Dijon, but there is an alteration in the next section of this journey, which is through Roanne, St. Etienne, to Lyon. There will be one day's rest at Lyon, which will certainly be welcome if the roads are anything like they were last year, but there is likely to be some improvement owing to the alteration in route. The third stage of the journey will be through Valence, Montelimar, and Avignon, while the final stage will be through Aix, Brignolles and Caen to Nice. It will be noted that Marseilles is avoided. This last stage was in excellent condition last year and a very fascinating run. M. Hamon informs us that the trial is being run by the Moto Club de France under the auspices of the U.M.F., but official confirmation of this fact is not yet to hand. He also tells us that he has already received entries of several well-known makes. Those interested in the competition should write to M. Hamon, Moto Cycle Club de France, 65, Avenue de la Grande Armée, Paris, XVI., France.

Texas Petrol from Shale Oil.

There are said to be over 52,000 million barrels of shale oil in one section of Texas, U.S.A. A refinery could produce from this, 50,000 barrels of petrol per day.

The Paris-Madrid Trial.

Another competition, which promises to be most attractive, is the Paris-Madrid reliability trial, organised by *Moto Revue*, 5, Rue St. Augustine, Paris, from May 2nd to 6th. We are still awaiting official confirmation that this trial has received the official sanction of the Union Moto Cycliste de France, and of the Real Moto Club d'España, and until we receive news of it we will withhold further details. We would call attention to the leading article in the issue of Jan. 13th.

Special Features.

ELECTRIC LIGHTING OUTFITS.
WINTER WEAR.

A Belgian Sporting Trial.

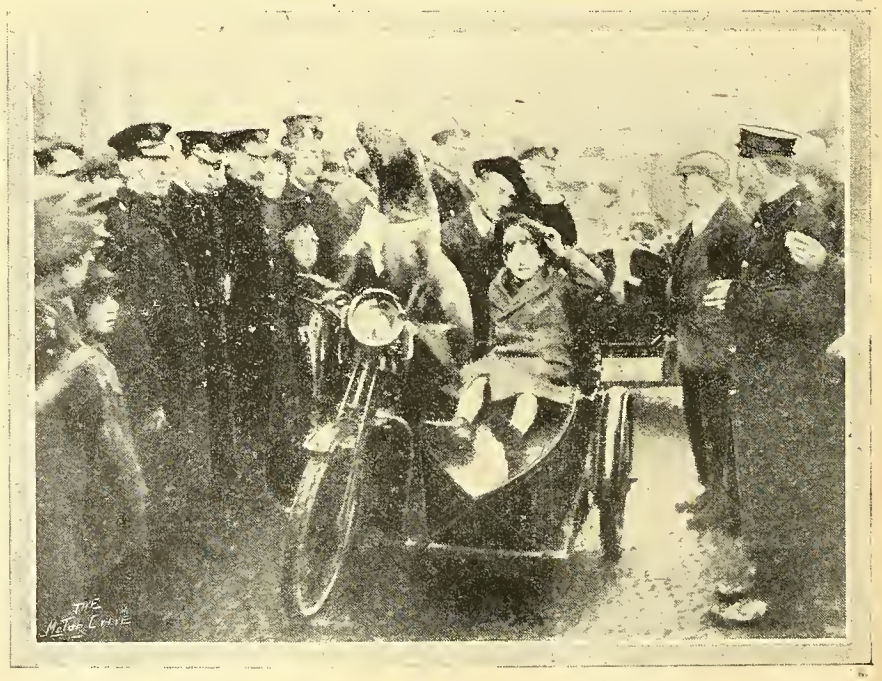
Belgian motor cyclists are to have a trial which has been inspired by the Scott sporting event in this country. This will be organised by the Royal Moto Club Liègeois, and will be known as the "Coupe de la Meuse."

A Belgian T.T.?

Provided the Royal Automobile Club of Belgium run a car race, there will also be a Belgian T.T. for motor cycles this year, which will be run very much on the lines of the Isle of Man event.

Motor Cycles in Belgium.

Notwithstanding the fact that the dollar is worth three times its pre-war value in Belgium, as compared with the pound sterling, which is only twice its pre-war value, American big twins can be bought at a considerably lower figure than the average chain-cum-belt single-cylinder of British manufacture. Mr. J. Taymans, one of the best known Brussels agents, discussed this question with us on the occasion of the recent Brussels Show, where he had a very fine exhibit of both English and American machines, and he regards the position of the British manufacturer as serious. We hope later to refer to many other points raised by Mr. Taymans.



The simplicity of control on a P. and M. sidecar was well illustrated last week in Birmingham, when one of Capt. Woodward's sea lions drove the outfit through the crowded streets to deliver a £300 cheque collected at the Victory Circus for a charity. The machine had a slightly lower gear than usual, and was fitted with a two-lever B. and B. carburetter.

An Omen?

The Western Centre (A.C.U.) has arranged for at least one cinema operator to cover its open trial on April 8th. Does this mean that the route is likely to provide those "stunts" so beloved of the film world? Or is it simply illustrative of the enterprising policy of this newly-formed centre? Probably it is both; but the trial will be a sporting event without a doubt.

Encouraging.

". . . Machines and engines must have been designed and constructed within the British Empire. This rule, however, will not apply in the case of such *secondary equipment as the ignition system*"—an extract from the schedule of conditions for a competition held by the Air Ministry, and quoted by a speaker at the B.I.A.A. dinner as illustrative of Government protection of a key industry.

Benevolent Fund Concert.

The twelfth Bohemian concert of the Cycle and Motor Trades Benevolent Fund in connection with the Birmingham Centre will be held at the Temperance Hall, Temple Street, Birmingham, on Friday, February 4th. Tickets are obtainable from Mr. G. J. Lowenthal, The Leatheries, Sampson Road North, Sparkbrook, and Mr. A. Hickstepp, 10a, Temple Row, Birmingham.

Scottish Ex-D.R.s' Reunion.

The proposed reunion of ex-Signal Service Despatch riders has now been arranged to take place in the Royal Restaurant, West Nile Street, Glasgow, at 7.30, on Friday, February 4th. It was hoped to arrange a dinner, but it was decided that it would be more suitable for the first function to hold a smoking concert, and perhaps to fix a date for a dinner later. Tickets for the smoker are 3s. 6d. each, and may be obtained from Mr. R. Watson, care Jennings, Ltd., 86, Mitchell Street, Glasgow, or from the D.R. Engineering Co., Ltd., Hospital Hill, Dunfermline.

Apply in Time.

Readers are advised not to leave the application for their licences until the last few days of the month, or they may find that they will have to give up riding for a few days, for, although the Ministry of Transport have announced that they do not intend to be hard on those who have been unsuccessful in their efforts to obtain licence holders it is not likely that the same clemency will be extended to those who have not got their licences. In giving this advice we have in mind the case of a rider who applied recently to his County Council for a licence, but did not receive it for more than a week.

Wanted, T.T. Riders.

Many manufacturers have asked us to assist them in finding riders for their machines in the T.T. race, and, as we know many hundreds of our readers are keen to ride in the classic event, we are compiling a register of such riders. This register will contain two lists: (A) Those who have had previous T.T. experience, and (B) registering those who have not ridden in a T.T. race, but have the necessary qualifications. Those riders interested should give brief particulars of successes in hill-climbs and speed events, age, etc., and address their communications to the Editor, *The Motor Cycle*, Coventry, the words "T.T. Register" to appear on the left-hand corner of the envelope.

The Junior T.T.

Apparently there will be several Ivy two-strokes in the Junior T.T., for, in addition to any entries from the manufactures, Blake and Co., of Liverpool, and H. G. Henley and Co., of Great Portland Street, are both entering machines.

Revelations.

So short were we, early in the war, of ignition apparatus that we were compelled to indulge in surreptitious exchanges with our enemies on the basis of one British solid tyre for one German magneto. On another page we give the views of some prominent British magneto manufacturers on this startling state of affairs, and also an expression of their fears that a similar shortage of British magnetos is not a remote possibility of the future.

Motor Cycles and the Scottish Show.

Scottish motor cycle agents do not intend quietly to submit to the present state of affairs in the North, whereby there are no facilities for the exhibition of motor cycles to Scottish motor cyclists. In our issue for January 6th, we outlined a suggested scheme to have a special display of the latest models on show during the motor exhibition at Kelvin Hall (January 28th to February 5th), and arrangements are now well in hand to bring this about. In the meantime a committee of Glasgow agents is endeavouring to formulate a plan to hold a Scottish motor cycle show.

Standardisation.

Has anything yet been done to follow up the A.C.U. recommendations regarding standardisation of controls? We think not, and candidly do not expect very rapid action on the part of the trade to bring this about. It can hardly be expected that makers will alter their patterns immediately after settling the details of their 1921 programme. Far better would it be if the bodies concerned would concentrate first on one point—carburetter controls only, which are also probably more important than brakes.

The Six Day Regulations.

Two points in the suggested regulations for this year's A.C.U. Six Days Trials have struck motor cyclists as undesirable. Foremost is the question of attaching sidecars to all motor cycles over 350 c.c., and therefore tending to discourage the solo motor cycle with engines exceeding this capacity. Next comes the considerable body which doubts the infallible accuracy of the Audiometer for the silence tests. It is more than possible that both these features will, after serious consideration of the committee, be removed from the regulations. At the present moment it is not possible to make any definite statement on this subject, but an early announcement is expected.



Coventry's first taxi-sidecar—an Excelsior fitted with an 8 h.p. Blackburne engine. A Burman three-speed gear is fitted and 28×3in. Dunlops. The inset shows the luggage grid dropped down and the spare wheel housing. The sidecar—a Canoelet—is admirably fitted up and is most comfortable.

ROAD TESTS of NEW MODELS

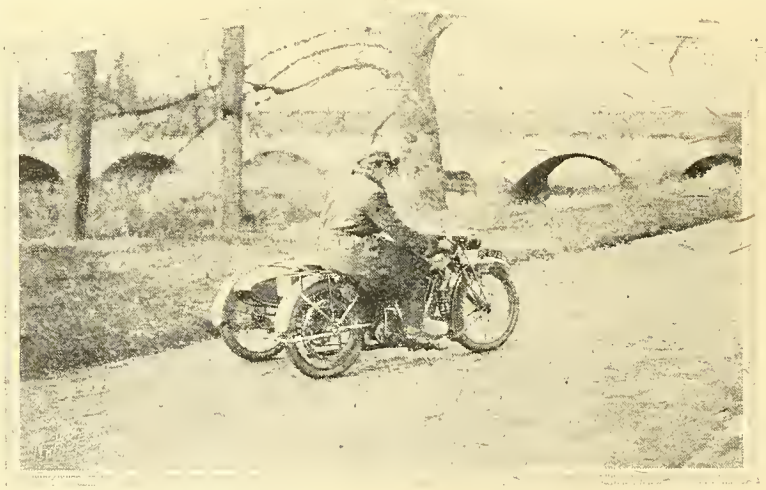


The 8 h.p. Brough Superior.

HOW often has the sporting solo enthusiast asked for a British big twin to compete with the big Americans? Time after time complaints are made that the choice of British big twins is, with perhaps one exception, limited to sidecar machines. There will be many who will argue that 8-h.p. is unnecessary for solo work on British roads, and there is some truth in their arguments, but such persons have probably never enjoyed the perfect motion of a high-geared twin in a small compact machine, which will cruise along at a fast touring speed with the engine just ticking over. The 8 h.p. Brough Superior is a newcomer to the market, which was fully described in *The Motor Cycle* of December 23rd, and during the past week we have had two opportunities of trying out the machine on the road. On the first occasion a light Montgomery sidecar was attached, the gear ratios employed being 3.25 to 1, 5.2 to 1, and 8 to 1. It must be understood that the Brough Superior is designed as a solo mount, but that Mr. George Brough, realising full well that a certain section of the public is sure to fit an attachment, decided to test the machine in this manner. Certainly the racy lines and excellent finish of the sporting model Montgomery suit the machine admirably, and the extra weight appears to make but little difference under ordinary touring conditions. As our first trial was to be a comparatively short one in the neighbourhood of Coventry, we naturally selected a route which would pass over Stoneleigh hill, since this short rise, though nothing to a solo mount, is sufficiently steep to test the pulling powers of the average sidecar machine. In spite, however, of its high top gear, the Brough Superior scarcely noticed the hill, even with a ten-stone passenger in the sidecar. So easy was the climb that we returned to the foot of the gradient, and, restarting at this point, changed up into top and continued the ascent with ease.

Flexibility is one of the strongest points of this new machine, for it will potter along on top at about 10 m.p.h. without snatch or jerk, and is literally as tractable as a lightweight. On the second occasion the Brough Superior was ridden as a solo machine, and at once the merits of the design became obvious. In spite of the big 1,000 c.c. overhead valve engine the machine is small and compact, smaller indeed than the majority of single-cylinder machines. The riding position is a natural one, and the controls appear to come automatically to one's hands.

From the outset one has a feeling of the utmost confidence, and the feeling of hesitation so often experienced in handling a strange machine is absent. The engine starts easily and without fuss, and one glides away with scarcely a whiff of gas. In a few yards top is engaged, and the machine glides along smoothly and easily, responding instantly to a touch of the throttle. Recent recruits to the ranks of motor cyclists who are not accustomed to high gears should beware of the deceptive feeling, for at a speed of 40-45 m.p.h. one gets the impression of

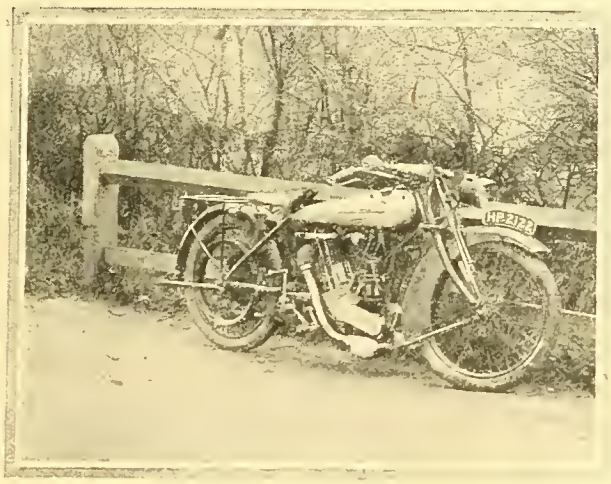


On mounting the Brough Superior, the low and comfortable riding position is immediately appreciated.

Road Tests of New Models.—

about 20 m.p.h. against a strong headwind, and it is well to remind the novice that the high gear of the average machine is approximately the same as the middle gear of the Brough Superior.

In order to obtain smooth running at such small throttle openings, an entire absence of air leaks in the induction system is necessary, and this point has been carefully watched in the design, with the result that the wonderful flexibility is attained. The machine will creep up a gradient of 1 in 9 at a bare twelve miles an hour, yet it will accelerate instantly on the same gradient to a speed which would delight the heart of the greatest enthusiast. Transmission by chain throughout, *via* a Sturmey-Archer gear box and Enfield type shock absorber, is smooth and gentle, and the 700 × 80 mm. tyres ensure comfortable riding, though on the occasion of our trial the tyres were inflated too hard for maximum comfort. Excellent mudguarding is provided, as we were able to prove since the road conditions during part of our test were bad, the final six miles home being ridden in the teeth of a heavy snowstorm. The conclusions which we draw as a result of our experiences are that Mr. George Brough has accomplished exactly what he set out to attain, and has produced one of the most admirable high-powered solo machines that has ever been placed on the market. We should, perhaps, add that the finish and fittings are excellent throughout, and that we have seldom enjoyed a trial run so much in spite of the inclement weather conditions. Our sole criticism lies in the noise of the valve gear at high speed, but it is only fair to state that the machine which we rode has been previously driven hard for well over 2,000 miles, and that the speeds at which the noise becomes unpleasant are well over such speeds as would normally be accomplished on the road.



Ease of manipulation is one of the Brough Superior's best features. Although a powerful mount, there is not a semblance of unwieldiness in handling the machine.

We understand that arrangements are now well in hand for the production of this machine in commercial quantities, and that new works are being erected at Haydn Road, Nottingham, to which place correspondence should be addressed.



A very commendable feature of this fast and powerful mount is its remarkable flexibility. A flock of sheep was encountered on the road, through which the machine crawled at walking pace.

THE WAITING GAME.

DESPITE the fact that the month of grace is drawing to a close, only a comparatively small number of motor vehicles are displaying the new licences. Quite recently, while visiting one northern city in which about 8,000 registrations had been issued up to the end of 1920, we were told that during the first fortnight of January only 16% of the total number of expected applications for licences had been made.

Does this mean that motorists are hanging out to the last moment, or is it to be assumed that many are allowing their machines to lay by in the hope that the new tax will be repealed? On the face of it the latter hope appears to be a vain one, but it is quite likely that the new necessity of paying over a lump sum in taxation is, at this time of widespread unemployment and financial stress, most inopportune to numbers of motor cyclists.

Rear Wheel Dynamo Drive.

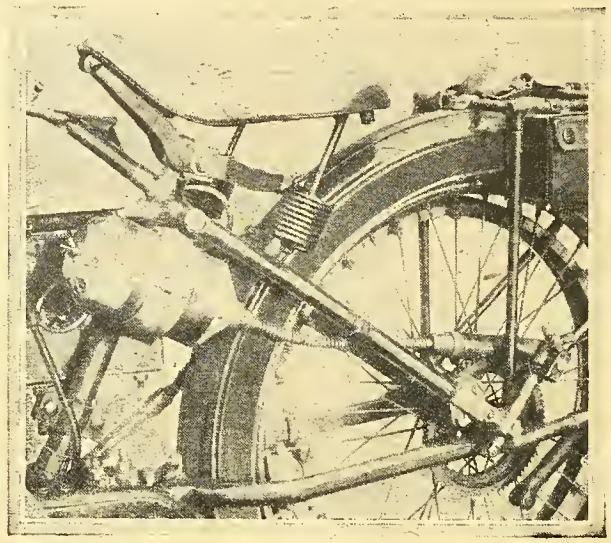
A Speedometer Type of Generator Transmission which may be Instantly Disconnected.

THE usual method of driving a lighting dynamo on a motor cycle has been from some point on the engine, but a variant of this method has recently been patented by Mr. M. Muir, 27, Melrose Gardens, Hammersmith, London, W., who has adopted the principle of speedometer transmission to the driving of an electric generator.

This generator is situated on the saddle tube of the frame of the two-stroke machine to which it has been fitted. (It is a Brolt six-ampère dynamo which charges at half rate during the daytime, thus preventing the accumulator from being over-charged.)

An Enclosed Cable.

The transmission consists of a worm wheel, clamped on to the spokes of the rear wheel, driving a partially enclosed worm connected to the dynamo shaft by means of an enclosed spiral cable. The worm is mounted on a bracket, and is provided with a fly-nut, so that the drive may be disengaged when the accumulators have been fully charged, thus doing away with the necessity of driving the dynamo all the time, whether it is required or not.



Muir's "speedometer" rear wheel drive for lighting dynamos, fitted to a solo lightweight two-stroke.

A.C.U. Test Pending.

The outfit will be sold complete with lamps, switchbox, and cut-out. An accumulator is carried, the box for which can be seen on the other side of the motor cycle frame.

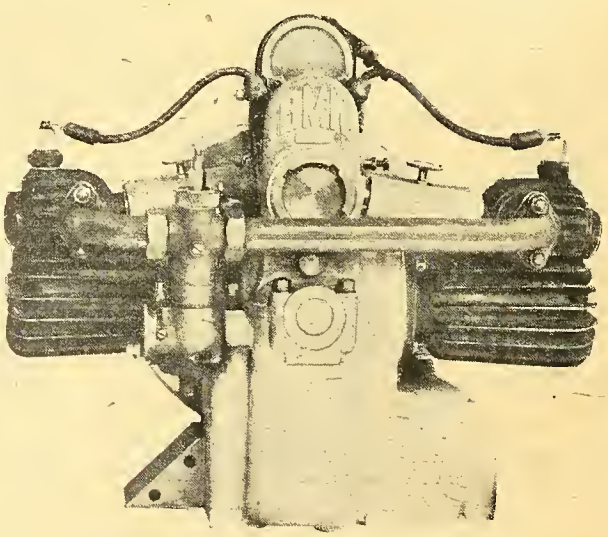
The device is shortly to be put through an A.C.U. officially observed trial to test wear, silence, and adaptability.

Knowing the weaknesses of some present-day speedometer drives, and, consequently, uncertain of the ability of a similar type of transmission to stand up to the much greater resistance of a dynamo, we congratulate the inventor on publicly offering to prove his device by such a test.

Motor Cycle Movement in Germany.

Expected Revival on Account of Prohibitive Costs of Running a Car.

THERE is no equivalent in Germany to the immense motor cycle development of England, nor anything like the healthy revival to be found in France. In all Germany has thirteen motor cycle manufacturers, the great majority of these making nothing but two-wheelers. The only big car-producing firm interested in motor cycles is the Adam Opel Co., at Russelsheim. This firm has produced a lightweight machine since the war, and is offering it at what is considered to be, in Germany, the exceptionally low price of 5,000 marks. This is really cheap in comparison with the price of 20,000 marks for a twin N.S.U. The Opel machine would be considered in England a motor-assisted bicycle. It has a strengthened bicycle frame and a tiny single-cylinder engine driving to the rear wheel by means of a chain.



B.M.W. flat twin, a cleanly designed German power unit, which closely follows English practice.

A Flat Twin.

Reminiscent of a well-known English design, a flat twin engine specially designed for motor cycle or cycle car work has been produced by the Bayerisch Motoren Werke, near Munich. This firm has a very fine factory, erected during the war for the construction of aeroplane engines.

Since the Armistice the works have been converted, and among the new products is the flat twin air-cooled engine shown in the accompanying illustrations. The design is wonderfully neat, and the engine is most up to date in every respect. The two cylinders, which have enclosed side by side valves, are mounted on an aluminium base chamber which forms an oil reservoir. The crankshaft is mounted in ball bearings, the connecting rods are tubular, and aluminium pistons are used. The flywheel is external, and the magneto, a high-tension Bosch, is placed on the top of the crank case. It is claimed that the engine will run under load at 3,400 revolutions, and will turn over at 5,000 revolutions without load. It is the intention of the B.M.W. Co. to produce this engine in quantities for the trade.

Conditions in Germany.

Very few motor cyclists are seen on German streets and roads. Indeed, during a very extensive tour through that country not a single touring motor cyclist was observed, but a certain number of motor-assisted cyclists were met in the leading cities. The reason for this neglect of the motor cycle is the high cost not only of machines, but of fuel, tyres, and repairs.

Until a very short time ago motoring could only be indulged in with a special permit. It is now free, but petrol is very expensive, the legal price being 4 marks 50 per litre, but it is practically impossible to obtain it at this price. The use of a car has gone beyond the means of any but a few *nouveaux riches*, and it is because of this that the motor cycle industry is believed to offer possibilities. It will be several years, however, before even this form of economical motoring becomes really common.

CLUB NEWS. (Continued from page 83.)



A live and sporting club in the North of England, the Ilkley M.C. and L.C.C., which held its annual dinner on Jan. 14th at the Middleton Hotel, Ilkley.

Birmingham M.C.C.

Owing to insufficient accommodation at the Imperial Hotel, it has been found necessary to hold the annual dinner and smoking concert at the Midland Hotel to-morrow night.

Bournemouth and District M.C.C.

It is hoped that as many as possible will attend the general meeting to be held at the Bournemouth Camera Club's room on Wednesday, January 26th. The election of officials for 1921 and consideration of the current year's programme form the chief business.

Ilkley M.C. and L.C.C.

The second post-war annual dinner of the Ilkley Club was held on Friday last at the Middleton Hotel, Ilkley. Upwards of ninety members and friends were present and the evening was carried through with the greatest success. Speech making was cut down to very small limits, a plan which might well be followed universally when no important announcements concerning future policy or programmes are to be made. After the toast of the King, the toast of the Club was called by Mr. D. H. Smith, who, amongst other remarks, commented upon the success of the Ilkley one-day open trial of last June, and of the A.C.U. Six Days Trials, in which the Ilkley Club helped largely, especially as route-finders; the hard work of the president, Capt. J. N. Longfield, and the hon. secretary, Mr. H. W. Sellers, was commented upon. Mr. Sellers, in responding briefly, reviewed the club's doings during the past year. Mr. W. R. Haggas then proposed "The Visitors," calling special attention to the representatives of other Yorkshire clubs who were present, and also to the work of the press. Due response was made by Mr. G. S. Boston, the well-known and consistent winner of speed events and hill-climbs. The final toast of the President was very humorously proposed by Mr. W. F. Scott, and the acclamations which greeted the response of Capt. J. Norman Longfield sufficiently testified to the popularity of the latter. After the distribution of prizes, a musical entertainment was provided, principally by the Dewhirst Brothers, whose rag-time ditties are becoming a recognised feature of Yorkshire club gatherings.

Bedford and District M.C.

A large number of members and friends attended at the Stuart Rooms, on Monday evening, January 10th, when a lecture was given, illustrated by lantern slides, descriptive of the sporting side of motor cycling. The lecturer was Mr. C. F. Plowman, of Letchworth, well-known in the motor cycle world. Few are better qualified than he to bring out the interesting features of the slides. An intensely interesting entertainment was provided. Some very fine slides, from the negatives of Mr. W. Paige Stuart *(Bedfordshire Times)* of some of the club's events were also shown.

Sheffield and Hallamshire M.C.C.

Nearly £450 worth of prizes were presented at the Sheffield and Hallamshire Club's dinner at the Grand Hotel on the 15th inst. Mr. W. Hallam Pearson presided, and the company included Capt. J. N. Longfield (of the Yorkshire Centre A.C.U.) and Mr. H. O. Wood.

During the evening Mr. Dan Bradbury received a presentation as an acknowledgment of great and valued services to the club; and, later, Mrs. Pearson presented the trophies and prizes won during 1920. An excellent musical programme was contributed to by the following artistes: Messrs. W. J. Parker, T. Sheridan, W. J. Laurence Milne, J. Ridders, and Kent Maples.

North-west London M.C.C.

The club introduced in 1914 a very successful meeting, which it is proposed to repeat this year if support is secured. This will take the form of a simple "hot-pot" supper, probably at Golders Green, followed by a visit to the Hippodrome, where a block of seats will be reserved. This affair was, in 1914, thoroughly enjoyable, and it serves the purpose of an informal re-union, and gives an opportunity to new members to see something of their new colleagues. The arrangements will be in the hands of Mr. F. Thomas, 172, Belsize Road, South Hampstead, N.W.



Successful club competitions are largely dependent on a sufficiency of trophies and awards. This display at the Sheffield and Hallamshire M.C.C. annual dinner on Thursday last is sufficient proof of the club's policy.

Police Selection of Licence Holders.

Licence holders made by Messrs. S. Smith and Sons (M.A.), Ltd., have been selected by the Metropolitan police for their fleet of cars, lorries, and motor cycles.

Surplus Spare Parts.

Anyone requiring odd spare parts may be able to obtain the very thing they require at quite low prices from the Slough Trading Co., Ltd., Trading Estate, Slough. The company are prepared to fill individual orders as well as to supply in large quantities.

A Record of Successes.

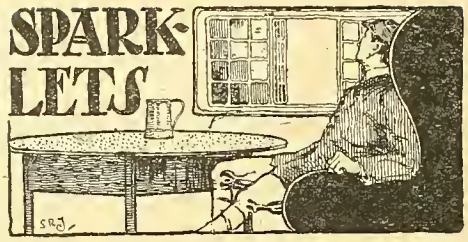
"Achievements" is the title of a copiously illustrated booklet issued by the Harley-Davidson Motor Co., Ltd., of Harleyson House, 74, Newman Street, London, W.1, and it contains a list of successes gained on Harley-Davidson motor cycles and sidecar outfits during the present year.

Taxi-sidecars.

In accepting the B.S.A.-Canoelet taxi-sidecar outfit for licensing by the Birmingham City Police, the makers (Messrs. The County Cycle and Motor Co., 307, Broad Street, Birmingham) tell us that the police experts specially commended the sidecar and rear wheel compensating foot brake. Several of these machines are now on the road, and orders have been secured from Birmingham, Brighton, and Southsea.

Adjustable Footrests.

One often feels sorry for the long-legged rider who has not yet discovered how to modify his pet machine which only has footrest provision for persons of medium height. A simple remedy, however, is to fit new dropped footrests with facilities for adjustment according to length of reach. Various patterns of these are manufactured by the Stone House Works Co., of Spon Lane Mills, Houghton Street, West Bromwich. They are very neatly carried out in aluminium, and are well worth examining.



Wise Policy.

An attractive catalogue giving descriptions of the 2¾ h.p. Wooler machine is now available. The company state their belief that the best workmanship can only be accomplished under the best conditions, hence the charming layout of the model works at Alperton.

A British Success in France.

The premier award in the 1,000 c.c. class of the petrol consumption trials, held in Paris (as described last week), was won by a 6-7 h.p. Ariel and sidecar. With passenger the outfit had to weigh 410 kilos. (902 lb.) so that extra weight had to be carried. Otherwise the machine was quite standard.

A French Opportunity.

Messrs. Greame Fenton and W. F. Nisbet, Moto-Comptoir, 167, Boulevard Pereire, Paris, 17, France, inform us that they are on the look-out for sole agencies for France for all makes of motor cycle accessories. Mr. Fenton is well-known both in England and on the Continent, while his partner, Mr. W. F. Nisbet, is a son of the late Mr. J. R. Nisbet, former chairman of the A.C.U.

Combined Lighting and Ignition.

The new B.T.H. system of combined lighting and ignition, recently described in *The Motor Cycle*, came through its first public test with flying colours. It was fitted on the 2½ h.p. Metro-Tyler ridden in the London-Exeter by J. S. Bennett, who was one of the few riders of lightweights to obtain a gold medal.

Catalogues Received.

Messrs. Thomas Firth and Sons, Ltd., Sheffield. An interesting booklet on steels, dealing with various methods of testing, notes on case-hardening, and steels recommended for various purposes. The book concludes with some very useful tables.

"Motor Cycling and Lubrication," is a free booklet published by Messrs. C. C. Wakefield and Co., Ltd., Wakefield House, 30-32, Cheapside, London, E.C.2; it deals with Castrol and the many successes and records gained with the help of this popular oil.

We have received a catalogue of Geeko motor cycle electric head, side, and tail lamps, together with a list of the bulbs supplied for these. It is issued by the manufacturers, The General Electric Co., Ltd., 67, Queen Victoria Street, London, E.C.4.

Messrs. T. Bath and Co., Ltd., contractors, 18, Savoy Street, London, W.C.2, have sent us an extensive catalogue of sheds, many of which are suitable for motor cycle houses, and are sold at very reasonable prices. In some cases very big reductions indeed have been made on current market prices.

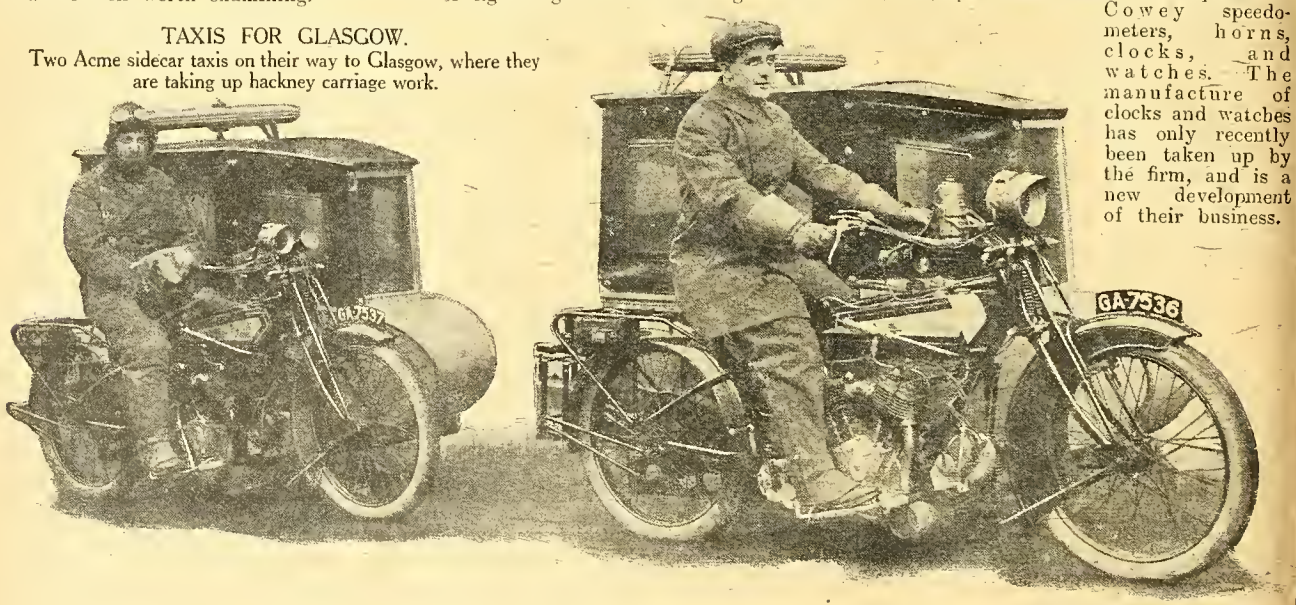
Messrs. J. Pedley and Sons, Ltd., Oxford Works, Great Charles Street, Birmingham: Motor cycle section, listing the principal Pedley motor cycle tyres, which were greatly appreciated before the war; also tyre accessories, waterproof clothing for motor cyclists, and repair outfits.

Grindlay (Coventry), Ltd., Melbourne Works, Spon End, Coventry. A complete and well-illustrated booklet showing all models of the Grindlay sidecars, including the well-known double sprung models as well as the new rigid-wheel sporting type. A leaflet describing the Grindlay three-panel windscreen, which is adjustable in all directions, is also included.

A new catalogue has been published by the Cowey Engineering Co., Ltd., Archer Works, Kew Gardens, Surrey, giving particulars and revised prices of Cowey speedometers, horns, clocks, and watches. The manufacture of clocks and watches has only recently been taken up by the firm, and is a new development of their business.

TAXIS FOR GLASGOW.

Two Acme sidecar taxis on their way to Glasgow, where they are taking up hackney carriage work.



CLAYRITE

SUCCESS AT THE SHOW.

The demand for "CLAYRITE" accessories is greater than ever. Immediate delivery can be given. Send for new illustrated catalogue and price list.



No. 21 CLAYRITE MOTOR CYCLE HORN
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QUESTIONS ASKED & ANSWERED AT THE SHOW

QUESTION :—

Why is it that the Cox "ATMOS" carburetter gives the sensation of no power, but when carefully checked is found to be giving considerably more, yet the exhaust note is softer?

ANSWER :—

The perfect mixture which the Cox "ATMOS" delivers is so correctly proportioned and blended that perfect combustion results.

The hammer blow due to improperly atomised fuel, and improperly proportioned and blended mixture is lost. You get power by an elastic force, rather than by a hammer-like blow.

The exhaust note is softer because the work of the charge is completed before the exhaust valve opens, instead of after.

This elimination of the hammer-like blow considerably increases the life of engine bearings, transmission, driving wheel, tyre, etc.; it means an economy as important as the fuel economy obtained by the use of the Cox "ATMOS."

COX CARBURETTERS, LTD.,

LOWER ESSEX STREET, BIRMINGHAM.

100% 100% TAN-SAD 100% 100%

THE EVER TRIED AND TRUSTY

TAN-SAD Pillion Seat.

HAVE NO OTHER. 100% SAFETY



FITS ANY MOTOR CYCLE CARRIER

100% COMFORT FOR THE PILLION RIDE!

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No Extra Premium for Pillion Riding and you can INSURE AN UNNAMED PILLION RIDER.

THE MOST TALKED-OF THING AT OLYMPIA WAS THE

TAN-SAD "NO HURTS" SADDLE

Makes your machine better than a spring frame.

Ask your Agent or write—

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SILVER PRINCE

LIGHTWEIGHT MOTOR CYCLE.

NOTHING BETTER IN THE WORLD.

46 Guineas

DON'T BUY UNTIL YOU HAVE SEEN ONE.

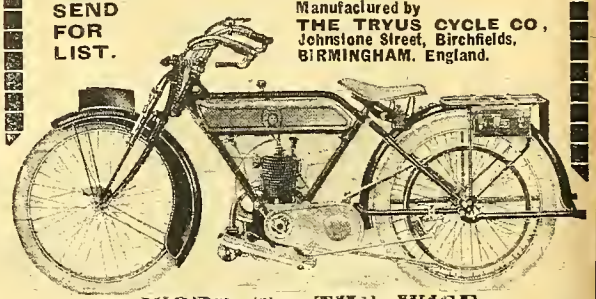
46 Guineas SPECIFICATION. **46 Guineas.**

ENGINE—Villiers' Mark IV. Magneto in Flywheels. 2¾ h.p
TYRES—Dunlop, 26×2¼.
RIMS—Dunlop, 26×2¼.
BELT—Dunlop, ¾in.
CHAIN—Coventry.
HANDLE-BAR—Bowden.
LEVERS—Bowden Inverted.
BRAKE—Bowden Front.
SPRING FORK—Brampton.
SADDLE—Leatheries.
OILER—Best and Lloyds.
TANK—Heavy Plate, with Patent Sump. Taped, 7in. to 5in. Petrol, 1½ gal.; Oil, 1 qt.
CARBURETTER—B. and B.
FOOTBOARDS—Aluminium.
FOOT BRAKE—Strong, effective, worked by foot.
GEAR BOXES — Sturmey-Archer, Albion, or Burman.
CARRIER—Tubular.
TOOLBAGS—Two, large size.
MUDGUARDS — Back, 5¼. Front, 4in. Valanced.
FINISH—Enamelled four coats, Black and Gold Lined. Tank, Magneto Cover and Chain Cover Enamelled Silver Grey and Blue Lined.
FRAME—Reynold's "A" quality Tube. All round, no Crank in Back Stays. Specially designed to enable anyone to convert a Single Speed to a Two-speed, or vice-versa, without the slightest trouble whatever.

Single Speed, 46 Guineas. Two-Speed, 57.
Two-Speed, kick-start, 63.

SEND FOR LIST.

Manufactured by THE TRYUS CYCLE CO., Johnstone Street, Birchfields, BIRMINGHAM, England.



A WORD TO THE WISE.

"Mind what you are buying, insist on having a printed specification of your Machine from the Agent, and see that everything corresponds."

LONDON TO EXETER

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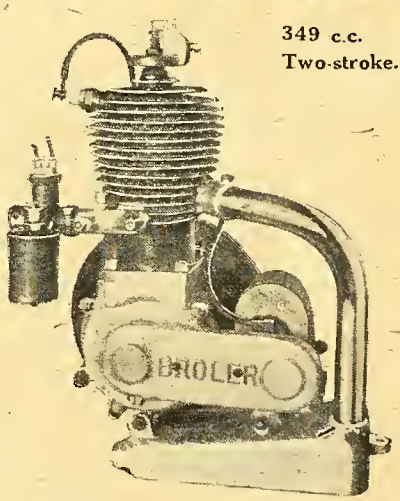
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BROLER

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The engine that will take you anywhere SOLO OR SIDECAR.

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KING REX OF MOTOR CYCLES

REX

LONDON—EXETER.

Once again "REX" scores—100 Gold Medal Result.

A Standard "Rex" Model, 55 B.D. Combination, driven by Mr. W. A. Fell-Smith, with passenger, completed the trial with ease.

This was the only "Rex" Machine entered.

Think it over—70 Sidecar Combinations started.
47 ,, ,, finished.
23 ,, ,, failed.

Two makes only gained 100% Gold Medal Result, including the "Rex."

"Rex" Gold Medal Results:
1919, London—Edinburgh .. 1 entered—1 Gold Medal.
1920, London—Edinburgh .. 3 entered—3 Gold Medals.
1920, London—Exeter .. 1 entered—1 Gold Medal.

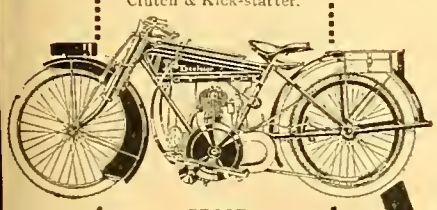
Why not make your next season's mount a Model 55?—"The 100% Gold Medal Combination." List and full particulars post free on request.

THE REX MOTOR MANUFACTURING CO., LTD., COVENTRY.

"Excelsior"

The Motor Cycles which minimize the Taxation on Repairs and Renewals.

EXCELSIOR
2¾ h.p. (c.c. 348)
"Blackburne"
2-speed Gear,
with
Clutch & Kick-starter.



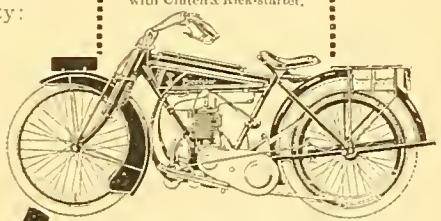
PRICE
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EXCELSIOR 2¾ h.p. includes "Blackburne" engine. Countershaft 2-speed Gear, with hand-controlled Clutch; specially designed Frame, built from best weldless steel tube; Druid patent Spring Forks; 26in. x 2¼in. Wheels; Dunlop Tyres; semi-automatic Carburetter, with two-lever control; Dunlop ¾in. Belt; Hans Renold Chain; Pan seat Saddle; Tank of large capacity; fully protected Mudguards, etc.

EXCELSIOR 2½ h.p. is practically identical except that it has a "Villiers" engine.

BAYLISS, THOMAS & Co.
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2½ h.p. (c.c. 269)
"VILLIERS"
2-stroke, 2-speed,
with Clutch & Kick-starter.



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Whether you judge by beauty in design, exquisite finish, maximum utility, perfect balance, smooth running, or strength and durability, Canoelet Models stand supreme. "Bicycling News" says: "One Canoelet Lightweight Model appeals to us as the most comfortable design in seating accommodation we have yet seen"

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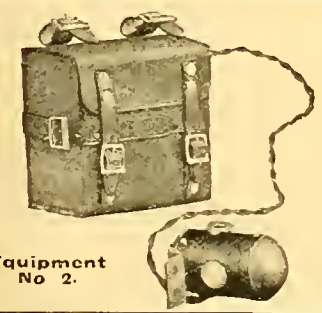
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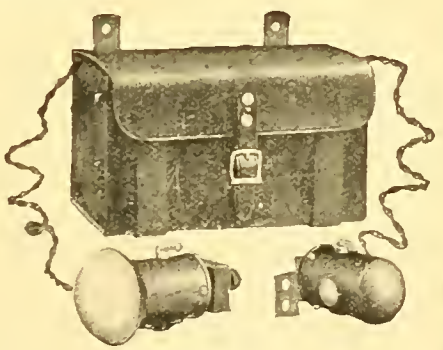
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Set.	Approximate number of hours light from one Battery.	PRICE Including Batteries	Spare Batteries
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WRITE TO US TO-DAY and ask our advice — the pleasure of giving will be ours, the pleasure of receiving will be yours—and if business results, the pleasure of doing business will be mutual.

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1921 TRIUMPH, Model 'H' ...	£127 10
1921 MATCHLESS Combination...	£205 0
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1921 ENFIELD Combination with Magdyno	£182 0
1921 ENFIELD Lightweight	£65 0-
1921 P. & M. Combination	£165 0

Etc., etc.

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Enquiries heartily invited.

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1920 VERUS 2-stroke Lightweight...	£50 0

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All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

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For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

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Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

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Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

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A.B.C.

A.B.C., brand new; £125.—Jackson's Garage, Stalham, Norfolk. [6499

NEW 1920 A.B.C., 4-speed; £140; in stock.—Randall, Andover. [0367

A.B.C., 1920, brand new; £125.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5515

1920 3h.p. 4-speed Twin A.B.C., very little ridden, in splendid condition and running order; £140, or near offer.—Write Box 980, Reynell's, 44, Chancery Lane, W.C.2. [6619



Sole London and District Agents for A.J.S. and British Excelsior Motor Cycles—Prompt Deliveries.

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Direct or flash fitting holders in aluminium or brass, Price 4/-
Holders, with special clip fittings for Motor Cycles—brass, 5/-; nickel plated, 6/6. Postage and packing, 6d. extra.

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Complete with Side Valance, 60/-; or without Valance, 55/- Carriage 2/-

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Light car size, £4 10s. 9d. Carriage 1/-
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Garage: Tottenham Court Road, W.1.
Phones: Accessories and Repairs, Museum 1240.
Motor Cycles and Cars, Kensington 7260.
Telegrams: "Dynametro, Westcent, London."

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., recently delivered, never ridden, owner going abroad; £135; what offers?—Box 1,208, c/o *The Motor Cycle.* [5042

A.B.C. 4-speed T.T., ridden 100 miles only, bought Dec. Lucas lamps, horn, insurance policy, £150; accept quick sale, £100; seen by appointment.—The Bungalow, Harefield Rd., Uxbridge. [6547

A.B.C. 1920 3h.p., in beautiful condition, has won several gold medals in hill-climbs; the buyer of this machine will be able to win gold medals next season; first cheque £100 secures.—Judian, 84, Broad St., Reading. 'Phone 1024. [6713

Abingdon.

ABINGDON King Dick 5-6h.p. Combination, 3 speeds, countershaft, all accessories, low mileage; £137/10; exchanges. Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [7236

Acme.

ACME 8h.p., with couchbuilt sidecar, 1920 demonstration model, only run 200 miles, spare wheel and tyre; £195, complete.—Box 1,377, c/o *The Motor Cycle.* [0405

A.J.S.

A.J.S. 1920 Combination, mileage 300; £180.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5517

A.J.S. 1920 Combination, brand new; £200.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5516

2¾h.p. A.J.S., recently overhauled, 2-speed, clutch; £30.—Ross Engineering Co., Ltd., Hereford. [6977

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

BRIGHTON, Hove, and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

1917 A.J.S., Montgomery sidecar, unused 2 years, splendid running order; £110.—Newman, Haverhill, Suffolk. [6514

A.J.S. 1914 Combination, complete with detachable rear wheel, Cowey horn and lamps; price £95.—Stott, 120, Castlegate, Berwick-on-Tweed. [6482

A.J.S. 2¾h.p., 1915, 3-speed, hand clutch, fully equipped, splendid order; £55, or near offer.—Breading, 9, Holly Rd., Leytonstone, E.11. [7211

A.J.S. 1921 Models, delivery guaranteed when required; deferred payments arranged.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4009

A.J.S. 1916 Combination, spare wheel, hood, screens, pillion, lamps, horn, many extras, stored two years, used week-ends only; £140.—Hale, Codmore, Chesham. [6571

2¾h.p. A.J.S., 1916, 2-speed gear, clutch, detachable wheels, nice machine, in excellent condition; £68.—Lavington, Askett, Princes Risborough, Bucks. [6440

1916 A.J.S. 6h.p. Combination, hood, wind screen, spring seat pillar, etc., in excellent condition; any trial; £135, or near offer.—Hughes, 7, Hyde Park Sq., W.2. [6531

A.J.S. 6h.p. 1921 Models.—A limited number can be supplied by ordering now; 7h.p. models, delivery early date.—S. E. Clapham, 27, Stockwell St., Greenwich, S.E.10. [6407

1921 A.J.S. 7h.p. Combination.—We can give early delivery; exchanges or easy payments.—Official Agents: Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [7237

1919 (June) A.J.S. Combination, wind screen, spare wheel, 3 Lucas lamps, Watford speedometer, mechanical horn, in perfect condition; £165.—Smith-Masters, 28, Morgan Rd., Reading. [6862

1919 (Nov.) 6h.p. A.J.S. Combination, spring seat, Lucas acetylene lamps, speedometer, horn, in excellent condition, original tyres, owner buying 1921 outfit; £170.—Holland, Midland Rd., Bedford. [6931

A.J.S. 1920 Combination, fully equipped with accessories and spare wheel and tyre, not ridden 250 miles, and is like new; £175, easy terms arranged.—Wanchope's, 9, Shoe Lane, Fleet St., London. [7264

A.J.S. 1920 6h.p. Combination, dynamo lighting, speedometer, hood, screen, side curtains, Klaxon horn, Tan-Sad, nearly new; £245.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. (X5171

A.J.S. 1916 6h.p. Combination, unused 3 years, spare wheel, overhauled makers June, everything perfect; £125, great bargain.—72, Longridge Rd., Earl's Court, London. 'Phone: Western 1344. [7098

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

MOTOR CYCLES FOR SALE.

A.J.S.

1920 (July) A.J.S. Combination, engine No. 13145, spare wheel, spring seat-pillar, Easting and standard wind screens, Lucas lamps, horn, discs, Tan-Sad, very little used, perfect; tax paid; cost £248, accept £215.—Arnold, 4, The Myrtles, Sidmouth. [X5184

A.J.S. 1920 6h.p. Combination, mileage 3,000, F.R.S. accumulator lighting, speedometer, horn, spare wheel, etc., first-class running order, tyres unpunctured, spare never used, new licence paid; £180; apply early, owner going abroad.—Stagg, 14, Undercliff, Boscombe, Hants. [6533

Alecto.

ALECTO, the first 2-stroke to break records; 1921 models, immediate delivery; cash, exchange, and deferred payments; catalogues and full particulars on request.—11L, Kramer Mews, West Brompton, S.W.6. [6523

Alldays.

ALLON, 1919, 2-speed, clutch, good condition; 55 gns.—Baker, Ningwood, Yarmouth, I. of W. [7094

1919 2¾h.p. Alldays Allon, single speed, legshields, all Lucas accessories, new condition; £48.—30, Talbot St., Burnley. [X4936

1918 Allon, 2-speed, equipped and perfect; 35 gns.; approval or particulars willingly; also L.M.C.—15, The Mansions, Mill Lane, N.W.6. [6943

1920 Alldays Allon, 2-speed, kick starter, Lucas lamps, horn, Tan-Sad, etc., good condition, licence paid; £60.—R. Hole, The Broadway, Burgess Hill. [6443

ALLDAYS Allon, 1920, 2-speed, clutch, kick starter, lamps, horn, tools, etc., run 500 miles, as new; £55.—A., 136, Ravensbury Rd., Earlsfield, London, S.W. [7167

3h.p. 1920 2-stroke Allday and Allon Motor Cycle, as new, with Lucas lamp set and horn; £55.—Please apply J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [6865

2¾h.p. Alldays, 2-speed, leg-shields, first-class condition; any trial; £42; includes tax and holder; genuine bargain.—Poulter, Newsagent, Castletorgate, Shrewsbury. [6635

NEW 2¾h.p. Alldays Allon Model de Luxe, 2-speed, clutch, and kick starter; £85, or on Harrods unique easy payment system of 4¾ extra.—Harrods, Ltd., 118, Brompton Rd., London. [6803

GEM.—Alldays Allon, 1920, 2¾h.p., 2 speeds, exceptional condition, pass for new; accept £70; arrange terms; consider exchange.—Bunting's Motors, Wealdstone. Closed Sundays. [6502

American X.

AMERICAN X., 1920, in excellent condition, all on; £100.—Seen Chester Engineering Co., Chester. [7091

AMERICAN Excelsior Combination, 7-9h.p., accessories, very fast, as new; £178.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0410

100 GNS.—American X 7-9h.p. twin, 1920-1, 3-speed, dynamo lamps, horn, unsoiled, unridden, absolutely new as sent out by makers; 73 gns. below list price.—308, Upper Richmond Rd., Mortlake. [X5142

AMERICAN X. Combination, 1916, 7-9h.p., 3 speeds, clutch and kick starter, electric lights, hood, screen, carrier, guaranteed in every way; £115; exchanges.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [7238

1920 Special Record-breaking Big Valve Racing American X, short frame, 28×2¼ wheels, spare sprockets, etc.; any trial; imported June, 1920; mileage 600; cost £200, accept £170, or near offer.—J.D., 8, Riverbank, East Molesey, Hampton Court. [6897

Ariel.

ARIELS, all models, orders now accepted for early delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0438

ARIEL 1920 New 3½h.p. Solo; list price £120, our price £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0422

1919 3½h.p. Ariel Combination, electric lighting, horn, wind screen, as new; £125. Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [7216

ARIEL 1920 6-7h.p. Combination, in practically new condition, all lamps, etc., little mileage; £120.—104a, Finchley Rd., N.W.3. Hamp. 7822. [7178

LATEST Model 6-7h.p. Ariel Combination, electric lighting, Easting wind screen, etc.; cost over £200, accept £145.—3, Parker Lane, Burnley. [X4939

ARIELS.—Order now for 1921 all-chain and chain-cum-belt models; spares in stock.—Geo. Taylor, Ariel Agent, 28, Lower Addiscombe Rd., East Croydon. [8165

ARIEL.—Orders now booking for the new all-chain models, which will be the Rolls-Royce of motor cycles. All spares stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [8231

ARIEL.—Some agency is the Ariel, and we hold this for North London. We are practical riders and gold medal winners with this wonderfully efficient and reliable motor cycle. Have you seen the new 4½h.p. comb.? it is a glorious outfit; immediate delivery; 3½ h.p. solo, 3½h.p. comb., and 6-7h.p. comb., 4 models in stock; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10 and at Woodside Parade, North Finchley. [0378

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Fig. 895. Best quality finish throughout. Very massive and strong. Adjustable focus. Adjustable brackets. Special dust and weather-proof front. Price, as illustrated, **72/6** each.

H.A.H. HEAD LAMPS

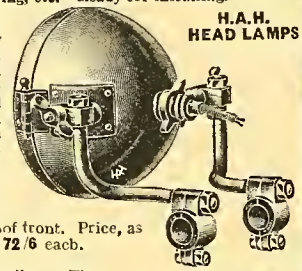


Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. Price, as illustrated, **55/-** each. Black plated.

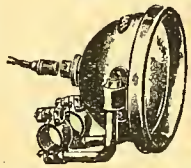




Fig. 880. **HEAD LAMP,** as illustrated, big, with special new stem fitting. Complete with adjustable holder, switch, etc., for screw bulbs. Price, nickel plated, **40/-** each; black plated, **43/-** each.

Fig. 573. Shows red danger signal, lights No. plate. Complete with switch bulb wire, clip, etc. Price, **9/6** ea. "Force" Hellesen Battery, **9/11**

386. Special metal case for "Force," **10/6**

Complete rear set, **29/6.**

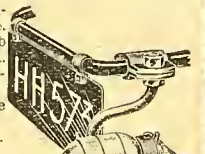




Fig. 347. **'Speedolite,' H.A.H.** Patent Speedometer Lamp, **7/6** each Clips direct on to Speedometer and has coloured bulb to prevent glare.

Fig. 358. **Garage Inspection Lamp** as illus. but without bulb, **7/6** ea.

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Fig. 428. Has a positive screw up or down action. Cannot shake on, totally insulated. Complete, as illustrated. Price **3/6** each.

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8h.p. Bat Combination, 2-speed, good condition; £40. —2a, Aubrey Rd., Walthamstow. [6835

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BAT 1920, shop-soiled only, list price £160; our price £132.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0439

1920 8h.p. Bat Combination, new, spare wheel, usual equipment; offers. Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [7217

BAT New 1920 6h.p. Combination, 3 speeds, clutch, and kick starter model; £175; easy terms arranged.—Wauchope's, 9, Shoe Lane, Fleet St., London. [7265

BRAND New 6h.p. Bat, with low coachbuilt sidecar to match, spring frame, 3-speed, etc.; a genuine bargain, will accept £160 to clear.—Bambers', Eastbank St., Southport. Tel.: 607. [7157

BAT-J.A.P. 6h.p., fixed gear, adjustable pulley, Bosch mag., Amac carburetter, new T.T. bars, lamps, horn, completely overhauled, very fast; £70, or nearest offer.—H. Andrews, 121, Bradfield Rd., Crewe. [6597

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GENUINE Bargain—Blackburne 4h.p., 1920, new; £120.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0320

BLACKBURNE new 1920 4h.p., list price £135; our price £120.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0430

BLACKBURNE 4h.p., 1920, brand new; list price £135, £120.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0420

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1920 (October) 4h.p. Blackburne, once used, Lucas lamps, Cowey horn, Lycett's attache case, 4 gns. motor cycle suit, all in insurance, etc., etc., condition perfect; £130.—78, St. Augustine's Rd., London, N.W.1. [6568

BLACKBURNE 1920 Combination, 8h.p., perfect mechanically and in appearance, hood, screen, speedometer, Lucas lamps, 2 horns, luggage carrier, spare wheel, all necessary spares, mileage 2,000; £175. —Jarrett, 199, Hagley Rd., Birmingham. [6876

BLACKBURNE 1920 8h.p. Combination, spare wheel, hood, screen, speedometer, lamps, leg shields, Klaxon, tools, etc., splendid condition; £175; can be seen at Ballards Motors, 92, Gloucester Rd., South Kensington, S.W.7, or write Elliot, 25, Whitmore Rd., Beckenham. [0349

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BRADBURY 4h.p., 2-speed, clutch, lamps, horn, reliable; £33.—31, Sharsted St., Kennington. [6855

BRADBURY 6h.p. Combination; £85.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [6462

BRADBURY, 4¼h.p., Grado gear, splendid running condition; £50.—Hopperton, High St., Hurst Green, Sussex. [6496

BRADBURY Combination, lamps, spares, running complete; bargain, £30.—Clarke, Oaklodge, Embreck, Wokingham. [6889

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BRADBURY 6h.p. Combination, shop-soiled, makers' price £199, our price £175; fully equipped.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0433

BRADBURY 4h.p., 1914, 2-speed countershaft, clutch, kick starter, T.T. bars, fully equipped, new front tyre, back nearly new, condition good; £42.—175b, Highbury New Park, N.5. [7039

BRADBURY 6h.p. Twin, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [6739

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BROUGH 5h.p. Flat Twin, £140; 3½h.p. flat twin, overhead valves, ideal sporting solo, £130.—Sole agents, G. and J. Dawson, Regent St., Cambridge. [7184

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B.S.A.—All models now in stock; delivered anywhere.

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B.S.A. 3½h.p., fine order throughout, fully equipped; £40; accept half down.—Bunting's Motor Exchange, Wendstone. [7155

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BOLTON.—All B.S.A. models in stock, solo and combinations, complete.—Grosvenor Garage, Bradford St., Bolton [X2019

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B.S.A. 1916 4¼h.p., C.B. sidecar, excellent condition; £90; trial.—Simmons, Sunnyside, Swan Lane, Whetstone, Middlesex. [6821

B.S.A. 4¼h.p., 3-speed, countershaft, C.B. sidecar, excellent condition; £80.—26, Ailsa Av., St. Margaret's, Twickenham. [7096

B.S.A. 1921 4¼h.p. Latest Model K2; delivery very shortly; list price.—Turner Bros., 134, Upper James St., London, E.C. [7055

B.S.A. Model H Combination, fully equipped; £85.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6321

B.S.A., 4¼h.p., 1914, lamps, etc., belt drive, excellent condition; £82, including taxation.—Hall, Alfrid House, Stockton-on-Tees. [6495

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B.S.A., 3-speed, kick starter, combination, Montgomery coachbuilt sidecar, new last June, good order; only £65; bargain.—Moss, Wem. [X5224

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B.S.A. and Gloria Sidecar, 1919, accessories, Easting, only run a few miles; £125.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0409

B.S.A. 1919 4¼h.p., 3-speed countershaft, Cooper sidecar, Easting, lamps, horn, spares, top-hole condition; £130.—479, Reddings Lane, Birmingham. [6633

4½h.p. B.S.A. Combination, splendid condition, lamps, tools, wind screen, apron, luggage carrier; £120.—Ross Engineering Co., Ltd., Herefordshire. [6976

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B.S.A. 6h.p. and 4¼h.p. Solo in stock for immediate delivery; price list and catalogue post free; deferred payments arranged.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4010

B.S.A. 1920 Combination, 4¼h.p., 3-speed, all-chain drive, hood, screen, grid, condition as new; open to expert examination; £120.—Field, c/o Hucklebridge, 133, Sloane St., London, S.W.1. [X5212

1919 B.S.A. 4¼h.p. 3-speed Chain Drive Combination, Easting wind screen, Watford speedometer, Lucas horn, lamps, etc., perfect condition; £125.—West, Four Forks, Spaxton, Bridgwater. [6453

B.S.A. 1915 3-speed, chain and belt, just been re-enamelled and overhauled, new B.S.A. sidecar with luggage grid, Easting screen, 3 new tyres, Lucas lamps, perfect order, any trial; £120.—Morgan, Shipyard, Swanwick, Hants. [6553

1919 (late) B.S.A. Combination Outfit, Klaxon horn, speedometer, lamps, Tan-Sad rear saddle, wind screen, all usual accessories, recently been overhauled; price £110, or near offer.—Grove Lodge, South Woodford, Essex, E.18. [6621

1919 B.S.A. 4¼h.p. all chain Combination, lamps, horn, wind screen, leg shields, speedometer, tyres good, full tool kit, insurance, oilskin outfit, guaranteed; £115; appointment only.—Roberts, 51, Binsfield Rd., Clapham, S.W.4. [7162

B.S.A., late 1919, engine No. 28735, C.B. combination, chain-cum-belt, 3-speed countershaft, Easting wind screen, D.A. lighting set, luggage grid, sound throughout; first cheque £115.—Duke W. Harding, Little Lenhill, Lechlade, Glos. [6651

B.S.A. 4¼h.p., sidecar, 1920, chain-cum-belt, delivered July, winner of gold medals, Matchless Cup, 1920, complete with Lucas Magdyno set, speedometer, horn, tools, spares, perfect machine; owner buying Morgan, licence paid £160.—Braemar, Haslemere Rd., Crouch End. [6914

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CALTHORPE-J.A.P. 2¾h.p., Enfield, good condition; £40.—Brown, Club House, Westerham, Kent. [6820

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1919 2¾h.p. Calthorpe-Jap, Enfield 2-speed, 1920 cylinder, and tank, carefully used, fully equipped; £55, or nearest.—Glenburn, West Malling, Kent. [6540

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CALTHORPE Junior, Precision, 2 speeds, all lamps, horn, go anywhere, 30/- tax; sacrifice £25.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalson 2408. [7250

CALTHORPE-J.A.P. 2¾h.p., 1920 model, Enfield 2-speed, £65; also 2-stroke model, with Enfield gear, £58.—P. J. Evans, 81-91, John Bright St., Birmingham. [0458

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60 GNS.—Calthorpe combination, 1916-17, 4-5h.p. twin J.A.P., Enfield gears and clutch, handle start, all-chain, coachbuilt sidecar; gilt price.—G., 63, Solon Rd., Brixton, S.W.2. [6997

1920 Calthorpe-Jap 2¾h.p., Enfield 2-speed, new P. and H. lamp, etc., Klaxon, mileage about 1,000, carefully ridden, condition as new; £68, or near offer.—A.K B., The Grey Cottage, St. Asaph St., Rhyl. [6663

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1915 4h.p. Campion, J.A.P. engine, pedal start, drip feed, engine very good puller; £45.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [7024

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Clyno.

CLYNO 2-stroke; £67/10.—Garage, Horsmonden, Kent. [6886

CLYNO Combination, de luxe model; £280.—Garage, Horsmonden, Kent. [6585

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CLYNO 1920 2¼h.p., 2 speeds, clutch, fully equipped; £50.—Parker's, Bradshawgate, Bolton, and 24S, Deansgate, Manchester. [X5176

1920 2½h.p. Clyno, 2-speed, clutch, scarcely used, tyres unpunctured, horn, and lamps; £80.—197, Fox Lane, Palmer's Green, N.13. [6950

CLYNO, 7-9h.p. J.A.P. engine, with 2-seater sidecar, newly painted throughout, new tyres; £160, or near offer.—Bean, Bargains Hill, Sittingbourne. [6527

1916 Clyno Combination, perfect condition, spare wheel, 4 practically new oversize tyres, Easting screen, Lucas lamps; £105.—22, Cranes Drive, Surbiton. [7201

CLYNO 1921 models, immediate delivery; 1920 lightweights, shop-soiled, £63; list price, £75.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042 [0434

CLYNO 1920 Lightweight, 2 speeds, clutch, only ridden 300 miles, with tools, horn, and rear-driven speedometer; £58.—Motor, Five Bells, Harmondsworth, Middlesex. [6538

1914 6h.p. Clyno Combination, fitted with lamps, horn, and speedometer, just completely overhauled and in splendid condition; £85.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [7218

6h.p. Clyno Coach Combination, 3-speed, K.S., clutch, interchangeable wheels with spare, lamps, mechanical horn, excellent condition; any trial; £75, offers; must sell.—41, Boleyn Rd., Forest Gate. [7031

2¼h.p. Clyno Motor Cycle, 1920 model, done 150 miles only, absolutely as new, complete with head lamp and new taxation licence, ready for the road; £56, a real genuine bargain.—Corwen Motor Co., Corwen. [6489

CLYNO 8h.p. 1921 Combination.—Batchelor and Co., East Surrey agents, have a new 8h.p. combination; demonstration runs given; orders booked for very early delivery.—Batchelor's, Clarence St., Kingston-on-Thames. 'Phone: 1809. [9545

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1921 3½h.p. twin **LEA-FRANCIS**	£130	0
1921 2¾ h.p. 2-speed **DOUGLAS**	£85	0
1921 2¾h.p. 3-speed **DOUGLAS**, with clutch	£105	0
1921 4 h.p. **TRIUMPH**, chain drive.....	£140	0
1921 10 h.p. **HENDERSON**, with reverse gear	£210	0
1920 5-6 h.p. **JAMES** Comb...	£175	0
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1920 2-stroke **DIAMOND**	£50	0
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1920 2¾ h.p. 2-speed **NEW IMPERIAL**, without clutch	£78	0
1920 **BABY TRIUMPH**	£70	0
1920 3½ h.p. **LEA-FRANCIS** ..	£118	0

SECOND-HAND MACHINES.

1915 4 h.p. **TRIUMPH**, 3-speed	£75	0
1920 4 h.p. **DOUGLAS** Comb.	£150	0
1920 5-6 h.p. **JAMES** Comb...	£145	0
1920 2-stroke **JAMES**, 2-speed	£85	0
1920 6 h.p. **ZENITH**, sports model, and Sidecar.....	£130	0
1920 8 h.p. **MATCHLESS** Comb., dynamo, and accessories ..	£185	0
1920 2½ h.p. 2-speed **EDMUND**	£78	0
1915 4 h.p. **TRIUMPH** and accessories	£90	0
1915 4 h.p. **TRIUMPH** and Sidecar.....	£105	0
1920 4-cyl. **HENDERSON** and Sidecar, all accessories....	£185	0
1920 4 h.p. **DOUGLAS** Combination, all accessories....	£145	0
1920 2¾ h.p. **DOUGLAS** with clutch and all accessories ..	£85	0
1916 2-speed **CALTHORPE** ..	£38	0

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CLYNO 5-6h.p., 3 speeds, kick start (just overhauled by Clyno), cush drive fitted to engine-shaft, enamelled black and gold, fitted with all new tyres, Stepney Road-grip rear, spare interchangeable wheel with Dunlop rubber and steel studded, Cowey horn, F.R.S. Major lamp set, Tan-Sad, Clyno sidecar with Cameo wind screen; the whole in splendid condition; nearest £120, or would exchange for solo machine.—Harvey, 335, Gloucester Rd., Horfield, Bristol. [6875

1916-17 5-6h.p. 3-speed K.S. Clutch W.D. Clynos, unrenovated, £40 each. These machines are worth £120 when finished. They are all complete, less mag. and carburetter; new Thomson-Bennett mag. required, £5/10 extra. These machines only need overhauling and renovating. The engines and gear boxes are absolutely A1. I have a large quantity of these machines, and they are going like hot cakes, so come and inspect my stock and you are sure to buy something; reductions on quantities.—Below.

1916-17 5-6h.p. 3-speed W.D. K.S. Clynos, renovated, £85. I have also a very large stock of Clyno spares, not one of each kind, but thousands. See my advert under Miscellaneous for Clyno spares, etc. I sell my spares very cheap to buyers of my machines.—Please apply or write to J.J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [6866

Connaught.

£40; Connaught, 2-speed, all on, spare cylinder, piston; will allow 30/- for tax.—H. Clarkson, Allman's Heath, Glossop. [6925

CONNAUGHT 2½h.p., 1920 model, single speed, shop-soiled only, £50; also 2-speed model, £58.—P. J. Evans, 81-91, John Bright St., Birmingham. [0459

CONNAUGHT 1920 2-stroke, T.T., under 500 miles, guaranteed as new; £47/10; exchanges.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [7239

1915 Connaught 2-stroke, T.T. bars, disc wheels in perfect order; exchange with cash for 3½h.p. combination, or sell £45.—35, Shepherd's Bush Rd., Hammersmith, W.6. [6441

Coulson.

COULSON B 1921 Models in Stock.—Sole Wiltshire Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5007

COULSON (July, 1920) 2¾h.p., 3-speed, R. B. Clark's famous competition 'bus, Lucas equipment, new tyres; 78 gns.—7, Exhibition Rd., S.W.7. [7166

COULSON B, 4h.p., shop-soiled, at greatly reduced price; now is the time to buy.—Mebes, 154-6, Gt. Portland St., W.1. Tel.: 3426 Mayfair. [6742

COULSON B.—We are sole agents for Wolverhampton, Stourbridge, Dudley, Walsall, and district; good deliveries; private and trade enquiries invited.—The Molineux Garage Co., Ltd., Wolverhampton. Tel. 1160. [3455

NEARLY New 4h.p. Coulson B, 3-speed, clutch, and kick starter, run about 100 miles, complete with all accessories; a bargain, £110; deferred payments for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London [6811

NEW Coulson B, 2¾h.p., £99/15; fitted with 3-speed gear, spring frame, Blackburne engine, 2¾h.p. model, with clutch and kick starter, £110/10; 4h.p., with 3-speed clutch and kick starter, etc., 115 gns.; if fitted with smart boat-shaped sidecar, painted royal blue, £162/10, or on deferred payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London [6781

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DAYTON 1½h.p., 2-stroke, Druids, Amac, U.H. mag., guarantee perfect order; £18/10; 200 m.p.g.—25, Icknield St., Birmingham. [X5211

Diamond.

DIAMOND 2-stroke, 1919, not driven 500 miles, guaranteed; £42/10; approval.—Gibb, Gloucester 'Phone: 852. [0455

DIAMOND-J.A.P. 1920 2¾h.p., 2-speed, complete with lamps, etc.; £55.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. [7155

1920 2¾h.p. Diamond-Jap, Enfield gear, electric and acetylene lighting, tools, horn, long exhaust, perfect condition throughout, tax 30/-; £65.—Ryder, Pool Fields, Wolverhampton. (D) [X5211

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DOUGLAS, Douglas, Douglas.

1921 Models in stock; 4h.p. combination £170, 4 solo £130, 2¾h.p. clutch model £105, 2¾h.p. 3-speed model £85. Extended payments if desired. Spare parts stocked. repairs; Douglas specialists.—Vigo Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6[illegible] [0

SIX Douglases, 2¾h.p., 2-speed; £38 each.—Maidment, 6, Barrack Rd., Hounslow. [6

1915 Douglas, 2-speed, splendid condition; £4 41, Anerley Park, S.E.20. [7

2¾h.p. Douglas, splendid order; £28.—Platts, 24 King's Rd., Fulham, S.W.6. [7

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1916 Douglas 2¾h.p., fully equipped, perfect; £42.—106, North End Rd., W.14. [6892

1919 Douglas 4h.p. Combination; £95.—Virgo, 156, High St., Honnslow. Tel.: 125. [6762

£42.—1915 Douglas, 2-speed, all spares, perfect condition.—13, Grantham Rd., S.W.9. [7061

DOUGLAS 2¾h.p., 2-speed, new Amac, top-hole; £35.—H.S., 33, St. Stephen's Rd., Bow, E. [6600

DOUGLAS.—A fine assortment in stock at prices to suit all.—Ross, 86, High Rd., Lee. [5670

DOUGLAS 2¾h.p., good tyres, lamps, horn, long exhaust; £30.—English, Yateley, Hants. [7108

DOUGLAS.—Several in stock for immediate delivery.—Pollard, Broomfield Rd., Chelmsford. [X5164

DOUGLAS 2¾h.p. W.D. Model, mileage under 1,000; £40.—Virgo, 156, High St., Hounslow. [6763

BRIGHTON, Hove, and District Douglas Agents, Turpin's, 22 and 29, Preston Rd., Brighton. [0201

DOUGLAS Combination, 1918; £95; condition perfect.—Hedley's Garage, 610, High St., Chiswick. [6792

DOUGLAS 4h.p. Combination, in good condition; £57.—Jury, The Mews, West St., Bromley. [7214

1919 2¾h.p. 2-speed Douglas, equipped, perfect; £58.—60, Wallingford Av., N. Kensington. [7065

1917 4h.p. Douglas Combination, perfect; £68; would separate.—81, Hornsey Park Rd., Horn-ey. [6981

5 GNS.—1918 Douglas, C.B. sidecar, electric, nicely fitted, dependable.—Derby Arms Garage, Mort-ke. [X5145

DOUGLAS Late 1918 2¾h.p., absolutely as new; any trial; £55.—30, Crystal Palace Park Rd., Syden-am. [6937

DOUGLAS, 1921 new improved 2¾h.p., 2-speed model; £85; in stock.—Herbert Robinson, Ltd., elow.

DOUGLAS, 1921 new 2¾h.p., 3-speed gear, hand controlled clutch and kick starter; £105; in stock. Herbert Robinson, Ltd., below.

DOUGLAS, 1921 new 4h.p., 3-speed, £130; with fine finish coachbuilt Douglas sidecar, £170; in tock.—Herbert Robinson, Ltd., 32-35, Green St., Cam-ridge. Tel.: 995. T.A.: Bicycles. [7231

1918 Douglas 2¾h.p., 3 speeds, guaranteed excellent condition throughout; £65.—Rose's Garage, xbridge. [7107a

1920 4h.p. Douglas Combination, mileage under 500; £140.—Goodwin, Alderwick House, London Rd., ounslow. [5661

DOUGLAS 1919 4h.p. Combination, mechanically sound trial week-ends; £105.—Bramley, 8, Stanier ., Swindon. [6877

1920 4h.p. Douglas Combination; £135, or offer; as new.—French, 43, Old Park Rd., Palmer's reen, N.13. [6479

NIBB, Gloucester, can give immediate delivery Doug-as 1921 models and spare parts from stock.—hone: 852. [6340

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1917 Douglas 2¾h.p., 2-speed, perfect condition, fully equipped, accessories; £50.—64, Framfield ., Hanwell, W.7. [6938

DOUGLAS 2¾h.p., single speed, 1911, Bosch mag., needs adjustment; £22, or offer.—Box 1,481, c/o *e Motor Cycle.* (D) [6630

1920-1 Douglas 2¾h.p., 3-speed, clutch, K.S., unused, list £105; £90.—104a, Finchley Rd., W.3. Hamp. 7822. [7179

DOUGLAS 1921 Solo, £85, £100, £105; combination, £170; cash, exchange, or easy payments.—Motories, Horton St., Halifax. [6757

DOUGLAS 2¾h.p., 1915, splendid condition, very fast, complete with tools and lamps; £50.—F., ds, Rippingale, Bourne. [6543

1921 Douglas Models, immediate delivery. Write us your requirements. Trade supplied.—Moffat, Doug-Agent, Yeovil. Tel.: 50. [5043

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For the convenience of customers we have prepared separate Stock Lists of—

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(at greatly reduced prices)

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DOUGLAS 2¾h.p., 1920, splendid condition, all accessories; £85.—Taylors, Ltd. 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0411

DOUGLAS 2¾h.p., countershaft, 2-speed, free engine clutch, lamps, good tyres; £33.—Smylie, 82, Godstone Rd., Whyteleafe, Surrey. [6840

1912 2¾h.p. Douglas, 2-speed, tyres good, Klaxon, lamps, spares, perfect running order; £35.—Ford, Houghton Bridge, Amberley, Sussex. [6556

DOUGLAS 2¾h.p., 1915, in real good order, lamps, and new tyres; any trial.—Hiseman, 5, Parkdale Rd., Plumstead. (After 6 p.m.) £45. [6856

DOUGLAS 1916 2¾h.p., 2 speeds, new tyres, belt, and mag., perfect condition, nice appearance; £46.—27, Belvernie Grove, Southfields, S.W.18. [7040

DOUGLAS 4h.p. Combination, 1916, new lamps and belt, tyres sound, just overhauled, enamel and plating good; £30.—31, Alloa Rd., S.E.8. [6789

DOUGLAS, genuine pre-war, T.T., 2-speed, bought new last year, magnificent condition, superior to 1920; £55.—20a, Pitshanger Lane, Ealing. [6930

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DOUGLAS 4h.p., beautiful condition, fast, reliable, 85 m.p.g., lamps, horn; £78.—Apply between 7-8 evening, 1, Winslade Rd., Brixton Hill, S.W. [6486

1920 (late) Douglas 2¾h.p., 3-speed, fully equipped, mileage negligible, absolutely as new; 90 gns.—Rawlings, 33, Malwood Rd., Balham Hill, S.W.12. [6616

DOUGLAS 4h.p. Combination, 1920, full equipment, guaranteed perfect condition; £125.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0416

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1918 Beautiful Douglas Coachbuilt Combination, mag., 3 speeds, clutch, kick, hood, screen, lamps; sacrifice, 89 gns.—1, Ebner St., Wandsworth. [6945

1920 4h.p. Douglas, solo, brand new, £118, or with new Douglas sidecar, £152.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [4748

DOUGLAS 2¾h.p., 2-speed, W.D. model, 1916, overhauled, renovated, fitted new controls, new tyres and tubes; any trial run allowed; £41.—Dowell, Bytleet, Surrey. [6825

1917 4h.p. Douglas Combination, engine recently overhauled; £90; any trial.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [7233

DOUGLAS, 2¾h.p., 2-speed, footboards, complete lighting, horn, good condition; £38/10; bargain. W. Stickland, Stanley Villa, Templecombe, Somerset. [6433

1920 Douglas Combination, all lamps, horn, 3-panel wind screen, legshields, trip speedometer, spares, excellent condition; £155.—Skiller, King Edward Rd., Rochester. [6718

1918 4h.p. Douglas Combination, 3-speed, kick start, lamps, mechanical horn, hood, wind screen, nearly new tyres; £95.—68, Malvern Rd., Dalston, E.8. [6952

DOUGLAS Combination, 4h.p., 1920, hood, speedometer, lamps, not run 1,000 miles; £145.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0407

SPECIAL Bargain.—1919 4h.p. Douglas combination, counter-shaft, 3-speed, kick-starter, mileage model, only used 12 months; best offer over £100.—Motories, 25, Horton St., Halifax. [6758

2¾h.p. Douglas, delivered November last, 3-speed clutch, kick start, P.H. lamps, Klaxon horn legshields, fast machine, fully insured; £90.—Rankin 2, Albany Rd., Bristol. [6893

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

DOUGLAS 2¾h.p., in splendid condition and good running order, all accessories; £55; can be seen at any time.—Chas. Clarke, 251, Tooley St., London, S.E.1. (Near Tower Bridge.) [7193

£55.—1917 2¾h.p. Douglas, 2-speed, makers' colours, new P. and H. head lamp, Thomson-Bennett, Amac, enamel and plating unscratched, several new parts.—63, Salon Rd., Brixton. [7028

DOUGLAS 2¾h.p., 1916, just overhauled, like new, mechanical horn, large Miller lamp set, tools, new oversize tyres, long exhaust; £56, no offers.—Ablett, 101 Shaftesbury Rd., Reading [6708

DOUGLAS 1919 2¾h.p., engine No. 40824, original enamel, all tools and accessories, lighting by Lucas, new spare tyre, excellent condition; £65, or nearest.—King, Fairoaks, Sollersholt, Letchworth, Herts. [6696

MOTOR CYCLES FOR SALE.

Douglas.

1916 Douglas 4h.p., 3 speeds, kick starter, just overhauled by Douglas Co., all lamps, fitted brand new coach sidecar; £95; exchanges.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [7241

DOUGLAS Late 1919 4h.p. Combination, complete with speedometer, horn, mirror, Tan-Sad, tools, splendid condition, very little used; £123.—High Croft Stables, Chichester Rd., Croydon (nr. Water Tower). [6793

THE Effra Motor Works.—When you have purchased a 2¾h.p. Douglas from us you have the satisfaction of knowing that our machines are entirely overhauled and worn parts renewed; carriage extra.—Below.

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£45; 2¾h.p. Douglases, 1915-16, re-stoved and re-plated in makers' colours, new Amac carburetter, just like a new machine and as good.—Below.

WHY? As we purchased the remaining entire dump of 2¾h.p. Douglases, W.D., this is the reason we are able to offer these machines at this price.—The Effra Motor Works, 14, Effra Parade, Brixton, London. [7186

DOUGLAS 1914 T.T. 3½h.p., fitted with special spherical o.h.v. combustion heads; spares: 2 original cylinders complete, 5 camshafts, gear box; extraordinarily fast; £100.—Moir and Baxter, Ltd., 2, Castle Terrace, Edinburgh. (D) [8629

DOUGLAS 2¾h.p., late 1915, makers' colours, practically new, only done under 2,000 miles, footboards, ample mudshields, licence, lamps, tools, pump, etc., long exhaust; £55, or best offer.—'Phone: Chingford 113.—4, Egliston Rd., Chingford. [6769

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. Douglas machines, 1921, kick start models, 3 speeds, clutch, £105; 4h.p. combinations, £170; 4h.p. solos, £130; also 2¾h.p. W.D. Douglas, supplied from Douglas works, £85. Easy terms arranged or exchange. [7267

1920 4h.p. Douglas Combination, fitted with polished aluminium discs, Lucas horn, front mudshields, Rotax dynamo lighting set, Cameo wind screen, mileage 1,250, practically new appearance, mechanical condition guaranteed perfect; £155.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [7235

4h.p. Douglas and Chassis with wheel, £30; 1917-18 W.D., unrenovated, comprising engine, gear box, frame forks, wheels, tank, mudguards, carrier bars, etc. We have 100 of these to dispose of; the best bargain since the Armistice. This is positively the last lot we can offer at any price. Our price £30, elsewhere £45.—Banister and Bottea, 341, Upper St., London, N.1 (opposite Agricultural Hall). [7146

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DUNKLEY-DALM 3h.p. 2-stroke Lightweight, 2-speed countershaft, just overhauled, tyres nearly new; sacrifice £30.—591, Foleshill Rd., Coventry. [X5265

Edmund.

EDMUND 2¾h.p., 1920 model, J.A.P. engine, Enfield 2-speed gear and clutch, spring frame, unused, shop-soiled only; bargain, £80.—P. J. Evans, 81-91, John Bright St., Birmingham. [0457

Enfield.

NEW 1920 Enfield, 2-stroke, 2-speed; £65; in stock.—Randal, Andover. [0369

1920 8h.p. Enfield Combination, brand new, unsoiled; £157/10.—Rose's Garage, Uxbridge. [7107

1916 6h.p. Enfield Combination, fully equipped; £95.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [7025

ENFIELD 3h.p., 1915, 2-speed, speedometer, electric light, splendid condition; £55.—143, Percy Rd., W.12. [6961

ENFIELD 1921, all models for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0432

ROYAL ENFIELD 2-stroke, practically new; price moderate.—Chambers, 69, Longridge Rd., Earl's Court, London. [6557

ENFIELD 1920 2¼h.p., fully equipped, as new; £60.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X5166

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ROYAL ENFIELD 1916 6h.p. Combination, in perfect order, hood, screen, D.A. lighting; £110.—G., 19, Netherford Rd., S.W.4. [7199

1921 Enfields in Stock; also 1915 combination, lamps, Eastiag, £85; 1914 combination, £75.—Chaston, Blackwood, Mon. (D) [7009

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NEW 1920 MODELS (Slightly Shop-soiled).	List Price.	Our Price.
CLYNO, 2½ h.p., 2-sp., 2-stroke, hand clutch	£75 0 ..	£60
CALTHORPE-J.A.P., 2¾ h.p., 2-sp., Enfield gear, clutch ..	£73 10 ..	£65
BAT, 8 h.p., J.A.P. engine, 3-sp., chain drive, spring frame ..	£160 0 ..	£130
DIAMOND, 2½ h.p., 2-speed, 2-stroke, clutch, kick-starter .	£84 3 ..	£70
HARLEY-DAVIDSON, 4 h.p., sports model, flat twin, speedometer, lamps	£164 10 ..	£130
METRO-TYLER, 2¾ h.p., 2-sp., 2-stroke, latest S Type	£94 15 ..	£75
TRIUMPH, 4 h.p., 3-speed, all-chain drive, Model S.D.	£140 0 ..	£120
LEA-FRANCIS, 3½ h.p. twin M.A.G. engine, enclosed chain drive	£130 0 ..	£115
SIDECAR COMBINATIONS.		
MATCHLESS Model H Combination, M.A.G. engine, spring frame, spare wheel	£205 0 ..	£175
ROVER, 5-6 h.p. J.A.P. engine, 3-speed, chain drive, latest type Sidecar	£235 0 ..	£165
BAT, 8 h.p., 3-speed, spring frame, Henderson Elite S/car	£205 0 ..	£165
MATCHLESS Model H Combination, M.A.G. engine, spring frame, spare wheel'	£205 0 ..	£175

NEW 1921 MODELS.	List Price.
SCOTT, 3½ h.p., sporting model, 2-sp.	£130 0 0
DOUGLAS, 2¾ h.p., 2-speed, clutch, kick-starter	£105 0 0
DOUGLAS, 2¾ h.p., 3-speed model ..	£85 0 0
N.U.T., 3½ h.p., twin, 3-speed, Lucas Magdyno lighting	145 gns.
CALTHORPE-J.A.P., 2¾ h.p., 2-speed Enfield gear	70 gns.
NEW IMPERIAL, 2¾ h.p. J.A.P. engine, 2-speed, clutch, kick-start ...	85 gns.
NEW IMPERIAL 8 h.p. Combination.	178 gns.
QUADRANT 5 h.p. Big Single Comb.	£150 0 0
MATCHLESS Model H Comb., complete	£205 0 0
LEA-FRANCIS, 3½ h.p., twin, 3-speed	£145 0 0
TRIUMPH, 4 h.p., 3-speed, Model H.	£127 10 0
ENFIELD 8 h.p. Combination	£160 0 0
ENFIELD lightweight, 2½ h.p., 2-speed, kick-starter	£70 0 0
G.N. Cyclecar, 10 h.p., touring model	£241 17 6
G.N. Cyclecar, 10 h.p., touring model, dynamo lighting	£275 12 6
MORGAN, 10 h.p., Grand Prix, M.A.G. engine, all accessories, special body.	£230 0 0

SECOND-HAND BARGAINS.	
1921 **DOUGLAS,** 2¾ h.p., 3-speed, used once	£90
1919 **ARIEL** 5-6 h.p. Combination, all accessories	£125
1919 **ZENITH,** 8 h.p., countershaft model, Elite Sidecar	£125
1919 **ROVER** 5-6 h.p. Combination, complete	£145
1918 **P. & M.,** 3½ h.p., R.A.F. Model	£65
1920 **G.N.** Cyclecar, 10 h.p., Vitesse Model, dynamo lighting	£325
1920 **BLERIOT-WHIPPET** Cyclecar	£175
1920 **MORGAN,** de luxe model, 10 h.p., water-cooled, electric lamps	£226

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MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD, 8h.p. J.A.P., lamps, horn, large roomy sidecar, good tyres; trial; climb anything; £140.—10, Penylan Rd., Cardiff. [X4934

1917 Enfield 3h.p. Twin, 2-speed, kick start, lamps, and speedometer, as new; £53; after 5.—97, Longhurst Rd., Lewisham, S.E.13. [6921

1920 Enfield 8h.p. Standard Combination, brand new; £152.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [7175

8h.p. 1919 Enfield Combination, completely equipped, exceptional condition, unused last 6 months; £150, offer; appointment.—136, Bonndaries Rd., Balham. [6909

ENFIELD 1914 6h.p. Combination, wind screen, all accessories, splendid condition; £95, or near offer; any trial.—56, Arrail St., Six Bells, Abertillery. [6529

1916 3h.p. Enfield, 2-speed, lamps, horn, speedometer, new tyre, all in perfect condition, must sell; £35.—Wallis, Hartington Grove, Cambridge. [6477

1921 Enfield Combination, 8h.p., dynamo lighting, in stock; immediate delivery; £182.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. [7165

1921 Enfield Combination, dynamo lighting, with or without dynamo, in stock, immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

ENFIELD Combination, 6h.p., 1914, Bosch, Eastling and small screen, child's seat, car, and carrier; £95.—Gilbert, 77, Brunswick Rd., Handsworth, Birmingham. [X5211

ENFIELD Combination, 5-6h.p., 1912, recently thoroughly overhauled, with new cylinders and parts renovated, excellent condition; £90.—79, High St., Beckenham. [6657

1918 Enfield Combination, Colonial Model, tyres as new, hood, screen, lamps, horn, speedometer, perfect condition; £110.—Malt, 47, Clockhouse Rd., Beckenham. [7204

ENFIELD 1919 2¼h.p., 2-speed, chain drive, Dunlops; enamel and plating unscratched, lamps, horn, tools, etc.; £48, bargain.—18, Marlborough Rd., Old Kent Rd., S.E.1. [7056

ENFIELD 6h.p. Combination, electric lighting, Eastiag, first-class condition; £92/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6321

ENFIELD Combination, 1916, electric lighting, just been overhauled, new Thomson-Bennett magneto, Jones speedometer; £100.—Barclay, 26, South St., Greenwich, S.E.10. [6701

ISLE OF MAN Enfield (3h.p.), Brooks 225, Lucas lamps, numerous spares, very fast, perfect condition; photograph; £70, or near.—Latham, Westbury, Belgrave Rd., Torquay. [6481

ENFIELD 3h.p. Twin, 2 speeds, kick start, disc wheels, long copper exhaust, T.T. bars, knee-grips, exceptional condition; photo; £60.—Decourcy, Frankfort St., Birmingham. [7071

6h.p. Enfield Combination, new tyres, new tank, lamps, and horn, etc., cost of overhaul £34, what offers; also brand new twin mag., £5/10, carriage paid.—Walshaw, Dale St., Ossett. [6851

ENFIELD Combination, 8h.p., 1917, all lamps, hood, screen, Tan-Sad, Binks, overhauled, rebushed, insured £150, appearance as new; £120.—C.B., 30, Westbourne St., Sloane Sq., S.W.1. [6501

ENFIELD 6h.p. Combination, as good as new, lamps, hood, screens, horn, speedometer, paint, etc., unscratched, guaranteed mechanically perfect; £9.—Wallis, 23, Hartington Grove, Cambridge. [6471

WAUCHOPE'S, 9, Shoe Lane, London.—Enfield 1921 combination, fitted with Vicorl engine with dynamo lighting set, £182; standard model £162; 2-stroke solo, £65; easy terms arranged. [7261

1916 6h.p. Enfield Combination, Lucas head lamp and generator, Lucas horn, tyres good, mechanical condition excellent; £125.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [7235

8h.p. Enfield Combination, to makers' specification for early delivery, £160; dynamo lighting model £182 plus delivery from works; deferred payments for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London [6806

6h.p. 1920 Enfield Combination, new October last, Magdyno lighting, tyres unpuactured, spares, only driven 150 miles; selling on account ill-health; Exe Devon; any reasonable trial; £155.—Write Box 1,47 c/o *The Motor Cycle.* (D) [6401

ROYAL ENFIELD 3h.p., twin, late 1917, Am Thomson-Bennett, 2-speed, kick start, la copper exhaust, numerous spares, tyres good, 2 n chains, excellent condition; £65 See exchange colum —Garland, Eastmoor, Harpenden. [6801

ENFIELDS.—The cheapest twin combination on road. We are North London agents, and can g immediate delivery of the standard model, £160; e tric model, £180; trade supplied. All spares in sto —Jones' Garage, Muswell Hill, N.10, and at Woods Parade, North Finchley. [0301

F.N.

F.N. 2¼h.p., 2-speed, clutch, late 1914; £40; th oughly good.—17, Cromwell Rd., Wimbledon. [6901

MOTOR CYCLES FOR SALE.

F.N.

4-CYL. F.N. Combinations and Solo Singles actually in stock.—Grimes and Co., 18, Bruton Place, New Bond St., W. [6308

F.N. 2½h.p., 2-speed, clutch, shaft drive, perfect order, sound and reliable; £26.—Mac, 13, Victoria Rd., Upper Norwood, S.E.19. [6596

F.N. 5-6h.p., 4-cyl., disc wheels, electric light, splendid condition; £40, or near offer; ride away.—Goddard, 41, Avenue Rd., Brentford, Middlesex. [6782

Harley-Davidson.

HARLEY, 1918, and sidecar, perfect running; £125.—Neil, 13, Sangley Rd., Catford, S.E.6. [6969

95 GNS.—1918 Harley canoelet, electric, exceptionally fast.—Derby Arms Garage, Mortlake. [X5144

1919 7-9h.p. Harley, 3-speed, as new; £110.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [7073

HARLEY-DAVIDSON 1917 Combination; £100; hood and screen.—Webb, 22a, Cornwall Rd., S.E.1. [7190

HARLEY-DAVIDSON Combination, 1915, leg shields, etc., tip-top condition; £110.—Garage, Horsmonden, Kent. [6588

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross, 86, High Rd., Lee. [5669

120 GNS.—1919 Harley with bulbous sidecar, appearance, condition new, dependable.—54, Covol Rd., Mortlake. [X5143

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole agents, Bambers', Southport, Lancashire. Tel.: 607. [5009

1915 Harley-Davidson Combination, 4½h.p., lamps and horn; a bargain at £70.—Bambers', Eastbank St., Southport. Tel.: 607. [7159

HARLEY 1918 7-9h.p., in perfect condition, fitted with new 40 gn. sidecar; £100 cash.—Underhill Farm, Barnet. 'Phone: 186. [6645

HARLEY-DAVIDSON, 1916, nice turnout; £100, or solo and cash.—51, Maplethorpe Rd., Thornton Heather, S.E. 2237 Croydon. [6896

1918 7-9h.p. Harley-Davidson, 3-speed, K.S., with new canoelet sidecar; £100; bargain.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [6867

HARLEY-DAVIDSON 1919 7-9h.p. Combination, tools, mileage 1,200, electric lighting; £184.—L. West, 71, Norbury Crescent, Norbury, S.W.16. [0377

HARLEY-DAVIDSON, 1920, 7-9h.p., electric model, as new, discs, speedometer, mileage 200; £150.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5522

HARLEY-DAVIDSON Combination, 7-9h.p., nearly new, electric lighting, horn, spares, suitable for taxi, any trial; bargain, £158.—79a, Hillmorton Rd., Rugby. [7097

1919 Harley-Davidson 7-9h.p. Combination, electrically fitted, low mileage, guaranteed condition, licensed; £165; South London.—Box No. 1,506, c/o *The Motor Cycle*. [6791

7-9h.p. Harley-Davidson Combination, electric model, condition excellent throughout, splendid sidecar and fittings; trial; offers over £100.—Buckingham, Glen Cottage, Underriver, Sevenoaks. [7041

1919 7-9h.p. Harley-Davidson Combination, in excellent running order, large bulbous back sidecar, nearly new tyres; price £145, or near offer.—Stevens, 184-186, Pentonville Rd., King's Cross. [6680

HARLEY-DAVIDSON Combination, 7-9h.p., 1919, equal to new, electric lighting, fully equipped; £140; any trial Saturday or Sunday morning.—3, West Gardens, Robinson Rd., Tooting, S.W. [7083

BRAND New 7-9h.p. Electric Model Harley-Davidson, complete with lamps, horn, speedometer, and Mills-Fulford de luxe sidecar, cost £243/10; my price for cash, £210.—D. Weston, 59, Cowley St., Derby. [5647

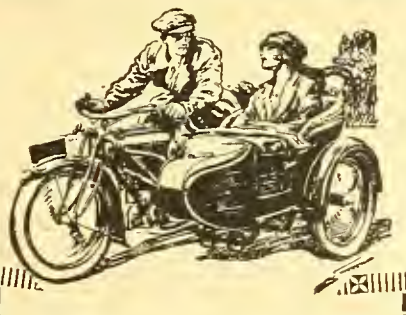
LATE 1920 Harley-Davidson 4h.p. Flat Twin, only 3 months old, practically new, speedometer, lamps, Klaxon, perfect condition; bargain, £140, or nearest offer.—Tabah, 24, Oxford Rd., Birkdale, Southport. [5843

£128.—1918 Harley combination, Canoelet MM4 sidecar, overhauled and guaranteed perfect throughout, enamelling and plating as new, lamps, horn, apron. Now is the time to buy.—Langford's, 37, Cricklewood Broadway, N.W.2. [6940

HARLEY-DAVIDSON, 1919, solo, new; £98. Huge stock spares, engines, frames, gears. Send your Harley along. Carriage paid, or fetched 50 mile radius Birmingham.—Harley Expert and Specialist (Harley-Davidsons only), 117, Poplar Rd., Edgbaston, Birmingham. [X4935

HARLEY-DAVIDSON 1918-1919 Models, thoroughly overhauled and guaranteed, solo, £100; with new Montgomery sidecar, £130; easy payments, £3/10 down, 8 payments of £8 solo; £59/15 deposit and 8 payments £10 for combination.—Mandes', 100, Gt. Portland St., W.1; and Paris St., Exeter. [7285

EXCEPTIONAL Opportunity for speed men.—Racing Harley, M.510K., in perfect condition for speed work, capable of lapping Brooklands at over 80, mileage under 2,000; any examination desired; with full equipment for road use, £110.—Can be inspected by appointment with Houlberg, 229, Hammersmith Rd., W.6. [7195



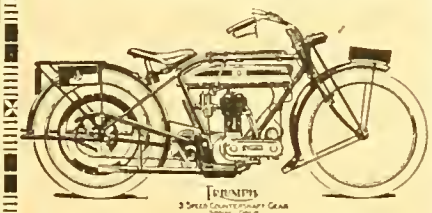
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1920 Harley-Davidson, nearly new, mag. ignition, full equipment of electric lamps, and 2 large batteries, speedometer, 2 horns, hood and screen with side curtains, luggage grid, pillion seat, discs on all wheels, specially designed leg-shields, saddle back-rest, mirror and clock; cost £325, for quick sale £250 will be accepted, for cash or on deferred payments, £84 deposit, balance plus 2½% payable by 12 monthly instalments of £14/3/8.—Harrods, Ltd., 118, Brompton Rd, London. [6815

Hazlewood.

HAZLEWOOD J.A.P. Combination, 1920, 5-6h.p. new and unregistered; £165.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5530

NEW 5-6h.p. Hazlewood Combination, 3-speed, clutch, and kick starter, a thoroughly reliable outfit; Harrods have a large stock of these, slightly shop-soiled, at £186 each (£20 below list price), or on deferred payments 4% extra; one one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [6798

Henderson.

1920 Henderson, new Christmas, perfect; list price £210, accept £150, or near.—Howgill, Colney Hatch Lane, N.10. [6873

HENDERSON 1917 Electric Model, with handsome steel sidecar, splendidly equipped; seen by appointment.—Baseldon, West Byfleet. [6893

HENDERSON 1915, perfect running condition, electric head and tail lamps; £120, or next best offer.—H.W., 45, Terminus Rd., Eastbourne. [6444

HENDERSON Combination, 1916, all accessories, recently overhauled at £40, mechanically perfect; £120; what offers.—Railton, 44, Gloucester Terrace, Hyde Park. [7144

H.E.W.

H.E.W., 2½h.p. Villiers, 2-speed, Burman countershaft gear, 26in. wheels, Brampton forks, lamps, etc.; £50.—Garage, Horsmonden, Kent. [6587

Hobart.

2½h.p. 2-stroke Hobart, 2-speed, in good condition; £37/10.—Ross Engineering Co., Ltd., Hereford. [6978

NEW Hobart-Villiers, 2-speed model; £63; list price £75; slightly soiled.—Chaston, Blackwood, Mon. (D) [7012

Humber.

HUMBER 3½h.p., 2-speed, clutch, fine condition, original enamel and plating; £38.—51, Chesnut Rd., Tottenham [6836

1920 Humber 3½h.p. Flat Twin, brand new; £120, or with sidecar £140.—Wellands Garage, Portsmouth Rd., Esher. [6712

HUMBER 4½h.p. Flat Twin, 1920 model, unused, shop-soiled only; £125.—P. J. Evans, 81-91, John Bright St., Birmingham. [0453

1919 (November) 3½h.p. Flat Twin Humber, handle start, automatic carburetter, very reliable; £90.—Robb, Elm High Rd., Wisbech. [6492

1921 Humber 4½h.p. Flat Twin, only 500 miles complete; £130; also good sidecar, £17 extra.—Donkin, Medway Brewery, Maidstone. [6857

3½h.p. Humber, 2 speeds, in splendid order, new tyres, tubes, lamps, tools, spare tyre, registered; sacrifice £35, or nearest offer.—Lynn, Page Hall, Penrith. [7064

1920 4½h.p. Humber, 3 speeds, kick starter, as new, leg-shields, Lucas lamps, mechanical horn; £128, or offer.—Pearn, 69, Birchfields Rd., Rusholme, Manchester. [6994

HUMBER 1921 4½h.p. Flat Twin Model, run only few miles, guaranteed as new; £130.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6328

1919 3½h.p. Flat Twin Humber, £85; 1920 4½h.p. flat twin Humber, £120; perfect condition; Milford sidecar if required; trial.—Lines, Union House, Foleshill, Coventry. [X5185

Imperi.

3h.p. Imperi, Eisemann, B. and B. variable jet, automatic pulley, tools, pump, horn, good tyres and belt, ride away; £24.—Dodd, 135, Bathurst Gardens, Willesden, N.W.10. [6777

Indian.

INDIAN 1915 5-6h.p., clutch, excellent condition; £35.—17, Heaton Rd., N. Mitcham. [6967

1913 Indian 2-speed and Clutch, 7-9h.p., in very good condition; £46.—88, Claremont Rd., Rugby. [X5247

INDIAN 4h.p. C.B. Combination, clutch model, spring frame; nearest £42.—9, St. Paul's Mansions, Hammersmith, W.6. [6778

1919 Indians, 3-speed, replated, re-enamelled, reconditioned, choice of five; £80.—Bacon, 7, Butoum Gardens, Hammersmith. 6532

INDIAN 5-6h.p., 1915-16, 3 speeds, lamps, horn, in splendid order, perfect; trial; £70.—17a, Seely Rd., Tooting Junction, S.W. [7082

INDIAN Combination, 3-speed, K.S., for 1916 Henderson combination, reasonable condition.—Long, 92, Fentiman Rd., Clapham, S.W.8. [6646

MOTOR CYCLES FOR SALE.

Indian.

1919 7-9h.p. Indian and 1920 bulbous back sidecar, almost new; any trial; £135.—Conner, 86, Victoria Rd., Stroud Green, N.4. [X4752

INDIAN T.T., clutch, Bosch, new Binks, discs, lamps; selling through unemployment; excellent condition; £45, offers.—Stoodley, Ludgershall, Wilts. [7049

1920 Indian Powerplus and sidecar, 3,000 miles, perfect condition; owner going abroad; £175, or near offer.—Elton Morris, The Gaer, Hereford. [7080

POWERPLUS Indian, 1916, K.S., 3-speed, S.F., Magdyno lighting, speedometer, Swan sidecar, tools; £110, or exchange.—92, Blyth Rd., Leyton. [6998

1914 7h.p. 2-speed Spring Frame Indian Coachbuilt Combination, mechanically sound, condition fair, tyres good; £65.—Netherlands, Redbourn, Herts. [X5270

7h.p. Indian, 2 speeds, spring frame, electric lighting, and coachbuilt sidecar; £85, or exchange for lower power and cash.—30, Talbot St., Burnley. [X4938

1920 7-9h.p. Powerplus Indian Combination, new last May, dynamo lighting, speedometer, 2 horns, perfect condition; price £145.—Potter, 135, Maple Rd., Surbiton. [7069

INDIAN 3½h.p. Twin, 1915, 3-speed, clutch, K.S., semi-T.T. bars, accessories, leg shields, good condition, very reliable; £50.—Anwell Cottage, Hoddesdon, Herts. [7034

INDIAN 1915 7-9h.p., clutch model, lamps, mechanical horn, Amac, paint rough, clutch requires attention; ride away; £50.—Sims, Colaba, Penrith Rd., Basingstoke. [6450

1916 Indian 5-6h.p., 3-speed, clutch and kick start, perfect condition, with Millford C.B. sidecar, lamps, etc.; £87; will separate.—Stratton, Wymington, Rushden, Northants. [X5241

1916 5h.p. Indian and Millford sidecar, 3 speeds, clutch, electric lighting, disc wheels, just overhauled, excellent condition; £110; what offers —Hopes, 90, Deansgate, Manchester. [X5217

£145.—1920 Powerplus Indian combination, Millford de Luxe, dynamo lighting, hood, screen, speedometer, etc. Now is the time to buy.—Langford's, 37, Cricklewood Broadway, N.W.2. [6941

1915-16 Indian 5-6h.p., 3 speeds, clutch and kick starter, all lamps, Bonniksen speedometer, tyres perfect; £85; exchanges.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [7242

1916 Indian 7-9h.p. Combination, 3-speed model, roomy sidecar with strong luggage carrier, fully equipped, excellent condition all round; offers invited.—119, Sutherland Av., London, W.9. [7202

INDIAN Combination, 1919, 7-9h.p., in splendid condition, hood and screen, nice sidecar, and all tools, with spare tubes; £170, or near offer.—A. Clarke, 251, Tooley St., London, S.E.1. (Near Tower Bridge.) [7192

INDIAN, 1920 (April) Powerplus Combination, excellent condition, Mills-Fulford sidecar, Easting wind screen, Klaxon horn, electric lighting and horn, luggage carrier; £200.—Lismore, 169, Hatfield Rd., St. Albans. [5695

1915 5-6h.p. Indian, 3-speed gear box, clutch and kick starter, acetylene lamps, fitted with handsome coachbuilt sidecar, a pleasure to drive and ride; cash price £97/10; trial run with pleasure.—The Felpham Motor Works, Ltd., Felpham, Sussex. T.A.: Service, Felpham. [6582

1920 Powerplus Indian (May), fitted clutch control on tank extra, H.B. mirror, bucket seat and saddle interchangeable, coach sidecar (Oct.), fitted scoop, 4 lockers, take 2 cans petrol, spare tyre, tube, lamp, bulbs, tools, condition excellent, mileage 2,000; seen Taunton district; trial given; £190, tax paid; or offers.—Box 1,447, c/o *The Motor Cycle*. [6518

Ivy.

IVY Cycles.—1921 models in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [1796

IVY 1916 2-stroke, engine, tyres, plating, and enamel all good; £35.—Fletcher, Grocer, Castle Rd., Bedford. [6858

IVY 1921 Models.—Sole District Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72 [5006

IVY 2-stroke, single speed, all accessories, good as new; £45 cash.—Write, Bryan, 2, Brackley Rd., Beckenham, Kent. [6794

IVY-PRECISION 1914 3½h.p., N.S.U., enclosed Bosch; £32; seen after 7.—Kennard, 65, Plimsoll Rd., Finsbury Park. [6668

IVY 1919 2¾h.p., 2-speed, T.T. bars, large P. and H lamps, disc wheels, Dunlop tyres, insured for £70; bargain, £55.—R. D. Varty, Thundersley, Essex. [3710

IVY, the aristocrat of its type; delivery of all models from stock; prices and catalogue post free.—Sole District Agents, The Walsall Garage, Walsall. Tel.: 444. [4011

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Henly and Co., London and District Agents, 91, Gt. Portland St., W 1. Mayfair 4084. [0022

2½h.p. Ivy 2-stroke, just overhauled and fitted with new piston, rings, and gudgeon pin, most reliable and economical; inspection invited; cash price £37/10. —The Felpham Motor Works, Ltd., Felpham, Sussex. T.A.: Service, Felpham. [6563

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MOTOR CYCLES FOR SALE.

James.

1920 James, 2¾h.p., 2-speed, done 50 miles, lamps complete; £63. — Chaston, Blackwood, Mon. (D) [7013

NEW 1920 5-6h.p. James Combination; £190.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0340

4¼h.p. James, 1918, 3-speed, good condition, £65; sidecar, £6; magneto, £3.—Horlock, Farncombe, Surrey. [6899

JAMES Combination, 1915, 3 speeds, countershaft, K. start, all accessories; £68.—202, Munster Rd., Fulham. [6683

1919 3½h.p. Twin James Countershaft Combination, enclosed chain drive, equipped, ideal outfit; £85. —5, Victoria Av., Surbiton. [6999

JAMES New Combination, all models for immediate delivery from stock.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4012

JAMES 5-6h.p. Combination, 1920, used only for trial runs, fully equipped; £170.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0423

1920 James, 2-stroke, 2-speed, mileage 300, equipped, cost £80; accept £60, condition brand new.—60, Wallingford Av., N. Kensington. [7066

JAMES 1920 4¼h.p. 3-speed Countershaft Combination, Lucas lamps and horn, splendid condition; £120.—27, Woodbridge Rd., Moseley, Birmingham. [X5243

1920 4¼h.p. James Combination, new July, only ridden few hundred miles, perfect condition throughout; £130.—P. J. Evans, 81-91 John Bright St., Birmingham. [0447

1919 5-6h.p. James Combination, 3,000 miles, exceptional condition, lamps, mudshield, spring saddle pillar, Cameo, luggage grid, many spares; nearest offer £130.—Draper, Martin, Lincoln. [6526

1920 (June) 5-6h.p. James Combination De Luxe, fitted with hood, screen, electric and acetylene lamps, Cowey horn and speedometer, mileage under 1,000, tax and insurance paid, any trial, a magnificent outfit, cost £220; accept £150.—E., Sun Hotel, Stevenage, Herts. [7141

1919 5h.p. Twin James, 28in. wheel model, and Grindlay de Luxe sidecar, hood, screen, luggage grid, etc., fully equipped; property of a client ordering 1921 model; bargain, £105 spot cash.—Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. 'Phone: 751. [6408

J.A.P.

J.A.P. 8h.p., 3-speed, countershaft, K.S., not done 250 miles, excellent condition; £85.—26, Ailsa Av., St. Margaret's, Twickenham. [7095

1914 J.A.P. 5h.p. Combination, C.S. 2-speed and clutch, Bosch mag., perfect running order; 65 gns., or offer.—W.S., 58, Tranmere Rd., Earlsfield, S.W.18. [6898

J.E.S.

J.E.S. 1921 Models from stock.—Gibb, Gloucester. 'Phone: 852. [0441

J.E.S., 1h.p., complete, 24in. new tyres; 18 gns; perfect.—Chandler, Shepherdswell. [6537

J.E.S. Motor Cyclette, new July, 1920, 1½h.p., spring forks, lamps, horn, all like new; £35.—Coupe, 9, Packer St., Bolton. [6584

Kerry.

£7 Purchases 3½h.p. Kerry, splendid puller, less mag.; gift.—Stocker, 49, Riverside, Kingston-on-Thames [X5121

BARGAIN.—Kerry motor bike, 3h.p., H.T. mag., B.B. carburetter, Whittle; £12/10.—Butler, Littleover Works, Derby. [X4608

Lea-Francis.

1920 Lea-Francis, brand new, delivered December; what offers?—47, Hamilton Rd., Reading. [6823

1920 Lea-Francis Twin Solo, £120, combination £135. Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [7220

LEA-FRANCIS 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Below.

LEA-FRANCIS, M.A.G., as makers' specifications; shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [6744

1920 3h.p. Lea-Francis, shop-soiled; cost £130, accept £90.—J. Smith, 52, Hampstead Rd., N.W.1. [7113

1920 Lea-Francis Combination, as new, mileage 200, £130, or near.—Knight, Maypole House, Bexley, Kent. [6964

LEA-FRANCIS 1920 3½h.p. Twin, run few miles only; £100.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6324

LEA-FRANCIS, 1921.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.1. [0094

MOTOR CYCLES FOR SALE.

Lea-Francis.

1920 3½h.p. Lea-Francis, 2-speed, kick start, hand and foot clutch, Lucas lamps and horn, absolutely new; a gift at £112.—Bambers', Eastbank St., Southport. Tel.: 607. [7160

LEA-FRANCIS 1917 3½h.p., 2 speeds, clutch, overhauled, fitted with brand new 1920 J.A.P. engine; £70.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X5170

LEA-FRANCIS 1920, shop-soiled only, list price £130; our price £115; orders now accepted for 1921 models.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0431

4h.p. 1920 Lea-Francis Combination, wind screen, 2 electric lighting (accumulator), extra acetylene head lamp, speedometer, Cowey horn; £120.—Stoodley, 3, Birkenhead Av., Kingston-on-Thames. [6510

LEA-FRANCIS, twin J.A.P., 2-speed, clutch, Bosch mag., complete accessories, lamps and spares, £14, stored all war, perfect condition; £80.—Holbrook, c/o McGrath's Garage, Gillingham, Kent. [7253

NEW Lea-Francis, two-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or deferred payments 4% extra; only one-fifth deposit, balance by 12 mothly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [6800

LEA-FRANCIS 1920, M.A.G. 3½h.p. twin, 2-speed, Watford speedometer, accumulator, electric lighting, Lucas horn, Amac, mileage under 2,500, excellent condition, numerous spares, including driving chain, exhaust valves, and Lodge plugs; £100, or near offer; seen at 4, Roslyn Hill Mews, N.W.3.—Box 1,483, c/o *Motor Cycle*. [6632

Levis

LEVIS. Levis. Levis.

GENTLEMAN'S Popular Model, £60; lady's Popular Model, £60; immediate delivery. Levis specialists and cycle distributors for London and district. Spare parts stocked, repairs undertaken.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., (off Oxford St.), Bond St., W.1. [0384

GIBB, Gloucester.—1921 Levis from stock.—'Phone: 852. [0442

LEVIS 2¼h.p., splendid running order; £40, or near offer.—Major Green, Christ's Hospital, Sussex. [6662

49.—Levis 1920, accessories, very reliable, requires no repairs; approval.—Collis, 199, Uxbridge, Northolt. [6901

1920 Levis, perfect condition, unpuncture tyres, accessories; 42 gns.—Fersfield, Westbury Rd., New Malden. [6991

LEVIS, brand new 1921 sports model, still wrapped, cost £60/10; will accept £52/10.—Wallis, 23, Hurlton Grove, Cambridge. [6476

LEVIS, the finest 2-stroke in the world; delivery from stock. £60.—Sole district agents, The Wolsingham Garage, Walsall. Tel.: 444. [4013

FOR Sale, 1920 Levis, mechanically perfect, in good condition; £45; seen by appointment.—Replies to 1,503, c/o *The Motor Cycle*. [6726

1919 (August) Popular Levis, fitted new tyre, belt, electric lighting, variable ignition, horn, fine condition; £48.—Brunsden, 53, Thornhill Rd., Croydon, W. [6534

4h.p. Levis Popular Model, brand new from works, £60, or on Harrods unique easy payment system extra.—Harrods, Ltd., 113, Brompton Rd., London [6807

1919 (Aug.) 2½h.p. Levis, Model E, 2-speed, all chain, tyres and mechanical condition perfect, very little mil, tax paid; £57.—Holbrook, 3, St. Mary's Buildings, Bath Rd., Bath. [6665

LEVIS 2¼h.p., 1916, fully equipped, replated, re-enamelled and overhauled, £38; sidecar body, new, unbuilt, spring upholstered, £5.—45, Pember Rd., Upton Green, N.W. [6599

1921 Levis Popular in stock for immediate delivery; £60; exchanges or easy payments.—Official Agents: Homac's, 243, Lower Clapton Rd., E. 'Phone: Dalston 2408. [7243

4h.p. Levis (Aug., 1914), stored during war, in splendid condition, good climber, lamps, generator, footboards, toolbag, nearly new tyres; £36.—King, 27, Grosvenor St., Ormsgill, Barrow-in-Furness. [6505

LEVIS. Exceptional opportunity.—Two only, shop-soiled, 2¼h.p. Levis motor cycles, used for one only, otherwise new; £55 each, carriage paid; first one secures.—Butterfields, Ltd., Levis Works, Stechford, Birmingham. [X5161

L.M.C.

1915 4h.p. L.M.C., 2-speed, kick start, topping order, owner Ireland; approval.—15, The Mansions, Cheyne Lane, N.W.6. [6944

L.M.C.—Mebes and Mebes are the sole London and Home Counties agents; early delivery of all 1921 models; trade enquiries esteemed.—Below.

L.M.C., suspension and ordinary models, shop-soiled, as makers' specifications, at greatly reduced prices; 6h.p. and 4½h.p. combinations, second-hand; at min prices.—154-156, Gt. Portland St., W.1. 'Phone: 5 Mayfair. [6745

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1921 Levis £60

1921 Matchless and Sidecar £205

1921 Enfield 2-stroke £65

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Martin.

MARTIN-J.A.P. 5h.p. Twin, Grade gear, Bosch, Klaxon, lamps, and tool boxes, good condition; bargain, £35.—42, Cowley Rd., Brixton. [7051

Martinsyde.

MARTINSYDE-NEWMAN 1921 Models.—We are now accepting orders for early delivery, all models; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [6746

Matchless.

MATCHLESS.

1921 Models now ready; all the latest improvements. You can have one now, or book delivery for any forward date. Every combination personally tested by the Matchless specialist. Spares of all dates in stock.—J. Tassell, 1a, Bloomfield Rd., Plumstead. [6881

GIBB, Gloucester, can deliver 1921 Matchless models from stock.—'Phone: 852. [0443

MATCHLESS Combination, C.B.; £60.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [6461

LATE 1920 Matchless Spring Frame Combination, 300 miles only; £185.—136, Lambeth Walk, S.E. [6655

RED Competition Matchless, 8h.p., o.h.v., 6-speed Gradua; sell or exchange.—3, Atherton St., Liverpool. [6542

MATCHLESS 8h.p., dynamo lighting and spare wheel, perfect; £140, or near offer.—46, Bamber St., Peterborough. [6670

MATCHLESS 1920, M.A.G., dynamo lighting, hood, leg shields, horn, ride away; offers.—Bland, Pyle Hill, Newbury. [6654

1921 Matchless Standard, lamps, horn, spare wheel, screen, mileage 100, 2 weeks old; £182.—Below.

1920 Matchless, Magdyno, speedometer, hood, spare wheel, screen, brand new, £195, list price £241; another, without hood and speedometer, £184.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. Tel.: Kensington 3709. [6353

MATCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0424

MATCHLESS Combination, delivered new 1920, been used, but as new, complete with speedometer; £185.—Pitt, Amesbury. [5868

MATCHLESS 1921 Models from Stock; also 1918 8h.p. combination, lamps complete, etc., £120.—Chaston, Blackwood, Mon. (D) [7014

MATCHLESS Combination, brand new unused M.A.G. engine; cost £205, accept £175.—J. Smith, 52, Hampstead Rd., N.W.1. [7114

1914 Matchless, M.A.G. engine, Blackburne tandem sidecar, lamps, horn, spares, fine order; £100.—91, Trentham St., London, S.W.18. [6774

MATCHLESS 1920 Magdyno Combination, new, £188; 1921 combinations in stock; exchanges arranged.—Clark, 7, Exhibition Rd., S.W.7. [7170

MATCHLESS Combination, 1915, M.A.G. 8h.p., 3-speed, splendid condition, any trial; £85 quick sale.—26, Grosvenor Park Rd., Walthamstow, E.17. [6434

MATCHLESS Combinations, any model; delivery from stock; deferred payments 5%, including expert service.—Prior, Motor Engineer, near Station, Southfields, S.W.18. [6125

MATCHLESS 8h.p. 1920-21 Combination, dynamo lighting, only driven 60 miles; cost £245, accept £220.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0417

MATCHLESS Combination, 1918, W.D. model, with spare wheel and tyre and all accessories, good condition; £130.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6303

MATCHLESS Combination, 8h.p. 1915 M.A.G., 3-speed countershaft, 2-seater sidecar, lamps, and accessories, good condition; 95 gns.; seen after 5.—198, Westmount Rd., Eltham. [6424

MATCHLESS 8h.p. Combination, 1920, dynamo lighting, practically as new, guaranteed perfect; £185, genuine bargain.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0418

1920 (June) Matchless Combination, M.A.G., Lucas Magdyno, insurance policy, exhaust whistle, 6 new covers extra, trial, examination, sound, everything possible on; £215.—Trevista, The Grove, Coulsdon, Surrey. [6982

MATCHLESS 1914 Combination, chain drive, clutch, K.S., Millford, Easting, electric lighting, luggage carrier, 700×80 tyres, new, specially tuned, guaranteed perfect; £90.—104a, Finchley Rd., N.W.3 Hamp. 7822. [7180

MATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [5668

MATCHLESS Model H Combination, to makers' specification, £205; dynamo lighting model, £231/7/6, or on Harrods unique easy payment system for a small extra charge.—Harrods, Ltd., 118, Brompton Rd. London. [6814

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1921 Matchless Combination, M.A.G. engine, dynamo lighting, speedometer, hood, Avon combination and ribbed tyres; this outfit obtained a gold medal in the London to Exeter Trial, and cost complete over £240; will accept 195 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [6576

G-8h.p. Matchless, o.h.v., racing model, just had £28 overhaul by E. C. Baragwanath, new Thomson-Bennet magneto, good tyres and appearance, Amac carburetter; £55, or offers, or will exchange for other sporting machine; can be seen Wauchope's 9, Shoe Lane, London.—Vintcent, The Lons, Bitton, Bristol.. [6570

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock; for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10 and at Woodside Parade, North Finchley. [0381

MATCHLESS 1921 Models.—Immediate delivery or date to suit clients. Buy a new model now and ride in comfort during 1921. If your funds will not run to a new machine, we have for disposal several 1920 competition gold medal winner models, late property of well-known riders; secure one of these.—Note address of Matchless Specialists: S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [6406

Monarch.

MONARCH-VILLIERS 1920 2¾h.p., 2 speeds, fully equipped; £45.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X5177

MONARCH-VILLIERS, 1920 (June), 2-stroke, Albion 2-speed, fully equipped, mileage 900; nearest £65.—Ellis, Clifton Terrace, Wakefield. [7048

1920 Monarch 2¾h.p., 2-speed, 2-stroke Villiers, Albion, Amac variable jet, horn, lamps, tools, etc., including insurance for £90 against fire, theft, etc., with unlimited third party claims; sacrifice £60.—F. W. Fairbank, Summerford, Willenhall, Staffordshire. [X5159

Metro.

1920 Metro-Tyler, S. Model, 2½h.p., 2-speed, not run 100 miles, perfect condition; offers.—Brearley, East View, Elland, Yorks. [6507

METRO-TYLER, 1920 model, Type S, 2-speed, unused, shop-soiled only list price £96; accept £70.—P. J. Evans, 81-91, John Bright St., Birmingham. [0456

METRO-TYLER 2½h.p., 2-speed, demonstration model, special engine, not done more than 60 miles; to clear £60.—Bambers', Eastbank St., Southport. Tel.: 607. [7158

New Hudson.

NEW HUDSON 3½-4h.p., perfect condition; trial given willingly; £50.—Parkside, Ruabon. [6625

3½h.p. 1913 New Hudson, fair condition, wants little attention to gear, engine good; £35.—Worsley, 25, St. Cuthbert's, Bedford. [6699

1920 New Hudson 2½h.p., brand new; £63.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. 'Phone: Kensington 3709. [6357

NEW HUDSON 3½h.p. Combination, 3-speed, clutch, excellent running order; £65, or near offer.—Major Green, Christ's Hospital, Sussex. [6661

NEW Hudson Combination, 4h.p., 1919, accessories, little used; a bargain, £95.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0412

New Imperial.

NEW IMPERIAL 1920 8h.p. Combination, unused, shop-soiled only; bargain, £160.—P. J. Evans, 81-91, John Bright St., Birmingham. [0450

NEW IMPERIAL 1916 2¾h.p., 2-speed, semi T.T bars, complete with lamps and horn; bargain £38.—R. D. Varty, Thundersley, Essex. [3712

NEW IMPERIAL, 2¾h.p. J.A.P., clutch, and kick-starter, 1920; £65.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0413

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed model, brand new, shop-soiled only; bargain, £70.—P. J. Evans, 81-91, John Bright St., Birmingham. [0449

NEW IMPERIAL 1919 8h.p., Sunbeam sidecar, fully equipped, Easting, perfect; £145.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X5173

1920 New Imperial, 2¾h.p. J.A.P., 2-speed, clutch, kick starter, mileage 200, all lamps, as new; £60.—Dunn, 326, Euston Rd., London. Museum 5391. [7172

NEW IMPERIAL 2¾h.p., 1920, 2-speed, done under 400 miles, perfect condition, lighting set, accessories; £65.—Bishop, 35, Princes Rd., Wimbledon, S.W.19. [6682

NEW IMPERIAL-J.A.P., 1921 model, 2¾h.p., 2-speed, kick starter, hand clutch, brand new, unused; immediate delivery; 85 gns.—Central Garage, Henley-on-Thames. [1074

1921 New Imperials.—All models in stock for immediate delivery.—Exchanges or easy payments from the Official Agents: Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [7244

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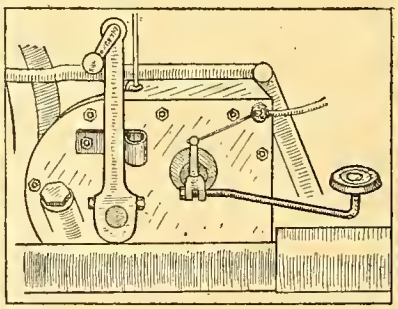
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NEW IMPERIAL J.A.P., 2-speed, just overhauled by makers, in perfect condition throughout, lamps, horn, tools, spares, etc., tyres good; trial by appointment; best offer over 50 gns., bargain.—Flatt, 41, Evesly Rd., Bexhill-on-Sea. [6903

1918 8h.p. New Imperial Combination, head lamp set, sidecar lamp, rear lamp, large Lucas horn, all tools, just rebushed, 3 brand new Dunlops, outfit guaranteed perfect; £110 cash; a bargain.—Wallis, Hartington Grove, Cambridge. [6473

NEW IMPERIAL Motor Cycles and Combinations supplied at manufacturers' list prices for cash, or on Harrods unique easy payments system for a small extra charge; full particulars on application.—Harrods, Ltd., 118, Brompton Rd., London. [6809

New Ryder.

£27/10; New Ryder, Villiers 2-stroke engine, lamps, accessories, mechanically sound, trial.—143, Ravensbury Rd., Earlsfield, S.W. [6949

New Scale.

NEW SCALE Motor Cycle; original price £85, sacrifice £65; unused.—64, Bishopsgate, London. [0393

Norton.

GIBB, Gloucester, can deliver 1921 Nortons from stock.—'Phone: 852. [0444

NORTON, brand new, 1921 models, for immediate delivery; from £98.—Moss, Wem. [X5227

NORTON, 1921, 3½h.p., 3-speed, T.T., from stock; £132.—Chaston, Blackwood, Mon. [7015

NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [6126

TWO Brand New Big Four Nortons in stock for immediate delivery.—Taylor, Cycle Agent, Kettering. [7052

NORTON Motor Cycles.—Place that order with me early delivery dates.—Cook's Garage, Shifnal, Salop. [8136

NORTON 1921 Models.—Sole District Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5005

1918 Norton 3½h.p., B.R.S., T.T., discs, 2-speed clutch, accessories; £80, or near offer.—56, Old Market St., Bristol. [7107

1921 Norton T.T. 3½h.p., 3 speeds, C. drive, K. start brand new, unused; £132, or exchange 1920 sol or combination.—Shaw, Durkar, Wakefield. [6923

T.T. Norton, 1919, Model No. 9, with tools, lamp horn, not ridden for 9 months, owner cannot use faultless condition; 60 gns. only.—Keen, Leominster. [7027

NORTON 1920 3½h.p., 3-speed sports, in good condition and exceptionally fast, small mileage 105 gns.—Julian, 84, Broad St., Reading. 'Phone 1024. [6711

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3½h.p. N.S.U. Motor Cycle, perfect mechanical condition.—C. Harman, Harrietsham, Kent. [6485

£18; 3½h.p. N.S.U., free engine, mag., good condition.—Asworth, 11, Berridge Av., Nottingham. [7251

N.U.T.

N.U.T., latest type, Lucas Magdyno lighting, brand new; £150.—Pollard, Broomfield Rd., Chelmsford. [X5116

N.U.T. 1920, Magdyno, horn, discs, 500 miles; exceptional bargain at £128.—9, Kipling Av., Rosherville Ferry. [6611

1920 N.U.T., perfect in every respect, tax paid, months' insurance; £137.—Beech Lea, Springfield Rd., Altrincham. [7011

N.U.T.—Delivery from stock of all models. Sole wholesale and retail agents for Staffordshire; trade supplied.—The Walsall Garage, Walsall. Tel. 444. [4011

1920 N.U.T., dynamo lighting, speedometer, Klaxon in perfect condition throughout, engine new, running better, 55 m.p.h., £130; also A.J.S. wheel and tyre, unused; £9/10.—Hope, R.A.F., Gosport, Hants. [6911

O.K.

O.K.-UNION 2¾h.p., 2-stroke, 1920, splendid condition; best offer over £28.—Box 1,504, c/o *Motor Cycle.* [6711

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall, Andover. [0311

1919 2¾h.p. Omega, 2 speeds, kick starter, accessories, good condition; £65.—E. Brown, Talbot St., Burnley. [X4311

2¾h.p. Omega-Jap, May, 1920, lamps, horn, tool grips, spares, mechanically sound; £62, near offer.—Haigh, Electricity Works, Bootle. [6011

OMEGA 1919 2¾h.p. J.A.P., 2-speed, countershaft, excellent condition, accessories; trial; £55.—Lodge, London Rd., Lower Mitcham, Surrey. [6211

1920 Omega Combination, Coronet sidecar, 2¾ J.A.P. engine, 2-speed, clutch, K.S., Dunlop tyres, pump, tools, lamps, horn, apron, perfect condition, half weight tax; £100, or would separate.—Day, Ding Market Harborough. [X5

MOTOR CYCLES FOR SALE.

Omega.

OMEGA, late 1920, countershaft and K.S., special 2-gallon tank, straight through exhaust, Binks, Flexekas, fully equipped, perfect condition, fast, small mileage; best reasonable offer.—May, Stafford Rd., Busbbury, Wolverhampton. [7271

P. and M.

P. and M. 1918 C.B. Combination, lamps, tools; £55. —12, Throle Rd., Streatham, S.W. [7060

P. and M., 1918, coachbuilt sidecar, any trial; £75.— —6, Ridge Rd., Child's Hill, N.W. [7197

P. and M., 1917, splendid condition, trial; £63.— Wallace's Garage, Eaville St., Stourbridge. [6883

P. and M., 1918, 7507, R.A.F. model, 2 speeds, K.S., spares; £72 cash.—Birch, Holmecot, Taplow. [6508

NEW 1921 P. and M. in Stock, Model 021, immediate delivery; price £125.—Bates, 4, Pasture St., Grimsby. [6953

P. and M. Combination, screen, good order, lamps, Binks, tyres good; £55.—Hargreaves, 63, Savile Park St., Halifax. [6919

1917 P. and M. and 4-point attachment sidecar, in perfect order; £80.—5, Stroud Green Rd., Finsbury Park, London. [7291

P. and M. Combination, 1919 R.A.F. model, 3½h.p., in good condition; £106, or nearest offer.—D. Holden, Crandels, Walsall. [6589

1916 P. and M., 30 gns. sidecar, electric horn, lights, hood, luggage carrier, £5 spares; £65.—53, St. James Rd., Bermondsey. [7206

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 3½h.p. P. and M. 1917 model, £57/10; 1920 model, £95; and o 1919 model, £85. [7255

P. and M., R.A.F. Model, new May, 1920, solo gears, lamps, pump, tool kit; selling owing to ax; £95.—V. Lyle, 91, King St., Maidstone. [X5126

P. and M. Combination, 1918, R.A.F., only 500 miles since reconstructed, new sidecar, lamps; £105.—Field, Fenham Villa, Bank St., Malvern. [6912

£85.—1919 P. and M. combination, guaranteed perfect throughout, necessories. Now is the time to uy.—Langford's, 37, Cricklewood Broadway, N.W.2. [6942

1919 P. and M., not ridden till 1920, mileage 2,600, Millford Skiff sidecar, all accessories, excellent ondition, appearance perfect; £120.—Miller, Hatton, Warwick. [X5209

P. and M., 1918, mechanism perfect, enamel and plating unscratched, very little used, must sell; £60, or offer.—Rocclawn, Station Rd., New Barnet. Phone: 231. [6985

P. and M., all-chain, countershaft, 2-speed, drip lubrication, Senspray carburetter, Bosch mag., new Dunlops, good order; £32.—74, Clifton Rd., Canning Town, E.16. [6838

P. and M. Combination, Dunhill sidecar and storm apron, lamps, etc., fully equipped; £100, great bargain. — Mebes, 154-156, Gt. Portland St., W.1. Phone: 3426 Mayfair. [6747

PHELON and Moore ex-W.D. Models, thoroughly overhauled and guaranteed, tanks re-enamelled, front brakes, chain cases; £78. Similar models overhauled and guaranteed by makers, £95; with sidecars, £100 and £110; easy payments 7½% extra.—Mandes, 100, Gt. Portland St., W.1; and Paris St., Exeter. [7286

Paragon.

1920 3h.p. Paragon; £50. — 59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [6464

PARAGON 3h.p., brand new, 2-seater, 2-speed, spring frame; £55, or near offer.—Osment, 79, The Crescent, N.15. [6565

Peugeot.

PEUGEOT 4h.p. Twin, drop back stand, Bosch, B. and B., just spent £15 on enamel, plate, and engine overhaul, nice condition; £28.—18, Key Hill, Birmingham. [X5254

PEUGEOT 5-6h.p. Combination, coachbuilt, 3 speeds, clutch, Sturmey-Archer hub gear, perfect running order; £60, or exchange runabout.—Tonier, Blundellands, Liverpool. [7075

Precision.

PRECISION Coachbuilt Combination, 4h.p., mag., good tyres, must sell; 32 gns.—1, Ebner St., Wandsworth. [6946

Premier.

1h.p. T.T. Premier, clutch, good running order; £25. 2 —Warwick, Hinckley Rd., Leicester. [6442

PREMIER 2¾h.p., lamps, new tyres, good condition; £35, or offer.—32, St. James's Rd., Bermondsey. [6690

PREMIER 3½h.p. Twin, single gear, B. and B., M.S. Lycetts saddle, tyres and belt good, requires toning; ex 1,509, c/o *The Motor Cycle*. [7123

PREMIER 3½h.p., 1914, 3-speed gear, lamps, very good condition; any trial; owner going abroad; £9.—Apply, Boobyer, Gable Villa, Heather, Leicester. [6454

£50 Combination.—Premier, 3½h.p., 2 speeds, nice sidecar, good accessories; just come and talk over; bound to please you.—Bunting Motors, Wealdstone. Closed Sundays. [6503

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ROVER Combination, 1913, 3-speed, lamps, etc., splendid condition; £50; exchange considered.—78, Edgell Rd., Staines, Middlesex. [6614

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5-6h.p. Rover Combination, new Feb., 1920, all-chain enclosed drive, Easting wind screen, accumulator electric lighting, Klaxon, Watford speedometer, mirror; £125.—Fasken, Spreadeagle Hotel, Midhurst, Sussex. (D) [5064

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RUDGE Multi 1915 3½h.p. Clutch Model, T.T. bars, lamps, horn, speedometer; £48.—R. D. Varty Thundersley, Essex. [371

RUDGE Multi, 5-6h.p., May, 1920, mileage 2,200, condition excellent; £105, or nearest offer.—Chas. Hawkins, Cirencester. [X5120

RUDGE I.O.M., 1920, K.R. lamps, tools; exchange combination, or sell £90; no rubbish.—Cooksey, 56, Latchmere Rd., Battersea. [6971

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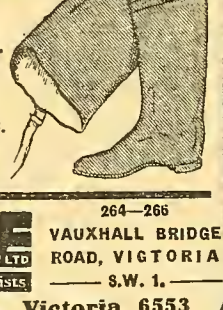
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SCOTT, 1920, and sidecar, mileage 200, as new, fully equipped; £140.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5520

SCOTT, new April, 1920, small mileage, lamps, horn, speedometer, good condition, tyres unpunctured £110.—13, Clifton Cres., Folkestone. [6710

SCOTT, 1920 sports model, horn, tools, very small mileage, enamel as new, plating fair, perfect order £110.—D. Lavin, Old House, Sonning, Berks. [5090

SCOTT Combination, 1920, little used, as new; £150 or near offer; bargain.—Chatfield, Grosvenor Gardens Mews East, Victoria. 'Phone: Victoria 9931. [6790

1914 Scott, new sidecar, hood, screen, electric lamps, Stewart horn, new tyres, perfect order £78, or separate.—Hurlock, Jeweller, Mill Hill, N.W. [6924

SCOTT Combination, Aug., 1920, mileage 450, electric light, screen, speedometer, etc., as new; £150 buying car.—7, Grosvenor Hill, Wimbledon. Tel. Wimbledon 2114. [6864

SCOTT Coachbuilt Combination, like new throughout, mechanism, tyres, enamel and lighting perfect, deliver anywhere free; bargain, £100.—Mason, 43, Glenthorn Rd., Jesmond, Newcastle-on-Tyne. [6884

1920 Scotts Sports Model, thorough order, just overhauled, mileage under 2,500, F.R.S. electric lighting set, Cowey horn and speedometer; £115.—Private Owner, c/o Upson Bros., Engineers, Ascot. [7270

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SUNBEAM Combination, 8h.p., Lucas Magdyno lighting set and horn, hood with side curtains, wind screen, luggage carrier, leg shields, handle-bar muffs, etc., mileage 500, condition absolutely as new; cost £285; £240.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6302

LATE 1920 Sunbeam, 3½h.p. sporting model, not done 500 miles, Bonniksen speedometer, Lucas lamps, Cowey horn, knee-grips, legshields, complete tool kit (never been used), just been tuned by makers, condition better than new, cost over £170; accept £160. See Exchange column.—Garland, Eastmoor, Harpenden. [6843

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TRIUMPH 1913, N.S.U. 2-speed; offers.—Grant, London Rd., St. Albans. [6859

1912 Triumph; £30; single speed, lamps, tools.—6, Queen's Rd., Peckham. [6768

NEW 1921 Triumph S.D. Combination; £195; in stock.—Randall, Andover. [0364

1917 4h.p. Triumph, countershaft gears; bargain, £55.—200, High St., Tooting. [6955

TRIUMPH, all models from stock; also 1919 Model H., £80.—Chaston, Blackwood, Mon. (D) [7016

1918 Triumph, renovated, re-enamelled 1920 colours; sacrifice £60.—1, Othello St., Liverpool. [3865

TRIUMPH, 1919 (Sept.), like new, with brand new sidecar; £115.—24, Kingsway, Coventry. [X5273

TRIUMPH Junior, brand new, perfect; what offers? —Wallis, Keddington Rd., Louth, Lincs. [X5206

1913 Triumph, recently overhauled; £50, or nearest. —Spencer, 125, Barnsley Rd., Hemsworth. [6455

1917 4h.p. Countershaft Triumph; expert examination; £75.—Fred Harris, Eynsham, Oxon. [6449

1913 3½h.p. Triumph, 3-speed hub; £37, no offers. —Job, 408, Merton Rd., Southfields, S.W. [6720

TRIUMPH C.B. Combination; £50; equipped.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [6465

3½h.p. Triumph, clutch model, sound condition; £85. —Bolton, Whipley Farm, Normandy, Guildford. [6864

BABY Triumph, excellent condition, lamps, horn, any trial; £48.—Tallis, Middleton, King's Lynn. [6573

TRIUMPH Combination, machine perfect; £60; giving up riding.—24, Clovelly Rd., Hornsey. [6428

1911 Clutch Triumph, fully equipped throughout; £37/10.—59, Stafford Rd., Oakengates, Salop. [6498

1913 Triumph Clutch Model, including sidecar, coach-built; £45.—Winchope's, 9, Shoe Lane, London. [7263

TRIUMPH, 4h.p., countershaft, 1920, brand new; £120.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5531

TRIUMPH 4h.p. T.T. Model, decompressor, nearly new, guaranteed perfect, 30/- tax; 85 gns.—Moss, Wem. [X5225

3½h.p. Triumph Combination, F.E., clutch, excellent condition; £60.—62, Robinson Rd., Tooting, S.W.17. [6674

TRIUMPH 3½h.p., clutch, lamps, tools, Klaxon, perfect running; £30.—145, Leander Rd., Brixton Hill, S.W. [6784

EIGHT Triumphs, C.S., 3-speed, 1917 and 1918 models; £50 each.—Muidment, 6, Barrack Rd., Hounslow. [6594

TRIUMPH 3½h.p., overhauled, magoificent tune, tyres perfect, lamps; £28.—Morgan, Winston, Stowmarket. [6705

1921 Triumph Model H, unregistered; accept £115; sidecar if required.—J. Smith, 52, Hampstead Rd., N.W.1. [7117

TRIUMPHS.—A fine selection of Triumphs in stock, fully guaranteed; inspection invited.—Rees, 86, High Rd., Lee. [5671

£35; 1914 Triumph, 4h.p., T.T., clutch, all accessories, goes splendid.—143, Ravensbury Rd., Earlsfield, S.W. [6947

1920 Triumph, countershaft, small mileage, first-class condition throughout; £107.—Gordon, Acres, Bradfield, Bucks. [6951

TRIUMPH 3½h.p., 1912, free engine, splendid running order; £34.—Pope, 161, Thornhill Rd., Tolworth, Surbiton. [6545

TRIUMPH, 1921, Model H, guaranteed only done 170 miles and good as new; licence paid; £120. —Tippen, Marden, Kent. [6984

TRIUMPH 1916 4h.p., countershaft, absolutely as new, £75; with large new sidecar, £100.—Virgo, 156, High St., Hounslow. [6761

TRIUMPH Combination, Model H, brand new, shop-soiled; accept £160; list price £182.—Jackson's Garage, Stalham, Norfolk. [6500

TRIUMPH, 1919, 4h.p., countershaft, condition as new, tools, and Lucas horn; £95.—Ross Engineering Co., Ltd., Herelordshire. [6975

1921 4h.p. Trinmph, countershaft model, in stock for immediate delivery.—J. Smith and Co., 52,54, Hampstead Rd., N.W.1. [0354

TRIUMPH 3½h.p., new engine fitted, completely overhauled; £42, or nearest offer; bargain.—Haskell, Henstridge, Somerset. [6432

TRIUMPH, all models in stock, W.D., fully guaranteed by makers; £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0436

TRIUMPH, low frame, late type tank, Bosch, B.B., lamps, etc., good condition; any trial; £28.—56, Blandford Rd., Beckenham, Kent. [6730

MOTOR CYCLES FOR SALE.

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TRIUMPH 4h.p. 3-speed Countershaft Model, brand new, as just received from makers; £98.—Wallis, 23, Hartington Grove, Cambridge. [6474

1921 Triumph, all chain, Grindlay £48 aluminium spring wheel sidecar, lamps, horn, leg shields, unscratched; £150, cost £194.—Below.

1920 Triumph, all chain, mileage 50; £118.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [7174

TRIUMPH 1920 4h.p. T.T. Model, Philipson pulley, long exhaust, as new; £90.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X5175

LATE 1920 Triumph, Model H, sporting combination, discs, horn, perfect, any trial; £135, or near offer.—Shufflebotham, Brooklands, Leek. [6911

TRIUMPH C.S., renovated by makers, Nov. 1920, done 500 miles since, lamps, horn, speedometer, perfect; £85.—Dunn, 326, Euston Rd., N.W.1. [6375

TRIUMPH 1919 4h.p., countershaft, fully equipped, and spares, perfect condition; £98.—J. F. Chambers, Fearfield House, Stapleford, Nottingham. [X5215

TRIUMPH, 1920, Smith's trip, F.R.S. lamps, spare valve, Klaxon, excellent condition, mileage 4,300; £105, or close offer.—81, Manor Lane, Lee, S.E. [6627

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, mileage about 500; £68.—D. Lavin, Old House, Sonning, Berks. [5091

BABY Triumph, 1917, in lovely order throughout; £48/10 only, with lamps, horn, tools, etc.; first cheque or caller gets it.—James Pollard, Wragby, Lincs. [X5216

TRIUMPH 1919, Dunhill C.B. S.C., triangular chassis, Tan-Sad, speedometer, acetylene and electric lighting, Klaxon, tools, spares.—61, Argyle Rd., Ilford. [7203

TRIUMPH, a.o.i.v., 3½h.p., fixed engine, B.B., Splitdorf, dropped frame, spring forks; £15, offers, or sell separate.—101, Eglinton Hill, Plumstead, S.E. [7036

1920 Triumph Combination, mileage 400, electric and acetylene lighting, luxurious outfit, exceptional engine; £130.—60, Wallingford Av., N. Kensington. [7068

1919 Triumph Combination, latest gear change, Lucas lamps, horn, tools, Tan-Sad, etc.; any trial; reason for selling; 110 gns.—Fox, 20, Inkerman Rd., Kentish Town. [6902

£25.—Triumph, 2-speed N.S.U. gear, new heavy Dunlops, all accessories, late model, condition and appearance practically as new.—Bacon, Offington Lane, Worthing. [7033

TRIUMPH Combination, late 1916, renovated, overhauled, splendid condition, large specially built sidecar; £85; will separate.—Andrews, 10, Martin Rd., Slough. [6957

TRIUMPH 1914 4h.p., J.S. 3-speed, clutch, unused during war, 1920 condition throughout, £58; also practically new 1920 sidecar if required.—63, Norrey's Av., Oxford. [X5234

1920 Triumph and Coachbuilt Sidecar, Sturmey-Archer 3-speed gear, kick start, horn, lamps; £125, sacrifice.—Williamson, St. Martin's, Prestwood, Gt. Missenden. [6788

TRIUMPH 1914 Combination, S.A. 3 speeds, overhauled, new tyres, lamps; bargain, £65; ride away; stamp, particulars.—King, 62, Brinkburn St., Newcastle-on-Tyne. [6692

TRIUMPH 1920 4h.p., Triumph sidecar, Lucas lamps, speedometer, hood, wind screen, equal to new; £170.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X5169

4h.p. Triumph 1914 Combination, Sturmey 3-speed, clutch, Millford sidecar, Lucas lamps and horn, spares, etc.; £60, or offer, or will separate.—Jewell, 64, Carter St., Walworth, S.E.17. [7188

TRIUMPH 1921 Models in Stock, for immediate delivery, exchange arranged; also Triumph, Model H, renovated by makers, as new; £105.—Eagles and Co., 275, High St., Acton, London. [X5232

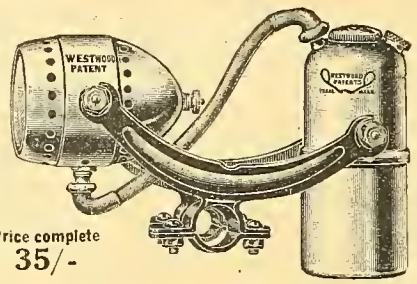
3½h.p. Triumph, 2-speed, chain and belt drive, hand controlled clutch, just overhauled by makers at cost of £10: accept £35, or nearest offer.—Richards, Orgreave, near Handsworth, Sheffield. [X5214

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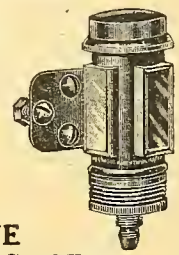
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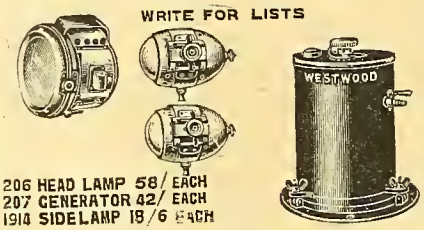
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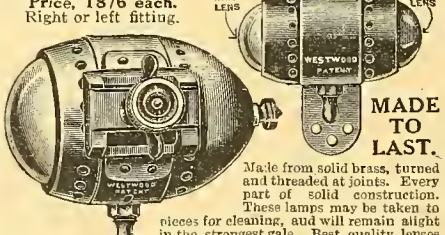
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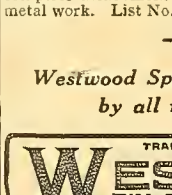
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1920 4h.p. Triumph Montgomery Combination, complete with wind screen, 3 lamps, horn, Watford speedometer, Binks carburetter, watch, lugage grid, not done 3,500, condition as new; £155, or nearest Cheshire district.—Box 1,443, c/o *The Motor Cycle*. [6515

TRIUMPH Nearly New Combination, show model Henderson Elite sidecar, Easting screen, Bonnikisen speedometer, mirror, leg-shields, Lucas lamps, unscratched; £150; tax paid; any trial; seen any time; guaranteed.—14, South Terrace, Bosham, Sussex. [7050

TRIUMPH 1921 4h.p., countershaft model, £127/10 4h.p., Type W.D.B., £105; 4h.p., all-chain drive £140; 4h.p., fixed engine, sporting, £105.—Cambridge agents for Triumphs, Herbert Robinson, Ltd., 32-35 Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [7232

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4h.p. 1921 Triumph solo, delivery from stock £127/10; also new 1921 4h.p. Triumph combination all-chain drive, £195; new 4h.p. 1921 Triumph solo all-chain, £140; and 4h.p. W.D. Triumph solo, £105; also 1920 4h.p. Triumph combination, £150; 4h.p. Triumph, 1915, £65; and 4h.p. Triumph, 1914, £55. Easy terms or exchanges arranged. [7259

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1919 2-speed Velocette, chain drive, perfect; £46.—1 Othello St., Liverpool. [6768

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VERUS 2-stroke, 1920, ridden few miles; £48.—Virgo 156, High St., Hounslow. [6764

VERUS 1920 2¾h.p., 2-speed, K.S., fully equipped £60.—Ratcliffe Bros., 200, Gt. Portland St., W Mayfair 5042. [0428

1920 Verus-Blackburne, 4h.p., 3-speed Sturmey Archer, done 500 miles; £85.—Chaston, Blackwood, Mon. (D) [7017

£35 down and 8 monthly payments of £7/10 secures a brand new shop-soiled 1920 Verus-Blackburne 2-speed 2¾h.p.—Maudes' (below).

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Wilkin.

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [6751

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WILLIAMSON Combination, 8h.p., splendid condition; best offer.—West, 72, Dynevor Rd., Stoke Newington, N.16. [6693

1914 8h.p. Williamson Coachbuilt Combination water-cooled, 2 speeds, clutch, kick start, fully equipped, very nice condition; snip, £73; tax paid for 1921.—436, Whitehorse Rd., Thornton Heath. [7099

Wolf.

WOLF 2½h.p., 1915, 2-speed, fine condition, fast little machine; £40; accept half down.—Bunting's Motor Exchange, Wealdstone. [7156

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ZENITH 4h.p., re-enamelled, plated; £55, bargain.—White, 48, Alexandra Rd., Newport, Mon. [6607

ZENITH 4-5h.p. Twin, countershaft, late 1919, guaranteed perfect; £89 cash.—5, Norwich Rd., Ipswich. [7037

ZENITH 5h.p. Sports, 1920, as new, mileage 200, £105.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5528

ZENITH 1920 Sports Model, 8h.p.; £98.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6327

ZENITH 6h.p. Sports Model, 1920, shop-soiled, unused; bargain, £118.—P. J. Evans, 81-91, John Bright St., Birmingham. [0455

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8h.p. 1920 Zenith Combination, electric lighting, tools, horn, etc.; £140 for quick sale; first deposit secures; sacrifice.—173, King's Rd., Kingston. [6604

1920 8h.p. Countershaft Zenith, Swan sporting sidecar, under 200 miles; cost £230, accepts £175.—J. Smith, 52, Hampstead Rd., N.W.1. [7115

1913 Zenith-Gradua C.B. Combination, handle starter, just overhauled, rebushed, new belt, accessories; £85.—Quenby, Middle Rd., Lymington, Hants. [6436

6h.p. 1916 Zenith-Gradua, overhauled, good condition, Bonniksen, spare belt, lamps, Cox Atmos; £70; meet half way for trial.—Worsley, 25, St. Cuthbert's, Bedford. [6698

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New Army Knapsacks, 13½ × 11in. .. 5 6
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26 × 2½ × 2½ Palmer Sidecar Covers.. £1 15 0
Dixie Mag. for Douglas, second-hand £2 15 0
Perfection Coachbuilt Sidecar Bodies £6 15 0
Carriage extra.

MOTOR CYCLES FOR SALE.

Zenith.

NEW 8h.p. Zenith Model H Combination; £204, or on deferred payments: one fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [6805

1920 Zenith 8h.p. Combination, countershaft, new August, speedometer, Easting screen, electric lighting, Cowey horn, accessories, splendid condition; owner buying car; any trial; £180, no offers, no dealers.—K. Bradbury, Rosemorran, Kent Gardens, Ealing. [6688

ZENITH-GRADUA Combination, 6h.p. J.A.P., Sports model; de luxe sidecar, bulbous back (new last Aug.), fitted Easting, new Dunlops, new belt Coventry Ideal pillion seat, lamps, etc., fine condition; £100; insured.—Walker, 183, Broadway, Cricklewood. [6890

1920 8h.p. Zenith-Gradua, 90 mm. bore, o.h.v., and racing canoelet sidecar, lamps, etc., very fast, just completely overhauled, ideal touring machine, cycle insured for £150 to 1922, must sell, owner going abroad; first fair offer accepted.—C. Hoyle, 24, Westcliff Rd., Birkdale, Lancs. [6872

ZENITH 1920 Model C, nearly new and absolutely perfect mechanical condition, mileage 350, fully equipped, largest lamps, mechanical horn, licence holder, and accessories; seen and tried Yorks. (West Riding), and full expenses allowed to purchaser; a real snip; £110, or near offer—Box 1,502, c/o *The Motor Cycle*. [6725

1920 Magnificent Zenith Millford Countershaft Combination, motor boat body, electric lighting throughout, Cowey speedometer, Cowey horn, Lucas horn, Easting wind screen, clock, luggage, petrol, and oil carriers, spares include new cover, cost £250, almost unused; accept 170 gns.; exchange G.P. Morgan, adjust any way.—Manager, Old Waverley Hotel, Southport. [7109

Ladies' Motor Cycles.

LADY'S J.E.S., new design; 42 gns.; photo, stamp.—Chandler, Shepherdswell, Dover. [6536

Miscellaneous.

ALLBER Motors.—Real bargains in motor cycles; come and view our stock.

ALLBER.—Harley-Davidson, 1918 model, combination, stuart turnout; £125.

ALLBER.—Alldays-Allon, 1920, 2-speed, clutch, kick-starter, run under 200 miles, complete; £60.

ALLBER.—Excelsior, 1920, 2-stroke, 2 speeds, aluminium disc wheels, as new; £52 10.

ALLBER.—Sun-Vitesse, 2-stroke, 2 speeds, in splendid order; £39.

ALLBER.—Triumph 4h.p., T.T., decompressor, Philipson pulley, good order; £39.

ALLBER.—Royal Ruby, 1918, 2-stroke, 2 speeds complete with lamps; £35.

ALLBER.—F.N. Sports Model, 5h.p., 2-speed, clutch, kick-starter, dynamo lighting, speedometer, full equipment, enamelled red, extra fast; £55.

ALLBER.—Triumph combination, 1918, 4h.p., 3-speed, countershaft, hood screen, lamps, splendid order; £100.

ALLBER Motors, Thornsett Rd., Earlsfield, London, S.W. 'Phone: Latchmere 4388. [7143

1921 Triumphs, Scotts, Bradburys, Jumes, Rudges, Campions, Morgans, etc.—Ewens, Garage, King's Lynn. [3659

BARGAINS.—1920 Harley and sidecar, £175; 1920 6h.p. Ariel and sidecar, £135/10.—Booth's Motories Halifax.

BARGAINS.—Shop-soiled Harleys, Ariels, O.K.'s, Omegas, Quadrants; cheap.—Booth's Motories, Halifax.

BARGAINS.—1919 P. and M. and new sidecar, £120; 1914 Rudge Multi and sidecar, £59/10.—Booth's Motories, Halifax.

BARGAINS.—3-speed Indian and sidecar, £59/10; 7-9h.p. Harley and sidecar, £92/10; 6h.p. Rex combination, £49/10.—Booth's Motories, Halifax.

BARGAINS.—6h.p. Chater-Lea and sidecar, £45/10; 3½h.p. Sun-Precision, 3-speed, £35/10.—Booth's Motories, Halifax.

BARGAINS.—1921 new Morgan De Luxe, M.A.G. water-cooled engine; 1921 10h.p. Swift car, £495; Swift car, small mileage, £425. Exchanges entertained.—Booth's Motories, Halifax.

BARGAINS.—Six 1915 Douglas's, from £42/10; three 4h.p. Douglas's, £85/10; 4h.p. Douglas, with new sidecar, £110.—Booth's Motories, Halifax.

BARGAINS.—Shop-soiled 1920 models: 2¾h.p. O.K., £43/10; ditto, 2-speed, £54/10; Omega-Jap, £67/10; Harley electrical model, £170/10; 6h.p. Ariel and sidecar, £145.—Booth's Motories, Halifax.

BARGAINS.—1914 Scott, £55/10; 2¾h.p. Imperial-Jap, 2-speed, £38/10; 1919 Royal Ruby 6h.p., 3 speeds, £95/10; 1920 Scott and sidecar, small mileage, £145. Exchanges.—Booth's Motories, Portland Place, Halifax. Tel.: 1062. [5917

IF you want a good privately owned motor cycle or car, apply Kwiksale Private Motor Registry, 35, Long Acre, W.C. Gerrard 2392. [0138

MOTOR CYCLES FOR SALE.

Miscellaneous.

JONES' Garage.—1917-18 4h.p. Douglas combination, accessories and wind screen; £87/10.

JONES' Garage.—3½h.p. Precision, mag., 2-speed N.S.U. gear, tyres like new, perfect running order; £35.

JONES' Garage.—1916 Levis, all accessories, in good order; £32/10.

JONES' Garage.—1914 4h.p. 3-speed Triumph, overhauled, perfect; £52/10.

JONES' Garage.—1920 2¼h.p. Villiers, 2-speed, as new, perfect; £52.

JONES' Garage.—Late 1919 P. and M. combination, all as new, not W.D.; £105.

JONES' Garage.—1914 Indian 7-9h.p., 2-speed, overhauled, as new; £70.

JONES' Garage.—1919 2¼h.p. Enfield 2-stroke, all accessories, and as new, 2-speed; £57/10.

JONES' Garage.—1920 Hobart, 2¼h.p. Villiers, brand new; £50; £10 under list price.

JONES' Garage.—1920 8h.p. Bat, unused, list price £165, soiled; price £145.

JONES' Garage.—1918 7-9h.p. Harley combination, thoroughly overhauled, perfect, a real bargain, not W.D.; £110.

JONES' Garage.—1919 7-9h.p. Harley combination, not W.D., electric model, all accessories; a real snip, £147/10.

JONES' Garage.—1919 James 6-7h.p. twin combination, all accessories, perfect; £130.

JONES' Garage.—1917 Norton Combination, 3-speed, all chain drive, all accessories; a real good snip, £110.

JONES' Garage.—1920 O.K. Union, brand new; we have several to dispose of, dirt cheap; £44; £6/8 under list price.

JONES' Garage.—1917 4h.p. Triumph, 3-speed, T.T. bars, perfect order; £77.

JONES' Garage.—1919 2¼h.p. James 2-stroke, 2-speed, all accessories; bargain, £52/10.

JONES' Garage.—3½h.p. Triumph, 1913, Philipson pulley, all in perfect order; dirt cheap, £40.

JONES' Garage.—1917 8h.p. Sunbeam combination. M.A.G. engine, Lucas dynamo, electric light throughout, hood, screen, spare wheel, etc., a real good outfit; a gift, £155.

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JONES' Garage.—1919 3½h.p. Rudge Multi, like new; £82.

JONES' Garage.—1920 2¾h.p. Wooler, brand new; list price £103, accept £87/10.

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19 17 8h.p. Matchless Combination, electrically equipped, accumulator; £130.—Below.

19 15 5h.p. 3-speed and clutch Indian; £75.—Below.

19 20 3½h.p. Sunbeam; £150.—Below.

THE above open to near offers.—Horswill, Indian agent, 42, Bridge St., Chester. 'Phone: 943. [7227

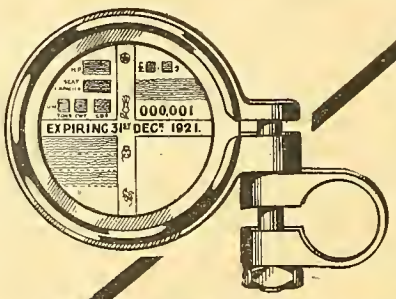
DOUGLAS, Matchless, and others, awaiting some repair, room wanted; any reasonable offer taken. —Bunting Motors, Wealdstone. Closed Sundays. [6501

IRISH Agent offers O.K. Villiers, O.K. Union, Revere Villiers, new, unsoiled; must sell owing to Martial Law restrictions; best offer over £40.—Box 1,501, c/o *The Motor Cycle*. (D) [6724

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19 19 Metro-Tyler 2-stroke, as new, £35; Royal Ruby, 2-stroke, complete, lamps, etc., £35; King Dick 3½h.p., good condition, bargain £22/10; A.C. Auto-Carrier, 6-cwt., perfect order, £50; Spyker van, 15-cwt., good running order, C.B. body, £50; any exchange entertained.—G. A. Sax, 619, Garratt Lane, Earlsfield, S.W.17. [7105



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WANDSWORTH.—F.N. late 5-6h.p., 4-cyl., Bosch, dropped frame, runs splendidly; 38 gns.—Below.

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WANDSWORTH.—Bradbury 3½h.p., mag., F.E., clutch, ready ride away; 25 gns.—Below.

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WANDSWORTH.—Triumph with sidecar, 3½h.p., waterproof Bosch, plate clutch; only 49 gns.—Below.

WANDSWORTH.—Bradbury coachbuilt combination, 3½h.p., Bosch, 2 speeds, beautiful condition; 55 gns.—Below.

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BATCHELOR'S Bargains.—1920 Ariel combination, electric light, £115; 1920 Douglas 4h.p. combination, £125; 1920 4h.p. Triumph and sidecar, £125; 1920 P. and M. combination, £115; 1920 8h.p. Enfield combination, brand new, £150; 1918 Douglas 4h.p. combination, £85; 1918 Triumph combination, £105; 1918 8h.p. Clyno combination, £100; 1914 4h.p. Precision, twin, combination, £55; 1920 Douglas 2¾ h.p., 3-speed, £75; 1916 Douglas, 2-speed, as new, £50; 1914 Douglas, 2-speed, £35.—Batchelor's, Clarence St., Kingston-on-Thames. [7137

BATCHELOR and Co., 36, Clarence St., Kingston-on-Thames (est. 1898), 'phone 1809, can supply from stock 1921 Triumph, chain drive, £140; 1921 Triumph, Model H, £127/10; 1921 Baby Triumph, £75; Triumph 4h.p. W.D.B., £105; 1921 Enfield 2-stroke, £65; 1921 Enfield 8h.p. combination, £160; 1921 Douglas, 3-speed, £100; 1921 Douglas, 2-speed, £85; 1921 Douglas, clutch, £105; 1921 Douglas combination, £170; 1921 Matchless combination, dynamo, £230; also 1921 Rover, Ariel, A.J.S., Allon, Bradbury, B.S.A. motor cycles; exchanges arranged. Montgomery sidecars, all models stocked; catalogue sent. [6334

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WALL Auto-Wheel, almost new, 1918; £10.—Thorp, 20, Abinger Rd., Bedford Park, W.4. [6673

AUTO-WHEEL, Wall, bargain; £7/10.—Preece, 8, Sandford Terrace, Aylburton, Lydney, Glos. [7030

AUTO-WHEEL, sound condition, also shock absorber, Lucas headlight, generator, etc.; £10.—Lewes, 73, Victoria Rd., Aldershot, Hants. [6648

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h.p. W.C. C.B. Wolf Tricar, in good order; can be seen Wednesday or Thursday.—Flavell, Kilnfirst, Retherham. [7100

.C. Sociables, modern, fully equipped, mechanically sound, good appearance, from £60 to £85; trial.—, Allsop St., Upper Baker St., London, N.W. [5809

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RGSON Hand and Motor Propelled Tricycles, for invalid and disabled.—Particulars, Argson Eng. o., Ltd., 3, Kendalls Mews, George St., W.1. [2647

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.B.C. Skeetameta, unused; £40 for quick sale.— S., The Manor, Wedmore, Somerset. [7152

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WIND Screens.—Avro, Triplex, adjustable; cost 42/-; 12/6.—Central Garage, London Rd., Thornton eath. [6895

WIND Screen, Easting, slightly soiled, unused, perfect; price £3/10, great bargain. 64, Bishopsgate, London. [0398

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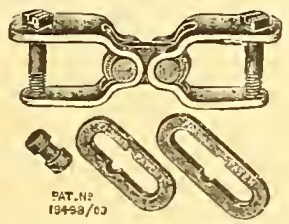
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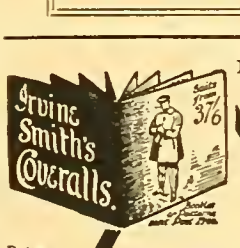
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SANDHAM Engineering Co., Ltd., 336, Gray's Inn Rd., W.C.1. 'Phone: Holborn 933. Factories: 162 to 165, Pentonville Rd., N.; and Britannia Works, Britannia St., W.C. [0019

NEW Cancelet James Chassis, 26x2¼ wheel; £12. —969, Eccleshall Rd., Sheffield. 7093

SIDECAR Complete, £16; also torpedo body, £6.— Neil, 13, Sangley Rd., Catford, S.E.6. [6970

NEW Coachbuilt Sidecar, underslung chassis; £15. —Fletcher, 6, Ridge Rd., Child's Hill. [7198

RENNOC Sidecars, bodies, hoods, screens. Largest stock in London; actual manufacturers throughout.

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SIDECAR, sporting torpedo, 4-point, 26in. wheel; £25.—48, Brexash Rd., Clapham Common, S.W.11. [6702

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MILLFORD, off 8h.p. Sunbeam, new Dec., 1919, complete; £30.—B. England, Belle Isle, Wakefield. [6478

DARK Blue Featherweight Sidecar, new condition; £16.—L. West, 71, Norbury Crescent, Norbury, S.W.16. [0414

SIDECAR, underslung, brand new, for Triumph; £15, cost double.—7, Farman Rd., Earlsdon, Coventry. [X5276

COACHBUILT Sidecar, underslung, wheel, 26x2¼, very roomy; 10 gns.—Fletcher, 12, Derwentwater Rd., Acton. [6917

BRAMBLE Enclosed Chassis, £35 sidecar, perfect; photo; £16/10.—Starkey, Hillcrest, Worting Rd., Basingstoke. [6691

SIDECAR, slightly soiled, but unused, coachbuilt; price £15/10, original price £22/10.—64, Bishopsgate, London. [0399

1919 Rover Sidecar, excellent condition, 28x3 heavy Dunlop; bargain, £15.—Noble, Melton, Heathdene Rd., Wallington. [6795

BAT Roomy Coachbuilt Sidecar, 4-point, hood and screen, 26x2½ wheel; bargain, £15.—19, Wood Lane, Shepherd's Bush. [5551

COACH Sidecar, apron, Palmer, good condition; £10; 8ft. ¼-⅝, 5ft. ⅜-⅝ chains; offers.—W.J.T., 173, Lancaster Rd., W.11. [6922

4 h.p. Douglas Sidecars, fitted with new saxe blue bodies. £17/10; Douglas spares, cheap.—91, Mapledene Rd., Dalston, E.8. [7208

SIDECAR Attachments.—P. and M., Mills-Fulford, Gloria, Douglas, Montgomery; to clear at £10/10. —33, Hackford Rd., Brixton, S.W.9. [7142a

SIDECARS.—The Paragon folding sidecar solves the storage difficulty. Call and see it demonstrated.— Wincycle Co., Ltd., 236, High Holborn, W.C.1. [0387

SIDECAR ATTACHMENTS.

STEVENS Sidecars.—The best that British industry can produce. Immediate delivery. Catalogue on application.

STEVENS Model No. 1 Sporting Torpedo for Triumph, Rudge, B.S.A., etc., etc; price complete, £22.

STEVENS Model No. 2 Standard Touring Sidecar, suitable for all motor cycles; price complete, £23/10.

STEVENS Model No. 3 Standard Light Touring Model, suitable for machines from 2¼h.p. to 4h.p.; price complete, £20.

STEVENS Special 1921 Bulbous Back Sidecar, the most luxurious streamline turnout on the market; price complete £27.

STEVENS Sidecars can be supplied with fittings to suit any make of motor cycle; bodies and chassis can be had separately if required.

STEVENS Sidecars.—Write for our illustrated catalogue before deciding. Second-hand and clearance sidecars usually in stock.

STEVENS Sidecars, 184-186, Pentonville Rd., King's Cross, London, N.1. Tel.: Central 10264. [6681

LICENCE Holders, circular, suit motor cycles or cars, conforming to Transport Ministry regulations.—Below.

LICENCE Holders, black, 3/6; brass, 4/-; aluminium, 4/-; plated, 4/6; postage 6d. Money returned if not satisfied.—Middleton's, below.

MIDDLETON'S are standardising their patent applied for spring wheel sidecars for coming season; rigid sidecars to order.

MIDDLETON'S Spring Wheel Sidecars are guaranteed for 3 years on usual conditions.

MIDDLETON'S (patent applied) one-piece unbreakable chassis axle, with spring wheel, is fitted to all our 2-seaters and sidecars for heavy, powerful machines.

MIDDLETON'S undertake all classes of repairs to motor cycles and sidecars, bodywork, etc.

MIDDLETON'S, London's oldest established sidecar makers, 27, Stroud Green Rd., Finsbury Park. 'Phone: Hornsey 1584. [4809

BASTONE'S for Sidecars and Bodies; no better or cheaper house. Kindly inspect our models before purchasing elsewhere.

BASTONE'S.—New 1921 sporting and other models in stock. Bodies from £4/10; complete sidecars from £16/10.

BASTONE'S.—We have a few soiled sidecars and bodies to clear at low prices.

BASTONE'S.—Distributing agents for the famous Montgomery sidecars. Latest 1921 sporting and other models in stock; trade supplied.

BASTONE'S (Sidecar Dept.), 228, Pentonville Rd., King's Cross, London, N.1. Tel.: 2481 North. [5533

ROYAL Leicester Sidecars to suit all machines, roomy bodies, comfortable upholstery, excellent springing; prices from £19/10 upwards.

SEND Your Sidecar to us for renovation. New hoods, wind screens, and aprons fitted. Write for catalogue.

THE Willowbrook Co., Royal Leicester Sidecar Works, Belgrave Gate, Leicester. [0335

HENDERSON Sidecar.—Large stock of all models, shop-soiled, at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [6754

CANOELET Special Touring Model Sidecars, underslung, bulbous backs, coverall aprons, 28×3in. wheels with heavy Dunlop tyres, new; at half list price; special models for Harley-Davidson.—Holliday Bros.—Below.

DOUGLAS Sidecar Chassis with wheel, no tyres, £2/15 each; £2/10 each in lots of 5.—Holliday Bros., 20 Queen St., Hammersmith, Broadway. [6734

PARAGON (patent) Folding Sidecar saves storage, has seven years to its credit, and has proved itself absolutely reliable. Fits any make of motor cycle, and when folded combination will pass through a 30in. doorway. Call and see it demonstrated.—Wincycle Co., Ltd., 236, High Holborn, W.C.1. [0388

SIDECAR.—Have a Hopley folding sidecar. No need to pay garage. You can keep motor at home; will go through passage 28in. when folded on any motor. Any shape body fitted. They have been well tested for six years on motors up to 8h.p.—Hopley, Upper Highgate St., Birmingham. [0152

RIDEEZI.—Special offer of 100 brand new chassis and bodies, to be cleared at once, various models, fittings accurately machined to suit all makes, fully guaranteed. Write for special list. Cannot repeat.—Sidecar Co., 25, Upper Clapton, E.5. 'Phone: Dalston 3110. Grams: Rideezi, Lowclap, London. [6580

RUNABOUTS AND CYCLE CARS.

A.C. Sociable, hood, screen, Binks, new tyres; £50.—Armitage, Clarendon St., Hyde. [6709

A.C. Sociable, splendid condition; £75; any trial.—Seen Farthings, Photographers, Tooting. [6817

1921 Richardsons, Morgans, Triumphs, Scotts, Rudge, etc.—Ewens, Garage, King's Lynn. 'Phone: 122. [4599

THE MOTOR CYCLE

Insurance Policy



Testimony

THIS space will be occupied each week with copies of letters from Policy holders who have made claims. - Original letters may be inspected.

Dear Sirs,

I beg to thank you for yours of the 30th inst., enclosing cheque in settlement of claim.

You certainly live up to your reputation for promptitude, and I have great pleasure in expressing my appreciation of same.

Yours faithfully.

The only Safe Test of Insurance is Claims. We settle Claims promptly.

The AUTOCAR FIRE and ACCIDENT INSURANCE COMPANY, LIMITED,

(Incorporating The Autocar Insurance Department, Established 1904.)

Head Office;

77, Cheapside, London, E.C.2.

Telephone: City 9831 and 9832.

Branches: BIRMINGHAM—Guildhall Buildings, Navigation St. MANCHESTER—199, Deansgate. LEEDS—Calvert's Chambers, 8, Commercial St. NEWCASTLE—Atlas Chambers, Westgate Rd. CARDIFF—15, High St. GLASGOW—137, West Regent St.

RUNABOUTS AND CYCLE CARS.

1921. W.C. De Luxe Morgan, discs, lamps, n £240, makers' list price. — Chaston, Bl wood, Mon. [7

G.N. Cycle Cars; latest models always in stock.— deliveries from Drake and Monat, Ltd., M Agents, Bracknell. — [3

MORGAN Chassis, thoroughly overhauled, new t new discs, J.A.P. engine; £120.—Downing, Union St., Ryde. [6

MORGAN New 1920 de Luxe, W.C., complete hood, screen, lamps, horn, etc.; £225.—Gibb, G cester. 'Phone: 852. [0

1920 Morgan De Luxe, 8h.p., A.C. J.A.P., as engineer owned, fully equipped, tax paid; £2 30, Bourne St., Dudley. [X

G.N., 8h.p. J.A.P., 2 speeds, Binks, lamps, just hauled; £130.—Homac's, 243, Lower Clapton N. 'Phone: Dalston 2408. [7

CARDEN Monocar, torpedo shape, J.A.P. en 2-speed, 6h.p., splendid condition.—Galla Te Whare, Gerrard's Cross. [6

ROVER Light Car, 1921 model, 8h.p., in stock immediate delivery; £300.—Godfrey's, Ltd., Gt. Portland St., London, W.1. [0

A.V. Monocar, £50, genuine bargain, in splendid dition, ready to drive away; tax paid this ye Broadwater Garage, Worthing, Sussex. [6

MORGAN, aero model, 1920 machine, sporty fast, M.A.G. engine, accessories included; £ —Wauchope's, 9, Shoe Lane, London. [7

G.N. Cars for Immediate or Future Deli extended payments; exchanges.—A. P. Rey, 384, Euston Rd. 'Phone: Museum 6436. [

MORGAN Cars for Immediate or Future Deli extended payments; exchanges. A. P. Rey, 384, Euston Rd. 'Phone: Museum 6436. [

BLERIOT Whippet Cycle Car, to makers' speci tion; £250, or on deferred payments 4% ext Harrods, Ltd., 118, Brompton Rd., London. [

G.W.K. 2-seater, dynamo set, accessories, just hauled; sacrifice £160; consider motor part.—121, Norwood Rd., Stretford, Manchester. [

CARDEN Monocar, in excellent condition, 4½ J.A.P. engine, Amac carburetter, manufac 1914, trial; £60.—83, Cherry Orchard Rd., Croyd [

PREMIER Super Runabouts for Immediate or F Delivery; extended payments; exchanges.—A Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [

WAUCHOPE'S, 9, Shoe Lane, London E.C New 1921 8h.p. Coventry Premier, spare w detachable wheels, dynamo lighting; price 275 g [

A.C. Sociables, modern types, fully equipped, chanically sound, good appearance; from £6 £85; trial.—29, Allsop St., Upper Baker St., Lo N.W. [

1919 5h.p. A.V. Monocar, 6-volt accumulator ing, good condition; sacrifise, 80 gns, or offer.—Tanqueray, The Cottage, Werrington, borough. [

1913 A.C. Sociable, good condition, lamps, le hood, good hill-climber; owner giving up vassing; a bargain, £65.—Pageant House, West Sussex. [

COVENTRY Premier Runabout, 3 speeds an verse, dynamo lighting; 275 gns.—Special A Ratcliffe Bros., 200, Gt. Portland St., W.1. 'P Mayfair 5042. [

HUMBERETTE 8h.p., water-cooled, new Aug., dynamo lighting, 5 good tyres, speedometer all accessories, excellent condition, trial; £165.—Vi Garage, Surbiton. [

F.O.C.H. have a 1919 Carden Monocar, beaut equipped.—5, Heath St., Hampstead (near H stead Tube Station). 'Phone: Hampstead 3752. 9-7, including Saturdays. [

1920 Morgan, model de luxe, J.A.P., A.C., hood cover, lamps, horn, wind screen, pump, perfect, mileage 300; price £200.—Shaw, G hill, Sherborne, Dorset. [

NEW G.N. Cycle Car, to makers' specification. dynamo lighting model, £275/12/6; imm delivery; deferred payments 4% extra.—Harrods, 118, Brompton Rd., London. [

TURNER Cycle Car, 8-10h.p., twin V, water- live axle, 2-speed, wire wheels, lamps, horn, screen, etc.; £85; exchange combination.—Speechl Gunnersbury Lane, Acton, W.3. [

4-WHEEL 2-speed Chassis, 8h.p. J.A.P., Bosch final belts, everything complete and perfect, be finished in few days; £42, or first near Palmer, 16, Fox Hill, Crystal Palace. [

COVENTRY Premier Runabout.—G. L. Franci Co., authorised agents for the Coventry P runabout, 7-9h.p., immediate delivery, £275. Shaftesbury Av. 'Phone: Gerrard 3288. [

1920 Morgan Sporting Model, 10h.p. Precision, plete with hood, screen, lamps, generator, guaranteed perfect condition; offers.—Packman Bournbrook Rd., Bournbrook, Birmingham. [X

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

EDITORIAL OFFICES: Hertford St., Coventry.
Telegrams: "Motorcycle, Coventry."
Telephone: 10, Coventry (5 lines).

ADVERTISING AND PUBLISHING OFFICES: 20, Tudor St., London, E.C.4.
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Northern Offices: 199, Deansgate, Manchester.
Telegrams: "Iliffe, Manchester."
Telephone: 8970 and 8971 City.

Midland Branch Offices: Guildhall Buildings, Navigation Street, Birmingham.
Telegrams: "Autopress, Birmingham."
Telephone: 2970 and 2971 Midland.

Subscription Rates: Home, 23s. 10d.; Canada, 23s. 10d.; other countries abroad, 28s. 2d. per annum.

The State of the Trade.

THERE is undoubtedly at the present moment a tendency on the part of the purchasing public to withhold orders in the hopes of a decline in prices. A slight fall in the cost of some materials is probably the root of these hopes, and it is only natural that the purchaser should be anxious to pay the minimum price for his 1921 mount.

There may be grounds for expecting a drop in the motor cycle prices in the not distant future, and certainly by 1922; but, be this as it may, to withhold an order at the present time is likely to delay that most desirable event. It needs very large resources for manufacturers to build for stock. Furthermore, not many factories have sufficient floor space to carry a heavy stock, and, should works be compelled to slow down, there will inevitably be a shortage of machines when the spring orders arrive.

As a consequence prices will remain high, and much trade may be lost.

The plain fact is that manufacturers ever since the war have been hampered by shortage of materials. When, last summer, the position eased slightly, most makers decided to replenish their stocks, while the opportunity was favourable. This meant that the high figures then prevailing had to be paid, and it is on these costs that the present prices of motor vehicles are based. Thus it will be appreciated that any decided reduction in selling prices would, in the majority of cases, entail definite loss to the manufacturer. Clearly, then, these expensive materials must be absorbed before price reductions of machines become general.

During the past week we have received communications from two well-known concerns, one a prominent manufacturer and the other an equally well-known distributer, dealing with this very question. Both point out the serious damage to the trade which may result from any marked depression at this time of the year, and both are prepared to guarantee to refund the difference between ruling prices and those in force at the end of May. This sporting lead deserves encouragement, and we hope that the firms concerned will receive a due measure of orders. Such promises reassure the buying public and assist in stabilising trade.

International Records.

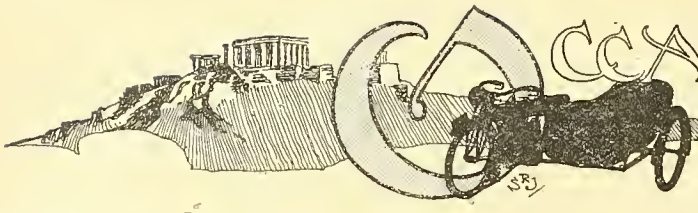
A LIST of officially recognised world's records has been compiled at last. Hitherto the records made on Brooklands have been regarded merely as British records, and figures set up in America have not been taken into consideration. A section of the public has not accepted too readily some of the speed claims of record-breakers in the United States. The acceptance some time ago of the American organisation as members of the International Federation of Motor Cycle Clubs, and the compilation of the first list of world's records, in which several U.S.A. figures are included, officially places America in her rightful place.

British motor cyclists have always been among the first to give credit where credit is due, and now that the U.S.A. holds the world's records for speed (over 108 m.p.h.) there will probably be keen competition on this side of the Atlantic to beat the figures; whereas while American records and British records were distinctly separate, and the former not recognised in this country, there was little inducement to do so.

The world's records do not include the British one-way records for kilometre and mile. Therefore, many classic records are automatically eliminated. The mean speed method is certainly the better, although not the easier, way of obtaining records, as, then, no advantage can be taken of a favourable wind.

The object of eliminating Class A1 (275 c.c.) will not be clear to British motor cyclists, but it must be remembered that Great Britain is only one of the countries representing the F.I.C.M., and the decision was made by the vote of the majority.

An Index to the advertisements in this issue will be found on the page facing the back cover.



OCCASIONAL COMMENTS

BY "IXION"

On the Border Line.

SOME of our thriftier boys are spending an anxious time this month in their efforts to get down to the 30s. tax. One idle scoundrel of my acquaintance thought it would suffice if he excavated the crank case from the mud and oil accumulations of years. Not a bit of it. Then he let the air out of the tyres. Still over 200 lb. Finally he had a brain wave. He took off his Sturmey-Archer hub-wheel, and inserted a plain T.T. wheel. I think he has caught Sir Eric bending here, as the Act says nothing about swopping wheels after you have paid your tax. But if many people do it, the police will begin to sink weighbridges in the roadway at the entrances to all large towns. In which case I shall reluctantly split on quite a number of my correspondents who have got down to 30s. by ways that are child-like and bland.

Splitting Two Gallons.

IT is high time that the A.C.U. or some other body tackled the question of fuel supplies for motor cyclists. On my way to and from the North I was recently refused supplies of fuel unless I took the whole can. Some tanks will easily hold two gallons, but such a capacity does not solve the difficulty, because we dare not ride on until a mere drain remains at the bottom of the tank. The reason of refusals to split a can is quite obvious—many cans do not contain two gallons when opened. The other day I was at the Exchange Motor Depot, Highfield Road, Rock Ferry—a garage which does a large trade with Cheshire riders who wish to put up their machines while they cross to Liverpool—and is, therefore, willing to split cans. A light car owner wanted to fill his tank right up, and was replenishing by measure. A sealed can was opened, and measured; it contained seven and a quarter quarts, but the buyer had to pay for eight quarts. If the buyer had made a fuss, or if the can had been sold in small amounts to two or more purchasers, the garage would have lost the value of a pint and a half. The problem clearly divides itself into two halves, viz:

(1.) As between garage and motor cyclist.
(2.) As between garage and petrol syndicate.

The first half would be met if the A.C.U. supplied a special plaque to those garages which are open to split cans. The second half is a thorny matter. I presume that no canning concern can absolutely safeguard itself against leakage and evaporation. But I should fancy that the agents' association is strong enough to force some sensible agreement upon the petrol companies. Can any reader with trade experience in America tell us whether similar difficulties arise under the "bulk storage" and stand-pipe system of selling petrol? We must not forget that the private owner suffers from short measure when he buys whole cans. I generally buy thirty cans at a time, and many of them contain much less than the alleged two gallons. When petrol was 9d. per gallon we put up with such losses. Now we are less inclined to take these shortages lying down. If the A.A., R.A.C., and A.C.U. tackled this matter seriously, they might do their members a very good turn indeed.

Sinews of War.

ALL sportsmen will feel with Mr. A. L. Judge that each maker should be represented in the T.T. by the same number of machines, just as each country used to be represented in the International Cup Race by three riders. In fact, Mr. Judge might well have gone further, and applied the same principle to the Six Days. I should long ago have tilted at this very obvious windmill if the T.T. were not—unfortunately—an extremely expensive event to organise and run. The A.C.U. give such limited publicity to their balance sheet that few riders know exactly how much they make or lose on their bigger events. But Mr. Judge will doubtless recognise that a standard T.T. entry of one machine per make might result in a heavy loss, and that a standard T.T. entry of three machines per make would tax the resources of the smaller makers to the limit. Still, I fancy that the principle which Mr. Judge pleads for, is slowly coming into its own. For example, if the T.T. recommences to attract entries on the 1913 scale, it may prove feasible to rule that not more than three machines of one make shall be entered. Moreover, if the A.C.U. attempt to carry out their very complex proposals for the 1921 Six Days, they will surely be forced to limit the total entries. And a limited total entry should imply limited individual entries? On several notorious occasions, both in races and reliability events, the sole survivor of a team has earned kudos for a maker who hardly deserved it.

Listen to This.

IT is many long years since I attended Sunday school, but unless a paganised memory deceives me, one of the commandments says, "Thou shalt not covet." Temptation is sometimes irresistible. I quote from a letter just to hand:

"All went well to the other side of Lichfield, when without any warning she stopped and refused to fire at all. You could grasp the h.t. terminals and never feel a shock. So I sat down by the roadside and took the mag. to pieces. All the screws were covered with iron filings, but right inside the thing on the condenser plate was a spot of grease with a nice curly steel shaving cosily embedded in it. The wretched thing had chased round and round, tearing the insulation before it finally shorted all the lot. I removed it and faked it up with candle grease—I always carry a small piece of candle for wiring emergencies—put it

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

together, and went on rejoicing. When I got home I sent the thing to the makers. They sent it back in a few days with no remarks and no charge, but plus a new armature, new magnets, and a new contact-breaker."

Reflections on above:

Happy thought—write scathing comment on careless workers.

Happy thought—always carry a bit of candle.

Unhappy thought—should I know how to use it?

Unhappy thought—I was not consulting radiologist to B.E.F., as the writer of above was.

Final spasm—what exactly *is* a "radiologist?"

Asking too Much.

A NOVICE correspondent asks me to instruct him per this column in the repair of chains and the adjustment of wheel spokes. He need not worry about his chains. If his service chain is new, he need only carry a few spare links and a rivet punch. Nine times out of ten he will be able to deal with any road emergency by means of the adjusters on the machine, but if an actual fracture occurs, he will be able to restore the damaged chain to the proper length by removing the damaged link or links with the aid of the punch, and inserting spare links or half links to suit with the aid of the spring clips provided. As the chain ages, it becomes a wise precaution to carry a complete spare chain; but this is seldom done except as an insurance in big trials. If a chain is cleansed in paraffin and relubricated at regular intervals, its life should exceed 5,000 miles; and when it is worn out, the sprockets are usually hook-toothed, and new chain wheels are essential.

The truing up of a wheel stands in quite a different category. It is a job for a skilled man, and should not be attempted by an amateur until he has repeatedly watched a skilled mechanic perform the operation; even then he should preferably borrow somebody else's wheel on which to make his first experiment. I am not surprised that my correspondent has wrecked his sidecar wheel by tackling the job on his own.

Security Bolts.

NOBODY likes security bolts, but I quite agree with a correspondent that they are possibly desirable on *(a)* high-powered passenger machines, and *(b)* solo 'buses capable of very violent acceleration. Some people say that a good deal of inaccuracy exists in tyre and rim dimensions, but I never find that my low-powered machines suffer from creeping tyres. On the other hand, as soon as I start driving a hog-'bus rather blue, the valve tries to convert itself from a radius into a tangent. If it is any comfort to the sufferers, let me add that sundry imported tyres are worse. Last week a friend of mine brought down an imported car from town. It was fitted with some weird tyre of which I had not so much as heard the name, and the covers simply skipped off the rims if the pressure in the tube were allowed to fall below 80 lb.

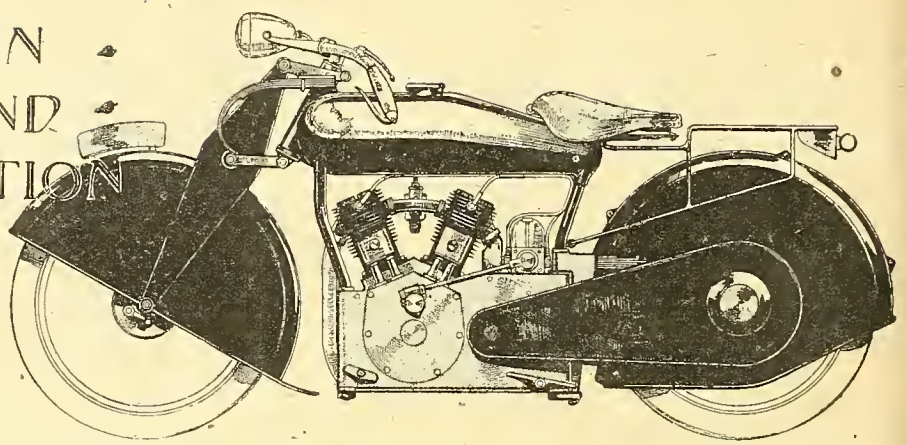
My own experiences may not be representative, but all the tyre troubles in which I have participated this year have either been caused by a creeping cover or have been complicated by this unpleasant phenomenon, and a slack fit on the part of the cover can hardly be the cause when it puzzles a hefty man to pull the cover back so that its notches register with the hole in the rim.



A sidecar in the service of an estate steward, who is able to visit, and superintend work, on widely different parts of a large country estate.

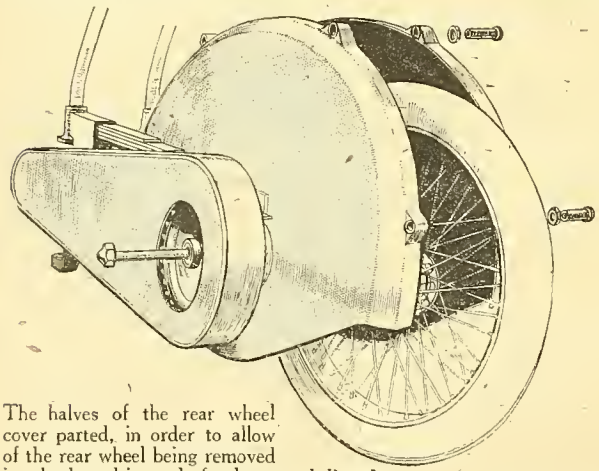
NOVELTY IN DESIGN AND CONSTRUCTION

An Outline of a Proposed New Machine which will have Many Interesting Features.



General layout for Capt. Millar's design for a medium-powered machine. Among the points for special notice are the clean lines of the machine, the comprehensive mudguarding of the wheels, the accessibility of the chain case, and the general cleanness of the engine and gear box design.

SINCE the Armistice more change has been seen in the general design of motor cycles than for any two corresponding years before the war, and there has been a readiness to break away from accepted practice on the part of a number of old-established firms in this country. Whether the general design of machines will continue to undergo considerable change more or less *ad lib.* remains to be seen, but it is certain that less reluctance will exist in scrapping deficiencies in design, for the reason that keen competition between the considerably increased number of manufacturers will enforce such action.



The halves of the rear wheel cover parted, in order to allow of the rear wheel being removed in a backward instead of a downward direction.

We have recently been afforded an opportunity to inspect the detail drawings of a machine which shows considerable originality, and in several respects a complete departure from standard practice. In this machine a strong effort has been made by the designer—Capt. I. P. Millar—to overcome some of the outstanding deficiencies of present-day design without complication, and there has been no attempt to introduce the average inventor's favourite innovations, such, for example, as six-cylinder water-cooled engines, shaft drive, armchair seats, wheel steering, and other features often beloved by the inventor.

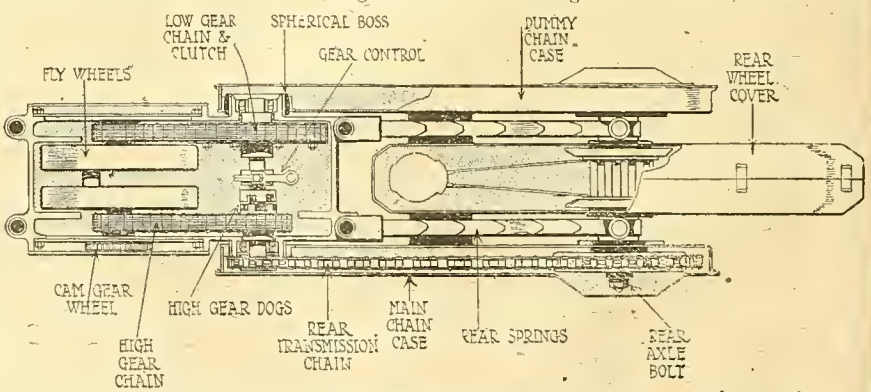
In the design under review there are three features of outstanding interest. The first is the use of stampings for the wheel covers, forks, and chain cases, sets of three dies only being required in the manufacture of these components. The second feature is the unit construction of the engine and gear; and the third the system of spring suspension at the rear.

The torpedo-shaped tank is built of steel tubing with malleable iron nose and rear pieces, and the tank forms the backbone of the machine. Extending down from the tank are four tubes, two at the front and two at the rear, which engage with four large lugs in the casing forming the engine crank case and the gear unit, and the complete construction forms the central portion of the machine.

An unusual feature exists in the design of the rear part of the machine, in that no tube of any description is used in the construction. The rear wheel is housed within a stamped sheet steel cover, to which is attached on either side a stamped casing forming radius components for the up and down movement of the rear wheel. These latter casings are attached to lugs on either side of the engine and gear box casing by means of side bosses, which are concentric with the gear box countershaft and act as radius rods for the rear wheel. The weight of the rider and the central part of the machine is taken by a pair of laminated springs, extending from lugs on the rear pair of twin tubes under the saddle to sliding joints between the chain cases and the rear wheel cover, as will be seen in the plan view of the transmission system.

How the Rear Wheel is Withdrawn.

Apart from the rear spring suspension system, the rear portion of the machine holds another very interesting feature in the manner in which the back wheel can be detached and taken out. To withdraw the wheel, four castle nuts are unscrewed from lugs on the periphery of the rear wheel cover, and the halves, together with the side cases, are drawn apart to permit of the wheel being taken out backwards, as shown in the illustration. To allow of this operation it is not necessary to remove or disturb the driving chain sprocket or any part of the rear wheel bearing system, except the central bolt of the rear hub, and, when bolted up after the wheel has been inserted, the complete cover of the wheel, together with the casings on both sides, form a box-

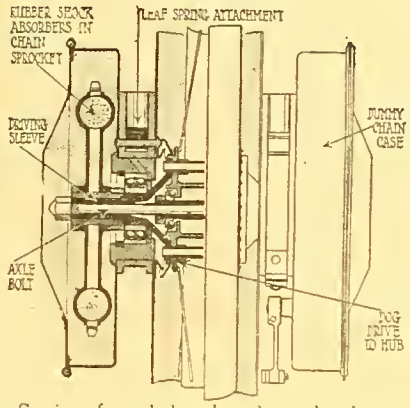


Plan view of speed gear, rear chain transmission and disposition of side casings and rear springs.

Novelty in Design and Construction.—

like construction which should prove to be immensely strong. The manner in which the sprocket drives the rear hub, through an auxiliary sleeve mounted in ball bearings, is shown in another illustration.

From the crankshaft it is intended that a pair of wide Coventry chains extend to the countershaft, and the two speeds are obtained on the P. and M. or Enfield system of different sized sprockets. The crankshaft is to be mounted on roller bearings located within the crankshaft chain sprockets, in order to give the maximum width of flywheels, and at the same time to reduce the overall width of the crankshaft. The crankshaft and its bearings are supported within two large detachable steel discs within the crank case, while a very simple and sturdy form of cam gear has been evolved for the valves. The final drive to the rear wheel is to be by means of a very large roller chain located within the near side case.

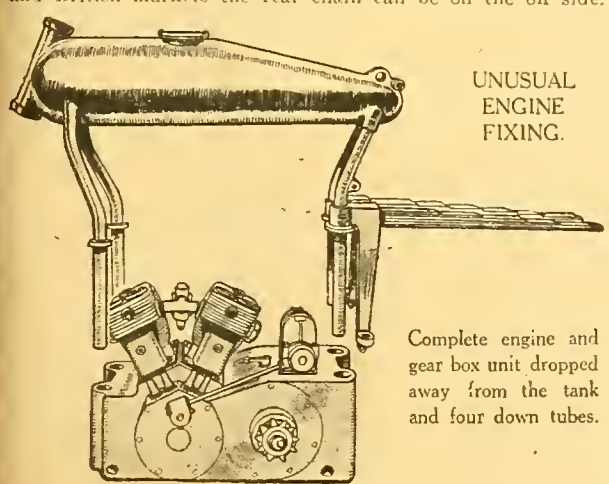


Section of rear hub, axle and sprocket drive.

The change-speed gear possesses an unusual feature, in that the low gear is brought into operation by an expanding clutch, while the high gear comes into operation on the engagement of a pair of dogs on the countershaft. The object of this construction has been to eliminate a number of working parts and provide a foolproof mechanism. In the majority of instances it is unnecessary to declutch when changing into top gear, whereas the clutch is always used in starting away with the machine on bottom gear, hence the low gear clutch and high gear dog system employed in the design. Probably changing down will be a matter of practice. The size of chains and sprockets in the two-speed gear unit has been so proportioned to give a guaranteed mileage of 40,000 without replacements, while a similarly large mileage is intended in respect of the fabric facing employed in the low gear expanding clutch face.

Optional Disposition of Final Drive.

It will be observed from the design that no difficulty whatever should be experienced in removing and greasing the rear transmission clutch, since its casing is right on the outside of the machine and completely unobstructed. Incidentally, it should be noted that when the halves of the rear wheel cover are parted for withdrawing the wheel, the outward hinging movement of the chain-case is brought about on the spherical boss concentric with the countershaft on the side of the gear box, to which the casing is attached. Also when the casings are hinged outwards the leaf springs, together with their brackets, perform a similar movement. The illustrations show the rear chain on the near side, but as the casings on both sides of the machine are identical to each other, the chain can be on the near or off side at option, according to sidecar position. Hence for both Continental and British markets the rear chain can be on the off side.


UNUSUAL ENGINE FIXING.

Complete engine and gear box unit dropped away from the tank and four down tubes.

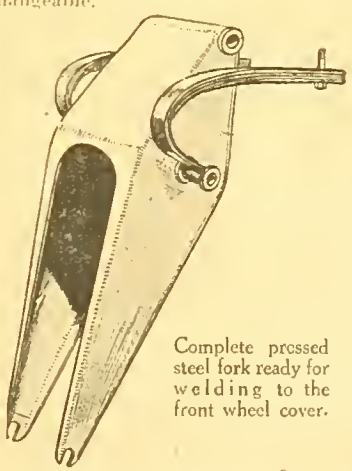
Other features of the engine and gear box unit are a combined hand and foot control for the dog gear and clutch, enclosed valve springs, and magneto driven by shaft and skew gearing from the cam gear.

In order to allow for the engine and gear box to be overhauled as a unit on a workshop bench, the four tubes extending downwards from the tank are provided with fittings which allow the engine to be dropped away from the machine as illustrated, or, in the case of the garage pit not being available, the engine unit can be chocked up on a box and the central part of the frame lifted away from it. It should be mentioned that, if desired, the tank and down tubes can be lifted away and still leave the rear wheel and side casings in position with the engine and gear box, which allows of the whole of the engine and transmission (including the rear wheel) being overhauled and adjusted with ease and comfort.

Unique Construction of Front Forks.

The front forks are to be built of two stampings made from one set of dies only, and when welded together in position on the pressed steel cover of the front wheel form a very strong construction. The bolts to which the links are attached have bearings the complete width of the fork, in order to provide lateral rigidity at the front part of the machine over a long period of use. The laminated leaf springs, attached to the cross bolt connected to the lower fork links, are designed to take up the motion of the forks, both in a vertical and fore and aft direction, and the attachment of the top part of the spring is direct to brackets forged underneath the upper fork links. External expanding brakes (totally enclosed) are fitted to both front and rear wheels, and the wheels, incidentally, are interchangeable.


One of the two stampings which form the front fork construction.


Complete pressed steel fork ready for welding to the front wheel cover.

The general and detail design of the machine has been fully worked out by the designer, and, needless to mention, a number of the general features have been made the subject of patents. Provision has been made in the general design for many details, such as dynamo lighting, rear carrier, and a number of points in smaller equipment, and it is hoped that an experimental machine will be placed on the road during the present year, when manufacturing arrangements are to be attempted.

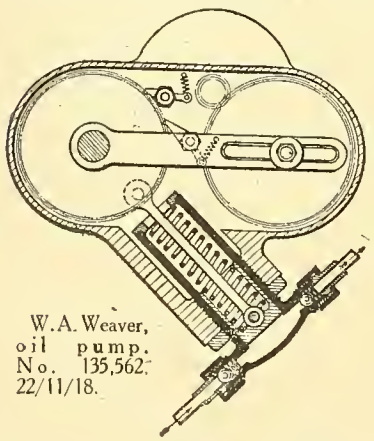
It is, perhaps, curious that in so complete and excellent a design, Capt. Millar should be content with a two-speed gear box providing no method of declutching without resorting to low gear. Such an arrangement might prove distinctly unhandy in traffic, and we expect to see this detail modified in the production model. Except for this criticism, the design is most interesting, and will undoubtedly attract the attention of those who desire a weatherproof machine.

RECENT PATENTS.

REVIEWED BY B. H. DAVIES.

A Mechanical Oil Pump.

I DO not know that I have fallen wildly in love with Mr. Weaver's oil pump. It is obviously designed for a somewhat complex transmission, and, to judge from his specification, is intended to be driven so slowly that a charge of oil is injected into the crank case every five miles or so, though in actual practice both the volume of the charge and the frequency of delivery are adjustable. In other words, it is a mechanical substitute for the ordinary hand pump, and differs from the general run of mechanical pumps, which inject a tiny charge of oil every few yards. Still, if a type of engine is used which requires the cooling effect of a big dose of cold oil every few miles, the Weaver pump would be less trouble-

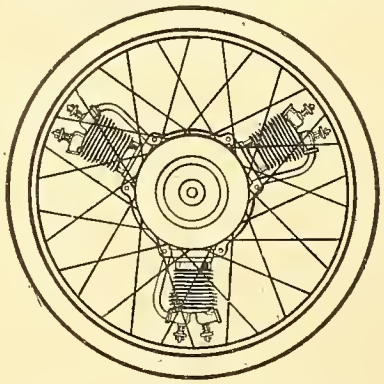


W.A. Weaver, oil pump. No. 135,562. 22/11/18.

some than the hand type. It consists of an ordinary plunger pump fitted to a gear case. The train of gears on the right are driven off the engine in any convenient fashion, and the adjustable horizontal arm is slowly oscillated. A pawl fixed to the arm rotates the toothed crank disc on the left, and a second pawl prevents the disc from flying back. The pump piston is then given a suction stroke, and when this piston passes its dead centre, the coiled spring operates its delivery stroke, whilst the crank disc free wheels. A hand lever, fitted to the spindle of the crank disc, permits the driver to inject extra supplies at his discretion.

A Rotary-engined Wheel.

A Finnish engineer, Mr. Y. J. Aaltonen, propounds a motor wheel, consisting of a three-cylinder rotary engine of the pattern in which the cylinders and crankshaft rotate in opposite directions. The two rotating parts of the engine are coupled together (or disconnected) by means of a friction clutch acting on the planetary wheels of an epicyclic gear. How such a fiendishly heavy wheel would bump on our modern roads! Mr. Aaltonen has apparently done a little "prop-swinging" in his time, for he points out how nice it would be to handle an aero-

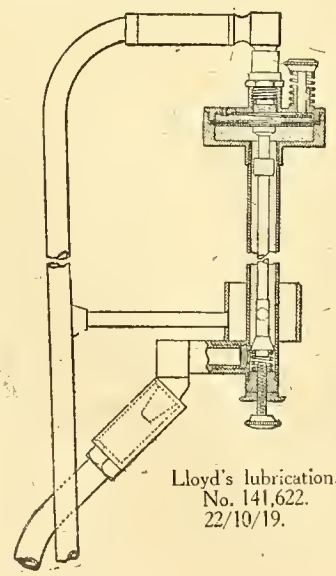


Aaltonen rotary engine. No 142,010.

plane built on his system, and clutch in the prop after the engine had been started. Ack Emmas will agree, but what the design section of the Air Ministry would remark is perhaps unprintable.

An Elaborate Oiling Control.

Mr. W. P. Lloyd proposes to use exhaust pressure for the control of a regulating valve in the case of a gravity fed lubricating system; the chief objections appear to be lack of pressure on the oil. As the sketch indicates, the method is quite simple. The oil in the tank rises to its own level in an oil tube which it reaches through a non-return valve. The oil tube may be located inside the oil tank, or be of the external type, and surrounded

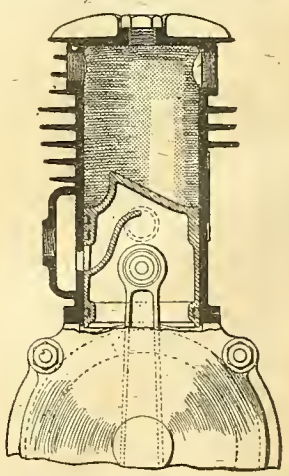


Lloyd's lubrication. No. 141,622. 22/10/19.

with an exhaust-heated jacket. In either case it contains a valve communicating *via* a sight feed glass and a pipe with the crank case; the valve is normally closed by a spring and is adjustable. The head of this valve terminates in a disc, and the disc supports the centre of a leather diaphragm in the exhaust pressure chamber. A by-pass from the main exhaust conveys pressure to the upper side of the diaphragm, whereupon the valve opens, and oil passes through the sight glass. Apart from the possibilities of fouling when the exhaust gas is dirty, the device should work well, for the supply of oil will increase, not only with r.p.m., but also when the engine is running slowly on full throttle on a steep climb.

Two-stroke Piston Cooling.

If the next Dalman two-stroke engine is constructed according to the present patent, it will join the select band of "four port" engines, of which the original Connaught and the Clyno are familiar examples. The fourth port is in the piston skirt, and forms the communica-



C. W. Dalman and J. H. Dalman (Deux Temps), two-stroke. No. 140,173. 17/2/19.

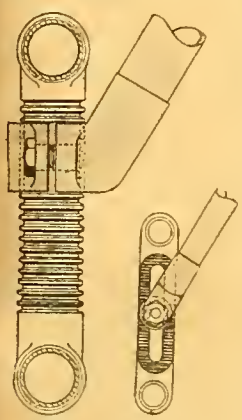
tion trench between the crank case and the transfer passage. I use the word "trench" advisedly, because the subject matter of the patent covers the use of a web or baffle inside the piston; in side view this baffle is a pulled-out S, and in cross view a U; its purpose is to cause the charge to travel along the under side of the piston crown, and so assist in the cooling. It is quite possible that the ordinary type of two-stroke engine maintains a pocket of semi-stagnant gas under the piston head which does not make for cooling the hottest point in the engine. Clearly nothing but careful experiment can prov

Recent Patents.—

whether the present interesting innovation results in increased efficiency. It is certainly possible to keep a well-designed piston reasonably cool without resorting to such expedients. On the other hand adequate charging is always a serious problem with the simpler types of two-stroke engine; and in this case two new obstacles to charging are apparently introduced. One is the additional friction and throttling produced by a devious transfer passage. The other is the additional pre-heating of the charge, which must lead to expansion, though it may produce a better mixture with less "blobbiness." Messrs. Dalman have presumably satisfied themselves that the gain exceeds the losses.

Non-slipping Sidecar Connections.

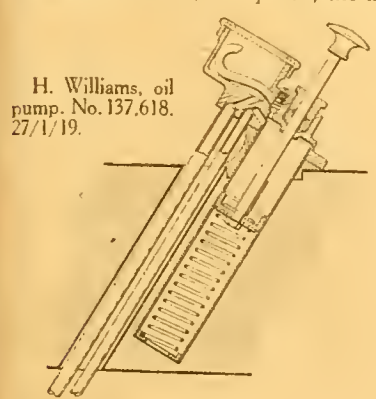
Sidecars have grown so ponderous and speedy that frictional locks have ceased to be satisfactory for fixing the adjustments of the connections to the cycle frame. Mr. G. E. Rigby protects the use of bolts passing through the eyes of the connecting tubes and through slots in the sidecar chassis, slip being prevented by corrugating the surface round the slot, and using a serrated washer in contact with the slot. Alternatively, he uses grooved lugs on the chassis, and an internally grooved clip on the end of the connecting tube.



G. E. Rigby, sidecar attachments. No. 137,385. 21/1/19.

Hand and Mechanical Lubrication.

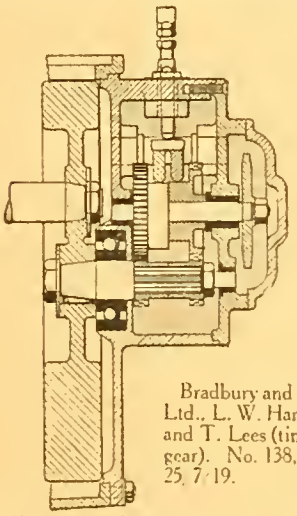
Mr. H. Williams propounds a hand pump for use in conjunction with the Best mechanical pump. He couples a pipe from the engine-driven pump to the cylinder of the hand pump between the valves of the latter. The engine pump then draws oil through the barrel of the hand pump, and forces it through the sight feed of the hand pump. When additional oil is required, the hand pump is used to augment the supply. A single indicator and a single pair of valves thus serve both the lubricating systems.



H. Williams, oil pump. No. 137,618. 27/1/19.

Adjustable Cam Gear.

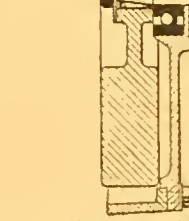
The Bradbury valve gear, illustrated herewith, will arouse fierce glee in the bosom of the expert knut, for it enables him to set his timing to $\frac{1}{720}$th of a circle, or less than a degree. The crankshaft is externally serrated, and drives two half-time pinions, each of which is internally serrated, and operates one of the cam wheels. The exhaust cam wheel is made in one piece with its spindle, and the inlet cam wheel runs free on the same spindle, outside the exhaust cam. Assuming pinions with sixteen and thirty-two teeth respectively, and fifteen serrations in the internal bore of the half-time pinions, the timing can be set to $\frac{1}{720}$th of a circle. Whether the novice who rashly dismounts his timing gear will prefer this pattern to the ordinary three-pinion type with nice punch marks remains to be seen.



Bradbury and Co., Ltd., L. W. Harvey, and T. Lees (timing gear). No. 138,555. 25/7/19.

Gudgeon Pin Fixing.

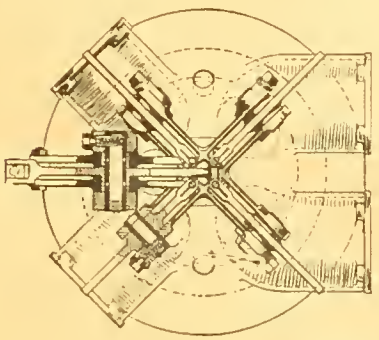
Without doubt an easily removable gudgeon pin is welcomed by those motor cyclists who are inveterate "tinkerers"; we have to remove carbon from the inside of the piston, and the removal of the gudgeon pin is a delicate job when it is a driving fit in a light piston. The name of the devices which secure gudgeon pins is legion, proving that it is no easy matter to combine detachability with security. Mr. W. Caddick, in conjunction with the Ruby Cycle Company, protects the use of bronze set screws, screwing into either end of a gudgeon pin. The piston is so recessed that the heads of the set screws definitely locate the gudgeon pin. This is a variation of the not uncommon system by which floating caps of soft metal are placed between the cylinder walls and the ends of the gudgeon pin. I have never had any trouble with the simpler device; but provided that the set screws are of a metal which expands under heat to a greater degree than the steel pin, this patent should be satisfactory.



Royal Ruby, gudgeon pin. No. 141,570.

A Four-valve Head.

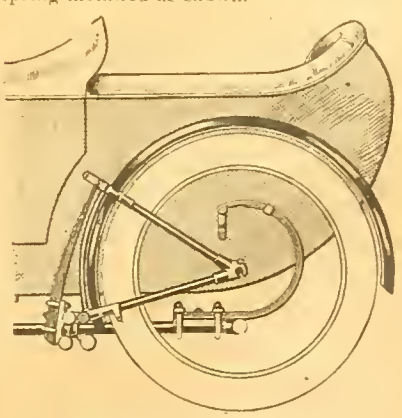
Messrs. Stevenson and Smith, of the Royal Aircraft Establishment, are concerned with the multi-valve engine. No doubt aero engines were in their mind, but any amateur mechanic who is faking up a 2½ h.p. J.A.P. into a sixteen-valver with an eye to the Baby T.T. should study their lovely arrangement. For four valves per cylinder (two inlets and two exhausts), they use one pivot bracket and two pull rods. These are so ingeniously devised that, as the plan shows, the two primary rockers operate four secondary rockers, the business ends of which are set equidistant round the central point of the head. Very neat, too.



A. C. Stevenson and W. S. Smith, valve operating gear. No. 139,894. 14/3/19.

Sidecar Wheel Springing.

Mr. W. F. Lechmere and the James Co. patent a spring sidecar wheel, the character of which is obvious from the drawing. The sidecar body is sprung by any approved method. The sidecar wheel is carried in a separate triangulated frame, rocking on a broad pivot pin mounted on the transverse tube which secures the sidecar to the motor bicycle. The upward movement of the side wheel frame is damped and finally checked by a leaf spring mounted as shown.



W. F. Lechmere and the James Cycle Co., spring sidecar wheel. No. 140,160. 1/2/19.

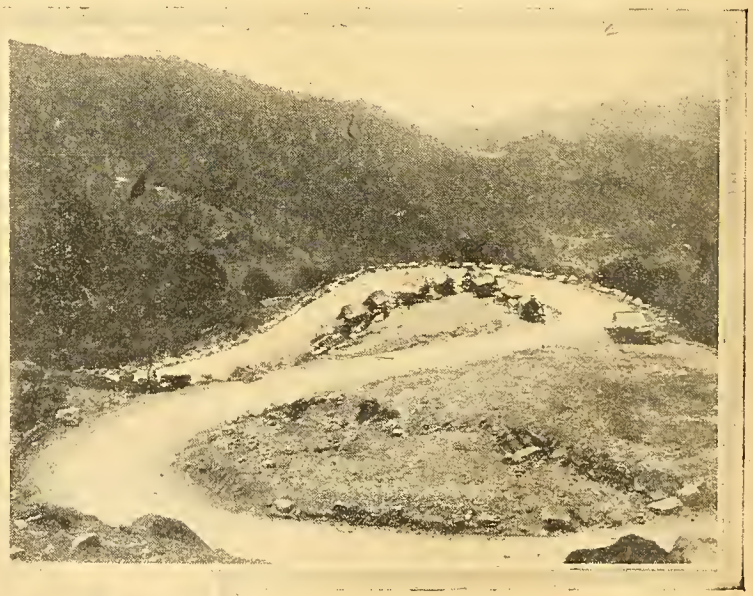
OVERSEAS SECTION

Commentary based upon Practical Experience and a Study of Overseas Opinions.

Useful Statistics. LAST week we analysed the Board of Trade Returns of overseas trading figures for 1920. and several striking facts were brought to light. Of course, the most satisfactory finding was the extraordinarily high ratio of motor cycle exports to imports, especially when compared with the corresponding figures for cars, and, remembering that £2.340.557 worth of motor cycles and parts were exported in twelve months. it will not be permissible now for our overseas readers to complain that they are *quite* neglected by the home manufacturers.

But that is not all that the statistics reveal. By the use of a little simple division and equally simple deduction it may be inferred that a high proportion of the number of complete motor cycles exported were lightweights—and low-priced lightweights at that.

The Motor Cycle has frequently drawn attention to the great potential demand for such lightweights from the widely diffused populations of many countries abroad. Is this demand being satisfied now? Both by the B.O.T. figures and by other sources of information we are constrained to answer in the affirmative. But although many makers have turned an attentive ear to this particular market, supply cannot yet have gained on demand; and each year the latter factor gains in dimensions. The higher priced and higher quality lightweight must be dealt with as a proposition distinct from the above question. It must not be regarded as a plaything or a toy for either native or European; and, regardless of conditions, we re-affirm that the variably geared *de luxe* lightweight machine is a sound utility mount wherever the use of the motor cycle, of any type, is at all possible. Undoubtedly a number of the 21,000 machines that went abroad last year were of this type. We await with interest the verdict of the hard rider under difficult riding conditions.





ON AN INDIAN FRONTIER

North-west India is the country of great road engineering feats. In the Alps of Central Europe and in the Rockies of America are to be found fine mountain roads, but India can boast also of long and well-graded climbs over wild and very rugged country. These two photographs show hairpin bends on the road to Kashmir, a climb of ten miles. A Triumph and sidecar accomplished the climb when our photographs were taken A timed hill-climb from the bottom to the top of this little rise would surprise a good many owners who pride themselves on their machines and their own hill-climbing abilities

Overseas Section.—

Springing. THE development of motor cycle springing has taken a curious turn, for though the necessity for increased comfort is still fully realised, the majority of present day designers seem content to insulate the rider and to leave the machine to take the shocks. Spring seat-pillars and saddle suspensions have progressed by such leaps and bounds that the insulation of engine frame and transmission appears to be in danger of becoming side tracked. There are many difficulties in the way of designing a perfect spring frame motor cycle, for in addition to a wide range of action with absence of side play or roll, it is necessary to maintain as nearly as possible a constant tension on the transmission. It is not generally realised that the slight variations in sprocket centres to be found in most rear springing systems matter less than the "snatch" imposed by the sudden lifting of that section of chain directly over the top of the large rear sprocket. Anyone who cares to make a rough diagram will see clearly that if a stationary sprocket of considerable size be swung about the axis of the driving sprocket, that driving sprocket will be partially rotated, and since this happens to a greater or less degree when any inequality in the road is struck one may imagine the effect on the transmission system. Equal sized driving and driven sprockets will alleviate the trouble, but these are seldom possible in the case of motor cycles. In spite of these difficulties we are convinced that the correct springing of motor cycles will develop, and that it is only a matter of time before rigid frames will be the exception rather than the rule.



Japanese are quick to recognise the qualities of anything from the West, whether it be of machinery or sport, and although motor cycling is a comparatively new pastime in Japan, a T.T. race has already been held. The photograph depicts S. Yokokawa (Triumph) winner of the event, which was held over a ten-mile course.

Cycle Cars for Overseas Markets. UNDER the present system of taxation the small four-wheeled runabouts of motor cycle specification are likely to encounter an adverse period on the home market, yet no one has seriously estimated their possibilities in more distant fields. In the great Dominion cities, of course, conditions are much the same as in our own towns, and any type of machine will find its buyers, but in the pioneer districts assuredly the monocar type of four-wheeler has special claims for attention. It is light, powerful for its weight, has a narrow track, and, usually, a generous clearance for its underworks. On half-made dirt tracks, probably deeply rutted by horse or bullock transport, its narrow track should enable a safe course to be maintained between the wheel tracks of the heavy traffic in circumstances where a three-wheeler would be at a considerable disadvantage.

The light four-wheeled single-seater is narrow enough to take to a bush track, and can be lifted over those obstacles which stop a solo machine or ditch a car. Another advantage of the cycle car machines is the simplicity of construction; a motor cycle engine, gear box, and transmission are easily understood and cheaply maintained when they are run in an enclosed position. The chassis, instead of being a complicated and delicately aligned system of brazed tubes, may be of wood and cheaply assembled; even if of the brazed tubular type it may be understood and repaired by any village blacksmith or backwoods handy man, simply because it needs to be little more than a rectangular framework embodying the simplest of lugs.

A Selection of Letters from Readers scattered all over the World.

An Oriental Opinion.

A Japanese correspondent, who signs himself with a native registration mark (which, fortunately, he translates, for it is beyond the capacity of our printing presses!), sends us the following decisive if somewhat original views of his own tastes, especially with reference to earlier statements by "Ixion":

"Your contributor, 'Ixion,' in the issue of October 21st, 1920, gives us to understand that a two-stroke of a certain make grows on us for ever, or we sell it in six months. . . Fools suck joy out of four-strokes; two-strokes are for the clever rider, etc.

"I had a Scott for four years, then I sold it. I have a Bradbury now, and like it better. I prefer grinding valves to cleaning out transfer ports. I like independent adjustment for chains. I prefer to stay at home, when it is wet, to carting around so much sheet metal on my outfit, in anticipation of a deluge.

"'Ixion' must have been listening for misfires at low speeds and high speeds when his three tool rolls left home. Sewing the roll to the bag is nonsense: if it is wanted at the front wheel, it means emptying the roll, or too many trips to the roll. Pack your pannier bags tightly, make sure you fasten them, and you will not need to sew anything, and you will not sow your outfit of tools."

Mail Orders for Accessories.

A resident of Northern Rhodesia, in a letter received this week, draws attention to the possible sale of small articles through the post, and, like many other Overseas readers, no doubt, requires more information than is contained in the average advertisement.

"To read many of the advertisements in *The Motor Cycle*," he writes, "one would think that either the advertisers are indifferent about selling their goods to people living abroad, or must imagine that your popular and widely-read journal does not circulate outside the United Kingdom.

"These advertisements often do not give the price of the article advertised, and rarely, if ever, state the foreign

Overseas Section.—

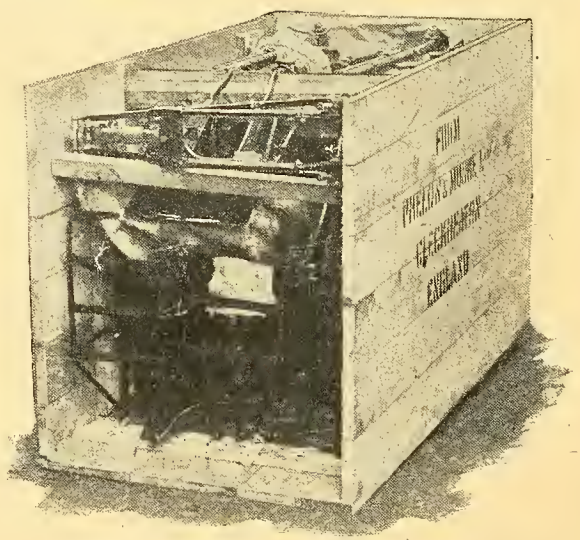
postage on it. This is most inconvenient to people living abroad, as it often takes four months to get a reply to an enquiry, and twice this time to get delivery of the article which may be wanted.

"If the reason for not stating the postage to foreign countries is that it varies too much, surely the advertisers might take a sum equal to the average cost of the postage to the principal colonies, and be satisfied with this. They might lose a few pence on one parcel, but would gain as many on another.

"I think a good deal of trade by post with the colonies must be lost through advertisers failing to state clearly in their advertisements the essential facts about an article one wants to know, *e.g.*, a description and, if possible, illustration of it, its cost, and the postage on it to any part of the world."

The Movement in Jamaica.

Writing from Jamaica a reader, who is about to form a Jamaican motor cycle club, says: "We feel that in inaugurating a club of this sort it would possibly be the means of getting into touch with the manufacturers of English machines, as we feel that the English machine—owing to quite a number of reasons—has not been fairly represented in this country. For instance, its geographical position affects the situation to a certain extent on account of its close proximity to America and the easy method of procuring machines, as against the almost insurmountable difficulties of procuring English makes during the war, owing to the output of English manufacturers being restricted and diverted to Government work. The leeway lost on account of these reasons gave American manufacturers a wonderful chance to flood the market, and today we would say 90% of the motor cycles in Jamaica are represented by American makes. But we feel that, although this regrettable position could not be avoided, if the English manufacturers combined together and made strong representation here, there would be quite a considerable amount of business that they could still obtain. Owing to the popularity of the American machine, the motoring public here has become educated to the idea of having a very powerful engine. Most of the machines are rated at 8 and 10 h.p., and some as high as 16 h.p.; and, although we feel that we want plenty of power in this country, a machine of this kind, except for use with a sidecar, is really too powerful for solo riding. The Harley-Davidson and the Indian practically number four to one of any of the other machines, and, as you know, these are very powerful engines, ranging from 8 to 12 h.p. While on this subject, perhaps it would be as well to point out to you that these makes sell here for around £130 solo and £180 with sidecar, so the English 4 to 6 h.p. would have to sell here for about that figure, or possibly less, so as to enable them to get a strong hold on the market. In connection with this club, we propose to have motor cycle tours, and, possibly, if it could be arranged, speed trials—the same as you have in England—the machines being rated as to horse-power, size, and so on."



How British motor cycles are packed for abroad. A case measuring only 4ft. 6in. × 2ft. 6½in. × 2ft. 1lin., which contains two complete P. and M. motor cycles

Urban Requirements in Australia.

MR. A. MARSHALL, of Sydney, New South Wales, writes: "As an Australian reader of your excellent paper, I would like you to publish some of my opinions.

"There is one thing I have noticed in your Overseas Supplement. All the advertisers stress the fact that their articles are of 'special interest to Overseas riders.' They omit, however; to state the price of their product. What, to my mind, would be a good idea would be to publish the approximate price of their product in the different countries for which they are suitable.

"If any of the well-known motor cycles which are cheap in England were imported into Australia (with spare parts) they would find a ready market, provided, of course, they were reasonably priced. There are many potential purchasers of motor cycles who, at present, are riding push bicycles, and who are prepared to pay a moderate price for a simple, fool-proof motor cycle that will climb hills and not fall to pieces after a few miles on our 'roads.' I think it will be found that push cyclists become the best motor cyclists, owing to the experience they gain whilst push cycling. They know where they can squeeze through, and also where they cannot, and they know how to dodge people.

"In conclusion, I might mention that Harleys predominate here in our races and competitions. One exception, and a startling one, is the Sunbeam, a post-war model, with A. Biden, of Biden and Roberts, the Sydney agents, in the saddle. This machine is beginning to wake things up for the English makers (they do not know what a good thing they are losing), but it should be expected by those who ever read reports of English trials.

"Please do not encourage scooters to be sent out here. We had a few, but they did not catch on. We want cheap, good British motor cycles.

"I hope I have not bored you with my long letter, and wish you and your paper every success. A finer publication I do not know."

Shaft Drive in India.

A shaft drive enthusiast in Palapilly, South India, is disappointed that British manufacturers do not market a machine with this form of drive. He writes: "In these parts one is very glad to see your fascinating little paper, and I was interested in the account of the fine show at Olympia; but I must confess to being disappointed to see that British makers still prefer to cling to the old chain-cum-belt or all-chain drive, instead of adopting something more up to date.

"Having done a fair lot of motoring and motor cycling (a bit over 80,000 miles of the latter) on all sorts of machines and roads, and under nearly every kind of condition, I go back to an old—probably 1911—model F.N., and I have no hesitation in saying I consider there is not, so far as I know, a cleaner, neater, sweeter, running drive; and last, but not least, it is a real no-trouble form of transmission. I may mention my present F.N., judging from the state of all nuts, screw heads, piston, gudgeon pin, mainshaft bushes, fly-wheel casing, etc., may have been about twentieth-hand when I bought it, and could it speak more eloquently than its apparent condition, it would disclose a harrowing story of its maltreatment by many fools for at least eight and a half years! My only reason for desiring it was my love for shaft transmission, coupled with the fact that a careful examination of its gears and pinions showed them to be as good as on the day they were put in.

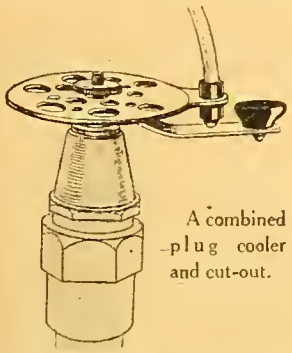
"The transmission I consider next best to that of the F.N. is the worm drive to countershaft, and a chain thence to the rear wheel. This I had on a Starley two-speed machine with 2¾ h.p. Minerva engine, and all I need say about it is that it never needed any adjustment in the 10,600 miles of enjoyable riding I did on it. This was in 1908, and you doubtless remember it had a large worm-wheel reducing the gear to 5⅛ to 1 for top speed at the countershaft, equal sized sprockets on countershaft and rear wheel, making a particularly sweet and silent drive *for a chain*.

"In connection with wheels, I am pleased to notice that some makers have at last broken away from their conservatism, and are fitting 28in. wheels."

A COMBINATION PLUG COOLER AND CUT-OUT.

A NOVEL accessory has recently been placed on the market by Richards Patents, 16, Manor Gardens, Richmond, Surrey. The device consists of a perforated disc which is placed over the sparking plug terminal and acts not only as a plug cooler but as a holder for carrying a fibre bush in which the high-tension wire is held.

The current is carried through a metal strip connected to the plug which lies immediately beneath and is in contact with the high-tension wire. By pressing a small knob at the end of this strip the circuit to the plug is cut off and the plug rendered inoperative. When pressure on the knob is discontinued, the strip springs back and connects the high-tension wire to the plug.



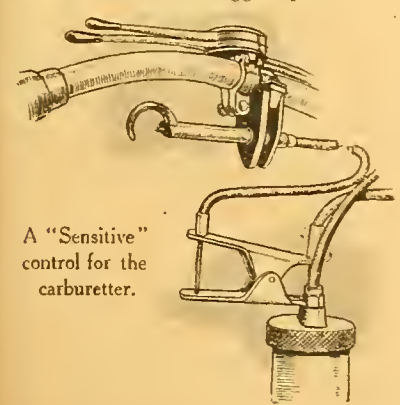
A combined plug cooler and cut-out.

A SENSITIVE THROTTLE CONTROL.

ALTHOUGH the motor cyclist may be loth to encumber his machine with any more cables than those which already adorn most handle-bars and steering heads, there appears to be some excuse for a device which will be conducive to easier driving.

In this category must be placed the Unity "Sensitive" Control, made by Messrs. Kerslake, Ltd., of Putney. This device may best be described as a finger-operated accelerator, and it is ingenious, in that it does not involve any alterations or interferences with the existing throttle control. Briefly, the accessory consists of a finger trigger attached to the handle-bar near one of the grips by a universal ball and socket arrangement; this trigger pulls on a Bowden wire and operates a small lever device on the carburetter, which in turn lifts up the end of the throttle cable outer casing. This being so, the inner wire (to which is attached the throttle barrel) is also pulled up; thus the throttle is raised without disturbing the relative distance between the ends of the inner and outer wires which is controlled by the setting of the ordinary handle-bar throttle lever.

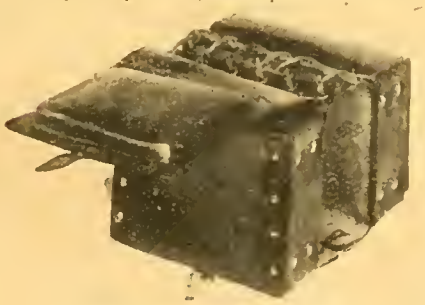
In practice the throttle is set to give a certain speed (as, for instance, a slow tick over with clutch disengaged), and the sensitive control is then operated for all higher speeds: the instant it is released, however, the throttle flies back to the predetermined position controlled by the throttle lever. For traffic riding such a control should be invaluable.



A "Sensitive" control for the carburetter.

PANNIER-BAG KNEE-GRIPS.

AN accessory which usefully fulfils a dual role is to be welcomed, especially by those riders who dislike the crowding of their machines with anything but essentials. Such a fitment is the pannier knee-grips, made by the Betorl Leather Co., Ltd., of 56, Seel Street, Liverpool. This consists of two rectangular pouches, with padded fronts, which are fixed by laces, as are most devices of this kind. Besides providing a satisfactory grip upon the tank, they are sufficiently roomy to accommodate a repair outfit, dry battery for rear or inspection lamp, or a useful assortment of small tools. The grips are made of brown leather, the front end of the pouches being stiffened while the rear ends are soft to allow the grips to give to the pressure of the rider's knees.

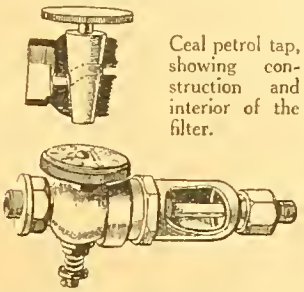


Combined pannier bags and knee-grips made by the Betorl Leather Co., Ltd., of Liverpool

AN INGENIOUS PETROL TAP LOCK.

WHILE not absolutely thief-proof the invention under review should certainly ensure the safe leaving of a motor bicycle outside a shop for a reasonable time, as it is virtually impossible to turn on the petrol unless the thief is let into the secret. The coned barrel of the tap is drilled in such a manner that it can only be opened in one position. This position can be marked by any figure, or by any space between a figure, by means of the celluloid disc which can be rotated independently of the milled screw which turns on the tap.

Anyone attempting to start the machine would naturally suppose that the "on" position is opposite one of the figures. It is quite conceivable that the owner of the machine might set the disc with the tap opening pointing to a quarter of the way, say, between 3 and 4. Such a position would take time to discover.



Ceal petrol tap, showing construction and interior of the filter.

Naturally with the device in question any position of the disc might be chosen. The secret of turning on the tap is practically impossible to unravel. The tap has a sump below it with a pipe projecting some way up in the centre so that any foreign matter remains at the bottom, thus providing an effective filter. The proprietors are Messrs. Chandler and Lowe, 4, Carlton Terrace, Child's Hill, Cricklewood, N.W.

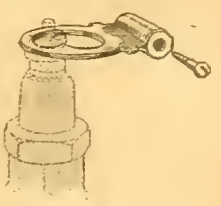
WEATHER-PROOF CLOTHING.

RECENTLY we have been testing some waterproof garments made by Messrs. J. Taylor and Sons, of New Park Street Mills, Leeds. The material used is a leather cloth which has all the appearance of leather itself, until a close inspection reveals the fact that the material is a fabric with a waterproof face. During the London-Exeter run, a double-breasted trench coat and a sleeved waistcoat were worn, and as both these were lined with fleece and equipped with wind-cuffs, neither cold nor rain caused any inconvenience, so far as penetration of these garments was concerned. To complete the equipment ordinary oil-skin leggings, trench boots, and a leather helmet were worn. The helmet became soaked, and there would appear to be a good opening for a helmet made of the I.T.S. material.

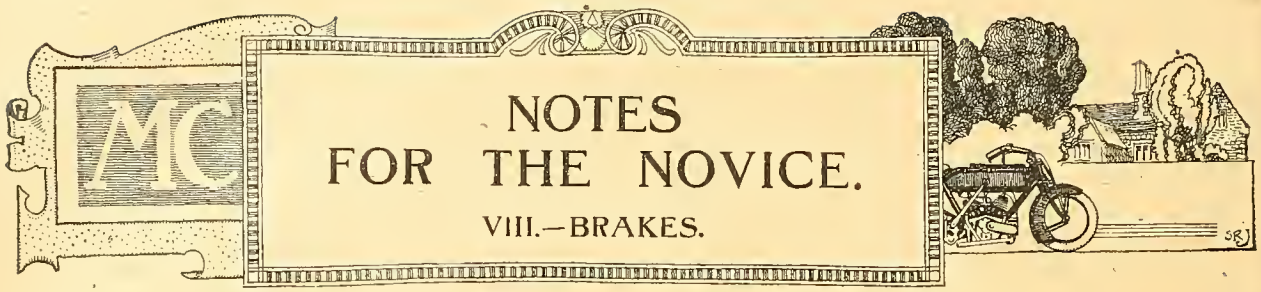
The trench coat, besides having the appearance of leather, is smartly cut, with belt and slit pockets, and the collar when turned up protects the lower part of the face.

A SPRING TERMINAL.

MADE by the Apollo Plug Manufacturing Co., Ltd., of Moseley Street, Birmingham, the snap-on high-tension terminal illustrated is stamped from a single sheet of brass. It consists of two superimposed "button-holes," which are slightly staggered, so that they grip the flange of the plug nut tightly when pulled into place; the terminal nut is inverted.



Apollo snap-on terminal.



NOTES FOR THE NOVICE.

VIII.—BRAKES.

(*Continued from page 520*).

THE earlier motor cycles were fitted with brakes copied from the pedal cycle. This was unfortunate, but not surprising. What is surprising and still more unfortunate is the fact that these brakes still survive on the front wheels of many makes. A brake which operates upon the wheel rim has proved effective in pedal cycle practice where the weights are low, but it has never been a real success on a motor cycle, though it must be granted that some examples of this construction are very much better than others.

I have seen brake blocks which were so badly fitted that on the first application they turned round on their stirrups and either went out of action entirely or caught on their spokes. Such things bring credit to no one.

Belt Rim Brakes.

Very soon a great improvement was made—so far as the rear wheel was concerned—by applying the brake to the belt rim, a dummy rim being fitted expressly for this purpose in the case of hub gear models and chain-driven machines. The arm carrying the brake block is pivoted to a bracket attached to the lower members of the rear part of the frame; this bracket is often passed through a slot so that it can be moved backwards or forwards to allow of chain adjustment. The brake block can be either above or below the pivot. When it is fitted above the pivot less force is required from the rider in the application of the brake, as the action of the revolving wheel tends to keep the brake block in contact with the belt rim. It is important, however, that too much advantage should not be taken of this tendency, or the revolving wheel will so greatly increase brake pressure that the brake will be inclined to jam and lock the wheel; for the friction of the wheel against the brake, and the increased brake pressure caused by it, will act progressively upon each other until the wheel is made to skid.

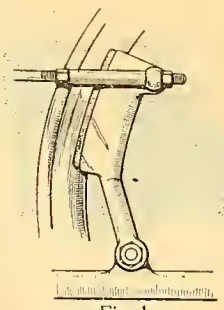


Fig. 1.

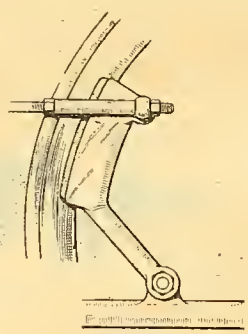


Fig. 2.

(Right) The brake pivot in a normal position and (Left) In a position giving an excessive leverage.

Why Brakes Jam.

A jammed brake is liable to happen when the pivot on which the brake swings is placed too far away from the belt rim, as shown in the accompanying sketches, where fig. 1 shows a reasonable addition to the leverage, and fig. 2 an excessive and dangerous amount.

The best belt rim brakes are applied always along their entire length, which may be as much as six inches, although several modern designs incorporate a compensating action.

I have occasionally heard complaints that the brake which works inside the V of the belt rim is inclined to jam, but, though I have used such brakes for many years, I have never experienced this defect, and I am inclined to think the trouble, when present, is not caused by the brake block being inside the rim, but is due to the faulty design to which I have just referred.

After the belt rim brake had been in use for some little time on the rear wheel it was adapted to the front wheel also, first by Messrs. Lea and Francis, afterwards by the Enfield Cycle Co. and the Birmingham Small Arms Co., and it proved to be a great improvement. When used on a front wheel it is of course not advisable that a brake should be so powerful as when used on the rear, for it would never do to fit a brake which would cause the front wheel to skid, for front wheel skids mean certain falls.

The belt rim brake, then, as applied to front wheels, is always made less powerful, and this occasionally causes unthinking riders to say that it is no good, but this is quite a mistaken idea. When properly adjusted the front wheel belt rim brake is quite as powerful as it should be.

Car Type Brakes.

From time to time contracting band brakes have been fitted to motor cycles, but these have not always proved to be up to the work which they were called upon to do, and the band was apt to touch the drum when it should have been clear of it.

Some up-to-date firms have fitted the internal expanding brakes, and these, when lined with Ferodo or some other similar lining, have turned out to be most effective in all respects. They are powerful but smooth in action, and not very apt to admit dirt; moreover, they wear well, and do not rub when in the off position.

These brakes are commoner on the rear wheel than on the front, but on a few machines they are fitted to both wheels. It is just as well that the drum on the front wheel should be somewhat smaller than that on the back, as that, combined with the fact that the rear brake is generally foot-operated, while the front brake is applied by hand, will make it less

Notes for the Novice —

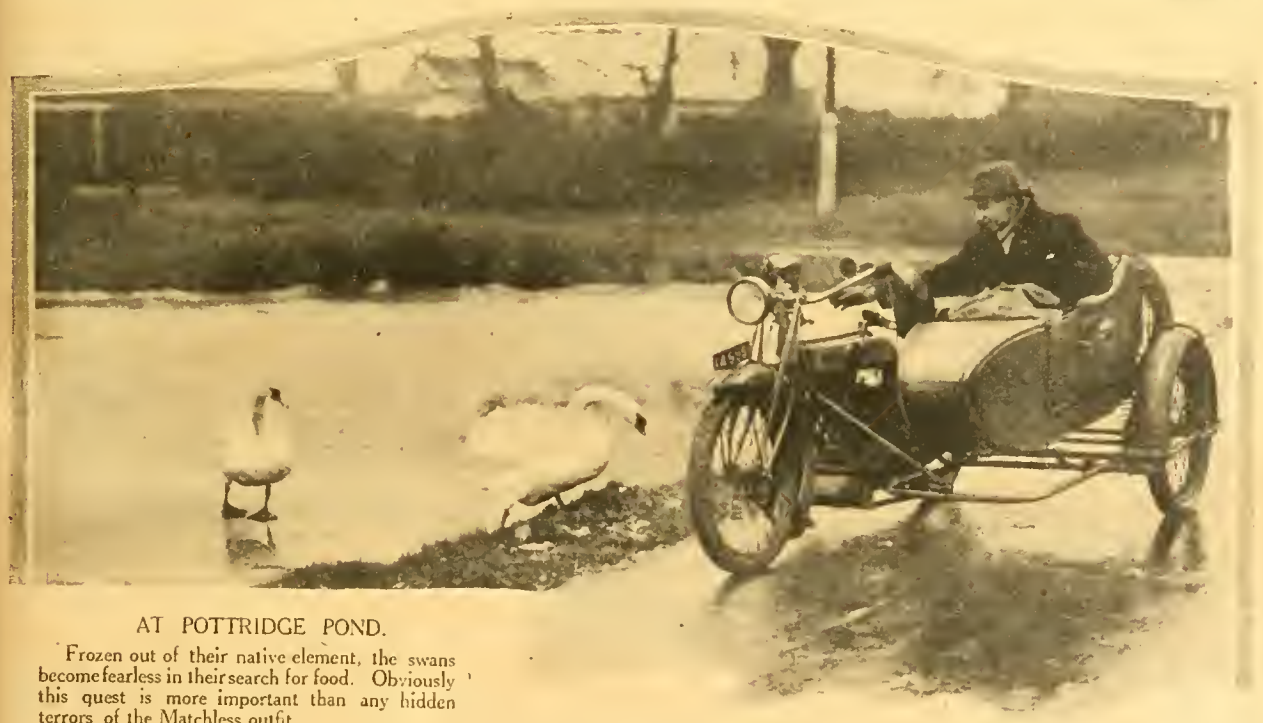
powerful. One occasionally notices that small bits of grit get between the drum and the inner metal part which carries the expanding parts. This does no particular harm, but gives rise to an occasional tinkle such as can be produced by tapping a cycle bell with the finger nails. It can be removed by running a piece of stiff paper or thin card round between the parts.

On chain-driven machines it is obvious that any adjustment of the chain made by moving the rear wheel backwards or forwards must be accompanied by a corresponding adjustment of the brakes and brake-rods.

At one time it was common practice to mount the brake pedals upon the footrests, and consequently they were often put out of action by a fall; now they are generally mounted on special lugs of their own, and placed out of harm's way—a much more satisfactory method—and seldom suffer damage should the machine be upset.

A periodical examination of the brakework is very desirable, as in an emergency much may depend upon an efficient brake. It is not only in hilly country that brakes may be urgently needed. J.H.W.

Previous articles in this series include:
CARBURETTERS—Parts I., II., and III., Aug. 5th 12th and 19th respectively. VARIABLE GEARS—Parts I., II., and III, Sept. 23rd, Oct. 7th and 14th respectively. CYCLE PARTS—Nov. 4th. LIGHTWEIGHTS—Dec. 16th.



AT POTTRIDGE POND.

Frozen out of their native element, the swans become fearless in their search for food. Obviously this quest is more important than any hidden terrors of the Matchless outfit.

MAGNETOS.

A New Edition of a Much Appreciated Book.

VERY hazy is the average motor-cyclist's idea of the inner workings of the magneto. Admittedly, the modern magneto is the very essence of reliability, and, provided the contact breaker points open and close evenly and at the correct time, practically nothing can prevent the current getting to the plug. "Practically," however, does not mean absolute immunity from elusive magneto trouble, and we think it just as desirable that the rider should carry a working knowledge of the principles of his ignition as it is to carry a spare valve in these days of stainless steel. It is also somewhat of an anomaly to know every detail of a machine and yet to be ignorant of exactly how the vital spark is produced.

The need for a volume devoted exclusively to ignition has been amply proved by the success of the first edition of "Magnetos" (by A. P. Young, A.M.I.E.E., and published by Iliffe and Sons Ltd., London); and in consequence the second enlarged and revised edition should meet with even greater success than the first, which was quickly absorbed.

Magnetos for all types of internal combustion engines are dealt with in a readable and yet complete and exhaustive manner: but motor cycle instruments appear to receive special attention in the new edition. Primarily written for those who have little or no electrical knowledge, the treatise should appeal to the vast majority of engine users—and there must be few who could not learn anything from it.

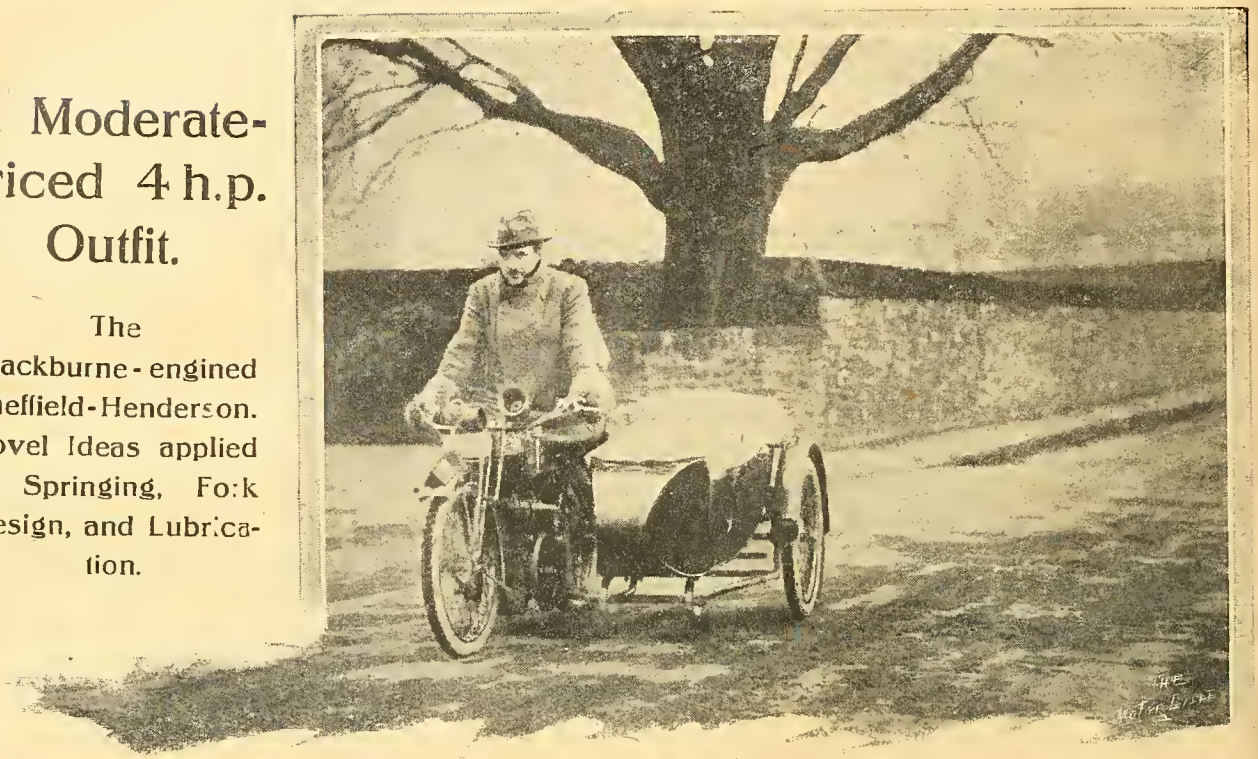
The illustrations are as they should be in a volume of this nature, clear, helpful, and interesting.

The chapter on locating ignition faults may resemble in its "frightening" qualities patent medicine advertisements, but nevertheless it deserves close perusal.

Taken all round, it is a most useful addition to the catalogue of motoring handbooks.

A Moderate-priced 4 h.p. Outfit.

The Blackburne-engined Sheffield-Henderson. Novel Ideas applied to Springing, Fork Design, and Lubrication.

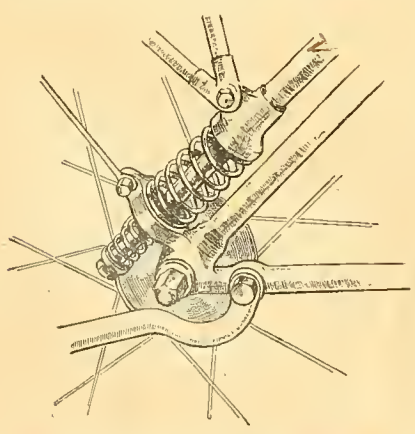


SPECIFICATION

ENGINE: 4 h.p. Blackburne (85 × 88 mm. = 499 c.c.).
GEAR BOX: Sturmey-Archer three-speed.
TRANSMISSION: Chain.
FRAME: Sloping top tube, saddle and carrier sprung.
FORKS: Henderson leaf-spring.
CARBURETTER: Amac.
MAGNETO: Runbaken.
LUBRICATION: Exhaust operated drip feed.
TYRES: 26 × 2½in.
SIDECAR: Henderson standard model.
PRICE (complete outfit): £150.

IN these days any effort to keep down the price of mediumweight outfits is to be commended, especially when that effort is combined with progress in design.

A machine produced to a price is all too often the cheapest possiblo assembly of the cheapest obtainable parts, and as such its life on the market is apt to be short. Genuine reduction of production costs by carefully calculated detail design alone can end in the truly moderately priced machine.



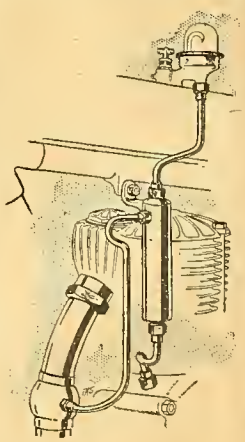
Rear fork end, showing the spring-supported saddle and carrier stays.

These ideas no doubt actuated Mr. L. B. Henderson, of Henderson Sidecars, Fitzwilliam Street, Sheffield, when he laid down his plans for the machine which was first shown at Olympia in December last. Its construction betrays no slavish copying of accepted designs, yet it is in no way unconventional; and, although standard power and transmission units are employed, they are not allowed to dominate the layout. These items were incorporated because it was justly concluded that, as specialist productions of universal success, they were ultimately cheaper than components specially produced on a small scale for the requirements of a single make.

Sound Frame Design.

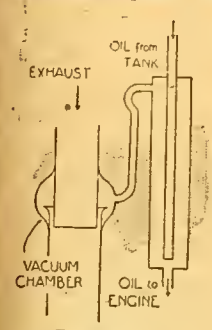
The frame and forks of the Sheffield-Henderson call for most attention, since they embody a number of features worthy of close examination. A compact sloping top tube frame, with saddle tank, is employed, and it is chiefly remarkable for the size of the steering-head. This item fulfils a requirement often demanded in the pages of *The Motor Cycle*, in that it employs large diameter cup and cone ball races which use ¼in. balls; indeed, the same cups as those used in the Henderson sidecar wheels are interchangeable with those in the steering-head. In addition to the steering column itself, there are two external members parallel with it, and the lower extremities of these terminate in the bearing studs of the front fork swinging links. There are no upper links to the forks, since the single-leaf scroll springs which are bolted to the fork crown are attached directly to the top cross spindle of the fork girder. These springs permit the forks to move up or down and backward and forward, but their inherent lateral stiffness prevents sideways motion of the fork.

To the top of the steering column members the handlebar is rigidly bolted; this construction makes for great strength, and the large head bearings, combined with the triplicate steer-



The Sheffield-Henderson automatic engine oiling system

A Moderate-priced 4 h.p. Outfit.—



Diagrammatic arrangement of the exhaust-operated oil feed.

ing head, should be unusually well able to withstand sidecar stresses.

Insulating Saddle and Carrier.

Instead of attempting to provide a completely sprung machine, the makers of the Sheffield-Henderson take a course which is less beset with pitfalls, and mount the saddle and carrier upon a spring-supported portion of the frame. The construction is simple and efficient, and consists of a cantilever saddle-pillar hinged to the sloping top tube of the frame. The end of this is T shaped, and connected on each side to a tubular member which passes through an abutment formed integrally with the rear fork ends. Coil compression and recoil springs taking their bearing against this abutment limit the plunger action of the tubes, to which also the carrier is secured. Adjustment to suit riders of varying weight is obtained by moving the saddle backward or forward on its pillar; while it will be seen that rider, carrier and contents, rear number plate and toolbags are supported on springs.

Automatically Controlled Lubrication.

As before mentioned, the power unit is a standard 499 c.c. Blackburne engine, and it does not call for any special comment. The lubrication system, however, is one which has been designed for the Sheffield-Henderson machine, and it is specially interesting in its adaptation of a well-known principle to serve a particular requirement.

An effort has been made to render the oil supply to the engine proportionate to the throttle opening rather than to speed, as is usually done in the case of automatically-operated systems. The control is quite independent of the rider's attention once the drip feed regulator has been set to suit the weather conditions or the thickness of the oil. The governing factor in the Henderson system is the amount of gas passing down the exhaust pipe, this, of course, in its turn being dependent upon the extent of the throttle opening. The apparatus is designed and works as follows: A short distance from the port the exhaust pipe terminates, and its end projects slightly into another bell-mouthed pipe which leads to the silencer. This arrangement forms an injector, and the junction of the two pipes is surrounded by a small annular chamber, which, owing to the injector action, becomes exhausted of air while the engine is running. The remaining part of the system consists of a plain Enots sight feed, with regulator mounted on the tank; the delivery pipe of this extends almost to the bottom of a metal cylinder depending vertically from the lower tank tube of the frame. There are two outlets from this cylinder, one (at the top) being connected to the vacuum chamber, while that at the bottom is led to the usual oil union and ball valve on the crank case.

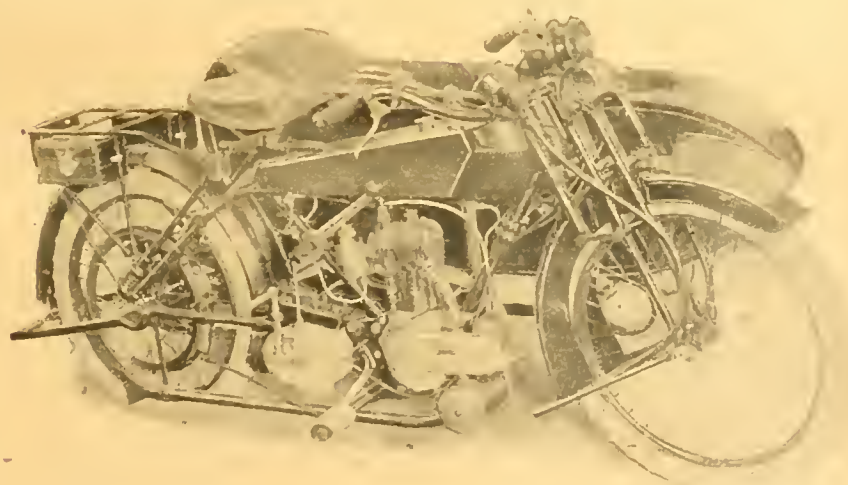
When the engine is running the air in the oil-pipe cylinder is almost immediately exhausted, and oil flows from the tank, passing by gravity to the engine; the wider the throttle opening the greater the depression in the exhaust pipe vacuum chamber, and the greater the flow of oil induced.

The Machine on the Road.

Recently we had the opportunity of testing the Sheffield-Henderson outfit on the rough roads and hills in the district surrounding its place of origin, and were agreeably impressed by its comfort and ease of handling. Both Blackburne engine and Sturmey three-speed gear box were familiar to us, and the performance of the machine was such as might be expected from any well built mount embodying these components. Our test was undertaken rather with a view to observing the action of the lubrication system and testing the spring-suspension, and other qualities which go to make a machine "rideable" or otherwise. The front forks appear to be exceptionally good, no clashing being noticed, while the ease of steering, with sidecar, was all that could be desired, as there was not the least evidence of side drag. Saddle comfort was assured, even when as a further test the machine was driven into broken ground at the side of the roads, and tried over the drainage gulleys cut through the turf.

On later models, a specially-made Brooks saddle will permit a slightly lower riding position, but this, perhaps, is not so important on a sidecar machine as on a solo mount.

A point worthy of note is that both brakes of the inverted V type work upon the back wheel where a special drum is provided. The foot brake is operated by pedal on the right footrest, while the hand brake, which is pivoted from the seat stays, is controlled from the right handle grip by means of Bowden mechanism; this hand brake is particularly effective when the machine is tending to run backwards (as when starting on a hill), and it, therefore, removes an objection often levelled against machines equipped with foot brakes on the right-hand (or kick-starter) side.



Special spring forks, with specially strong head and spring suspension of saddle and carrier, are features of the 4 h.p. Sheffield-Henderson outfit.

MOTOR CYCLES IN NIGERIA.

THE Comptroller of Customs at Lagos, Nigeria—Mr. T. F. Burrows—acts also as trade correspondent to the Department of Overseas Trade, and has contributed information as to the possibilities of the motor cycle in that country.

Excluding British Cameroons, Nigeria has an area of 336,000 square miles and a population of over 16,000,000, which is larger than the Dominion of Canada and Union of South Africa put together. There are many thousands of miles of roads suited to the use of motor cycles and sidecars, and very many more thousands of miles of pathways suited to the use of solo mounts. Internal communications are being continually added to, and work of this kind will continue for years. There are in use now probably less than 1,000 motor cycles, although the potential market there is said to be exceptional.

Mr. Burrows states that the cost of establishment, in Lagos especially, and to less marked degree in all the principal trading centres in Nigeria, is increasing. He has no doubt that firms will find it advantageous to open a large and well-equipped first-class branch of their business in Lagos, with a view of extension to the thickly populated trading centres such as Abeokuta, Ibadan, Zaria, Kano, etc., in the immediate future. They could not have better prospects of an extensive business than are held out to them in this country, if men of the right stamp are selected as representatives, who possess not only capacity for organisation, business ability, and expert knowledge of the line in which they are dealing, but the moral character requisite in a country of this kind.

DdepartingFrom Convention.

Two Remarkable Motor Cycles in which Accepted Practice has been Ignored.

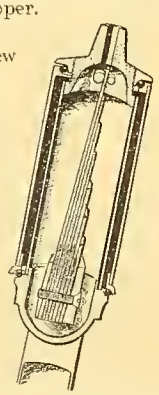
It is often said that the modern motor cycle is the development of the pedal cycle, and that were it a "designed" instead of an evolved proposition, the result would be entirely different from present-day practice. On this and the following page we describe and illustrate two machines quite contrary to conventional design.

The Peters Design.

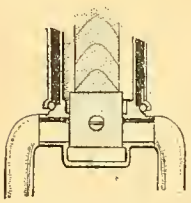
THAT it is possible to produce a machine incorporating all the essential units which constitute a motor cycle and yet to reduce the number of building operations is exemplified in the first of the two machines under review, which is the production of Mr. J. A. Peters, 28, Victoria Street, London, S.W.1.

Mr. Peters, who has for many years been associated with the motor cycle industry, and has had experience as an aircraft designer, has, in many cases, based his design on aeroplane practice.

As may be seen from the illustration, the general appearance is somewhat unconventional, which is perhaps due to the absence of a frame proper.



Right: Side sectional view of the steering head.



Above: Pivot of front forks.

The two-stroke engine is inclined at 20° from the vertical, and is held at the head by lugs welded to the petrol tank, whilst the crank case plates are held by a bolt passing through the lower end of the vertical member welded to the rear of the tank.

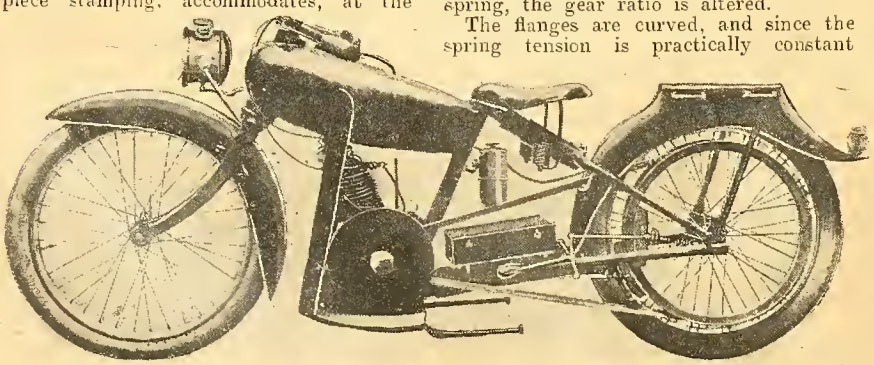
It will be noted that the construction is such that the engine forms one side of a triangle. The tank, which is a one piece stamping, accommodates, at the front, the particularly robust steering head.

A novel and interesting lubrication system is used, in which the oil is fed under pressure from the exhaust gases. A pipe from the exhaust port is connected to the top of the oil tank, and the resultant pressure forces the lubricant up a semi-syphon pipe through an adjustable needle valve into the delivery lead which lubricates the cylinder walls. The lubricator is within easy reach of the rider and constantly under observation.

Simplicity in Gearing.

A variable pulley gear is incorporated, and adopts the reverse principle to that most frequently used. The sprung rear wheel is linked to the front part of the machine by two members—one, incorporating the coil springing system, fixed to the rear end of the tank, and the other connected through links to the lateral bolt holding the crank case. The links attached to the lower member are extended, and are provided with a segment operated by a worm on the controlling lever protruding through the tank. The "coffee mill" action of turning the handle moves the rear wheel backwards or forwards, and, since the pulley is equipped with a floating flange held in position by a coil spring, the gear ratio is altered.

The flanges are curved, and since the spring tension is practically constant throughout its range of movement, it is obvious that the lower the gear employed the greater is the belt tension.

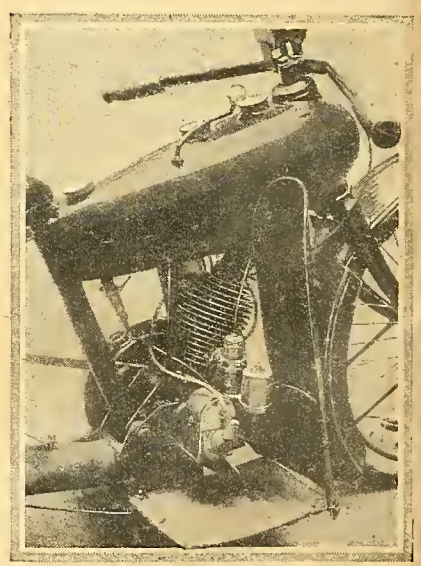


Peters motor cycle, in which the tank, engine, and one stay make a triangle to form the "frame."

Silencing through Frame Tubes.

A point worthy of note is the arrangement of the silencer. The lower rear member, a stamping, receives the exhaust gases, which pass out through the fork tubes.

The rear springing system provides a snubbing action both ways, and consists of neatly enclosed coil springs located beneath the saddle and incorporated on the top rear member. The lower member



How the engine is fixed to the tank and the one tube in the construction of the "frame."

is, of course, hinged about the axis of the gear links. The front fork is ingeniously arranged and consists of a short laminated spring contained in the head.

A spring stand is provided, and is fixed beneath the footboards with which a pair of leg shields are made integral. These and the large domed mudguards should protect the rider from the mud. Number plates are incorporated in the rear mudguard, whilst the carrier is also a part of the same stamping. The riding position is low, and the weight of the machine is only 140 lb. ready for the road.

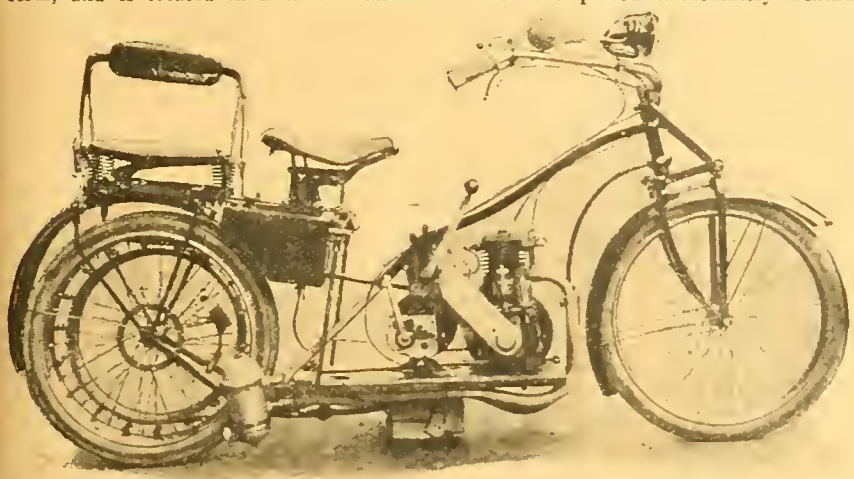
Kelly's Patent Motor Cycle.

As may be seen from the illustration, the appearance of the Kelly machine is most unconventional, whilst the spring-

Departing from Convention.—

ing system isolates the engine unit, gear box, saddle and carrier from the two wheels. A long laminated spring is anchored at the front of the engine platform, and is located in a slide immediately beneath the rear of the footboard.

A 3 h.p. Dalm two-stroke engine unit is used, and is mounted on plates fixed at the front end of the platform; whilst a three-speed gear box, clutch, and kick-starter are placed immediately behind,



Kelly's patent motor cycle, in which symmetry has been the last consideration. Mechanically, there appear to be many doubtful points, including the front forks and the flimsy construction of the rear wheel member.

and retained in position by four long bolts held to the top flat steel member. This latter material is used throughout, and another feature, which will be recognised as an unusual procedure, is the fitting of a twin-tyred wheel at the rear.

Sprung Tank and Carrier.

The tank is located beneath the saddle, which with the rear carrier is sprung on leaf springs. The front fork is of unusual design. Two laminated springs are anchored to a cross member at the bottom of the head and attached at their lower ends to the front axle. Two other members, which go to complete the triangles supporting the front wheel, are rigid. This construction limits to a great extent the action of the springs; this is probably advisable, as it may be noted that there is little clearance between the front mudguard and the exhaust pipe. We tried this machine, but since the gear box mounting, which is of a temporary nature, would not permit the gear remaining in mesh, our trial was of short duration.

We are informed that the machine will shortly be offered to the public by Messrs. Kelly Patent Cycles, Lion Motor Works, Black Lion Street, Brighton, but we recommend that, before doing so, they considerably clean up the design and subject it to very searching tests.

A Divided Wheel Spindle.

Tyre Repairs facilitated by a Divided Axle with Patented Locking Action.

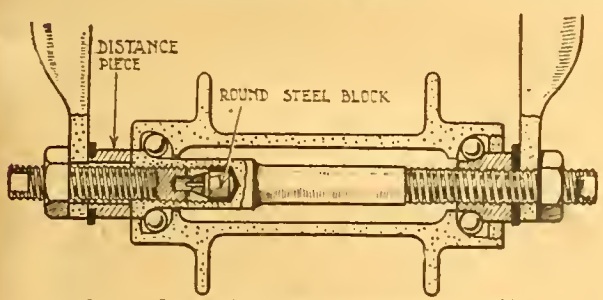


Fig. 1.—Gascoign's divided locking spindle assembly.

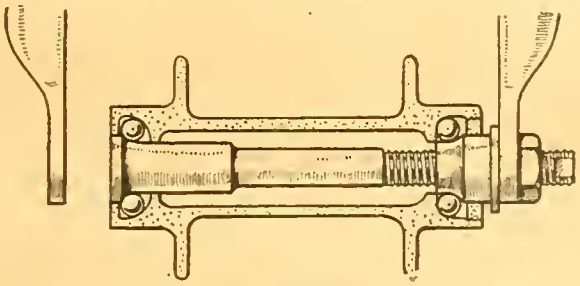


Fig. 2.—Divided axle with detachable parts removed

THERE can be no two opinions as to the desirability of being able to remove the tyre, tube, or cover from a motor cycle without having to interfere with the transmission and brakes.

This can be effected by means of a quickly detachable wheel, or it can be done even without taking out the wheel by fitting a divided axle. The difficulty in the latter case is to construct an axle which shall be absolutely firm and rigid when locked.

Distortion Avoided.

It has sometimes been found that when the parts are simply screwed together a slight amount of distortion occurs with detrimental results to the ball bearings and the free running of the wheel.

In J. Gascoign's patent (No. 143158/19) this difficulty has been got over in a very simple and efficient manner. One ball race is formed on an enlargement of the axle and at this end a hole is drilled and threaded. Into this is screwed the detachable part of the spindle after being first passed through the fork end and a distance piece, which can, in the case of a chain-driven machine, form part of the chain adjuster. This detachable portion has a hole drilled in the end, which is then divided into four by two saw cuts at right angles, and the hole is coned or bevelled to an angle which has been found to give the best results for locking and for easy release when required.

Inside the main part of the spindle is a steel block which spreads the coned end of the detachable part and effectively locks the threads together without any distortion. The movable cone on the other end of the spindle has a peg projecting from it to prevent it from rotating, and adjustment of the ball bearings is carried out by turning the axle itself (instead of the cone), which has a squared end for this purpose.

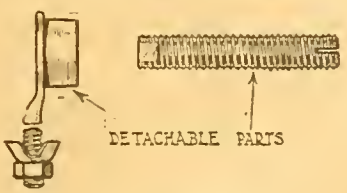


Fig. 3.—Removable parts of Gascoign's axle.

Adjustment of Bearings.

Turning the axle outwards tightens the bearing, while turning it inwards naturally has the reverse effect. When screwed home and properly adjusted, both sides are locked with the usual nuts. It will, of course, be obvious that the bearings need not be disturbed when the removable part is taken off to allow of a tyre to be changed.

It is not claimed that there is any novelty in a divided axle, but the patent covers the method of locking the several pieces firmly together. It is proposed to manufacture the complete axle to fit all standard patterns so that all a rider need do is to remove his solid axle and fit the new one in its place, which is a matter of minutes only. Production will start in Coventry in the near future.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

TO "EXETER" COMPETITORS.

Sir,—I am anxious to get in touch with the driver of a Triumph and sidecar who let me have some petrol near Honiton on the recent London-Exeter run.

If you can assist me in tracing this gentleman I should be very grateful. H. F. OWEN EVANS.

TWOPENCE PER MILE INCLUSIVE.

Sir,—Mr. E. Parsons has overlooked the fairly large item of "depreciation" in his calculation of running costs. This is at least 20% per annum on the capital cost, which would add one penny or three halfpence to the cost per mile.

Ryton-on-Tyne. T.A.C.

"IXION'S" LIKENESS.

Sir,—Your correspondent, Mr. A. Arnold, in *The Motor Cycle* for January 13th, puts forward a request for you to publish a photograph of the famous "Ixion." I really hope you will do nothing of the sort. At present "Ixion" is a mysterious being whom we all admire, and if you publish his photograph he may lose most of his charm. You will bring him down to the level of an ordinary human being from his present high seat among the gods.

PERCY J. FOSTER.

THE LURE OF SPEED.

Sir,—After having for many years ridden American motor cycles, I have now a British-made twin of 8 h.p. This machine is of quite reliable make, and well tuned, but I cannot get from it anything like the speed I enjoyed with my others. In each case the engine capacities have been the same, yet my present mount is nearly 10 m.p.h. slower than my former machines. Why is this? I have pondered a good deal over it. Perhaps your readers can offer some solution.

Gillingham. HANLINDEX.

THE SUPER-SIDECAR AND THE INFRA-DRIVING SEAT.

Sir,—Drivers of sidecars agree that designers are paying too much attention to sidecars and not nearly enough to the driving machine. In the many recently published illustrations of over-elaborate sidecars one readily contrasts these with the antiquated pedal bicycle type saddle, cumbersome tank, and lack of mudguarding provided for the man who does the work.

Why not an open frame with mudguarding as on the Unibus, with a bucket seat as on the Reynolds runabout?

Look at the illustration of the latter. Imagine, say, an 8 h.p. J.A.P. engine, three-speed gear, and 3in. tyres, and one then feels that one would not object to facing the elements as driver, however elaborate the coupé sidecar in which the passenger lounged. REGINALD BOASE.

WHAT "IXION" RODE.

Sir,—There seems to be a general impression among motor cyclists that the 4¼ h.p. B.S.A. is an unusually heavy machine, and I fear that "Ixion's" notes on his 1920 machines in a recent issue will tend to strengthen that erroneous impression. He says of the "B.S.A.," "Her weight renders her a little lumpish to handle till she begins to move," whereas he does not refer to the weight of his Norton, or of his Scott, or A.B.C., in spite of the fact that it is quite likely that the B.S.A. was actually the lightest of the quartette.

In last year's Six Days, the lightest 4¼ h.p. B.S.A. weighed 280 lb., as did the lightest Scott, while the lightest examples of the 3½ h.p. Norton and the A.B.C. each weighed 7 lb. more, or 287 lb. These weights of course include all kit, as well as petrol and oil, so that the weights of individual machines of the same type may vary according to the rider's idea of the amount of kit necessary. It is the lightest machine of each type, therefore, which must be taken as the basis of comparison.

I may add that my own 1920 4¼ h.p. B.S.A. complete with Lucas Magdyno set, large leg shields, all tools and kit, and with full tanks, weighs just under 290 lb.

Comment appears superfluous, except to say that, in addition to praising the power and reliability of his B.S.A., "Ixion" should have referred affectionately to its unusually low weight for a machine of its class.

D. S. HEATHER, B.Sc., A.M.I.A.E.

THE 1921 T.T. RACES.

Sir,—With reference to Mr. A. L. Judge's letter in *The Motor Cycle* of January 13th, may I express the views of an amateur?

I do not deem it at all unsportsmanlike to enter six machines of the same make. If Mr. Judge has a 'bus which he thinks will do good in the race, why not race it against six of the same make? The said six machines will undoubtedly be all very much the same. It is then quite plain that if he can beat one he ought to be able to beat the six. My motto is more the merrier. OUTSIDER.

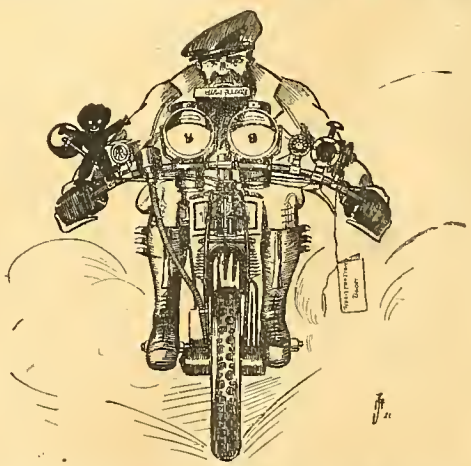
Birmingham.

FEBRUARY 1ST!

Sir,—I crave your indulgence for the space of time required to scan the enclosed.

I am aware that you do not habitually waste space on this sort of rot, but I have often enjoyed the exceptions.

I am compelled to forward this under the baneful eyes of several companions, so if you have no use for it, be as nice as possible under the circumstances. W. H. WILCOCK.



There are riders whose great delight it is to fill up the handlebar of their machines with various accessories. The new licence holder will be a delight to them instead of a nightmare, as it is to the unfortunate gentleman in the sketch. (See letter by Mr. W. H. Wilcock.)

WAKE UP, ENGLAND!—ONE VIEWPOINT.

Sir,—While British motor cycle manufacturers are worrying their dear little brains *re* spring frames, but still use rim brakes and drip feed lubrication on their 1921 bargains at £250 or more, I am enjoying myself with the perfect running of a Harley-Davidson, and also availing myself of the excellent "service" to be had from the H.-D. Co. in London. It is the same old saying, "Wake up, England."

Nuff said. EX-R.A.F.

Weymouth.

DO WE COUNT?

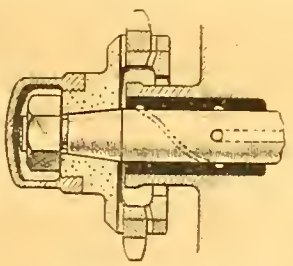
Sir,—I have just obtained from the Post Office a copy of Form R.F.1, and on filling it up I notice that in the space numbered B.2, the engine number of the motor cycle is not asked for as is the case for motor cars under B.1. We have been led to believe that the new regulations would be a check on the stealing of motor vehicles, and if this is the intention, is it not highly necessary that the engine number and frame number of the motor cycle should be entered in the registration book, as is done in the case of a car? Perhaps we motor cyclists are not of sufficient importance to be protected in the same way as car owners.

In my own particular case, although I have not seen a copy of the new registration book, I shall do my utmost to persuade the licensing authorities to enter in my book, the number of my engine and frame number, and would suggest that all other motor cyclists should do the same and quote these additional particulars on their application form when applying for a new licence. B. W. BURROW.

LUBRICATION OF CHAINS—AN IDEA.

Sir,—Having seen the question of chain lubrication mentioned several times lately in *The Motor Cycle*, it struck me that you might be interested in a method I have used on my machine with great success.

The rough sketch enclosed gives a sectional view of the sprocket wheel which is mounted on a boss, which in turn is keyed to the crankshaft. The engine is lubricated with an oil feed to the main shaft bearing in a similar manner to the A.J.S. Any surplus oil which works out of the bearing is flung into the recess shown in the sprocket boss, and centrifugal force carries the oil through the holes and channels shown right on to the roller and rivets of the chain. Only a very small amount of oil really comes out of the bearing, but it is quite sufficient to keep the chain always perfectly clean and thoroughly lubricated inside the rollers.



An excellent idea for oiling a chain sprocket, and thus the chain. (See letter from D.E.J.)

The arrangement may, of course, have been in use for some time, but it is quite original in my case, and was carried out at the beginning of last year, since when it has done 4,000 miles. My machine is a 3½ h.p. Rudge with the original machine very much altered, particularly the engine.

I find plain bearings to the engine shaft much sweeter running, and, judging by this year's running, far more durable than ball bearings. They are, of course, fitted very accurately and properly lubricated, and I am of the opinion that ball bearings are only fitted because they are cheaper. My engine will revolve just as freely now as it did with the ball bearings, and one has only to see what the A.J.S., Indian, and Blackburnes have done in order to see that a plain bearing properly designed is quite satisfactory.

Glasgow. D.E.J.

LIGHT HEAVYWEIGHTS.

Sir,—May I humbly suggest that the wording of the following extract from the interesting article on "The Sporting Solo Mount" in a recent issue is just a little misleading, viz.: ". . . the T.T. Rudge-Multi, although of fairly heavy build, is essentially a sportsman's mount. . ."?

True enough, it is difficult to realise, when looking at the I.O.M. Rudge-Multi, with its large tank, voiturette wheels, and generally "hefty" appearance, that it only weighs 188 lb. unladen. This figure I get from the excellent "Buyer's Guide" included in your last Spring Number. Surely "sturdy" would have been a better word than "heavy."

Moreover, I find that, of all the models mentioned in your recent article, which were also to be found in the "Buyer's Guide," the Rudge is without exception the lightest. No doubt it would surprise most of your readers to find that, according to the specifications I refer to, the T.T. Rudge is just as truly a lightweight as the 2¾ h.p. Douglas.

May I conclude by emphasising what a thorough blessing it is to have a really useful size of tank; to be able to pour in a two-gallon tin without "squeezing," and forget about it for 200 odd miles—in my case a fortnight's daily running to Town and back. Why is the Rudge almost alone in this?

East Sheen, S.W. APPRECIATIVE.

THERE ARE STILL MOTOR TRICYCLES.

Sir,—I shall feel much obliged if you will kindly give publicity to what I consider to be a great injustice to users of tricycles of lightweight under the new motor taxation.

Whoever drafted the Act must have forgotten that there are still such things as three-wheeled *cycles* proper (as distinguished from tricars and runabouts) still in use. These being light in weight, of low power, carrying one person only at quite a moderate speed, should surely not be liable to the same taxation as a 10 h.p. runabout for three or four passengers? Take, for instance, a light *pedal* tricycle fitted with a 1½ h.p. motor attachment, doing no damage to the road surface, not doing more than 15 m.p.h., and weighing in all under 100 lb. Can anyone say that such a machine is fairly taxed when its owner has to pay *double and more* than the owners of a motor cycle weighing up to 200 lb. with a 3½ h.p. engine, and which can carry at a speed of anything up to 60 m.p.h. two or even more persons? DISGUSTED.

Keynsham.

ELECTRIC LIGHTING CABLES.

Sir,—I sincerely hope that "Ixion" has recovered from his headache. It is too bad that he should be inflicted with technical details that are of little value to the average motor cyclist. Lighting cables suitably fixed to the machine are subject to little or no strain, or bending movement; therefore, what is the use of specifying tests that could only be conveniently carried out with a steam-roller? The use of special and expensive material is often put forward by theorists, who do very little, if any, riding, and follow the sport mostly on paper, with the result that motorists who are anxious to fit electric lighting sets get the impression (wrongly) that it is an expensive and difficult matter.

My only set has been in use nearly two winters, and cost just over £3, the cable used being ordinary round twin workshop flexible with a compound finish. The wires are just twisted together (groans from the theorists), there is no elaborate terminal board such as described in a recent number of *The Motor Cycle*, and what is more important, no-trouble.

F. BRADFORD.

ARE MOTOR CYCLISTS FICKLE?

Sir,—I have read "Crimson Rambler's" letter "Are Motor Cyclists Fickle?" with interest. I have often wondered if I am a freak in this respect. My fickleness does not only extend to the fair sex but also to my favourite hobby, motor cycling. At the same time, I do not think my case is a rare one. I have met others of the "fickle ilk." Analysing the question, I should imagine that the majority of sporting riders are fickle, given the necessary cash.

I seldom see a new and resplendent sporting mount without coveting it, and go through hours of torture wondering if I can run to it. It must not be imagined that I soon tire of a 'bus if it is a good one. I would keep *all* the good ones if I could and buy the new one in addition. At present I covet the Brough Superior, as I have seen it at rest and at work, and "some" work at that, and I won't be happy till I get it!

Now how does the following list show the fickleness of just a sporting amateur? In four years I have owned the following: Two T.T. Rudge-Multis, one Isle of Man Rudge-Multi, one 3½ h.p. Zenith Green, one 4 h.p. Rex (Speed King), one 3½ h.p. Brough, one 2¾ h.p. Humber, one 3½ h.p. T.T. Norton, one 2½ h.p. Sparkbrook, one 2¾ b.p. o.h.v. N.U.T., and two 6 h.p. sporting Zeniths.

My life is spent in a medley of satisfaction of possession and dissatisfaction of desire for something new—and yet I love each. A. W. GRAHAM MARTIN.

REAR SPRINGING.

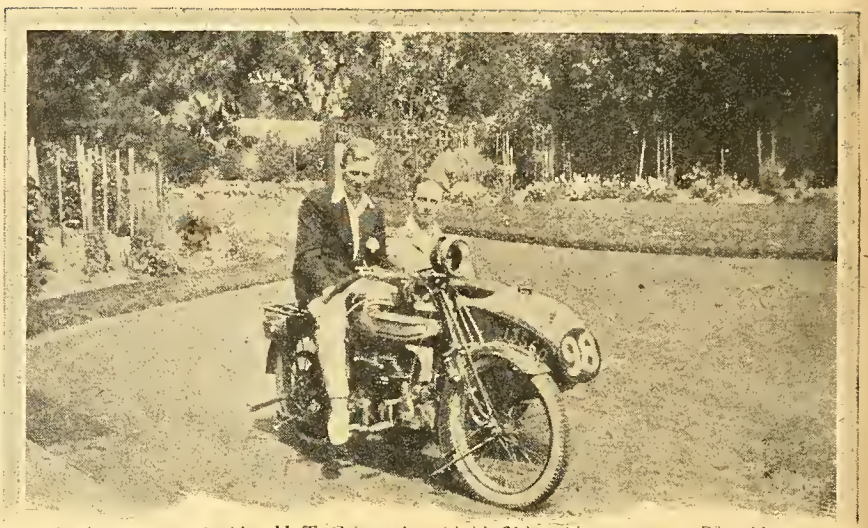
Sir,—I have to thank "Ubique" for his somewhat adverse criticisms, under the above heading in *The Motor Cycle* of January 6th, of my system, and would, in its defence, ask him some questions. He is greatly disappointed, as he thought we had really got a system retaining constant transmission tension. Well, can he state that my system fails in this respect? When did I mention eccentric motion? I am afraid this is an eccentric idea of "Ubique." Why an opinion should be formed that my system strongly followed car lines I cannot say. In a letter written to *The Motor Cycle* in August, 1920, I distinctly mentioned the locomotive or Stephenson.

It is not whether the device would look better with coil springs, but whether it works better, that I am concerned. I use cantilever (not quarter-elliptical) springs, and thereby follow best car practice, because cantilever springs give the best result, and are necessary if one is to maintain the centre of the fulcrum coincident (not eccentric) with the centre of transmission system.

Regarding the question of simplicity of wheel removal, I would say that, in the design as published, there are three extra (not six) operations to be performed, but that these altogether occupy about one minute. It should be perfectly obvious that any motor cycle using knock-out spindles can still do so if using my spring system, and therefore these three operations would be unnecessary.

There is no difficulty in providing protection from mud, grit, etc., for the radial blocks, so that clogging would not result. "Ubique" must understand that there are other methods of preventing lateral movement than by naked flanges, although it is not possible to show or describe every method in a small general drawing.

G. HAROLD DURSTON.



An Australian trials rider, H. T. Grimwade, with his 3½ h.p. Norton outfit. The sidecar is a spring wheel Goulding, manufactured locally.

"AIR SPRINGING" EXPERIENCES.

Sir,—I am interested to note that your correspondent "R.N." mentions the old A.S.L. motor cycle made by Air Springs, Ltd., with their old spring frame.

It may be of general interest for you to know that I still run a 1912 model A.S.L. fitted with 22in. wheels. The machine was put away in 1914 until 1920 for obvious reasons, but, on being "recommissioned," it has given every satisfaction.

I have had several excellent trips during the last two years, out in all weathers every day, and spending ten days in North Wales in the summer, with no mechanical trouble. I have fitted a modern coach-built sidecar and a last year's Burman gear box, and have yet to find a hill to stop us with two up and luggage. This certainly speaks very well for the A.S.L., and I am sorry to learn that this firm is not now in existence. In fact, the machine runs so well that I am contemplating fitting 26in. wheels. It is quite common for us to pass many modern outfits on hills.

Unfortunately, the present-day roads are too much for the "air springs." The really fearful pot-holes burst the pneumatic sleeve, and I have now fitted large metal coil springs over the air chambers, which work satisfactorily, although not giving such a delightful resiliency as the "air spring."

I should welcome the experiences of any other A.S.L. riders, if there are any left.

EX R.N.

Derby.

GRADIENT METERS.

Sir,—We should like to refer to "Ixion's" "Comments" in your issue of January 13th, on the behaviour of one of our gradient meters, which he succeeded in fixing to the accessory cross-bar of a motor cycle. We do not quite know how he managed the fixing, and we quite agree that the standard brackets as supplied for motor car instrument boards do not lend themselves very readily to fixing on a tube.

With regard to "Ixion's" suggestions, which we appreciate, we are considering a suitable, universal, fixing clip for motor cycles, and we also make the instrument with a dial reading up grades only, to 1 in 2½.

We are afraid there is no hope of an instrument for measuring gradients ever being entirely immune from the effects of acceleration and retardation, but with reasonably steady driving the results given on a motor cycle will be very nearly accurate.

There are roads on which the surface is so bad, as "Ixion" says, that the needle cannot help oscillating, and we certainly do not claim to be able to measure accurately the slope of the side of a pot-hole at 30 m.p.h.

TAPLEY AND CO. (W. Tapley).

THREEPENCE PER MILE—INCLUSIVE.

Sir,—The following details of running expenses kept carefully for twelve months of a January, 1920, 4 h.p. Triumph and sidecar may be of interest. Decarbonising and trifling repairs have been done by myself; the rest at a garage. The only defects in 7,000 miles in all weathers, half the mileage in Cornwall, the rest throughout England and Wales, north, east, and west, have been a frequent breaking of wheel ball races aud of sidecar mudguard.

Mileage.—7,100.

Chains (Renold).—One, 2,500 miles only; second, still running.

Tyres.—One halfpenny per mile, including belt cost.

Belts.—Dunlop 1in., 5,500 miles; John Bull 1in., still running.

Petrol.—About 60 m.p.g. averaging the year. National benzole produces 10 m.p.g. more than No. 1 spirit, when it can be got, which is not often.

Oil.—1,650 m.p.g.

Total Running Costs (chiefly in hilly country with two up), including all repairs, insurance, etc., 2¼d. per mile. Including depreciation of one-tenth cost and 5% on capital = 3d. per mile.

This is the total cost in all weathers for very hard usage in bad country. For lighting I use a converted set of carbide lamps (no more carbide after the first thousand miles for me), with 12 c.p. head light and two screw-in bulbs for rear and side, and 60 amp. 6 volt accumulator in a box let in the sidecar bottom under the seat, the whole set converted and wired up with three separate switches at trifling cost, and found perfectly reliable and cheap.

Wanted.—(1.) Control wires that do not stick and rust after a week's rain, and no plating on the cycle.

(2.) Mudguarding that is rider-guarding.

(3.) Magneto rocker arms that do not stick in persistently wet weather.

The A.A. has, in the year, saved me £4, supplied me with much valuable information, and prevented me having to sleep one night under the hedge.

Lastly, an appeal. Will some firm arrange to supply benzole in Cornwall?

CORNISH PARSON.

Redruth.

WET WEATHER RIDING IN DRESS SHOES!

Sir,—Concerning the letter of Mr. J. Thornton in your issue of the 13th inst., in which he remarks upon mudguarding, may I make a few remarks in appreciation of my A.J.S. in this respect?

The machine is a 1920 model, and while I do not consider the protection perfect, it is certainly very good. After supplementing the generous front guard with a pair of Sterling mudshields, I have discarded overalls entirely. I recently rode twelve miles in pouring rain to a dance in dress shoes, and arrived quite spotless. Incidentally, the shields kept my feet quite warm.

My only criticism is that at speeds in excess of about 17-20 m.p.h. the rear wheel flings liquid mud on to one's back and along the off sidecar panel. However, so long as one rides at about 15-17 m.p.h. it is possible to remain perfectly clean—in fact, it is the finest machine I have ridden in this respect. I have never had the pleasure of riding either a Scott or an A.B.C., both of which appear to provide almost perfect weatherproofing.

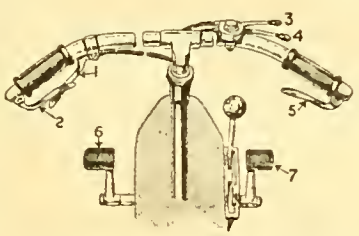
Birmingham. A PERFECTLY SATISFIED USER.

CONTROLS—AN IDEAL.

Sir,—With reference to the standardisation of controls as recommended by the A.C.U., I shall be glad if you would give me an opportunity of expressing my views, as an old reader of your esteemed paper.

The aim of standardisation of controls is to give the rider in any circumstances thorough mastery of his machine. It is therefore unnecessary to make the action of the controls instantaneous and simultaneous. The recommendations put forward by the A.C.U. hardly seem to meet the needs of motor cyclists. For example:

(1.) Starting the motor cycle. *(a)* The engine working, the rider is on the left side of the motor cycle. He rests on the left foot, raises the right, and is able to act freely on the pedal 7 to put the clutch in. *(b)* The machine and engine being at rest and the pedal 7 being at its lowest point, the rider on the left side of the machine presses upon the valve lifter (1), and the right hand being free pushes the machine forward. The engine having been started, a slight pressure on the clutch lever 2 causes the machine to stop without any further movement of the hand.



On this system of control suggested in the letter of M. Viratelle, 1 is the valve lifter, 2 clutch lever, 3 air, 4 throttle, 5 front brake, 6 rear brake pedal, and 7 the clutch pedal.

(2.) While running. The gear and carburetter controls are grouped on the right-hand side of the handle-bar. As a rule, riders are right-handed, consequently acting with greater precision with the right than with the left, so that it is necessary that the right hand should control the two levers mentioned above, which require greater sensitiveness than brake or clutch control. By referring to the diagram, it will be at once seen that it is possible simultaneously to close the throttle, lift the valve lifter, and put the clutch out; or put the clutch out, change speed, and put the clutch in, etc.

(3.) To stop. The instinctive movement of the rider who desires to stop quickly is to close his hands on the levers on the handle-bar and drop his feet to the ground. In the particular case to which the diagram refers, this instinctive movement acts upon the clutch lever 2 and the brake lever 5.

(4.) Skidding. When on greasy or slippery roads, in order not to slip or skid, the rider only lets the clutch in slightly, and in the case which I am showing by means of the diagram this is done by a simultaneous gentle pressure on the levers 2 and 7—that is, the clutch controls.

(5.) Both brakes may be applied simultaneously.

These examples give but an imperfect idea of the benefits to be derived by this arrangement of the controls. There are many other circumstances easily imagined by riders in which sensitive controls ensuring instantaneous and simultaneous action must prove of great benefit.

M. VIRATELLE.

A LICENSING MISAPPREHENSION.

Sir,—When will the Ministry of Transport really and finally find out what they want us to do?

I paid 7s. 6d. for a pretty nickel-plated licence card holder, and fitted it with six wood screws to the centre of the door of my sidecar, a sufficiently conspicuous place, surely. Now I see by the daily press that the holder must be not less than 2ft. 6in. from the ground, whereas, in its present place, mine is only 2ft.

Now I suppose I must buy another holder, or fake up a clip to attach the present one to the motor cycle, since my sidecar is too low built to allow of the holder being fitted 2ft. 6in. from the ground. Also, unless I choose to run about with six wood screw holes disfiguring the beautiful paint on my sidecar door, I must have the holes plugged, and the door repainted. Who is going to compensate me for all this humbug and expense?

I suppose the next thing will be that we shall be required to have the holder facing both sides and back and front, and all illuminated at night! ELDON.

Reading.

[Our correspondent has evidently found a "mare's nest" in "the daily press"; for the regulations setting maximum and minimum heights for licence-holders only apply to motor cars.—ED.]

SUMMARY OF CORRESPONDENCE.

Lt. G. Hazel, R.N., replying to a correspondent in a recent issue who signed himself "Ubique," writes in defence of the Durston system of rear springing. He claims that he invented a very similar system himself, and has severely tested the device on his own machine with very satisfactory results despite the severest weather conditions. [We must make it clear here that the "Ubique" of this correspondence is *not* the "Ubique" of *The Motor Cycle* staff.—ED.]

With reference to correspondence under the heading of "A Tall Order," Mr. E. Griffiths takes exception to an earlier letter by "J.S.J.," in which the latter stated that his two-speed Velocette would climb *any* hill. Mr. Griffiths has found a gradient (Mow Cop) which has proved too much for his own two-speed Velocette, although he states that he has been unable to persuade several other machines up this hill, including an 8 h.p. sidecar outfit. Previously, he had owned five different years' models A.J.S. machines, "and they always managed to climb Mow Cop with ample reserve power."

"Conn Rod" last week commented on the "unsightly" effect of a licence holder on either the handle-bar or number-plate. Millfords Ltd., of Birmingham, write calling attention to their M.A.P. combined number-plate and licence holder, and also to the M.A.P. model B holder that is designed to fit on the spring fork spindle or to the butterfly nut on the head lamp.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

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Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C., or of leading Booksellers and Railway Bookstalls.

CLUB NEWS.

A Motor Cycle Club for Accrington.

It is proposed to form a motor cycle club in Accrington, and a meeting with this object in view has been arranged to be held at Palmer's Café, Whalley Road, this evening (the 27th), at 8.15. All interested are invited to attend this meeting.

Lancaster, Morecambe and District M.C.C.

The first annual meeting of the Lancaster, Morecambe, and District Motor Cycling Club was held at the County Hotel, Lancaster, on January 17th. Mr. F. Sharpe was elected as president, Mr. Gordon Reid captain, Mr. W. Atkinson vice-captain, Mr. R. L. Ducksbury secretary, and Mr. J. Garlick treasurer. It was decided to affiliate with the A.C.U.

Halifax M.C.C.

Members of the Halifax M.C.C. mustered in force at the Boar's Head Hotel on the occasion of the annual dinner on January 13th. Through the generosity of one of the club patrons (Mr. H. Somerville), a splendid concert party attended and kept the company in a lively humour for the whole of the evening. Owing to the absence of four of the principal prize winners it was not possible to present the prizes won last year. This year their programme will be exceptionally strong, including, provisionally, four trials and two hill-climbs.

North-Western Centre A.C.U.

At a meeting at Stockport on January 15th the following officials were elected for 1921: Chairman, Mr. H. Reed (Manchester); vice-chairmen, Messrs. H. Marsden (Stockport) and V. Horsman (Liverpool); hon. treasurer, Mr. A. Taylor (Burnley); hon. secretary, Mr. J. H. Place (Burnley); hon. auditor, Mr. G. E. Watts (Stalybridge); and representative to A.C.U. General Committee, Mr. H. Reed (Manchester). It was decided to allocate the three open permits as follows: One to be used by the Centre as a speed trial, a second to be given to Liverpool for a reliability trial, and a third to Stockport for a hill-climb.

Heaton Moor M.C.C.

A club has been recently formed which will be known as the Heaton Moor M.C.C. Its objects will be to run one-day reliability trials, hill-climbs on time and formula, speed trials, and social events. The hon. secretary is Mr. W. Williamson, 1, Brownsville Road, Heaton Chapel.

North Lindsey A.C.

The annual general meeting of this club was held at the Crosby Hotel on the 12th inst. Since the 1920 season has left the club in a sound financial condition, the subscription has been reduced. A good programme has been arranged for 1921.

A resolution expressing motor cyclists' dissatisfaction with the new taxation scheme, and with regard to carrying an additional identification badge, was passed unanimously, and the secretary was instructed to forward this to the local M.P. The hon. secretary is Mr. F. W. Llewellyn, 9, Clayfield Road, Scunthorpe, Lincs.

South-East Durham M.C.

This club has just been formed with Trimdon, Wingate, and Wheatley Hill as centre. The headquarters are at the Comrades' Club, Ashleigh, Trimdon Station. At present there are seventy members, and it is hoped to have over a hundred before the opening run to Richmond on Good Friday. The club has in hand arrangements for a reliability trial of 120 miles on Easter Monday. Among the awards of this trial there will be three gold and three silver medals confined to club members.

North London M.C.C.

The annual general meeting was held on January 14th, at which Mr. A. J. F. Beaurain was elected vice-captain. The officers for the coming season, who were elected at the annual dinner, were confirmed in office, Mr. A. W. Day accepting the position of secretary.

Redditch and District M.C.C.

An extensive programme has been arranged for the coming season, some twenty events having been fixed, including reliability trials, gymkhana, speed events, etc. Five valuable cups are to be competed for by members of the club, including the B.S.A. and Terry challenge cups, which were put up last year in the West Midland open trial.

Motor cyclists wishing to join the club should send in their names immediately for the fixture list and entrance form to the hon. sec., P. C. English, Easemore Road, Redditch.

Taunton and District M.C. and L.C.C.

The Taunton and District Motor Cycling Club at its recent annual meeting decided to extend the sphere of the club so as to embrace light car owners, and the club in future will be known as the Taunton and District Motor Cycle and Light Car Club. Lieut.-Col. Dennis F. Boles, M.P., again accepted the presidency, Mr. Stewart Goodman, the former secretary, being elected captain, and Mr. S. L. Ward, the assistant secretary, being elected secretary.

Syndicated Propaganda.

What is Needed to Foster the Greater Use of British Motor Cycles Overseas.

THE subject of joint representation touched upon recently by an Indian correspondent is one that should engage the attention of our manufacturers. Already there are indications of supply overtaking demand, and when that is more forcibly brought home, manufacturers will find the disadvantage of being late in the field and our American friends firmly established overseas. It must not be assumed too lightly, as some people appear to think, that a maker has only to send a competent representative abroad to ensure immediate success. Such is by no means the case, and most makers are fully alive to the facts. Riders who have lived abroad know full well the difficulty and delay in obtaining British spares and parts, and this fear has often driven customers to purchase machines emanating from another country. There is no need, however, to let this obstacle stand in the way of British enterprise, for it is only required that our makers should combine in self-defence.

Let, say, five of the leading manufacturers agree to act jointly in appointing a thoroughly competent man to act as their representative—not as an agent—in, say, Bombay for all India. He should be of unimpeachable integrity, of sound constitution, unmarried, and not over thirty-five years of age. His whole time should be given to his employers (the syndicate), and should be confined to selling, and issuing of propaganda; while his advice should be available at all times to riders of "syndicate" machines. He should, in fact, closely watch the interests of the firms forming his syndicate, and one of his most important tasks would be to organise a central spare parts depot.

It is imperative that more British motor cycles are sent overseas. At the present time the lack of direct representation in the various countries appears to be a stumbling block, and such concerted action as is suggested by our contributor would undoubtedly prove of great value to any group of makers who wish to gain a strong foothold in any of the Overseas Dominions.

The syndicate would supply him from time to time with literature recording successes for distribution in India, while the representative might contribute to *The Motor Cycle* a monthly letter of local topics, which most readers would appreciate especially if accompanied by illustrations. Each member of the syndicate would undoubtedly benefit by this method, as it secures to each a faithful service free from all partiality at a minimum cost of salary and establishment charges. At the same time, provision could be made in the article of agreement for a withdrawal of a member on suitable notice being given in favour of another manufacturer wishing to enter the field.

Further detail might be elaborated, but there is no need to do so here. If success is attained, and surely it would be, then South Africa and Australia and other dominions might be similarly treated to the benefit of all concerned.

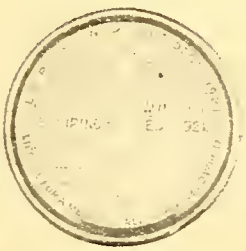
LICENCE HOLDERS.

Too many Small Nuts and Bolts are used in the Majority of Holders.

Particulars of Some of the Exceptions.



Rudge.



Wates.



Brandish.



Brown Bros

IN the course of the last month we have examined a large number of examples of licence card holders. One point which has struck us very forcibly is that their "designers" have not sufficiently taken into consideration the fact that motor cyclists generally clean their own machines, and that when an article has to be cleaned any projections not only hinder the process but tear the cleaning rag.

In too many cases the two important parts of the licence holder are secured by many tiny bolts and nuts, which are not only unsightly, but render the process of cleaning difficult and arduous. There is no doubt, however, that the nut and bolt fixing is secure, but, on the other hand, there is really no excuse for its existence, as there are other methods which are equally satisfactory. Quite a number of licence card holder manufacturers have avoided the use of these unsightly screws, some by clamping a grooved ring, which not only holds the glass, but also the back portion; others have made a screw fitting, while a third method is to use a split ring.

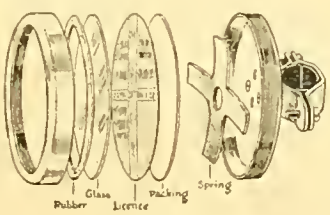
When Attached to the Number-plate.

Another point worthy of remark is that unless the brackets holding the number plate on to the mudguard are strong enough they are liable to break owing to the extra leverage caused by the superimposed holder.

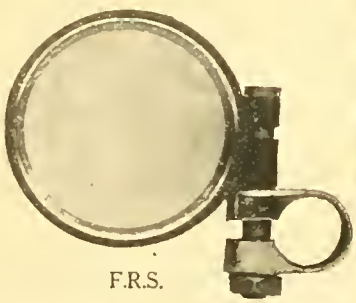
The F.R.S. holder, made by the well-known lamp concern, is one of the neatest on the market, and contains one nut only, which not only serves to hold the device together, but is utilised also to secure it to the handle-bar. Brown Bros.' holder uses the spring ring system as used to secure lamp glasses, while H. Taylor and Co., Ltd., of Store Street, W.C., have introduced a neat holder with its outer rim split and secured by a single screw. The exterior is entirely smooth. Other neat holders are the Cowey and the Rudge-Whitworth, both of which have screw-on fronts, and, like the Taylor, the only nuts and bolts are in the clip fixing. Wates Bros., of 132, Charing Cross Road, have a holder which, like the F.R.S., has only one nut, and this on the clip. The Tredelect holder, too, reduces the number of bolts to a minimum.



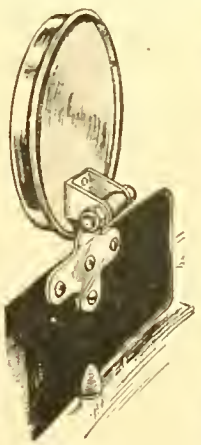
An unusual licence holder which has no nuts and bolts at all. The W.A.G., made of transparant fabric.



Cowey.



F.R.S.



Tredelect



Taylor

Continental Competitions for 1921.

EACH year the representatives of the various French motor cycle clubs draw up their programmes for the season, and submit their dates to the Union Motocycliste, which prepares a national calendar. For the present year there are twenty-one events on the programme, and although others may be decided on at a later date those already selected are the most important.

The most important event of the year is the Motor Cycle Grand Prix race, to be held at Le Mans on July 23rd. This corrresponds in importance to the T.T. race in the Isle of Man, but differs from it in being held on a very flat and fast road forming a ten and a half mile triangular course. This year it has been decided that motor cycles only shall be admitted, there being three classes of 250, 350, and 500 c.c. By selecting July 23rd as the date of the Motor Cycle Grand Prix, the big car Grand Prix date will have to be changed to Sunday, the 24th.

The Cycle Car Grand Prix has been fixed for September 17th, also on the triangular course at Le Mans. The event, it should be noted, is being organised by the national authority, the Union Motocycliste, although forming part of the three-day meeting being got up by the Automobile Club of the West of France.

As the Six Day Trials are not to be held in France this year, the Union Motocycliste has decided to hold a couple of touring competitions, probably in the neighbourhood of Paris, the first one being on April 24th and the second on July 26th. The details of these have not yet been decided on. The Paris-Nice trials will open the series of competitions on February 21st to 28th. Paris to Madrid does not yet figure on the programme, for official sanction has been withheld until the promoters have given definite guarantees.

Feb.	21-28.	—Paris-Nice Reliability Trials.
March	27-28.	—Marseilles-Nice and Return Reliability Trials.
April	3.	—Tavignano Cup, Corsica.
,,	10.	—Moto-Cycle Club of France Speed Tests.
,,	14-20.	—Nice Motor Cycle Week.
,,	24.	—U.M.F. Touring Competition.
May	15-16.	—Provence Circuit.
,,	15-16.	—Military Motor Cyclists' Competition.
June	26.	—Moto-Cycle Club of France Touring Competition.
July	10-14.	—Motor Cycle Meeting at Le Mans.
,,	23.	—French Motor Cycle Grand Prix Race at Le Mans.
,,	31.	—Mont Ventoux Rally and Hill-climb.
Aug.	14-15.	—Races on l'Enre Circuit.
,,	14.	—Dinard Rally.
,,	21.	—La Baule Rally.
Sept.	4.	—Mont Verdun, Lyons, Hill-climb.
,,	17	—French Cycle Car Grand Prix Race at Le Mans.
,,	25.	—Gaillon Hill-climb.
Oct.	2.	—Moto Cycle Club of France Kilometre Speed Trials.
,,	30.	—Gometz Hill-climb.

CURRENT CHAT

Time to Light Lamps

Jan.	27th	... ...	5.9 p.m.
,,	29th	... ...	5.11 ,,
,,	31st	... ...	5.14 ,,
Feb.	2nd	... ...	5.19 ,,

Taxation.

Have *you* obtained your licence yet?

The Cycle Car Definition.

The writer of the motor cycle column in *The Daily Mail* considers our suggested definition of 1,100 c.c. and 8 cwt. limits the best.

1920 Senior T.T. Winner.

T. C. de la Hay is now back again at the Sunbeam works, where he is in charge of the test department. In all probability last year's Senior T.T. winner will defend his title in the Isle of Man this year on the same machine.

The London-Exeter Run.

W. G. Churchill (2¾ Verus), whose award was held in abeyance because he did not sign out at Exeter, has been proved to have left the check to time, and has been awarded a gold medal. H. Gold (2¾ Olympic), who did not sign the sheet at Exeter, is granted a silver medal.

A.C.U. Secretary in the North.

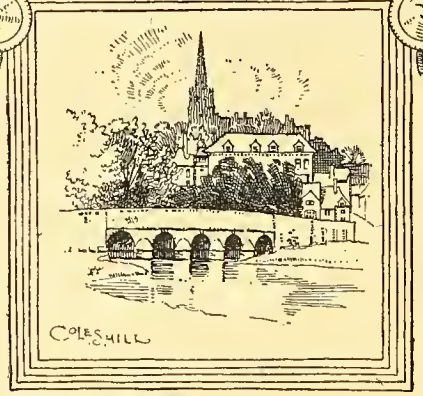
One day last week Mr. T. W. Loughborough, A.M.I.A.E., secretary of the A.C.U., was entertained at Durham by the North-eastern Centre of the Union, when he addressed a large gathering of north-eastern motor cyclists on motor matters generally.

Private Bills in Parliament.

Several Corporation Bills have been deposited in Parliament, which the Legal Department of the R.A.C. are closely watching. Liverpool, Preston and Burnley want it made compulsory for the driver of a motor vehicle to stop when passengers are boarding or alighting from a tramcar, while Hoylake includes a clause making it obligatory on drivers not to drive at a greater rate than 5 m.p.h. while passing a church, chapel, or other place of worship during service on Sunday, Christmas Day, or Good Friday.

Less Time, More Work.

We hear that the Indian factory in America is working with approximately 1,300 men from four and a half to five days per week, depending on each department, with absolutely no overtime, to turn out its relative proportion. It is interesting to know that the daily production is greater now than it was five months ago, when the factory was on full time with overtime in the majority of the departments. We understand that the men themselves, realising the general poor business conditions, want to hold on to their jobs, and are giving an honest day's work.

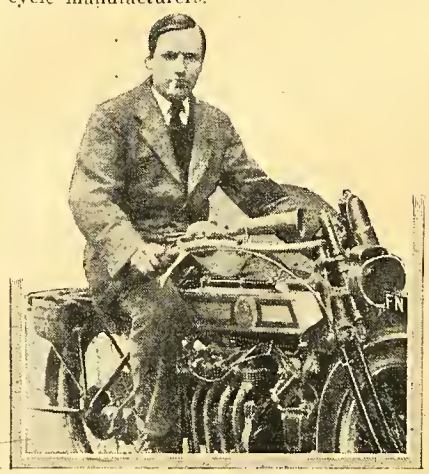


Welding Costs.

Before placing a welding job in hand, it is well to obtain an estimate. We have heard of cases where welding a pinhole in a cylinder has cost more than a new cylinder. The prices of the majority of firms specialising in this work, however, are usually very satisfactory.

Bonuses to Competition Riders.

The British Cycle and Motor Cycle Manufacturers and Traders Union, Ltd., have agreed that members shall not pay any form of bonuses to riders of motor cycles in connection with the use in any competition by such riders of any proprietary article, nor will they give or loan to any rider any such proprietary article or accessory. The underlying reason for the action is understood to be that motor cycle manufacturers desire entire freedom of choice of specifications of components and accessories to be used on their machines to ensure that such machines compete under the best conditions. Accessory manufacturers will therefore not approach riders direct, but will make their arrangements with motor cycle manufacturers.



The late Mr. F. Manning who, in consequence of a regrettable accident, sustained fatal injuries on Brooklands last week. He ran his F.N. into a wooden barrier which, it appears, he had passed several times before whilst circling the track.

Special Features

NOVELTY IN DESIGN AND CONSTRUCTION.

F.I.C.M. CONGRESS AT BRUSSELS.

A Cycle Car Grand Prix.

For the first time the Cycle Car Grand Prix will not be mixed up with motor cycle events. This year the cycle car race will be held on Saturday, Sept. 17th.

The A.C.U. Badge.

The combined badge and licence holder introduced by the A.C.U. costs 5s., but this price does not include the badge itself, as many have understood from our recent description of the device.

Motor Cycle Cure.

W. F. Guiver, a successful competition rider, until a short time ago could only get about on crutches, the result of rheumatism and complications through Overseas service as R.A.F. examiner. On a specialist's advice, he says, he resumed motor cycling, and can now walk with a stick.

The Scottish Show.

Special displays of 1921 motor cycles are being made by Glasgow agents during the Scottish Automobile Show, which opens to-morrow, January 28th, and cycle cars of both types will also be in evidence. The Tamplin will be outside the exhibition, with headquarters at the Clydeview Garage, Clydeview Lane, Partick West.

The Jarrott Cup Trial at Easter.

This event will be run from London to Land's End (single journey) over the same course as last year on March 26th. To qualify for a gold medal every competitor must make a clean ascent of the two observed hills—Porlock and Lynton. A new rule precludes any repairs or adjustments being effected at controls. Nothing may be done except the replenishment of fuel and oil tanks. A competitor may not even pump his tyres.

Under Difficulties.

When, in this country, much ink is being spilt on increased taxation and increased subscriptions, an Irish correspondent wonders how some of our indignant "Constant Readers" and "Working Men Motorists" would regard their lot if it were placed in his distressful country. Writing from Larne, co. Antrim, this reader states that a permit is necessary for motoring *within* a twenty miles radius of the applicant's home. In his case, which he states is no exception, even this limited permit was refused, and he has been requested to "dispose of the machine to an approved person," or "to hand it over to the military authorities for safe custody," or "to dismantle it in such a manner as effectively to prevent its use." And (the last straw) the new taxation rates apply here as elsewhere.

World's Records.

Class A1 (275 c.c.) is not included in the world's records compiled at Brussels last week.

A Martinsyde Rumour Denied.

Notes appearing in the daily press concerning Martinsyde, Ltd., have created an erroneous impression. The report that 500 men were discharged and the factory closed down is entirely without foundation, and arises from the fact that certain departments were so much ahead of others that a certain number of men were temporarily suspended. The company is not in liquidation, as is supposed by some to be the case.

German Ignition Appliances.

Apropos our last week's references to German-made ignition appliances, it is interesting to know that ex-service men at least will not sell goods emanating from our late enemies. Last week a Birmingham firm, composed of ex-service men, offered American Bosch pattern plugs at 2s. 6d. each, but on receiving deliveries they found that they were palpably German-made and returned them irrespective of the financial loss involved. All moneys will, of course, be returned to those who ordered the plugs.

Guarantees Against a Fall in Price.

So sure are certain agents and manufacturers that present prices will prevail for some time, they are undertaking to refund any difference in price before a specified date. H. Taylor and Co., of South Kensington, make this offer on machines purchased now, guaranteeing any price adjustment before March 31st, while Rudge-Whitworth, Ltd., make the dates between February 1st and May 31st. F. B. Roper, the Sheffield agent, gives a similar guarantee.



LIVERPOOL TWO-DAY TRIAL.

One of the best known pre-war figures in the big Reliability Trials, Harold Karslake, who piloted a Brough.

The Fastest Motor Cycle.

Over 108 m.p.h. is the world's record highest speed, at present held by the Indian motor cycle.

The Belgian Grand Prix.

The Belgians, who are taking a keener interest than ever in motor cycling, are very enthusiastic over their Grand Prix in August. It is unfortunate that their internal affairs are interfered with by the secession of certain motor cyclists to the Union Vélocipédique, but the F.M.B. will carry on all the same. We believe there is similar trouble in the Danish camp.

An Old-fashioned View.

In Denmark motor cycles are classed among the luxuries which at the present time are not allowed to be imported. Several orders for motor cycles were placed at Olympia pending permission to import them, but so far the Danish Government adhere to their old-fashioned view, which is somewhat surprising, since it is one of the largest cycling countries in the world.

A MEMORIAL TO A BRAVE DIVISION.



Situated on the Dunchurch Avenue, between Coventry and Dunchurch, on the London-Holyhead road, this monument was erected in honour of the men of the immortal 29th Division who fell in Gallipoli. King George reviewed the Division on this spot previous to its departure for the Front. Near where is stationed the car, this famous high road is intersected by the old Roman Fosseway.

Congress of World's Motor Cyclists' Representatives.

World's Record List Compiled by F.I.C.M. at Brussels. New International Rules Passed.

THE two most important results of last Thursday's International Congress at Brussels are the compilation of the first complete list of world's records, in which American records make their first appearance, and the final passage of the international competition rules, under which all international events must be run in future.

A special sub-committee, consisting of Messrs. Jules Neher (chairman), G. de Ro, G. Fenton, and T. W. Loughborough (secretary), met at 10 a.m. to consider the rules. These rules had been passed at the meeting in Paris on August 3rd, 1920, as being fit to send out to the various governing bodies for their approval. Certain amendments were considered, and the rules were then ready to be submitted to the Congress. The rest of the meeting dealt with the claims to world's records, and, while considering this subject, it was found that Italy's claims could not be substantiated, as the records had been previously beaten in America.

Eight Countries Represented.

Certain proposed amendments to the competition rules were then examined, but it was finally decided to make no alteration. At 12.30 the members of the Congress adjourned to the appropriately named Taverne du Globe in the Place Royale, where they were entertained to lunch by the Royal Automobile Club of Belgium.

The gathering was one of the most representative of its kind which has yet met, no fewer than eight countries being represented. Three new delegates attended: Count Bonacossa (Italy), a thorough enthusiast and a most active and useful member, who rides a Rudge; Mr. E. Höst (Denmark); and Flight-Lt. Kindberg (Sweden), an expert pilot, and a skilful rider of an A.B.C.

Following is a list of those present: Baron Nothomb, in the chair (the Royal Automobile Club of Belgium); M. Jules Neher (Union Motocycliste Suisse), vice-president; Mr. W. H. Wells (Motor Cycle and Allied Trades Association of America); M. E. Collignon (Competitions Committee Fédération Motocycliste Belge); Mr. Greame Fenton and M. G. Longuemare (Union Motocycliste de France); Mr. A. V. Ebblewhite (A.C.U.); M. G. A. de Ro (R.A.C.B.); Mr. E. M. P. Boileau (A.C.U.); M. M. Fagard (President F.M.B.); Count Alberto Bonacossa (Moto Club d'Italia); Mr. E. Höst (Dansk Motocycle Union); Dr. Lamborelle (chairman Competitions Committee F.M.B.); Flight-Lt. E. Kindberg (Svenska Motor Cykel Klubben); and Mr. T. W. Loughborough (A.C.U., and general secretary F.I.C.M.).

A New Vice-president.

After being lavishly entertained by the R.A.C.B., the Chairman welcomed the delegates in a speech which was short but to the point, to which M. Neher replied.

Those present then returned to the premises of the R.A.C.B. shortly after 3 p.m., when the congress sat with Baron Nothomb in the chair. The minutes of the meeting in Paris on August 3rd last were read and confirmed. To the list of existing vice-presidents it was decided to add the name of Count Alberto Bonacossa, to occupy the vacancy occasioned by the death of the late Mr. A. W. Torkington.

Trials and Races.

Arising out of the minutes it was decided to deal with the international competition rules, now revised and brought thoroughly up-to-date. Considerable discussion then arose. M. Longuemare suggested the inclusion of a special class for scooters and bicycles with auxiliary motor attachments. M. Neher replied that these were adequately catered for in the 275 c.c. class. Some objection was then raised by the French representatives to the omission in the amended rules of the regulation compelling all motor cycles, whether used for races on the track or for attempts at record, being fitted with a clutch and change speed gear, and it is necessary to explain here that our Continental friends have not yet learned to distinguish between a race and a reliability trial. The word *course* race is too freely used, and is often employed when *concours de durabilité*—reliability trial—is intended. The result is that an attempt was made to compel purely racing machines, such as are used for speed trials and record attempts to conform to the same requirements as those laid down for motor cycles competing in reliability trials.

Countries Represented:

Great Britain	*America*
France	*Belgium*
Italy	*Sweden*
Denmark	*Switzerland*

The new official list of world's records includes many American figures, including the Indian records of over 108 m.p.h.

Class A1 (275 c.c.) is eliminated, as are alt kilo. and mile records made in one direction only.

Racer or Tourist Machine?

Mr. W. H. Wells pointed out that such fittings tended to slow the machine and strenuously opposed the proposition.

Mr. E. M. P. Boileau pointed out that, probably for the reason given above, the difference between a machine stripped for record breaking and a motor cycle used in a reliability trial, or in a race in which touring conditions had to be observed, was not clearly understood. After considerable further discussion it was unanimously decided to leave things as they were. The most important amendment which was duly carried was the new silencer rule. At the Paris meeting the regulations affecting silencers attempted to limit the orifice of the exhaust pipe scientifically, but this was found to be unworkable, consequently an amendment had to be made, and this reads as follows: "All motor cycles taking part in any competition must be fitted with an efficient silencing system as may be required by the rules governing such competition, but in races a free exhaust may be permitted. In all cases the exhaust gases must be so ejected as not to raise dust or to be otherwise dangerous to a competitor. Uncovered exhaust ports in the walls of the cylinders are forbidden in all competitions."

Count Bonacossa then raised several important and interesting questions relating to the making of, and verification of, record attempts, with the result that the following proposals were adopted: "The distance covered must be verified by a qualified surveyor, the cubical capacity of the engine must be verified by an official measurer, and a certificate as to the time must be presented by an official timekeeper. The course, in the case of all attempts at records of less than two kilometres in length, shall not in any part have a gradient exceeding .5 per cent. (1 in 200) from the horizontal."

The international competition rules were then unanimously adopted. The final amendments have just been referred to, and the previous amendments which were confirmed were published in *The Motor Cycle* of August 12th, 1920 (p. 182). These rules will now form the basis for all events open to competitors from foreign countries, such as the Tourist Trophy Races, the Auto Cycle Union Six Days Trial, the International Six Days Trial, the Grand Prix of the U.M.F., etc.

Spain Admitted.

M. Longuemare pointed out that, although he understood that these rules were to come into force as from January 1st, they had not been confirmed in time for certain events now in process of organisation. In reply, it was pointed out that these rules must apply from the date named, but that in any case of hardship the governing body of the country concerned should have authority to deal with the matter on its merits.

The Real Moto Club de España was next received into the Federation. It was decided that the next meeting of the F.I.C.M. should be at Geneva on the 8th August at the conclusion of the International Trial.

The question of the control of cycle cars was discussed, and the General Secretary stated that he had written on November 25th to the secretary of the International Association of Recognised Automobile Clubs, but had received no reply. M. Georges Longuemare offered to take up the matter with the Automobile Club de France immediately on his return to Paris, and the matter was deferred.

A financial statement of the F.I.C.M. was duly presented and adopted. Count Bonacossa suggested that a handbook of the Federation should be drawn up in French and English. The suggestion was adopted.

Mr. Boileau proposed that a fixture list of each body belonging to the Federation should be presented at the

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first meeting in every year, so that the Federation should be made aware of those international events which were worthy of support. This was agreed to.

Motor Cycles in the Olympic Games?

The General Secretary was instructed to apply to the organisers of the Olympic Games so as to make application that motor cycling should be accounted as one of the sports duly recognised. Count Bonacossa proposed an international race for a challenge trophy, to be run on the lines of the T.T., but to be held in a different country each year, each country to be represented by not more than three teams, the first event to be run on the Circuito di Brescia on September 11th.

Votes of thanks were accorded to Baron Nothomb and M. Jules Neher. The meeting came to an end at 7 p.m.

World's Records.

Pending the compilation of a list of world's records, the following information will allow the reader to gain an idea of the ultimate details of the list. Referring to the records to date published in the issue of January 6th, 1920, Class A1 (275 c.c.) is eliminated, as are also all kilometre and mile records made in one direction only. It must be borne in mind that, as a result of the putting of these records on a proper basis at the recent meeting of the F.I.C.M., no announcement may be made by manufacturers or others claiming world's records unless the class is stated. An infringement of this rule renders the offender liable to severe penalties. The following additions must be made to the lists previously given as British records.

AVERAGE MEAN SPEED RECORDS.

CLASS C.—500 C.C. APRIL 15TH, 1920. DAYTONA BEACH.			
Flying Km.—E. Walker, 1-cyl. Indian, 82.5 × 93 (497 c.c.)	27.21 sec.	..	82.21 m.p.h.
Flying Mile.—E. Walker, 1-cyl. Indian, 82.5 × 93 (497 c.c.)	43.85 sec.	..	82.09 ,,
Flying 5 Miles.—E. Walker, 1-cyl. Indian, 82.5 × 93 (497 c.c.)	3 min. 30.11 sec.	..	85.26 ,,
CLASS E.—1,000 C.C. APRIL 14TH, 1920. DAYTONA BEACH.			
Flying Km.—E. Walker, 2-cyl. Indian, 82.5 × 93 (994 c.c.)	21.60 sec.	..	103.35 ,,
Flying Mile.—E. Walker, 2-cyl. Indian, 82.5 × 93 (994 c.c.)	34.70 sec.	..	103.74 ,,
Flying 5 Miles.—E. Walker, 2-cyl. Indian, 82.5 × 93 (994 c.c.)	2 min. 15.02 sec.	..	108.68 ,,
CLASS G.—500 C.C., WITH SIDECAR. SWITZERLAND.			
Flying Km.—Gex (Motosacoche sc.)	40.8 sec.	..	54.82 ,,
CLASS I.—1,000 C.C. WITH SIDECAR. FEBRUARY 17TH, 1920.			
Flying Km.—L. Parkhurst, 2-cyl. Harley-Davidson sc., 84.1 × 88.9 (988 c.c.)	27.30 sec.	..	81.94 m.p.h.
Flying Mile.—L. Parkhurst, 2-cyl. Harley-Davidson sc., 84.1 × 88.9 (988 c.c.)	43.85 sec.	..	82.09 ,,
Flying 5 Miles.—L. Parkhurst, 2-cyl. Harley-Davidson sc., 84.1 × 88.9 (988 c.c.)	3 min. 34.52 sec.	..	83.90 ,,

Continental Competitions—Hints to the British Trade.

We dealt pretty fully with the question of 1921 competitions in the leading article which appeared in the issue of the 13th inst., wherein it was stated that after the F.I.C.M. congress a clearer idea of 1921 competitions abroad would be obtainable. This has proved to be the case, and we are now able to give the British motor cycle trade and private owners some useful advice based on enquiries and observations made, so to speak, on the spot. The amateur or private owner, who has private means, and is out for fun and interesting experiences, may do well to support such events as the Paris-Nice or Paris-Madrid trials, but as there is not a hill worthy of the name in either event, it is necessary to point out that neither of these competitions is worthy of the expense entailed for the trade to support it.

First and foremost the International Six Days Trials run by the Union Moto Cycliste Suisse, starting from Geneva on August 1st, is the most important of all the events to be held on the Continent this year. The organisers are a business-like body who may be trusted to run a really valuable trial; they have found an excellent course, and British makers who value their Overseas trade should concentrate in this trial which, owing to the nature of the country in which it is held, will provide lessons which cannot be learned in Great Britain.

Next in importance is the Grand Prix of the U.M.F. to be held at Le Mans. The French thoroughly understand the running of speed events, the course can be reached from England with the minimum amount of expense, and the event is well worthy of support. The Belgian Grand Prix is also worthy of consideration, while equally noteworthy is the race recently proposed by the Italian delegates to the F.I.C.M. to be run in Italy over the Brescia circuit on September 11th.

F.I.C.M. NOTES.

Visit to the F.N. Factory.

On the day following the Congress a number of the delegates accepted the invitation of the directors of the Fabrique National d'Armes de Guerre to visit the F.N. factory at Herstal, near Liège. While in the town MM. Fagard and Collignon, who are residents there, made



MAKING THE ROADS SAFER.

In various parts of the country there is evidence of activity to improve the roads and to make them more suitable for present day conditions. Here work is in progress widening a dangerous corner on the well frequented Coventry-Stoneleigh road. The railings in the background show the extent of the widening.

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the visitors their special care, and first drove them round the picturesque city. At ten o'clock cars sent by the F.N. Co. conveyed the delegates to the factory, where a very interesting morning was spent visiting one of the most famous works on the Continent. It is clear that the accuracy in workmanship, careful viewing, and excellence of material have brought the F.N. motor cycle to the high standard it has now reached. The company were entertained to lunch by the directors, M. Gallopin, occupying the chair. M. Kelecom (who often visits England) and M. Meghi showed the party round the works.

When it is remembered that the Germans denuded the whole works of machine tools and left the shops filled with broken-down lorries, the sight of this hive of industry and its marvellous recovery are simply astounding.

World's Records.

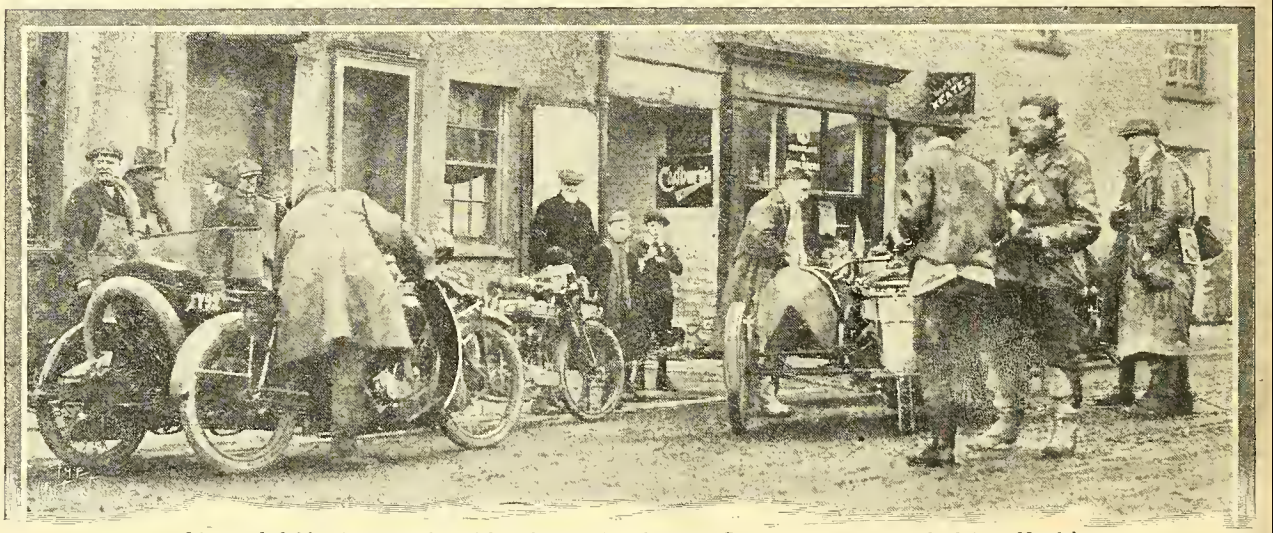
Mr. A. V. Ebblewhite, the A.C.U. timekeeper, attended the meeting specially to aid in settling the question of world's records, which the International Federation has now placed on a satisfactory basis.

An Italian Sportsman.

Count Bonacossa, the new vice-president, is certainly an acquisition to the Federation. He is not only an active motor cyclist, but is also active and useful in Congress. When he missed the connection at the frontier last August, owing to the overheating of the axle of the sleeping car, he attempted to reach Paris, first by motor car, and then by aeroplane, but none were available.

A TWO DAYS WINTER TRIAL.

Liverpool M.C. Touring Test to Edinburgh and Back.



Liverpool club's winter two-day trial to Edinburgh and back. Competitors waiting to check in at Kendal.

AINTREE, near Liverpool, was the scene of the start of a winter touring trial, which attracted an entry of forty-one, last Saturday morning.

The Liverpool Motor Club organised the run on very free and easy lines, for, on the outward journey to Edinburgh, there was only one check (at Kendal), while on the return run there was again only one check, which was situated near the top of Kirkstone Pass at the end of a four miles non-stop section, commencing at Patterdale.

Variable weather and a gusty north-westerly breeze worried the competitors the whole way north, and the going was very heavy in places. Solo riders especially found some terribly skidsome patches, notably on Shap, and again near Hawick.

Tyre Troubles.

There were two retirements early, these being W. Johnson (2¾ Ruby) and E. N. Dean (4 Wilkin), but otherwise there appeared to be few troubles. A machine noted with some interest was one of the new T.T. Sunbeams ridden by J. F. Burns, and it appeared to be particularly steady on grease. About Lancaster W. J. Winter (3½ N.U.T.) had tyre trouble, and subsequently, when over the Border, suffered a bad burst on a rough section of road. He was thrown, and severely damaged both himself and the machine, being thus compelled to retire.

The following checked in to Alexander's Garage, Edinburgh, well up to schedule time: Hugh Gibson (8 Royal Ruby sc.), J. Roddick (8 Zenith), S. V. Banner (8 Sunbeam sc.), J. F. Burns (3½ Sunbeam), R. G. Taylor (3 A.B.C.), J. G. Collins (6 A.J.S. sc.), H. F. Brockbank (8 Blackburne sc.), H. J. Scale (3½ New Scale), F. Highfield (3½ Beardmore), N. C. Sclater (3½ Norton), J. L. Jenson (7-9 Harley-Davidson sc.), S. Bartley (6 A.J.S. sc.), N. H. Brown (7-9 Indian sc.), F. Gunton (2¾ Dalton), J. Lee (7-9 Indian sc.), D. G. Prentice (8 Morgan), W. Cottle (4½ B.S.A. sc.), J. H. Green (6 Martinsyde sc.), H. Karslake (5 Brough), S. Parker (8 Matchless sc.), F. E. Marsden (8 Sunbeam sc.), V. Horsman (10 G.N.), H. Burrill (3½ Rudge).

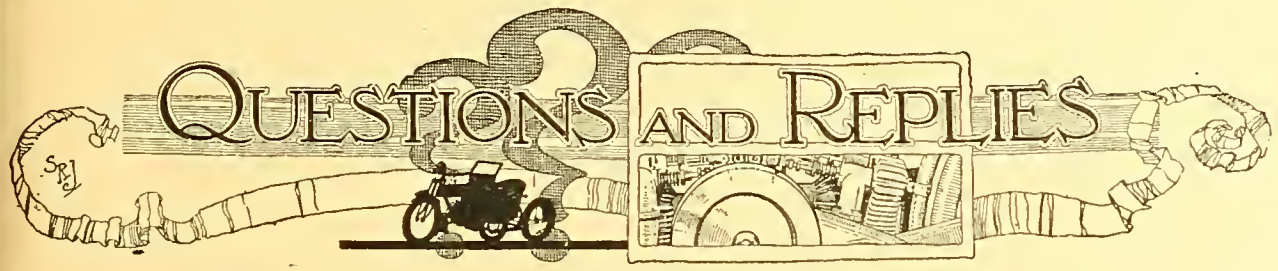
M. Deeley (4 Triumph) arrived late, no doubt having found his wheel discs disadvantageous in the gusty winds on the Teviothead moorlands, while A. Ellison (8 Zenith) unfortunately ran out of petrol about five miles from Edinburgh and checked in late.

The start of the next day's run was made at 8 a.m. under perfect weather conditions, but as the high Border county was reached rain fell heavily. It did not seem so easy to maintain the same speeds as on the previous day, for the roads were very heavy.

Amongst those running consistently may be mentioned N. C. Sclater (3½ Norton), F. Highfield (3½ Beardmore), H. Karslake (5 Brough), and the Ruby, Sunbeam and A.J.S. sidecars. No one definitely knew the position of the time check on Kirkstone Pass, and in consequence there were many variations, most of the solo men being early. As at all the other checks, Hugh Gibson's 8 h.p. Royal Ruby outfit was dead on time, this despite the fact that the back tyre punctured only fifty yards before the non-stop section commenced and the wheel had to be changed.

Bad Weather Conditions.

Very heavy rain was encountered on the descent to Kendal, and the weather conditions were unpleasant onwards to the finish where the following checked in within qualifying time: H. Gibson, J. Roddick, S. Banner, J. Burns, J. Collins, H. Brockbank, F. Highfield, N. Sclater, J. Jenson, F. Gunton, D. Prentice, J. Lee, J. Green, H. Karslake, S. Parker, V. Horsman, and A. Ellison. The results of this long and heavy trial will be announced later.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

CHARGING FROM ALTERNATING CURRENT.

How are accumulators charged from the house mains? The current is 200 volts alternating.—H.A.T.

It is impossible to charge accumulators from an alternating current without the use of some form of rectifier which will convert the current to continuous. Unless you have a large number of accumulators to charge, the expense of installing this apparatus would be excessive.

DIFFICULT STARTING.

I have a 1919 single-cylinder model which is very difficult to start by means of the kick-starter, and I should be obliged if you could let me know if there are any means of making it easier. It starts easily when hot.—T.S.

The trouble is no doubt due to the design of the starting apparatus. A certain amount of the power expended on the starting pedal is lost in overcoming the friction of the oil between the clutch plates in the three-speed gear box. A very thin oil should be used to lubricate the gears, and this will, to some extent, facilitate starting. You should, of course, ascertain that there are no air leaks in the induction pipe, that the inlet valve is a good fit in its guide, and that both valves are holding compression. Ignition should be almost fully advanced, and an injection of petrol in the cylinder will help matters.

MALLEABLE LUGS.

In co-operation with a friend I am considering the building of a sidecar chasses (folding type), but am in difficulty as regards the elbows, T pieces, and special bends which would be required to piece up the steel tubings. Is malleable iron suitable for these? I can procure these all right (*i.e.*, steam or hot water screwed fittings), and intended fitting 1⅛in. cycle tubing in the main parts with 1in. for the cross stays, etc. One cycle builder told me all cycle fittings were malleable, but I know some are steel pressings and thought the castings wouldn't stand the road shocks.—A.E.S.

Motor cycle frame and sidecar chassis lugs are usually malleable castings, and it would be better for you to obtain them from a firm specialising in this class of fitting. Some manufacturers use steel castings or pressings, but you might find more difficulty in obtaining these. On no account use hot-water fittings.

V TWIN FIRING ANGLE

In the case of a 50° twin V engine, why should the magneto cams on the contact breaker be offset to half cylinder angle, *i.e.*, 25° instead of being diametrically opposite?—R.J.R.

Your query is not absolutely clear, but, as we read it, we think the following explanation should be what you require. It is obvious that a twin-cylinder engine with cylinders at 50° and a common crank will not fire at equal intervals. Since each cylinder fires only once in two revolutions, the firing intervals will be 360° plus 50°, and 360° minus 50°. Since the magneto runs at half crankshaft speed, the reason for the offset of 25° should be clear.

Important Dates.

Jan. 28th to Feb. 5th—
Scottish Motor Exhibition Kelvin Hall, Glasgow

March 25th—
Richmond Meet.

March 26th—
M.C.C. London-Land's End Trial.

April 27th—
A.C.U. One-day Winter Trial for Stock Machines.

May 14th—
M.C.C. London-Edinburgh Run.

May 25th—
A.C.U. Silencer Trial—Brooklands.

June 14-16th—
Tourist Trophy Races.

July 22nd—
Grand Prix Race—Le Mans.

STARTING A TWO-STROKE.

I have recently purchased a new 2½ h.p. two-stroke motor cycle, and have to push off three or four times, before I can get it running. I have carefully examined the carburetter, which appears to be all right; also adjusted the platinum points of the magneto to the gauge, and tried a new plug with no better results. I push the machine off in low gear.—C.C.T.

The difficult starting may be due to air leaks at the induction pipe, or at the joints between the cylinder and crank case, or between the two halves of the crank case itself. To ensure an easy start, well flood the carburetter and advance the ignition fully or almost fully. The gap between the sparking plug points should not be too close—try about 3-64th inch—for it is only a popular fallacy that a narrow gap improves starting.

TWO-STROKE OR FOUR-STROKE.

I am thinking of purchasing a lightweight motor cycle (2-3 h.p.), which I shall use regularly through the summer, and part of the winter for a ten-mile journey every morning and evening, but I cannot decide between a four-stroke or a two-stroke, though I am rather inclined towards the former. I shall be very glad if you will give me your opinion of them, or rather compare them for me, with regard to petrol economy, ease of starting from cold, average miles per gallon of the two classes, running expenses, adaptability to benzole, general reliability, etc. I have ridden my father's 6 h.p. outfit, but that is all the experience I have had, so I regard myself more or less as a novice.—L.N.M.

You would find either a two-stroke or four-stroke lightweight almost equally satisfactory. Given two engines of the same capacity the two-stroke will be rather more powerful, but its consumption is higher, usually being about 88 to 90 m.p.g. as compared with 100 to 120 m.p.g. of the four-stroke. Ease of starting is about equal, the small two-stroke probably having a slight advantage. Benzole is equally suitable for both.

TIMING QUERIES.

I have recently purchased a 4 h.p. twin Peugeot motor cycle in parts, and have overhauled it ready for assembling. Being a novice with twin engines, I should esteem it a great favour if you would kindly instruct me in the timing of this particular engine. The timing wheels are marked in two or three places. The inlet valves are overhead, automatic. *Re* ignition timing. Should the cylinder nearest to the magneto fire first? The magneto is a Bosch. Carburetter is B. and B. (pilot jet), late pattern.—J.H.W.

The timing of the engine is as follows: Inlet, automatic. Exhaust: the valves should be timed so that they close when the piston reaches the top of the stroke, and if they are set according to this plan there is no need to consider their opening; it will be automatically correct. Ignition: the spark would occur when the piston reaches the top dead centre of the compression stroke, the ignition control being two-thirds retarded. Bosch magnetos are usually numbered 1 and 2 on the terminals. These numbers correspond to the numbers of the cylinder, which are 1 and 2 in the direction of rotation—that is, the back is No. 1.

MAGNETIC LINES OF FORCE.

Would you kindly give me an approximate expression for the flux provided by a permanent (magneto) magnet, when pole pieces and armature are in position, in terms of the dimensions of the magnet?—C.E.C.

The expression for a good quality magneto magnet is 10,000 lines per square centimetre—the total being 20,000—50,000 according to size.

BAD STARTING ON OLD MACHINE.

It is practically impossible to start my 4 h.p. single even with a running mount, yet everything seems to be in perfect condition. Priming takes no effect. I imagine the trouble to be the carburetter, which is a B. and B. (old pattern). Do you think I should get better results if I fitted a new one?—G.R.G.

You would probably get better results with a new carburetter; but we do not think that the trouble lies entirely in this direction. Probably the inlet valve guide is very much worn, and an air leak at this point will most certainly cause difficult starting. The spark should be almost fully advanced, and should occur when the piston is 8 to 10 mm. from the top of the compression stroke.

REFUSAL TO RUN SLOWLY.

My motor cycle is a 1920 Omega-Jap, and until quite recently I could keep the engine just ticking over perfectly smoothly on low gear, which was very convenient when I was in traffic. During the last few days it has lost all its smoothness when in low gear, and tends to fire irregularly. This is coupled with eight-stroking when starting. I am at a loss to remedy this, and should be pleased with your advice. The carburetter is a B. and B., and magneto C.A.V. At all speeds over 6 or 7 m.p.h. the machine runs perfectly.—W.L.S.

The details you give are insufficient to enable us definitely to say what is the cause of your trouble. It may possibly be due to the mixture being too rich; this would be brought about by the raising of petrol level due to wear of the float chamber needle seating. You can tell if this is so by noticing whether black smoke is thrown out from the exhaust. Should you now find that the machine needs a much wider throttle opening to keep the engine running, you may assume that the trouble is due to an air leak, probably at the inlet valve guide which has become worn. Notice also that the magneto rocker arm is working quite freely.

EXPERIENCES WANTED.

Valkyr (South Shields).—Most suitable driving costume for lady.

"Dews-berry" (Dewsbury).—Flat-twin Harley-Davidson with sidecar.

"K.B 1036." (Earlestown). — H.A.H. electric rear light set on rigid frame machine.

"G.A.B.W." (London, S.E.).—Tamplin cycle car. Seating comfort with passenger, reliability, and stability on grease.

"L.C.C." (Harringay).—4¼ h.p. B.S.A. outfit with adult passenger and child (age six): m.p.g., speed, cost of upkeep.

RECOMMENDED ROUTES.

RETFORD TO WARRINTON.—D.F.

Retford, Worksop, Barlborough, Chesterfield, Baslow, Bakewell, Buxton, Macclesfield, Chelford, Knutsford, Mere Corner, Warrington.

BIRMINGHAM TO TETBURY.—S.S.

Birmingham, Alcester, Evesham, Cheltenham, Painswick, Stroud, Nailsworth, Tetbury.

LINCOLN TO SOUTHWOLD.—A.E.P.

Lincoln, Sleaford, Swineshead, Wigtoft, Fosdyke, Long Sutton, King's Lynn, Stoke Ferry, Thetford, Diss, Scole, Harleston, Halesworth, Blythburgh, Southwold. Approximately 145 miles.



A scene at the recent meet of the Hertfordshire Hounds on Harpenden Common. Motor cycles were in evidence, as they always are when sport of any sort is concerned

SPARKLETS

Altered Exeter Award.

We understand that S. E. Longman, who rode a Harley-Davidson in the London-Exeter, has now been awarded a gold medal instead of a silver medal, as previously announced. Out of thirteen starters eleven Harley-Davidsons gained gold medals, which is certainly a high percentage.

To Home Enamellers.

Those riders who devote the dull season touching up their machines in preparation for the bright days of spring, should not fail to send to Messrs. Jenson and Nicholson, Ltd., of Stratford, E.15, for a colour card of Robbialac enamels. Along with it they will receive a useful folder entitled "Instructions for Amateurs to Enamel a Cycle or Motor Cycle."

Graphited Lubricants.

A booklet entitled "Foliac" has been received, and its pages describe various Foliac motor graphite compounds, which consist of graphite mixed with various types of greases; these are produced by Graphite Products, Ltd., 218-220, Queen's Road, Battersea, S.W.8. Reference is also made to Foliac Silica graphite paint for painting exhaust pipes and silencers.

Catalogues Received.

Armis Cycle Co., 290-1, Heneage Street, Birmingham. A list containing pictures and specifications of Armis machines equipped with Precision two-stroke and J.A.P., 2¾ h.p. and 5-6 h.p. engines. Both the 350 c.c. two-stroke and the 5 h.p. twin models are listed as sidecar outfits.

Whitley Manufacturing Co., Ltd., Charterhouse Mills, London Road, Coventry. Particulars of the Whitley sidecars, which are specially noteworthy for the sound design of the attachments. These are made to secure a particularly rigid grip on a number of standard motor cycle frames.

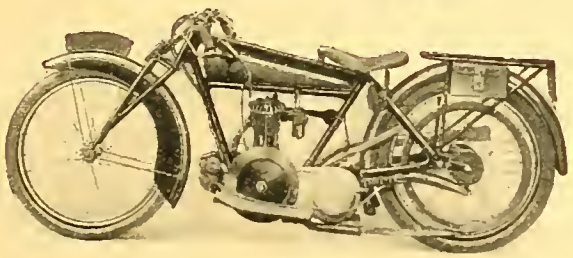
Coventry Eagle Cycle and Motor Co., Coventry. The 1921 catalogue and price list of the Coventry Eagle motor cycles. Lightweights fitted with J.A.P. or Villiers engines, and mediumweights with either King Dick single (500 c.c.) or J.A.P. twin (680 c.c.), are included, but the latter models may be had with sidecars. For those who want additional comfort, single frame springing device is listed as an extra for any model.

Alldays and Onions, Ltd., Matchless Works, Birmingham. A particularly well illustrated booklet, showing technical details of the Allon machines. The description of the light sidecar outfit is worth noticing, as are the running instructions on the final pages. During the Scottish Show, which commences tomorrow (Friday), Allon machines will be exhibited at the show rooms of Messrs. Rossleigh, Ltd., 532, Great Western Road, Glasgow.

COULSON-B

—the Successful Motor Cycle; 2¾ and 4 h.p. Solo and Sidecar.

4 h.p., Less than 200 lbs.



H.G.L. 19/1/21

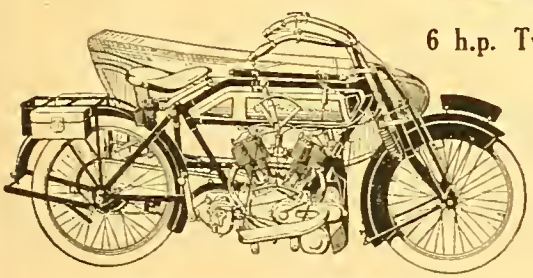
THE Coulson-B has well earned the description "successful." Its repeated consistent wins in competitive events of every possible kind; its outstanding achievement in its run from London to Edinburgh (2¾ h.p. and Sidecar) without stopping the engine; its nine World's Records for similar combination—all these obviously point to a Motorcycle of far more than ordinary merit.

And the more you investigate the claims of the Coulson-B the more will you be impressed by its high qualities, the more clear will it be that here is the machine you have been looking for. Although light in weight, its splendidly balanced design gives it marvellous strength and reliability under the most arduous conditions; while its master-sprung frame protects rider and mount alike from shocks and jars, no matter how bad the roads may be.

The F. ASLETT COULSON ENGINEERING CO.,
Proprietors Flightcraft, Ltd
168 Regent St. London W.1
Gerrard 856

The Bradbury

6 h.p. Twin-cylinder Motor Cycle and Sidecar Combination.



SPECIFICATION.

Specially designed Frame, Duplex Front Down Tubes, Druid Spring Forks, Engine 750 c.c Cylinders fitted with Detachable Heads, Side by Side Valves, Drip Feed Lubrication, Brown and Barlow's Carburetter, All-Chain Drive, ⅝in. x ⅜in. Roller Chains, Dunlop Tyres 650 x 65 mm., Coach-built Sidecar.

OTHER MODELS FOR SEASON 1921.

2¾ h.p. 4-stroke Motor Cycle, 2-speed, Chain and Belt Drive, Cork Clutch and Kick Starter.

2¾ h.p., with 2-speed Gear, minus Cork Clutch and Kick Starter.

2¾ h.p. Single Speed, with Countershaft and large diameter adjustable pulley.

4 h.p. Single Motor Cycle, 3-speed, Countershaft and Kick Starter, Chain Drive.

Please write for Catalogue to—

BRADBURY & CO., LTD.
WELLINGTON WORKS, OLDHAM.

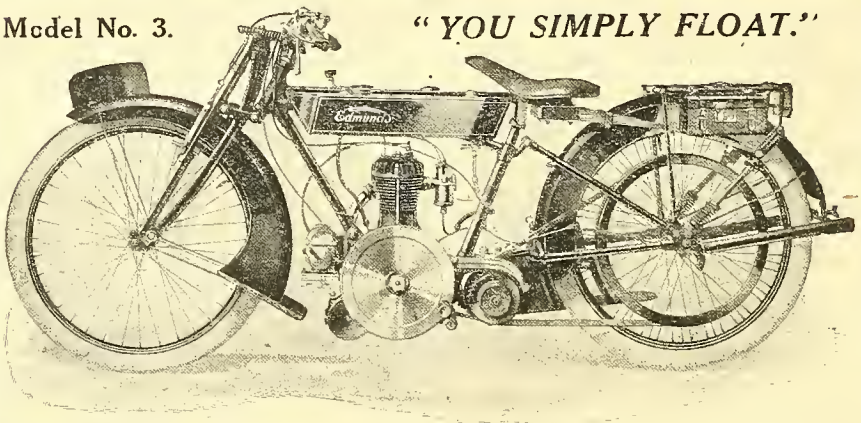
Telephone: 1608. Telegrams: "Rotary, Oldham."

ADJUSTABLE SPRING FRAME

Edmund

Model No. 3.

"YOU SIMPLY FLOAT."



MODEL No. 2, fitted with 2¾ h.p J. A. P. Engine and Burman 2-speed Gear and Kick-starter. Chain-cum-belt Drive **£95**

MODEL No. 3, fitted with 2¾ h.p. Blackburne Engine and Burman 2-speed Gear and Kick-starter. Chain-cum-belt Drive. **£105**

Write for illustrated leaflet to

Scottish Motor Show

Messrs. BELL BROS. 238-250, Gt. Western Road, GLASGOW, W. extend a cordial invitation to their friends to visit their Showrooms, where a full range of Edmund Models will be on display.

C. EDMUND & CO. (1920), LTD., Crane Bank, CHESTER.

Rigidity



Increased strength and greater rigidity are the leading characteristics of the Motor Cycle frame built up with

REYNOLDS' BUTTED TUBES.

These famous Tubes are expressly designed to overcome "frame weakness" and, used in the construction of Motor Cycle Frames, will lengthen the life of the machine, increase its value, eliminate all tendency to "whippiness," and add immeasurably to the safety and comfort of the rider.

Remember that the 1920 Senior T.T. Race was won on a "Reynolds-butted-Tube-built" machine, and then select your mount accordingly.

The Patent Butted Tube Co., Ld., Hay Hall Works, Tyseley B'HAM.

Canoelet

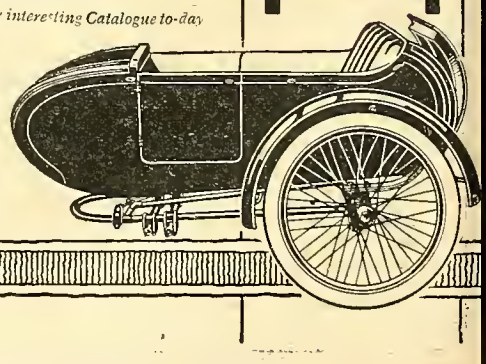


The

Peerless Sidecar

Whether you judge by beauty in design, exquisite finish, maximum utility, perfect balance, smooth running, or strength and durability, Canoelet Models stand supreme. "Bicycling News" says: "One Canoelet Lightweight Model appeals to us as the most comfortable design in seating accommodation we have yet seen."

Send for our interesting Catalogue to-day



MEAD and DEAKIN
Tyseley,
BIRMINGHAM

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/—, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable & Co. to ILIFFE & SONS Ltd., and crossed Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, ½ %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

NEW 1920 A.B.C., 4-speed; £140; in stock.—Randall, Andover. [0367

A.B.C., 1920 machine; £110, or near offer.—Flower, 28, Tavistock Rd., Plymouth. [7911

A.B.C., 1920, brand new; £125.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5515

3h.p. A.B.C., good condition, needs slight repair; sacrifice, £60; Hornsey.—Box 1,658, c/o *The Motor Cycle.* [8046

A.B.C. 3h.p., Aug., 1920, ran about 500 miles, splendid condition, tyres nearly new; £125.—Osgood, 79, Alma Rd., Clifton, Bristol. [7479

COMMONSENSE

tells us the only way to achieve success is to win the good opinion of *every* customer.

WE ARE AMBITIOUS AND WE HAVE COMMONSENSE

We know that to gain our desires we *must* fulfil yours—a sufficient reason why *your* enquiry should be sent to us.

OUR CONTRACTS FOR 1921 MOTOR CYCLES

embrace the following, a number of which are available for *immediate* delivery:—

A.J.S., Allon, Ariel, B.S.A., Brough, British Excelsior, Blackburne, Diamond, Royal Enfield, Indian, Levis, Matchless, Martinsyde, New Imperial, N.U.T., Rudge, Scott, Sunbeam, Triumph, Zenith.

NEW 1920 MODELS AT REDUCED PRICES

	OUR PRICE
A.J.S. 6 h.p. Combination	£198
Ariel 3½ h.p. Combination	£105
Ariel 6 h.p. Combination	£155
Brough 5 h.p. Solo.....	£125
Diamond 2½ h.p. S/S...	£53
Invicta 2¾ h.p. J.A.P., 2-speed and kick-starter..	£76
Invicta 3½ h.p., 3-spd., k/s	£100
Levis 2½ h.p. popular model	£57
Lea Francis 3½ h.p. Solo	£114
Martinsyde 6 h.p. Comb.	£158
Omega-Jap 2¾ h.p. 2-spd.	£67
Rover 3½ h.p., 3-spd., k/s	£115
Triumph 4 h.p., 3-spd., Model H	£120
Zenith 5 h.p. Sports Model	£110

SECOND-HAND MACHINES.

We have an excellent selection, all overhauled and fully *guaranteed.*

EASTERN GARAGE Co.,

Official Repairers to R.A.C., A.C.U., A.A. & M.U.

418, ROMFORD ROAD, FOREST GATE, E.7.

Telephone: 490, East Ham.
Telegrams: "Egaraco, London."

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C. Skootamota, 1919-1920, perfect mechanical condition, good tyres, etc.; £25, or near offer; Derbyshire.—Box 114, c/o *The Motor Cycle.* [X8577

1920 3h.p. 4-speed Twin A.B.C., very little ridden, in splendid condition and running order; £140, or near offer.—Write Box 980, Reynell's, 44, Chancery Lane, W.C.2. [6619

A.B.C. Electric Model, never ridden, sell 10% below cost; also late model Singer car, faultless, owner detained abroad after delivery, returning hurriedly; seen by appointment.—S., 2a, Narbonne Av., S.W.4. [7411

Abingdon.

ABINGDON King Dick, 3½h.p., 1913, free engine with clutch, lamps, etc., in good condition; £35.—Bryan, King St., Rye. [7413

1920 Abingdon King Dick 5-6h.p. Combination, all lamps, 3-speed countershaft, very low mileage, as new; £137/10; exchanges.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [8019

Acme.

ACME 8h.p., with coachbuilt sidecar, 1920 demonstration model, only run 200 miles, spare wheel and tyre; £195, complete.—Box 1,377, c/o *The Motor Cycle.* [0405

NEW Latest Type 8h.p. Acme Combination, J.A.P. engine, spare wheel and tyre, slightly shop-soiled, at great reduction. Write for special bargain list.—The Premier Motor Co., Aston Rd., Birmingham. [X8340

A.J.S.

JULIAN'S, of Reading, for A.J.S [7661

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A. Parts. [7993

1921 A.J.S. for Earliest Deliveries.—Write the appointed agents.—Tew, Petersfield. [7820

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [7313

BRIGHTON, Hove, and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CHOW Bros., Whitehall Garage, Guildford, A.J.S Agents and expert repairers since 1912. [7989

A.J.S. 1920 Combination, mileage 300; £180.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5517

A.J.S. November, 1919, Combination, fully equipped, all accessories; £195, near offer.—31, Cecil Av., Wembley. [7981

A.J.S. 6h.p. 1920 Combination, very little used; trial run with pleasure; £190.—Mandes', 100, Great Portland St., W.1. [8158

A.J.S., 1916, 2¾h.p., 3-speed, K.S., clutch, accessories, thoroughly overhauled; £68/5.—Carlton Motors, Bettws-y-Coed. [7792

A.J.S. 6h.p. Combination, 1916, spare wheel, screen, lamps; £125.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8075

A.J.S. 2¾h.p., 3-speed, clutch, K.S., lamps, accessories, pillion, excellent condition; £50.—Kellie, 51a, Dornton Rd., Balham. Streatham 2052. [8096

1916 A.J.S. Combination, splendid condition, little used, Tan-Sad, lamps, spare wheel; £125.—72, Longridge Rd., Earl's Court. 'Phone: Western 1344. [7819

A.J.S. 1921 Models, delivery guaranteed when required; deferred payments arranged.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4009

6h.p. A.J.S., 1914, in excellent running order, lamps, horn, speedometer, spring pillar seat, mudshield, few spares; £80, or near.—Carter, Comberback, Northwich. [7382

1919 (Late) A.J.S. 6h.p. Combination, in excellent condition, side screen, all lamps, new tyres; bargain, £170; Carnarvonshire.—Box 1,604, c/o *The Motor Cycle.* [7386

BRAND New A.J.S. Combination, beautifully equipped, most luxurious outfit, cost £245; accept £190; exchanges.—60, Wallingford Av., North Kensington. [7935

1913 A.J.S. Combination, 6h.p., stored war, overhauled 1920 by A.J.S. £45, new tyres, horn, speedometer, Easting; first offer £100.—Clapham, Lyonshall, Kington, Herefordshire. [7431

A.J.S. 1920 Combination, unridden, perfect dynamo lighting, speedometer, hood, screen, side curtains, Klaxon horn, Tan-sad, spare wheel; what offers?—Besborough, 754, Alum Rock, Birmingham. [X5734

1914 6h.p. A.J.S. Combination, wind screen, all lamps, tools, and spares, just been overhauled, splendid condition, any trial; £90.—Ainsworth, Bruch View, Manchester Rd., Warrington, Lancs. [7880

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

1916 A.J.S. 6h.p. Combination, sprig seat pillar, interchangeable wheels, spare wheel, small mileage, excellent condition, splendid pulling engine, bought car; £130, or near offer.—W. Baines, Melton Mowbray. [7627

A.J.S. Late 1920 Combination, accumulator electric lighting, Binks carburetter, Bonniksen speedometer, spare wheel and screen, splendid condition, new tax paid; £200.—Parslow, Hazlewood, Hazlewood Lane, Palmer's Green, N. [7396

1919 6h.p. A.J.S. Combination, A.J.S. sidecar, dynamo lighting, spare wheel, hood, screen, side curtains, speedometer, tyres as new, outfit good as new; £145; seen any time.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [7856

A.J.S. Combination, late 1919, Binks, speedometer, discs, leg-shields, electric lighting, also acetylene headlight, Tan-Sad, foot end hand clutch, automatic lubrication, muffs, screen, side screen, hood side curtains, many spares, perfect condton; £170 for quck sale. —27, Gt. Quebec St., Marylebone Rd., London. [8145

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. A.J.S. combination, latest 1921 model, complete, £215; A.J.S. 1920 combination, fully equipped with accessories and spare wheel and tyre, not ridden 250 miles, and is like new, £175; easy terms one-fifth down, the remainder in 12 monthly payments. [8111

Alecto.

ALECTO, the first 2-stroke to break records; 1921 models, immediate delivery; cash, exchange, and deferred payments; catalogues and full particulars on request.—11L, Kramer Mews, West Brompton, S.W.6. [6523

Alldays.

1920 2¾h.p. Alldays Allon, as new, mileage 500; £70.—Stewart, 7, Cleveleys Rd., Clapton, E.5. [7637

ALLDAYS Allon, 1917, 2¾h.p., 2-speed, 2-stroke, discs, legshields, good condition; £42.—Newman, School House, Totteridge, N.20. [7703

1918 Allon, 2-speed, equipped and perfect; 35 gns.; approval or particulars willingly; also L.M.C.— 15, The Mansions, Mill Lane, N.W.6. [6943

ALLDAYS Allon, 1920, 2-speed, clutch, K.S., Dandy sidecar attached, delightful little turnout; £70.— Bunting's Exchange, Wealdstone. Closed Sundays. [8008

ALLDAYS Allon, 1920, 2-speed, clutch, kick starter, lamps, horn, tools, etc., run 500 miles, as new; £55.—A., 136, Ravensbury Rd., Earlsfield, London, S.W. [7167

ALLDAYS Allon 2¾h.p., 2-speed, lamps, good tyres, perfect running order, reliable; first cheque £39/10.—S. Lucas, Clothiere, 300, Haldenhurst Rd., Bournemouth. [7415

NEW 2¾h.p. Alldays Allon Model de Luxe, 2-speed, clutch, and kick starter; £80/15, or on Harrods unique easy payment system, 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [7675

American X

AMERICAN Excelsior Combination, 7-9h.p., accessories, very fast, as new; £178.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0410

100 GNS. Net.—1920-21 American X 7-9h.p. twin, brand new, unsoiled, unridden, dynamo lighting and horn; evenings.—54, Coval Rd., Mortlake. [X5571

NEW 1921 Model American X. for immediate delivery, 7-9h.p., 3-speed, 3½in. tyres, etc., Millford de Luxe sidecar; £215; liberal exchanges.—The Premier Motor Co., Aston Rd., Birmingham. [X5341

AMERICAN X 1916 7-9h.p., 3-speed, dynamo lighting, electric horn, speedometer, Watsonian bulbous backed sidecar, hood, screen, little used; £105, or nearest; must sell.—13, Woodstock Rd., Poplar, E.14. [7666

1920 Late American X Combination, 7-9h.p., only done few miles, dynamo lighting, Cowey, speedometer, mechanical horn, spares, most luxurious combination, cost £245; accept £145; exchanges.—60, Wallingford Av., North Kensington. [7937

Ariel.

1920 Ariel (April) Combination, perfect condition; £130; Liverpool.—James Sinclair, Sligo. [X5670

ARIELS, all models, orders now accepted for early delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0438

ARIEL 1920 New 3½h.p. Solo; list price £120, our price £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0422

ARIEL, the no-trouble outfit, supplied promptly by a trusted agent since 1909.—Burton's Motor Cycle Works, Gillingham, Kent. [7340

ARIEL Combination, 1914, 3½h.p., 3-speed countershaft, chain drive, perfect; £55.—Yates, Southend, Croydon. 'Phone: 2408. [7864

5-6h.p. Ariel 1919 Combination; £125.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [7812

WE WANT YOU

to see for yourself the extreme value we are presently offering, of **Brand New 1920 Models,** at hitherto unheard of prices.

Our List certainly gives all details, but there are many buyers who like to see exactly what they are getting, and to make sure the Machines are as represented.

We therefore make the following

UNPRECEDENTED OFFER

of a FREE JOURNEY to EDINBURGH or GLASGOW,

to each Buyer of a machine from our Sale List.

Come from any part of Great Britain, select your machine from our gigantic Stock, at our already greatly reduced price, from which your train-fare will also be subtracted.

If your time is short—travel overnight—we will give you lightning service if desired, and you can be on your return journey, either by road or rail, within an hour or two.

How does this appeal?

Send us your enquiry, and get our List which will firstly show it's worth your while to visit us

A HEARTY INVITATION TO ALL FROM LAND'S END TO JOHN-O'-GROAT'S!

This offer lasts till February 5th and supersedes all other offers.

If you give us a slight indication of your requirements, we will advise you whether it would be better to visit Edinburgh or Glasgow for the greater selection of the type of machine required.

ALEXANDER & CO.,

113-115, Lothian Rd., EDINBURGH,
AND
272-274, Gt. Western Rd., GLASGOW.

(Time is short—write us at once!)

MOTOR CYCLES FOR SALE.

Ariel.

1916-17 Ariel 3½h.p. Combination, 3-speed countershaft, Binks, Spencer cords; £95.—Torode, Northfields Av., Ealing, W.13. [78

ARIEL 3½h.p., 3-speed and sidecar, Oct., 1919, 8 miles, unpunctured, lamps, horn, new condition £110.—Pusill, Hillcrest, Denganwy. [78

1919 3½h.p. Ariel Combination, electric lightin horn, wind screen, as new; £125. Tel.: Maysen 6626.—A.S.C., 80, Mortimer St., W.1. [80

ARIEL 1920 6-7h.p. Combination, in practically ne condition, all lamps, little mileage; £120.—104 Finchley Rd., N.W.3. Hampstead 7822. [80

ARIELS.—Order now for 1921 all-chain and chai cum-belt models; spares in stock.—Geo. Taylo Ariel Agent, 28, Lower Addiscombe Rd., Ea Croydon. [81

ARIEL 3½h.p. (1920) and Paragon folding sidecar lamps, speedometer, horn, Easting and Tan-sa low mileage; £120; deliver 50 miles.—40, Replingha Rd., Southfields, S.W.18. [79

ARIEL Service Depot.—Orders now booking for t new all-chain models, which are the Rolls-Roy of motor cycles. All spares stocked. Prompt attentio —F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpu hey, Manchester. Tel.: 325 Cheetham Hill. [82

1919 (Sept.) 6-7h.p. Ariel Combination, milea under 1,500, luggage grid, P. and H. head lig and generator, side and tail lights, Cowey speedomete bulb and mechanical horns, pillion seat, Easting win screen, excellent order; owner buying car; price £16 offers considered.—Apply, Colonel E. L. Dunstervill R.E., Taplow, Bute Rd., Wallington, Surrey. [74

ARIEL.—Some agency is the Ariel, and we hold th for North London. We are practical riders an gold medal winners with this wonderfully efficient an reliable motor cycle. Have you seen the new 4½h. comb.? It is a glorious outfit. Immediate deliver 3½h.p. solo, 3½h.p. comb., and 6-7h.p. comb., fo models in stock; all spares in stock; trade supplied. Jones' Garage, Muswell Hill, N.10, and at Woodsid Parade, North Finchley. [03

Bat.

BAT 6h.p. Twin, tip-top condition, just overhaule Clackmannanshire; £85.—Box 1,654, c/o *The Mot Cycle.* [76

6h.p. Bat-Jap Coachbuilt Combination, 2-speed gea just overhauled; £65.—Hudson, 14, Conway Ro Plumstead, London. [77

BAT 1920, shop-soiled only, list price £160; ou price £132.—Ratcliffe Bros., 200, Gt. Portlan St., W. Mayfair 5042. [04

1920 8h.p. Bat Combination, spare wheel, usu equipment; offers. Tel.: Museum 6626.—A.S.C 60, Mortimer St., W.1. [80

BRAND New Bat 8h.p. Combination; £165.—Cli ford Wilson, 70, Royal Hospital Rd., Chelse S.W.3. Tel.: Kensington 7113. [78

1920 6h.p. Bat-Jap, Model 4, yet unpunctured, tyr new, any trial; absolute bargain at £100 to clea —Boulton, Smallthorne, Staffs. [X56

NEW 1920 6h.p. 3-speed Bat; list price £160, sho soiled £135; carriage paid to any address.—T Premier Motor Co., Aston Rd., Birmingham. [X53

BAT 8h.p., 1920, shop-soiled, 3-speed clutch an kick starter, £170; Autoped scooter, dynam lighting; £30.—Motor Cycle Mart, Chatham. [79

£35.—4h.p Bat-Jap, spring frame, J.A.P. engin Bosch, drip feed, lamps, horn, fast climber, ri away; bargain.—75, Greenside Rd., Shepherd's Bush. [74

1916 Bat-Jap 5-6h.p. Twin, countershaft, clute kick start, coachbuilt sidecar, running orde £70; must sell; trial.—Wood, 16, Hewett St., Londo E.C.2. [76

BAT, late 1919, 8h.p., electric lighting set, 3-spe gear box, kick starter, Henderson sidecar, all first-class condition; £110.—Moffatt, 139, Bruntwoo Lane, Earlsfield, S.W.18. [79

BRAND New B.A.T., with coachbuilt sidecar match, spring frame, 3-speed, etc., a beautifu outfit; £160; exchanges entertained.—Bamber's, Eas bank St., Southport. Tel.: 607. [79

F.O.C.H. have a 1920 6h.p. Bat and coach sid car, accessories, excellent condition; £110.— Heath St., Hampstead (nr. Hampstead Tube Station 'Phone: Hampstead 3752. Hours 9-7, including Satu days. [75

Beardmore.

BEARDMORE, perfectly new, shop-soiled only; ca never repeat; £85.—138, Gray's Inn Rd., W.C [57

THE Beardmore Agents.—1921 models in stock £105.—Service by Riders, Smithies, Carlto Motors, Bettws-y-Coed. [77

Blackburne.

GENUINE Bargain.—Blackburne 4h.p., 1920, new £120.—Vivian Hardie and Lane, Ltd., 24, Woo stock St., Bond St., W.1. [03

BLACKBURNE new 1920 4h.p., list price £13 our price £120.—Ratcliffe Bros., 200, Gt. Por land St., W. Mayfair 5042. [04

MOTOR CYCLES FOR SALE.

Douglas.

OUGLAS, 1911, 2¾h.p., 2-speed; £25.—Carlton Motors, Bettws-y-Coed. [7794

16 2¾h.p. Douglas, perfect, very fast; £55.—Dunn, 326, Euston Rd., N.W.1. [8041

.p. Douglas, less magneto, 1918; from £30.—24, Church Walk, Hampstead. [7293

15 Douglas 2¾h.p., less magneto and gear box; £20.—24, Church Walk, Hampstead. [7294

20 Douglas Combination, shop-soiled; £155 to clear.—Cross, Agent, Rotherham. [X5694

OUGLAS 2¾h.p., 1911, perfect order throughout; £15.—199b, King St., Hammersmith. [7966

OUGLAS.—A fine assortment in stock at prices to suit all.—Ross, 86, High Rd., Lee. [5670

3h.p. Douglas, 2-speed, good running order; £35, or offers.—Whipp, 226, Ferndale Rd., Swindon. [7487

RIGHTON, Hove, and District Douglas Agents, Turpin s, 52 and 29, Preston Rd., Brighton. [0201

20 4h.p. Douglas Combination, accessories, small mileage; £115.—Dunn, 326, Euston Rd., N.W.1. [8039

OUGLAS, 1918, in first-class condition, thoroughly overhauled; £90.—262, Blackhorse Lane, Walmstow. [8016

55.—Douglas, 1916, 2¾h.p., excellent condition; must sell.—4, St. Mary Abbott's Place, High St., nsington. [7694

h.p. Douglas, lamps, etc., perfect, £55; 2¾h.p. Douglas, lamps, Klaxon, 1918, £60.—141, Merton Rd., mbledon. [7468

20 4h.p. Douglas Combination, mileage under 500; £140.—Goodwin, Alderwick House, London Rd., unslow. [5661

IBB, Gloucester, can give immediate delivery Douglas 1921 models and spare parts from stock.—hone: 852. [6340

OUGLAS 1920 4h.p., shop-soiled only; £153.—Parker's, Bradshawgate, Bolton. 245, Deansgate, nchester. [X5635

AX Paid.—1916 2¾h.p. Douglas, electric lighting, all on, excellent condition; £55.—76, Western ., Southall. [6641

21 Douglas 2¾h.p., 3-speed, K.S., 100 miles, makers' guarantee, £3/15 insurance; £97.—Clner, mbledon, Henley. [7495

ENGINE 1914-15 Douglas 2¾h.p., 2 speeds, clutch, kick, lamps, perfect, little used; £50.—Parkinson, ilder, Chatteris. [7536

18 4h.p. Douglas Combination, running order, needs slight clutch repair; £75.—Dunn, 326, ston Rd., N.W.1. [8043

19 4h.p. Douglas Combination, complete with hood, screen, speedometer, lamps, etc.; £140, ear offer. Also

19 2¾h.p. Douglas, lamps, horn, etc., complete; £75, or near offer; any examination.—57, Stone use St., Clapham, S.W.4. [7305

40.—Douglas 1914-15 2¾h.p., 2-speed, Amac, C.A.V., lamps, horn, etc.; exchange.—1, Albert Cottages, rlborough Rd., S.E.1. [7766

OUGLAS, 1916, 2¾h.p., makers' colours, overhauled, new tyres; trial; £48.—30, Crystal Palace k Rd., Sydenham. [7782

h.p. Douglas, rebuilt, re-enamelled, replated, thoroughly overhauled; £68; with new sidecar £98.—x, 84, Jermyn St., S.W. [7492

OUGLAS 2¾h.p., 2-speed, 1915, splendid condition, K.S., clutch missing; £54, or gear offer.—Eweas, odland Rd., Camberley. [7507

20 Douglas Combination, P. and H. lamps, Cowey horn, speedometer, pillion; tax paid; £135.—5, ondfield Rd., Catford. [7714

20-1 Douglas 2¾h.p., 3-speed, clutch, K.S., unused, list £105; £90.—104a, Finchley Rd., W.3. Hampstead 7822. [8086

21 Douglas Models, immediate delivery. Write us your requirements. Trade supplied.—Moffat, Douglas Agent, Yeovil. Tel.: 50. [5043

OUGLAS, 1915, replated and enamelled, speedometer, lamps, etc., good tyres; £45.—25, Old wn, Clapham, London, S.W. [7716

OUGLAS 4h.p. Solo, 1920, brand new; list price £130, £120.—Vivian Hardie and Lane, Ltd., 24, oodstock St., Bond St., W.1. [0421

OUGLAS 2¾h.p., 1920, splendid condition, all accessories; £85.—Taylors, Ltd. 52, Sussex Place, W.7. 'Phone: Kensington 7260. [0411

OUGLAS 1921 Solo, £85, £100, £105; combination £170; cash, exchange, or easy payments.—otories, 25, Horton St., Halifax. [7562

OUGLAS 1919 2¾h.p., 2-speed, smart, perfect machine, well equipped; £58; exchanges.—60, allingford Av., North Kensington. [7934

20 Douglas Combination, mileage 1,200, 3 lamps, horn, wind screen; £140; owner away; inspection vited.—Rootes Garage, Pudding Lane, Maidstone. [7471



The Last of the Bargains

1920 **LEVIS,** mileage about 800. **47 Gns.**

1921 **MATCHLESS** Combination, Magdyno, hood, speedometer. Gold Medal winner, London-Exeter. Mileage about 1,000. Beautiful outfit. **190 Gns.**

1920 6 h.p. **ZENITH,** Sports Model, new, but slightly shop-soiled. **110 Gns.**

1920 **MORGAN,** G.P., water-cooled M.A.G., mileage under 1,000. Painted blue, and in really magnificent condition. Complete, **190 Gns.**

Model 2 **B.S.A.** Sidecar, with apron, shop-soiled only, list price £42. **32 Gns.**

Several Mills-Fulford and Montgomery Sidecars below cost price.

JULIAN,

84, Broad Street, READING.

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Douglas.

4h.p. Douglas T920 Combination, new June and only run 4 months, lamps, horn, tools, excellent condition; £135.—Ellis cales, Dalton-in-Furness. [7299

4h.p. Douglas, 1915, 2-speed, recently overhauled, new tyres, fully equipped, discs; genuine bargain, £60, offers.—17, Charles St., Hatton Garden, E.C. [7640

1920 Douglas 2¾h.p., 3-speed, as new, Cowey speedometer, P. and H. lamps, Klaxon, all accessories; £60.—Symons, 18, Rosslyn Av., Barnes, S.W. [7798

DOUGLAS 4h.p. Combination, 1920, full equipment, guaranteed perfect condition; £125.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0416

£45.—1916 2¾h.p. Douglas, 2-speed, enamel and plating like new, engine, tyres, etc., perfect.—Milliners, 6, Cavendish Parade, Clapham, S.W.4. [7778

1921 4h.p. Douglas, brand new, £117; or with new Douglas sidecar, £152.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [8168

DOUGLAS 1920 4h.p. Combination, new condition throughout, very little used, lamps, Klaxon horn, etc., forced sale; £145.—Stirling, Foster Clark, Ltd., Maidstone. [7465

1921 Douglas, 3-speed model, used 100 miles, perfect; £95, or near offer.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [7810

DOUGLAS 1921 2¾h.p., 2-speed, only used once; exceptional bargain, £90.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5543. [0066

DOUGLAS Combination, 4h.p., 1920, hood, speedometer, lamps, not run 1,000 miles; £145.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0407

DOUGLAS, 1913, 2-speed, clutch, new engine, 2¾ h.p., all lamps and spares, complete outfit, perfect running order; what offers? must sell.—41, Underhill Rd., Dulwich, S.E.22. [7567

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

DOUGLAS 2¾h.p., late 1919, in excellent condition, new Stepney tyres, lamps, horn, etc., recently overhauled, thoroughly reliable; what offers?—Bowers, The Villa, Dunley, Stourport. [X5608

DOUGLAS 2¾h.p., 1917, very speedy, new Claudel single lever carburetter, new C.A.V. mag., new Palmer tyres and tubes; trial invited; £40.—King, The Avinry, Brooklands, Byfleet. [7805

£55.—1917 2¾h.p. Douglas, 2-speed, makers' colours, new P. and H. head lamp, Thomson-Beanett, Amac, enamel and plating unscratched, several new parts.—63, Salon Rd., Brixton. [7776

4h.p. Douglas Combination, tyres good, 3-speed, clutch model, ready to drive away; price £75; trial by written appointment.—H.A.W., 8, Richmond Rd., Cottenham Park, Wimbledon, S.W.19. [7612

1920 (August) Model B, 4h.p. T.T. Douglas Combination, run 500 miles, P. and H. head light, horn, Tan-Sad, etc., all as new; £140, or near offer.—Gray, 16, Tavistock Sq., W.C.1. [7506

1920 4h.p. Douglas Combination, with Volex dry battery lighting and Easting wind screen, mileage under 600; price £155.—Champeney, Fairdale, Belmont Crescent, Swindon, Wilts. [7312

THE Effra Motor Works.—When you have purchased an 2¾h.p. Douglas from us you have the satisfaction of knowing that our machines are entirely overhauled and worn parts renewed; carriage extra.—Below.

ON Approval Against Cash.

£45; 2¾h.p. Douglases, 1915-16, re-stoved and replated in makers' colours, new Amac carburetter, just like a new machine and as good.—Below.

WHY? As we purchased the remaining entire dump of 2¾h.p. Douglases, W.D., this is the reason we are able to offer these machines at this price.—The Effra Motor Works, 14, Effra Parade, Brixton, London. [8119

4h.p. Douglas, W.D. unrenovated, with sidecar chassis and wheel, less mag. and carburetter and small parts, £30; magnetos, new Thomson-Beanetts, £3/15, suit same.—Banister and Botten, 341, Upper St., Islington, N.1. [7918

1919 October) 4h.p. Douglas Combination, engine No. 9277, just been overhauled, new Dunlops, spare tyre and tube, F.R.S. head, electric side and tail, Lucas horn, Cameo, tools and spares, just reinsured; £145, or best offer.—Hazeldene, Preston Grove, Yeovil. [7405

DOUGLAS 1921 Models in stock.—2¾h.p., 2-speed, hand clutch, kick starter, £105; 2-speed model, £85; cash or extended payments; sent to any part of the country.—Authorised Agents: Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5543. [0065

2¾h.p. Douglas, 3-speed, clutch, K.S., 1915-16, stored 3 years and in excellent condition, large detachable aluminium mudshield and wind screen, 1920 Binks (over 110 m.p.g.), 1920 Watford trip, Lucas lamps, full tool kit, spares; £65.—Patrick, 91, Lambeth Palace Rd., S.E.1. [7518

MOTOR CYCLES FOR SALE.

Douglas.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. Douglas machines, 1921, kick start models, 3 speeds, clutch, £105; 4h.p. combinations, £170; 4h.p. solos, £130; also 2¾h.p. W.D. Douglas, supplied from Douglas works, £85; easy terms one-fifth down and the remainder in 12 monthly payments. [8108

1920 4h.p. Douglas Combination, fitted with polished aluminium discs, Lucas horn, front mudshields, Rotax dynamo lighting set, Cameo wind screen, mileage 1,250, practically new appearance, mechanical condition guaranteed perfect; £155.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [8124

DOUGLAS Motor Cycle on easy terms of payment; 4h.p. combination. £170; 2-speed solo model. £85; 3-speed clutch and kick starter model. £105, plus a small charge for delivery from works to London. The above are makers' list prices. For easy payments 4% extra is charged, only one-fifth deposit, balance payable by 12 monthly instalments. Write for latest lists of other machines in stock, etc.—Harrods, Ltd., 118, Brompton Rd., London. [7678

BARGAIN.—Brand new 1921 2¾h.p. Douglas, 3-speed only, fully equipped and fitted with electric lights, Stewart mechanical horn, Flexa spring seat-pillar, Tan-Sad, auxiliary petrol tank (1 gall.), footboards, undershield, W.R.S. jet, and licence card holder; specially plated model, fitted up for comfort, convenience, and appearance; the machine has never touched the road since delivery a few days ago; satisfaction guaranteed; it only wants seeing; cost £120; will accept £100, or nearest offer either way; owner officer returning to India.—Box 1,587, c/o *The Motor Cycle*. (D) [7358

Edmund.

EDMUND 2¾h.p., 1920 model, J.A.P. engine, Enfield 2-speed gear and clutch, spring frame, unused, shop-soiled only; bargain, £80.—P. J. Evans, 81-91, John Bright St., Birmingham. [0457

Enfield.

1920 8h.p. Enfield Combination, brand new; £152. —Below.

1915 6h.p. Enfield Combination, wind screen, hood, lamps, perfect condition; £75.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [8169

NEW 1920 Enfield, 2-stroke, 2-speed; £65; in stock.—Randal, Andover. [0369

ENFIELD 2-stroke, 2-speed, Nov., 1919, little used; £50.—Wright, Feathers, Rickmansworth. [7980

ENFIELD 1921, all models for immediate delivery. —Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0432

2¾h.p. Enfield, 2-speed, complete with lamps, thoroughly overhauled; best offers.—Lloyd, The Leys, Aylton, Ledbury. [7545

1920 2¼h.p. Royal Enfield, 2-stroke, 2-speed; 60 gns.; for immediate delivery.—Morriss and Co., 139, Finchley Rd., N.W. [7444

1915 6h.p. Enfield Combination, in good running order; £75 for quick sale.—Williams, 19, Portland St., Cheltenham. [X5703

6h.p. Enfield, 1920 model, J.A.P. engine, unused, shop-soiled only; £150.—P. J. Evans, 81-91, John Bright St., Birmingham. [0451

BRAND New Enfield Lightweight; £60.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [7811

ENFIELD Combination, 6h.p., splendid running order; any trial; £78/10, worth £100.—63, Walm Lane, Cricklewood, N.W.2. [X5672

£55.—Enfield 2¼h.p., 2-speed, 1920, engine E. 1875, usual accessories, new condition, tax 30/-.—Brewer, Amersham, Bucks. [7764

1919 3h.p. Enfield, 3-speed, K.S., lamps, horn, and spares, fully licensed, with holder; £75.—Walker, 32, King St., Queen's Sq., Bristol. [7517

ENFIELD Combination, 8h.p., 1920, Magdyno, Easting screen, Cowey speedometer; £125.—Hop. 5970. —G. Whitmore, Pilgrim's Hatch, Oxted. [7647

ENFIELD Combination, late 1919, hood, wind screen, lamps, speedometer, etc., as new; £150.—Nunn, Windows Bridge, Thames Ditton, Surrey. [7960

1921 Enfield Combination, dynamo lighting, with or without dynamo; in stock, immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

ENFIELD 6h.p. Combination, only been 4,000 miles, 3 lamps, speedometer, hood, screen, and many extras; only £100.—Wallis, Hartington Grove, Cambridge. [7351

1921 Enfields in stock for immediate delivery; 8h.p. combination, £160; 2-stroke, £65; easy payments.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [8021

ROYAL ENFIELDS, 1921 Combinations, Magdyno, £182; Standard, £160; orders executed in strict rotation.—Owen, 19, Battersea Rise, S.W.11. 'Phone: 1299 Battersea. [7401

Accessories. H.A.H. Complete Electric Lighting Sets. Write for Catalogue.

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Specialities Genuine Hellesen Dry Batteries. FREE on application.

TRADERS write for FREE Catalogues

H.A.H. COMPLETE SETS.—Head, Side, and Tail Lamps, Accumulators, Carrying Case, Switch, Wiring, etc. Ready for installing.

H.A.H. HEAD LAMPS



Fig. 895. Best quality finish throughout. Very massive and strong. Adjustable focus. Adjustable brackets. Special dust and weather-proof front. Price, as illustrated, 72/6 each.

Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. Price, as illustrated, 58/- each. Black plated.

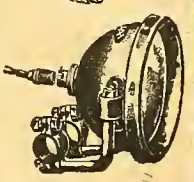


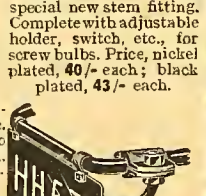


Fig. 880. HEAD LAMP, as illustrated, big, with special new stem fitting. Complete with adjustable holder, switch, etc., for screw bulbs. Price, nickel plated, 40/- each; black plated, 43/- each.

Fig. 573. Shows red danger signal, lights No. plate. Complete with switch bulb wire, clip, etc. Price, 9/6 ea. "Force" Hellesen Battery, 9/11

386. Special metal case for "Force," 10/6

Complete rear set, 29/6.



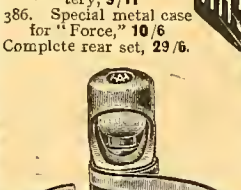


Fig. 347. 'Speedolite,' H.A.H. Patent Speedometer Lamp, 7/6 each Clips direct on to Speedometer and has coloured bulb to prevent glare.

Fig. 358. Garage Inspection Lamp as illus. but without bulb, 7/6 ea.

NEW MODEL SWITCH.



Fig. 428. Has a positive screw up or down action. Cannot shake on, totally insulated. Complete, as illustrated. Price 3/6 each.

Postage extra on the above.



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MOTOR CYCLES FOR SALE.

Enfield.

1919 (Sept.) 8h.p. Enfield Combination, 3 L lamps, Lucas horn, Cowey trip speedome Easting screen, perfect order; £140.—Geo. Hyde, I St., Shrewsbury. [7

ROYAL ENFIELD, good condition, lightweight, speed, for sale, or exchange for heavyweight, adjustment, combination.—A. West, 21, Prideaux Landor Rd., S.W.9. [7

ENFIELD 6h.p., 2-speed, handle start, C.B. side Easting, all accessories, very special offer; £7 Newnham Motor Co., 223, Hammersmith Rd., 'Phone: Hammersmith 80. [8

80 GNS. Only, really absurd bargain.—Enfield co combination, believed 1915, Easting wind scr lamps, speedometer, luggage grid, smart, fast; examination.—24, Beauval Rd., East Dulwich. [7

8h.p. Enfield Combination, to makers' specificat for early delivery, £160; dynamo lighting mo £182 plus delivery from works; deferred payments a small extra charge.—Harrods, Ltd., 118, Bromp Rd., London. [7

WAUCHOPE'S, 9, Shoe Lane, London.—Enf 1921 combination, with dynamo lighting £182; standard model, £160; 2-stroke solo, £65; terms arranged, one-fifth down and the remainde 12 monthly payments. [8

ENFIELD 1921 Models in stock.—8h.p. comb tion, £160; lightweight model, £65; cash extended payments.—Authorised Agents: Elce Co., 15-16, Bishopsgate Av., Camomile St., E.C 'Phone: Avenue 5548. [0

ENFIELD 6h.p. Combination, 1916, lately overhau small mileage, bought May, 1917, by owner, t 65 years, screen and hood, extras, car tyre punct proofed tube, new tube and chain, bought car; £10 Hepherd, Beechcroft, Bassett, Southampton. [7

LATE 1919 8h.p. Enfield Combination, Lucas lam Lucas horn, speedometer, Tan-Sad, mudshield, ×80 tyres, spare, hood, screen, child's seat, luggage g tools, used week-ends only, not used since Sept. splendid condition; £148.—M. 181, Upper Richm Rd., Putney, S.W. [7

ENFIELDS.—The cheapest twin combination on road. We are North London agents, and can g immediate delivery of the standard model, £160; e tric model, £180; trade supplied. All spares in st —Jones' Garage, Muswell Hill, N.10, and at Woods Parade, North Finchley. [0

Excelsior.

1920 Excelsior-Jap, 2¾h.p., Sturmey-Archer 2-spe clutch and kick starter, Cowey horn, absolut as new; £80; exchanges.—Homac's, 243, Lower Clap Rd., N. 'Phone: Dalston 2408. [8

NEW 4½h.p. Big Single Excelsior Combinati bulbous back sidecar, slightly shop-soiled, at g reduction. Write for special bargain list.—The Iren Motor Co., Aston Rd., Birmingham. [X5

Fafnir.

FAFNIR 3h.p., spring forks, new mag., piston, back tyre, low position, just renovated; £ lowest.—Sayer, Kirkby Stephen, Westmorland. [7

F.N.

4-CYL. F.N. Combinations and Solo Singles actu in stock.—Grimes and Co., 18, Bruton Place, N Bond St., W. [6

4-CYL. F.N., overhauled, enamelled, drop frame, g tyres, Bosch, Amac; offers nearest £28; photo Grimmett, Upper Heyford, Banbury. [7

LIGHTWEIGHT F.N., 2-speed, countershaft, clut tyres good, needs slight repairs; £20 quick s offers.—E. Wardman, Wigmore, Kingsland, Herefo shire. [X5

F.N., 4-cyl., Bosch, single gear, few small parts m ing, power unit and transmission complete perfect; £15 to clear.—Hill, 3, Bedford Rd., W Ealing, W.13. [7

1914 4-cyl. F.N., 2 speeds, extra heavy tyres, F.R lamps, horn, transferable insurance, mechanica and appearance perfect; £42, or exchange lightweig —75, Warwick Rd., Bowes Park, N.11. [7

Francis-Barnett.

FRANCIS-BARNET, 2¾h.p. J.A.P., 2-speed, clu and kick starter, electric lamps, speedometer, ho leg shields, mileage under 500, condition as new, gu anteed perfect; £75.—Arnold, c/o Hucklebridge, 1 Sloane St., London, S.W.1. [X5

Gamage.

GAMAGE-VILLIERS, 1919, 2-speed, 2¾h.p., th oughly overhauled throughout, tyres as new, cluding quantity of useful tools, etc.; £48, or near off —King, 125, St. Asaph Rd., Brockley, S.E.4. (Ai 6 p.m.) [7

Grandex.

2¾h.p. Grandex-Precision; £32, bargain, tax paid 36, Elmhurst Rd., Bruce Grove, Tottenha N.17. [7

Harley-Davidson.

HARLEY Sports, new and perfect; first reasona offer.—38, Hawthorn Av., Louth. [X5

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5 GNS.—1918 Harley, Swan sidecar, electric lamps, perfect, fast.—Derby Arms Garage, Mortlake. [X5573

1919 7-9h.p. Harley, 3-speed, as new; £90.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [7857

HARLEY-DAVIDSON Combination, 1916, excellent condition; £98.—15, Mervan Rd., Brixton, S.W.2. [7412

HARLEY, 1918, new condition; any trial; Harley sidecar; £105, bargain.—45, Burton Rd., Brixton. [7994

1920 Harley-Davidson Electric Model, perfect condition, many spares; cheap.—'Phone: Kingston 22. [7361

HARLEY Combination, Tan-Sad, leg-shields, hood, screen; £100.—C/o Foster's Garage, East Grinstead. [7529

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1920 Harley New Electric Model and sidecar, lamps, tools, complete; £175.—Plough Lane, 48, Hayden Rd., South Wimbledon. [7920

HARLEY Combination, 1917, 7-9h.p., lamps, Klaxon, speedometer, gas cyl., good condition; £120.—Baker, 21, Cumberland Park, Acton. [7433

HARLEY Combination, 1918, luxurious outfit, hood and screen, fully equipped lamps, etc.; £145.—3, Arragon Gardens, Streatham, S.W. [7997

HARLEY-DAVIDSON 1920 8h.p. Combination, fully equipped, nearly new; £190.—Parker's, Bradshawgate, Bolton, 245, Deansgate, Manchester. [X5630

HARLEY 1920 Electric Combination, speedometer, discs, Easting, equal new, tax paid; £175, genuine bargain.—Clark, 7, Exhibition Rd., S.W.7. [7629

HARLEY 1918 Combination, lamps, screen, tools, perfect order, guaranteed, any trial, tax paid; £110, lowest.—322, Whitehorse Rd., Croydon. [7298

1920 4h.p. Harley-Davidson, done 800 miles, electric light, absolutely as new; 125 gns.—Apply, Christopher, R.A. Mess, Ewshott, Aldershot. [8128

HARLEY-DAVIDSON 1919 7-9h.p. Combination, tools, mileage 1,200, electric lighting; £184.—L. Vest, 71, Norbury Crescent, Norbury, S.W.16. [0377

HARLEY-DAVIDSON, 1920, 7-9h.p., electric model, as new, discs, speedometer, mileage 200; £150.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5522

HARLEY, complete less engine, unit 1919, W.D.; price £45; good condition.—Barker's Motors, 194, Balham High Rd., S.W.12. 'Phone: Latchmere 4441. [7283

PRIZE Bargain.—Harley-Davidson, 1919, 7-9h.p., special Montgomery sidecar, Easting screen, etc.; £130.—Bunting's Exchange, Wealdstone. Closed Sundays. [8007

HARLEY-DAVIDSON Combination, 7-9h.p., nearly new, electric lighting, horn, spares, suitable for taxi, any trial; bargain. £158.—79a, Hillmorton Rd., Rugby. [7097

HARLEY-DAVIDSON 1919 Solo, electric, indistinguishable from new, unregistered; reason for selling, money wanted; £130.—Hilton, 45, Sloane St., Daubhill, Bolton. [7927

HARLEY-DAVIDSON Combination, 1915, 4½h.p., lamps and horn, perfect running order; a bargain at £70; exchanges entertained.—Bamber's, Eastbank St., Southport. Tel.: 607. [7944

HARLEY-DAVIDSON Combination for sale, 1915, 7-9h.p., mag., M.F. sidecar, accumulator lighting, guaranteed good order; £110, or offers; seen by appointment.—22, Park View, Chester-le-Street. [7538

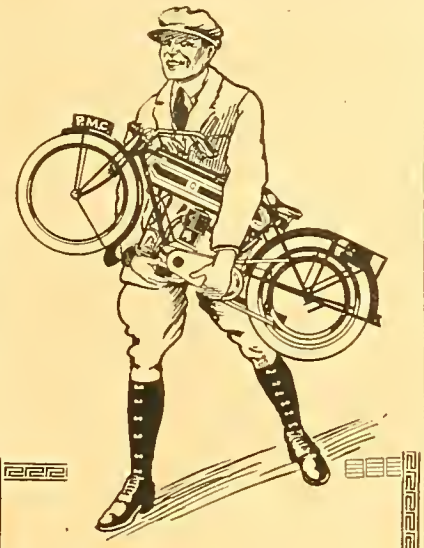
£128.—Harley combination, 1918, Canoelet M.M.4 sidecar, overhauled and guaranteed perfect throughout, enamelling and plating as new, lamps, horn, apron.—Langford's, 37, Cricklewood Broadway, N.W.2. [8059

1919 Harley-Davidson Combination, 7-9h.p., lamps, horn, tools, etc., 2 spare sprockets and chains, perfect running order and condition; £115, or offer.—Villa, King Henry's Rd., Hampstead. 'Phone: 6552. [8131

LATE 1920 Harley-Davidson 4h.p. Flat Twin, only 3 months old, practically new, speedometer, lamps, Klaxon, perfect condition; bargain, £140, or nearest offer.—Tuhab, 24, Oxford Rd., Birkdale, Southport. [5843

HARLEY-DAVIDSON 1918-1919 Models, thoroughly overhauled and guaranteed, solo, £100; with new Montgomery sidecar, £130; easy payments, £43/10 down, 8 payments of £8 solo; £59/15 deposit and 8 payments £10 for combination.—Maudes', 100, Gt. Portland St., W.1; and Paris St., Exeter. [8147

1920 Electric Harley Combination, discs, speedometer, just decarbonised, many extra fitments, many spares, including chains (new), plugs, tubes, sprocket, won several medals, open examination, trial; £205, including licence and holder; or exchange lower power and cash.—Tutham, 10, Portugal St., Cambridge. [X5704



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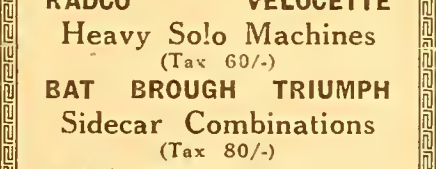
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1920 Hazlewood Combination, 6h.p., 3-speed, new; £155, cash, exchange, or easy payments.—Dunn, 326, Euston Rd., N.W.1. [8036

NEW 5-6h.p. Hazlewood Combination, 3-speed countershaft gear, clutch, tools; list price £204; will accept £175.—Chatfield, 27, High St., Tonbridge. [7330

NEW 5-6h.p. Hazlewood Combination, 3-speed, clutch, and kick starter, a thoroughly reliable outfit; Harrods have a large stock of these, slightly shop-soiled, at £186 each (£20 below list price), or on deferred payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [7670

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HENDERSONS, 1921; immediate delivery.—Barker's Motors, 194, Balham High Rd., S.W.12. 'Phone: Latchmere 4441. [7384

1920 Henderson Combination, dynamo lighting, practically new; £180; lower power part.—37, Arlington Rd., Surbiton. [7746

HENDERSON 1917 Electric Model, with handsome steel sidecar, splendidly equipped; seen by appointment.—Baseldon, West Byfleet. [6893

NEW 1921 Model Henderson, the most highly developed motor cycle ever built; now in stock for immediate delivery; liberal exchanges.—The Premier Motor Co., Aston Rd., Birmingham. [X5347

ONE 10h.p. Henderson Motor Cycle, 2-speed, handle start, new heavy Dunlop tyres, ready to drive away; price £60.—For further particulars apply to Stores Dept., John Heathcoat and Co., Tiverton. [7552

£165.—1920 Henderson 10h.p. combination, new demonstration model, Swan sidecar, wind screen, disc wheel, luxurious outfit; £116 under list.—Hardy, 8, Breams Buildings, Chancery Lane, W.C. 4752 Holborn. [7569

Hoskison.

1920 Hoskison 2-stroke, 2¾h.p. Union engine, 2-speed, kick starter, and clutch, will take sidecar; £72.—Motor Cycle Mart, Chatham. [7972

Humber.

JULIAN'S, of Reading, for Humber. [7564

1921 Humber and Millford Sidecar, in stock; £170.—Cross, Agent, Rotherham. [X5693

HUMBER 2¾h.p. Twin, 1914, Sturmey 3-speed, condition and appearance perfect, 150 lbs.; £35.—82, Southsea Av., Watford. [7771

HUMBER 4½h.p. Flat Twin, 1920 model, unused, shop-soiled only; £125.—P. J. Evans, 81-91, John Bright St., Birmingham. [0453

HUMBER 1919 Flat Twin, fully equipped, like new; 73 gns., bargain; exchanges considered.—70, Beecher Rd., Cradley, Staffs. [X5640

HUMBER 1914 4h.p., 3-speed, clutch, kick start, couch sidecar, in good condition, all accessories; £45.—Hill, 3, Bedford Rd., West Ealing, W.13. [7949

4½h.p. Flat Twin Humber, delivered Oct., 1920, perfect order, mileage 1,280, Bonnikson, lamps, horn; must sell, offers over £110.—Hagenbach, 34, Doughty St., W.C.1. [7712

HUMBER 1917 3½h.p. Flat Twin Millford Combination, 3-speed, clutch, all-chain cush drive, new tyres, tubes, electric lighting, low mileage, very economical; £110.—Maguire, St. Giles House, Edinburgh. [7368

Indian.

7-9h.p. Indian, spleadid fast machine; sacrifice for £50.—Palmer's Garage, Tooting. [7850

INDIAN 1915 7-9h.p., 2-speed, spring frame; bargain, £44.—17, Heaton Rd., Mitcham. [7832

7-9h.p. Indian, 3-speed, clutch, new condition; £75.—43, Northwood Rd., Forest Hill. [7951

INDIAN 1915 7-9h.p. Combination, in perfect order, £55; Rex 6h.p. twin, £14.—77, Acre Lane, S.W.2. [7899

INDIAN 1919 5-6h.p. Sporting Combination, electric lights perfect order; £85.—Turnill, North Peterborough. [7579

INDIAN, 1915, 5-6h.p., 3-speed, K.S., clutch, solo speed mount; £65.—Service by Riders, Carlton Motors, Bettws-y-Coed. [7793

INDIAN Scout, 4h.p., lamps, horn, speedometer, new July; £130, or part exchange Morgan.—W. Smith, 27, Clarence Rd., St. Albans. [5983

MUST Sell, 7-9h.p. Indian combination, 2 speeds, spring frame, electric lighting, good running order; 68 gns.—30, Talbot St., Burnley. [X5711

1920 Powerplus Electric Indian, T.T. bars, only done 2,000 miles, a real sporting 'bus; £150.; London.—Box 1,589, c/o *The Motor Cycle.* [7360

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Indian.

1919 7-9h.p. Indian and 1920 bulbous back sidecar, almost new; any trial; £135.—Conner, 86, Victoria Rd., Stroud Green, N.4. [8162

INDIAN 1915 3-speed, spring frame, new sidecar, all accessories, in perfect condition; £100.—Hill, 3, Bedford Rd., West Ealing, W.13. [7947

1920 Indian 7-9h.p. Powerplus, dynamo lighting, 3-speed, scarcely ridden, condition as new; £165, or nearest.—Bond, Springfield, Bideford. [7306

1915 5-6h.p. Indian, 3-speed, clutch, K.S., C.B. sidecar, disc wheels, new tyres, excellent condition; £95.—74, Hunsdon Rd., New Cross, S.E.15. [7692

1920 Indian Powerplus and sidecar, 3,000 miles, perfect condition; owner going abroad; £175, or near offer.—Elton Morris, The Gaer, Hereford. [7080

T.T. Indian, 1915, Model D., 7-9h.p., F.R.S., pump, tools, etc.; offers, or exchange for Triumph, Rudge, Norton, etc.—64, Clifton Rd., Peckham, London. [7588

INDIAN 1920 4h.p. Scout and Sporting Sidecar, fully equipped, shop-soiled only; £155.—Parker's, Bradshawgate, Bolton, 245, Deansgate, Manchester. [X5636

1920 Indian Powerplus, dynamo light, Swan sidecar, all accessories; any trial; £179, or exchange A.B.C. and cash.—Hancock, Veterinary Surgeon, Uxbridge. [7332

INDIAN 1914 7-9h.p. Coachbuilt Combination, electric light and horn, wind screen, hood, carefully used, engine perfect; any trial; £95.—F., 35, Richmond Park Rd., Kingston. [7610

£65 secures 7-9h.p. Indian combination, in excellent condition; several others to choose from; prices right.—Halt Motor Co., Ltd., Kilburn Lane, W.10. Tel.: Willesden 1341. [7446

1919-1920 Indian and sidecar, 7-9h.p., in first-class running condition, for immediate disposal; what offers?—Write Sensible, c/o Advertisement Dept., 5, New Bridge St., E.C.4. [7505

1915-16 Indian 5-6h.p., 3 speeds, clutch and kick starter, all lamps, Bonniksen speedometer; £85; exchanges.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [8022

INDIAN Combination, 7-9h.p., 3 speeds, clutch, K.S., electric lighting set, nickel plated lamps, beautiful condition; any trial; £75.—Ward, South Western Garage, New Malden, Surrey. [7309

1920 Indian Powerplus, Millford bulbous sidecar, dynamo lighting, ammeter, speedometer, screen, tools, mileage under 3,000, unscratched; £165. —33, Victoria St., Coventry. [X5738

WASTE!—Why spend £200 on a 1920 Indian Powerplus combination? Our price is £150, fitted with dynamo, speedometer, ammeter, condition perfect.—Imperial Motor Works, Bournemouth. [7502

INDIAN, 1920 (April) Powerplus Combination, excellent condition, Mills-Fulford sidecar, Easting wind screen, Klaxon horn, electric lighting and horn, luggage carrier; £200.—Lismore, 169, Hatfield Rd., St. Albans. [5695

INDIAN Combination, 1915-16, 5-6h.p., 3 speeds, clutch, kick starter, new tyre and chains, semi-T.T. bars, Millford touring sidecar, absolutely perfect; first £65 secures.—G., 63, Solon Rd., Brixton, S.W.2. [7768

INDIAN 1920 7-9h.p. Powerplus Combination, mileage 3,000, hand and foot clutch,, special sidecar, electrically equipped, full set of tools and spares; £180.—Hewin's Garages, Ltd., the real service firm, Taunton. [8035

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£145.—1920 Powerplus Indian combination, Mills-Fulford sidecar, dynamo lighting, electric horn, hood wind screen, speedometer, luggage grid, etc., condition practically as new.—Langford's, 37, Cricklewood Broadway, N.W.2. [8060

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1920 7-9h.p. Powerplus Indian Combination, electrically equipped, Mills-Fulford bulbous back sidecar, fitted Cameo wind screen, hood, luggage carrier, spare accumulator and chains, ridden under 1,000 miles, perfect mechanical condition; owner selling owing illness; bargain for £170; only wants seeing.—Apply, letter or personally, any day after 5.30 p.m., at 23a, The Broadway, Wimbledon, S.W.19. [8094

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IVY 1919 2-stroke, fully equipped, perfect; £48.—I. Bailey, Stratton, Micheldever, Hants. [7945

IVY 1921 Models.—Sole District Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. Phone: 72 [5006

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IVY, the aristocrat of its type; delivery of all mo from stock; prices and catalogue post free.— District Agents, The Walsall Garage, Walsall. T 444. [4

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1920 James 5-6h.p. Twin, lamps, horn, good co tion; £75.—L. Cole, Gt. Shelford, Cambri [7

1920 5-6h.p. James Sporting Solo, 3-speed, all-ch T.T. bars; £87/10.—Dunn, 326, Euston N.W.1. [8

JAMES Combination, 1915, 3 speeds, countersh kick start, accessories; £66.—202, Munster Fulham. [7

1920 5-6h.p. James Combination, makers' p £190; what offers.—Shepherd, Enfield Highw Tel.: Waltham X 31. [0

JAMES 4½h.p. Combination, 1915, 3-speed, lam horn, just overhauled; £50.—Brookman and 5, St. Albans Rd., Watford. [7

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1916 James No. 6 Combination, everything on, li used, guaranteed perfect; £105.—Below.

1920 James Twin Combination, new; £175.—Bel

1921 James.—All models for delivery, all spa stocked.—Tew, Petersfield. [7

JAMES New Combination, all models for im diate delivery from stock.—Sole district age The Walsall Garage, Walsall. Tel.: 444. [4

JAMES 5-6h.p. Combination, 1920, used only rural runs, fully equipped; £170.—Ratcliffe Br 200, Gt. Portland St., W. Mayfair 5042. [0

1920 James 2-stroke, mileage 400, well equipp exceptional fine machine; cost £80: accept £ exchanges.—60 Wellingford Av., North Kensington. [7

JAMES 4½h.p., countershaft gear box, James can sidecar, splendid order; £75.—Newnham Motor 223, Hammermsmith Rd., W.6. 'Phone: Hammersm 80. [8

1919 3½h.p. Twin James Coachbuilt Combinati countershaft, enclosed chains, ideal out equipped; £85.—Blencathra, Highfield Rd., Walt on-Thames. [7

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5-6h.p. James Combination, March, 1920, elec lighting, speedometer, hood, screen, etc., first-r condition; bargain, £150.—Cook 147 Broadway, W Hendon, N.W.9. [8

1919 5-6h.p. James Combination, lamps, leg-shie Cowey horn, and speedometer, luggage grid, chil detachable seat in sidecar, exceptional condition; £15 Allen, 166, High St., Acton, W.3. [7

NEW 6h.p. Twin James Combination, Model de L bulbous back sidecar, one only, slightly shop-soil at great reduction. Write for special bargain list.— Premier Motor Co., Aston Rd., Birmingham. [X5

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6h.p. J.A.P., 2-speed, K.S., easy starter, fast; £ exchange 3-4 twin.—A. Barraclough, 10, Cromw Rd., Bedford. [7

J.A.P. Combination, coachbuilt, countershaft; £3 Exeter Engineering Co., 1a, Sternhall La Peckham Rye. [7

J.A.P. 3½h.p., Philipson Pulley, C.A.V. mog., and B. carburetter, weight 189 lbs., 110 m.p any trial; £60, or exchange for higher power.—K 17, Thames St., Hampton. [X5

J.E.S.

J.E.S. 1921 Models from stock.—Gibb, Glouces 'Phone: 852. [0

J.H.

1916 J.H. and Sidecar, 6h.p. M.A.G. engine, Star countershaft, complete lamps, etc.; £69.—Cr Agent, Rotherham. [X5

Lea-Francis.

LEA-FRANCIS 1920, shop-soiled only, list pr £130; our price £115; orders now accepted 1921 models.—Ratcliffe Bros., 200, Gt. Portland S W. Mayfair 5042. [0

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Lea-Francis.

A-FRANCIS 1917 3½h.p., 2 speeds, clutch, fully equipped; £50.—Parker's, Bradshawgate, Bolton, Deansgate, Manchester.

0 GNS. Net.—1920-21 Lea-Francis, 3½h.p. M.A.G. twin, countershaft, unsolled, unridden, evenings, -54, Coval Rd., Mortlake. [X5572

A-FRANCIS 3½h.p., 2 cyls., M.A.G. engine, countershaft gear, speedometer, lamp, horn, etc.; t new August, 1920; cost £140, accept £77.—r, 24, Mansfield Rd., Gospel Oak, London, N.W.3. [8049

W Lea-Francis, two-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or eferred payments 4% extra; only one-fifth deposit, ce by 12 monthly instalments.—Harrods, Ltd., 118, rpton Rd., London. [7672

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EVIS 1921 Sports Model, brand new, not used; £54.—Wallis, Hortington Grove, Cambridge. [7350

ABY Levis, 1914, excellent order, enamelled French grey; £32.—Hopwood, White Waltham arage, Maidenhead. [7730

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EVIS 2-stroke, 2¼h.p., in magnificent condition, tyres nearly new, with licence attached; £42/10. T. Proudfoot, 631, Battersea Park Rd., S.W.11. [7473

1h.p. Levis, Popular model, brand new from works; £60, or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton , London. [7679

921 Levis Popular in stock for immediate delivery at £60; exchanges or easy payments accepted. fficial Agents, Homac's, 243, Lower Clapton Rd., 'Phone: Dalston 2408. [8023

EW 1921 Levis Models in stock for immediate delivery; 2¼h.p. Touring, 2¼h.p. Sports, 2¼h.p. r's, £60; buy your machine from the Levis Specialists, The Premier Motor Co., Aston Rd., Birmingham. [X6348

L.M.C.

915 4h.p. L.M.C., 2-speed, kick start, topping order, owner Ireland; approval.—15, The Mansions, ll Lane, N.W.6. [6944

Martinsyde.

921 Martinsyde Combination in stock.—Julion, 84, Broad St., Reading. 'Phone: 1024. [7488

ARTINSYDE Combination, 6h.p., 1920, Easting wind screen; £140.—Maudes', 100, Gt. Portland , W.1. [8155

ARTINSYDE Combination, electric lighting, Triplex screen, hood, etc., excellent condition, 70; Easting wind screen, £3; Tan-Sad, 25/-.—Kenilrth Garage, High St., Putney. [7779

ARTINSYDE Combination, 1920, demonstration model head, sidecar, and tail lamps and generors, wind screen, Cowey horn, not run 250 miles; 70.—Motor Cycle Mart, Chatham. [7975

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ULIAN'S, of Reading, for Matchless. [7562

921 Matchless, standard, lamps, mileage 70; £182. —Below.

921 Matchless, Magdyno, mileage 100, absolutely unscratched; £197.—Edwards, 50, Harrington d., South Kensington. 'Phone: Kensington 3709. [8170

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1921 Matchless, in stock, J.A.P. engine; £205.—Cross, Agent, Rotherham. [X5692

1921 Matchless Magdyno Combination, brand new; £198.—After 6, 41, Madrid Rd., Barnes. [8166

1921 Matchless Combination; all models in stock.—Julion, 84, Broad St., Reading. 'Phone: 1024. [7489

MATCHLESS, 1920, Magdyno, speedometer, low mileage, perfect; £185.—3, Kildowan Rd., Goodmayes. [7321

1920 Matchless, all accessories, mileage 800; £200, or offer for quick sale.—Wilson, 43, Beckenham Rd., Penge. [7718

MATCHLESS 1920 Magdyno Combination, Model H, hood, screen, speedometer, spare wheel; 175 gns., or offer.—Spurling, 8, Courthope Rd., Hampstead, N.W.3. [7650

MATCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0424

MATCHLESS 1921 Models for immediate delivery.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8067

MATCHLESS 1921 Models in stock; liberal exchange allowances for up-to-date machines.—R. B. Clark and Co., 7, Exhibition Rd., S.W.7. [7631

1920 Matchless Combination, new, with Magdynamo, offers; 1920 Matchless combination, £40 of extras, £175.—365, King St., Hammersmith, W.6. [8002

MATCHLESS Model H Combination, dynamo lighting, spare wheel, all complete; £160.—Newnham Motor Co., 223, Hammersmith Rd., W6. 'Phone: Hammersmith 80. [8075

MATCHLESS Combinations, any model; delivery from stock; deferred payments 5%, including expert service.—Prior, Motor Engineer, near Station, Southfields, S.W.18. [6125

MATCHLESS 8h.p. 1920-21 Combination, dynamo lighting, only driven 60 miles; cost £245, accept £220.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0417

MATCHLESS Combination, 1918, W.D. model, with spare wheel and tyre and all accessories, good condition; £130.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6303

MATCHLESS, 1914, 4h.p. J.A.P. engine, 3-speed Sturmey, Bosch, lamps, spares, complete, excellent condition; £65; any trial.—Smith, 19, H Avenue, Royal Arsenal, Woolwich. [7722

MATCHLESS Combination, 8h.p. 1915 M.A.G., 3-speed countershaft, 2-seater sidecar, lamps, and accessories, good condition; 95 gns.; seen after 5.—193, Westmonut Rd., Eltham. [6424

MATCHLESS 8h.p. Combination, 1920, dynamo lighting, practically as new, guaranteed perfect; £185, genuine bargain.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0418

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MATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [5668

MATCHLESS Model H Combination, to makers' specification, £205; dynamo lighting model, £231/7/6, or on Harrods unique easy payment system for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [7686

MATCHLESS, 1914 Combination, chain drive, clutch, K.S., Millford, Easting, electric lighting, luggage carrier, 700×80 tyres, new, specially tuned, guaranteed perfect; £90.—104a, Finchley Rd., N.W.3. Hampstead 7822. [8087

1921 Matchless-M.A.G., Lucas dynamo lighting, Lucas horn, rear drive speedometer, hood, screen, leg shields, aluminium undershield, spare wheel, luggage grid, tools, spares, unused, tax not paid; cost £255; accept £235 for cash; will drive anywhere.—174, Stamford St., Stalybridge. [7958

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock; for cash, deferred payments, or exchange; trade supplied, all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0391

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METRO-TYLER, 1920, A Type, 2 speeds, discs, long plated exhaust, fully equipped, perfect condition; £50.—7, Derby Villas, Nether St., N. Finchley. [7932

METRO-TYLER, 1920 model, Type S, 2-speed, unused, shop-soiled only list price £96; accept £70.—P. J. Evans, 81-91, John Bright St., Birmingham. [0456

Minerva.

MINERVA 2½h.p., 2-speed countershaft, low built, footboards, Bosch, B.B., 2 jets, new tubes, good tyres, acetylene lamps, accessories, ride away; £20, or offer.—54, Lentaine Grove, Fulham, W. [7654

Motosacoche.

MOTOSACOCHE, mag., good order; £18.—57, Kenbury St., Camberwell, London. [7870

2½h.p. Motosacoche, new belt, back tyre, and rim; £17.—H. McFadyen, North Esk Rd., Montrose. [7394

1½h.p. Motosacoche, mag., perfect condition; £20.—136, Walton Rd., East Molesey, Surrey. [7483

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2¼h.p. New Hudson, single speed, new piston, good running order; £27/10.—Turner, Bridgeman Place, Bolton. [X5682

1920 New Hudson 2¼h.p., brand new; £63.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. Phone: Kensington 3709. [6357

1915 New Hudson 2¼h.p. 2-stroke, £17 spent recent overhaul, new tyres and belt, lamps, etc.; £42.—Lawn Villa, Holly Walk, Enfield. [7835

NEW Hudson Combination, 4h.p., 1919, accessories, little used; a bargain, £95.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0412

NEW HUDSON Combination, 4¼h.p., 3-speed countershaft, kick start, clutch; £88; exchange lower power.—57, Kenbury St., Camberwell, London. [7871

1917 New Hudson Combination, 4h.p., 3-speed, 1919 Rennoc C.B. sidecar; £80, or exchange good 6h.p. machine.—Maidment, Baker, Shaftesbury, Dorset. [7486

NEW HUDSON 4h.p., 3-speed countershaft, very reliable and in excellent condition; £75.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8073

NEW HUDSON 6h.p. Combination, Oct., 1919, excellent condition, little used, tyres unpunctured, new licence, lamps winds green horn; £140.—Norton, 6, Taptonville, Broomhill, Sheffield. [8084

NEW HUDSON 4h.p. Combination, 1919, chain-cum-belt, countershaft 3-speed, B.B. carburetter, Thomson-Bennett mag., Watford, P. and H. lamp, bulb horn, tyres good, licence paid; £95.—Cassan, 72, Britannia Rd., Norwich. [7865

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1920 New Imperial, 2¾h.p., 2-speed, lamps, and horn, as new; £60.—Dunn, 326, Euston Rd., N.W.1. [8045

NEW IMPERIAL, 2¾h.p. J.A.P., 2-speed, splendid condition; £60.—Maudes', 100, Gt. Portland St., W.1. [8151

NEW IMPERIAL, 8h.p., solo, W.D., mileage about 2,500, unpunctured; £80; perfect.—95, Glengarry Rd., S.E.22. [7957

NEW IMPERIAL, 8h.p. J.A.P., W.D. model, 3-speed, good order; £115.—Maudes', 100, Gt. Portland St., W.1. [8152

1919 2¾h.p. New Imperial, 2-speed, clutch, K.S., all accessories; bargain, £45.—Hurst Lodge, Hadley Rd., New Barnet. [8161

NEW IMPERIAL 1920 8h.p. Combination, unused, shop-soiled only; bargain, £160.—P. J. Evans, 81-91, John Bright St., Birmingham. [0450

NEW IMPERIAL 1916 2¾h.p., 2-speed, semi T.T bars, complete with lamps and horn; bargain £38.—R. D. Varty, Thundersley, Essex. [3712

NEW IMPERIAL, 2¾h.p. J.A.P., clutch, and kick-starter, 1920; £65.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0413

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed model, brand new, shop-soiled only; bargain, £70.—P. J. Evans, 81-91, John Bright St., Birmingham. [0449

NEW IMPERIAL-J.A.P., 2¾h.p., 2-speed, new tyres, belt, etc., in fair condition; £40, or near offer.—Leveridge, 14, Nicoll Rd., Harlesden, N.W.10. [7993

NEW IMPERIAL-J.A.P., 1921 model, 2¾h.p., 2-speed, kick starter, hand clutch, brand new, unused; immediate delivery; 85 gns.—Central Garage, Henley-on-Thames. [1074

1921 New Imperials, all models in stock for immediate delivery; exchanges or easy terms from the official agents.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [8024

NEW IMPERIAL 1918 8h.p. Combination, 3 lamp sets, Lucas horn, tools, 3 new Dunlop extra heavy studded tyres, just rebushed and overhauled, guaranteed a genuine bargain; £110.—Wallis, 23, Hartington Grove, Cambridge. [7348

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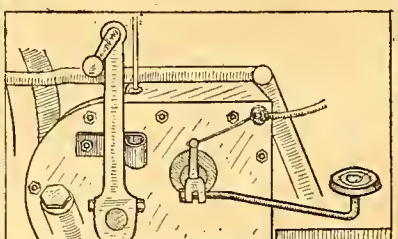
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£26.—New Ryder, Villiers 2-stroke engine, 1 lamps, accessories, mechanically sound; barga 143, Ravensbury Rd., Earlsfield, S.W. [8

New Scale.

NEW SCALE Motor Cycle; original price sacrifice £65; unused.—64, Bishopsgate, Lon [0

1920 New Scale Combination, 3½h.p., 2-speed, done 900 miles, speedometer, lamps, horn, fect; £105.—74, Blandfields St., Balham, S.W.12. [7

Norton.

JULIAN'S, of Reading, for Norton. [7

NORTON Big 4; £100.—Exmocyco, 7, Bath Exeter. [7

GIBB, Gloucester, can deliver 1921 Nortons stock.—'Phone: 852. [0

NEW T.T. Norton, just delivered; £98; in sto Holland Bros., Ltd., Boston, Lincs. [7

1920 Norton de Luxe Combination, electric light £160.—23, Winchester Av., Cardiff. [7

NORTON Motor Cycles.—Can deliver anywhere; dates.—Kelly, Bachelor's Walk, Dublin. [6

NORTON Motor Cycles.—Place that order with early delivery dates.—Cook's Garage, Shi Salop. [8

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1919 Norton Big 4 Combination, beautiful co tion, carefully used, lamps, and horn; £1 Dunn, 326, Euston Rd., N.W.1. [8

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NORTON 1919 Big Four Combination, excellent dition; £110, or exchange new Triumph cash adjustment.—Brown, Gables, Rugeley. [X

1921 Norton Models, Big Four, B.R.S. (Philips and 3½h.p. T.T. countershaft, immediate livery.—Spa Motor and Engineering Co., South Scarborough. [7

NORTON 4h.p., engine No. 151105, 3-speed Stun Archer countershaft gear box, luxurious co built combination, with picnic table attached, la speedometer, horn, wind screen, etc., all in excel condition; accept £110.—Allen, 10, Freshford St., E field, S.W.18. [7

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N.U.T., 3½h.p., o.h.v., 1915, T.T., perfect, fa Stott, Winker Green, Armley, Leeds. [7

1920 N.U.T., 3½h.p., Magdyno, electric horn, mil 700, as new; £135.—27, Gloucester Rd., Ross Wye. [7

1920 N.U.T., 3½h.p., 3-speed, Magdyno light horn, as new; £128.—30, Crystal Palace Rd., Sydenham. [7

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3½h.p. N.U.T.-J.A.P. o.h.v. Twin, 1914, re-enamel replated, rebushed, special engine, very £60; exchanges.—Deller, 4, Roseford Terrace, S herd's Bush. [7

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1921 O.K. Juniors; 48 gns.; immediate delivery stock.—Kemp's Garage, Louth, Lincs. [X

1921 O.K. Union, 2-stroke; list price; for immed delivery.—Morriss and Co., 139, Finchley N.W. [7

LICENCE Free.—O.K. Junior, 4-stroke, 2 spe countershaft, excellent condition, guarant £30.—89, East Hill, Wandsworth. [7

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NEW 1920 Omega 2-speed; £75; in stock.—Ran Andover. [0

OMEGA-J.A.P. 2¾h.p., 1920, 2-speed, kick start, punctured, equipped.—Cromar, Yoxall, Bur on-Trent. [7

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and M. 1920 Combination, as new; seen between 6 and 7; offers.—34, Highdown Rd., Hove, Sussex. [7602

and M., 1917, splendid condition, trial; £63.—Wallace's Garage, Enville St., Stourbridge. [6883

and M. 3½h.p. Combination, 1914, in first-class condition; £80.—Maudes', 100, Gt. Portland St., [8157

T. P. and M., late model, 2-speed, kick starter, unscratched, guaranteed like new; £60.—89, East , Waudsworth. [7741

and M. 1920 Combination, shop-soiled only; £120.—Parker's, Bradshawgate, Bolton, 245, nsgate, Manchester, [X5626

and M. and Sidecar, thorough order, Bosch, ready for road; £75, or nearest; trial.—Aspden, 69, Old rch Hill, Chingford. [7644

16 P.M., handsome sidecar, electric horn, lights, 2 spare wheels, hood, £5 spares; £65.—55, St. nes's Rd., Bermondsey. [8144

. and M. Combination, 1917, perfect condition, lamps, horn, renovated, 1920 colours.—261, tcham Lane, Streatham, S.W. [7998

20 P. and M., as new, mileage 200, with new licence paid; sacrifice £111, or exchange for 1920 .S. combination and cash.—W. Tyrrell, Horton Rd., ucester. [7399

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20 P. and S. 2½h.p. 2-stroke, Villiers engine, 2-speed, shop-soiled; £65.—Motor Cycle Mart, hatham. [7974

20 P. and S. Combination, 3h.p. Dalm engine, 2-speed, clutch and kick starter, shop-soiled; 100.—Motor Cycle Mart, Chatham. [7973

DEARSON-SOPWITH 3h.p., 2-speed, K.S., clutch, 1920 model, as new, necessaries, and registration r 1921; £75.—Newnham Motor Co., 223, Hammerith Rd., W.6. 'Phone: Hammersmith 80. [8072

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DARAGON New 1920 3h.p., 2-speed, spring frame (list price £70), owner forbidden to ride; £45; e exchange.—Andrew, 2, Madrid Rd., Barnes. [7419

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3h.p. Precision, good tyres, lamps, horn; trial; 4 £27/10.—Houlston, 558, Kings Rd., S.W.6. [7986

14 4½h.p. Precision Combination, 3-speed S.A., clutch, watertight Bosch, Sensspray, overhauled 15); trial; £45.—58, Tustin St., Old Kent Rd., S.E. [7742

60.—1918 Precision combination, 4½h.p., 4-point C.B., 3 speeds, K.S., good tyres, lamps, tools, splendid condition; appointment.—20, Windsor Rd., Denark Hill. [8135

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1h.p. Premier, believed 1913, good order, engine recently overhauled, adjustable pulley, lamps, peedometer, etc.; £30, or offer.—1, Abbey Rd., aversham. [7480

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13 P.V., twin J.A.P., spring frame, Sturmey-Archer hub gear; £65, nearest.—Box 1,661, c/o *The Motor Cycle.* [8051

Quadrant.

20 4½h.p. Quadrant Combination; makers' price, £145; what offers?—Shepherd, Enfield Highway. Tel.: Waltham X 31. [0341

30/- Tax.—Quadrant 3½h.p., Bosch mag., footboards, sound, good rider throughout; £17.—Box 1,636, c/o *The Motor Cycle.* [7510

QUADRANT 1921 5h.p. Combination; delivery from stock; £150; cash or extended terms.—Authorised Agents: Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0067

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4½h.p. 1921 Quadrant combination, with wind screen, £147/15; also 4½h.p. 1920 Quadrant combination, excellent condition, £120; easy terms of one-fifth down and the remainder in 12 monthly payments. [8106

CLIFFORD WILSON Mfg. Co., 70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: Kensington 7113. Quadrant sole agents and wholesale distributers for London, Southern and Eastern Counties. Immediate delivery from stock of new 4½h.p. and 5h.p. models; all spares. Single and 2-seater sidecars ready for immediate fitting. Deferred payments arranged. [5458

Radco.

RADCO, 1915 little used, as new, electric lighting; £30.—145, Leander Rd., Brixton. [7665

2¼h.p. Radco 2-stroke; £32, or exchange for higher power.—Mulley, Builder, Welling. [7311

NEW 2¼h.p. Radco, single speed, slightly shop-soiled, at greatly reduced price. Write for special clearance list.—The Premier Motor Co., Aston Rd., Birmingham. [X5349

16 2¼h.p. Radco, discs, T.T. bars, long exhaust, relushed 1920 by makers, new Druid forks, cylinder, and rear Dunlop, splendid climber, condition and appearance as new; £43.—Pettinger, Irnham Rd., Minehead, Somerset. [7469

Raleigh.

RALEIGH Combination ready for delivery in March; particulars on request.—Quadrant Garage, Winchmore Hill, N.21. [7347

RALEIGH 1921 Model; orders now accepted for this machine, solo or combination.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0425

Rex

REX 3½h.p., running order, new tyre, mag. ignition; £23.—21, Victoria St., Clitheroe. [7877

REX Twin, 5-6h.p., running order, lamps; £25.—Kimber, 7, Grove Green Rd., Leyton. [7519

£22.—Rex 3½h.p., Bosch, lamps, horn, spare belt, just overhauled.—Write Lloyd, 45, Micheldever Rd., Lee, S.E. [7762

MOTOR Cycle and Sidecar, 1912 Rex 3½h.p., w.c. engine, Armstrong 3-speed gear, ride away; £40. —5, Rusk Crescent, Rathborough, Farnborough, Hants. [7437

35 GNS. Only; urgent sale.—Rex 6h.p., believed 1913, coachbuilt sidecar, 2 speeds, handle start, watertight mag., lamps, horn, ready for use.—76, Neate St., Camberwell, S.E.5. [7868

Rover.

20 T.T. Rover, Philipson, fully equipped, as new; £85.—11, Marshall, Clay Cross. [X5586

ROVER 1921 3½h.p., 3-speed model in stock; list price, £135.—Collard, Cook's Garage, Shifnal. [7390

ROVER 3½h.p. Combination, 3-speed, new tyres; £55.—Mosedale, 30, Canterbury Rd., Kilburn, N.W.6. [7719

ROVER 3½h.p., brand new, only used 300 miles, with £3/3 Cowey horn; £85.—Wallis, Hartington Grove, Cambridge. [7352

ROVER 3½h.p., No. 3026, Armstrong 3-speed, in excellent condition; £60 complete.—Tooge, Villas, Killamarsh, Sheffield. [7477

ROVER 1920 3½h.p., shop-soiled; list price £135, our price £125.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0426

18 T.T. Rover, hand-controlled Philipson, all accessories, full tool kit; £72.—20, Queen St., Hammersmith Broadway, W.6. [7790

ROVER 3½h.p., 1920 model, complete with Rover sidecar, unused, shop-soiled only; £155.—P. J. Evans, 81-91, John Bright St., Birmingham. [0452

BRAND New Rover 6h.p. Combination, luggage grid, accessories; £176.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [7814

20 3½h.p. Rover, 3-speed, clutch, kick starter, lamps, horn, knee grips, and insurance; £120, or offers.—Apply, 7a, Mount Pleasant, Barrow-in-Furness. [7875

MOTOR CYCLES FOR SALE.

Rover.

ROVER 3½h.p., late 1919, C.B. sidecar, 3-speed, electric lighting, spares including tyre, splendid condition, absolutely reliable; £105.—76, College Rd., Maidstone. [7514

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery; hire purchase if desired.—Collard, Cook's Garage, Shifnal. [2684

6h.p. 3-speed K.S. Countershaft Rover, purchased summer, 1920, all accessories, fully insured, perfect condition, mileage under 500; price £107, or close offer.—Balfour, Belton, Camberley. [7808

1920 3½h.p. Rover, 3-speed, kick starter, Lucas lamps, horn, Watford speedometer, etc., gold medal winner, machine property of a client.—Seen, Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [8010

5-6h.p. Rover Combination, new Feb., 1920, all-chain enclosed drive, Easting wind screen, accumulator electric lighting, Klaxon, Watford speedometer, mirror; £125.—Fasken, Spreadeagle Hotel, Midhurst, Sussex. (D) [5064

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed, clutch and kick starter, and with smart coachbuilt sidecar; £180, or on deferred payments 5% extra; one-quarter deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [7674

Royal Ruby.

ROYAL RUBY 1919 8h.p., with Gloria sidecar: £130.

ROYAL RUBY 1920 3h.p., spring frame, shop-soiled only; £90.—Exmocyco, 7, Bath Rd., Exeter. [7915

£35.—Royal Ruby, Villiers 2-stroke engine, 1918, 2 speeds, lamps, etc., mechanically sound.—143, Ravensbury Rd., Earlsfield, S.W. [8082

ROYAL RUBY 1920 8h.p. Combination, hood, wind screen, Tan-Sad, lamps, etc., fine condition; £165.—Ross, Mills, Rogart, Sutherland. [7641

ROYAL RUBY New 3h.p., spring frame; list price £120, our price £99.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0427

ROYAL RUBY, 1919, 8h.p. J.A.P., and sidecar, as new; to clear £135; very desirable outfit.—National Drug Stores, 13, Prince of Wales Rd., Kentish Town, N.W.5. [7611

3h.p. Royal Ruby, spring frame, 2-speed, clutch, and kick starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used, and condition as new; a bargain, £100; may be obtained on Harrods deferred payment system.—Harrods, Ltd., 118, Brompton Rd., London. [7673

1919 Royal Ruby 8h.p. Combination, bulbous sidecar, Tan-Sad pillion, speedometer, Klaxon, 6 v. electric throughout, new Degory carburetter, new Binks, Amac, spare new chain, valves, tubes, etc., etc., perfect, take 3 anywhere; £120; trial by appointment.—29, Weltje Rd., Hammersmith. [X5604

Rudge.

1913 Rudge, clutch model, fine goer; £32.—Shaw, Park St., Wellington, Salop. [X5681

RUDGE Multi 3½h.p., 1920, I.O.M. model, like new; £95.—Maudes', 100, Gt. Portland St., W.1. [8159

1920 Unused I.O.M. Rudge Multi; £95, or nearest.—Boston, Coventry Stores, Northallerton. [7860

1920 Rudge Multi, perfect condition, accessories; sacrifice £75.—I, Othello St., Liverpool. [7638

1920 Rudge Multi Twin, 7-9h.p., Canoelet sidecar, shop-soiled; £160.—Turnill, North Peterborough. [7576

1914 Rudge Multi, really splendid condition; £38.—Edwards, 50, Harrington Rd., South Kensington. [7177

RUDGE Multi 1920 3½h.p. Model, shop-soiled only; £95.—Parker's, Bradshawgate, Bolton, 245, Deansgate, Manchester. [X5629

RUDGE Multi 1915 3½h.p. Clutch Model, T.T. bars, lamps, horn, speedometer; £48.—R. D. Varty, Thundersley, Essex. [371

1919 T.T. Rudge Multi, £65; also light coachbuilt sidecar, £9/10.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [7585

RUDGE 3½h.p., 1919 Multi gear, hand clutch, new tyres, lamps, and tools, practically new; £58.—19, Valnay St., Tooting. [7895

RUDGE Multi, I.O.M., new Oct., 1920, little used, disc wheels, open copper exhaust; £90.—P. Dewhurst, Trinity College, Oxford. [7414

RUDGE I.O.M. Model, shop-soiled only; £97/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8068

1921 Rudge Multi, I.O.M. model, kick starter, and h.c. clutch; sacrifice, 93 gns., for quick sale.—Collins, 82, Queen's Rd., Nuneaton. [7702

1914 Rudge Multi, overhauled and renovated, little used during 1919-20; bargain, £44.—110, Lane House, Trawden, Colne, Lancashire. [X5646

1920 I.O.M. Rudge T.T., fine order, Miller lamps, horn, etc.; £85/10; exchanges.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [8027



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1920 I.O.M. Rudge T.T., as new, Lucas la Cowey speedometer, guaranteed; £90; excha —Homac's, 243, Lower Clapton Rd., N. 'Ph Dalston 2408. [

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RUDGE-WHITWORTH, coachbuilt sidecar, 1 3½h.p., 2-speed gear, accessories, good mech cal order; £45.—Taylors, Ltd., 52, Sussex Place, S. 'Phone: Kensington 7260. [

1920 I.O.M. Rudge Multi, delivered August, en No. 48263, condition and appearance as complete with lamps, tools, etc.; any trial; gen bargain, £75.—J. Knight, 17, Ash Rd., Luton. [

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RUDGE Combination, 1917, Lucas lamps and h spring-up trouser shields, complete outfit, g anteed first-class condition, appearance very good, ow going abroad; highest offer over £70 by January 2 Officer, c/o Burton's Cycle Works, Gillingham. [

LATE 1920 7-9h.p. Rudge Multwin Combinat electric (accumulator) lighting set, Stewart speedometer, Klaxon, complete Tao-Sad, Royal E ing; any trial or expert examination; what offers 6, Montpelier Terrace, Upper Parliament St., Li pool. [

A 1920 3½h.p. Rudge Multi Motor Cycle, lamps, h A.A. badge and insurance, not been ridden miles, practically new, cost £120; would accept £87 great bargain, first cheque secures; reasons for sell private affairs.—Commmander Allison, R.N., Pa Park St. Neot's Hunts. [

Scott.

GIBB, Gloucester, can deliver 1921 Scotts from st —'Phone: 852. [

1921 Scott Solo or Combination in Stock.—T Petersfield. [

IMMEDIATE Delivery 1921 Scott motor cycle combination, in stock.—Millards, Chesterfield. [

1920 Scott, fully equipped, mileage 500; £11 Ratcliffe Bros., 200, Gt. Portland St., W. M fair 6042. [

1920 Scott Conibination, 3in. tyres, accessor cheap.—Grioles, 18, Bruton Place, Bond W.1. Mayfair 4792. [

SCOTT, 1920, and sidecar, mileage 200, as new, fu equipped; £140.—Dunn's, 326, Euston N.W.1. Museum 5391. [

SCOTT, 1920 sports model, horn, tools, very sm mileage, enamel as new, plating fair, perfect ord £110.—D. Lavin, Old House, Sonning, Berks. [

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WAUCHOPE'S, 9, Shoe Lane, Fleet St., Londo Scott 1919 (late), £92/10; as new; easy te arranged, one-fifth down and the remainder in monthly payments. [

SCOTT Coachbuilt Combination, like new throughou mechanism, tyres, enamel and lighting perfe deliver anywhere free; bargain, £100.—Mason, Glenthorn Rd., Jesmond, Newcastle-on-Tyne. [

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MOTOR CYCLES FOR SALE.

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RTING Scott, delivered Aug., 1919, and recently completely overhauled at works, frame, tank, and or 1920 pattern, footrests, Binks, 3in. Dunlop on wheel, everything in good order, spare chains and tube; £105. or very near offer.—D. Smith, "The Cycle" Offices, Coventry. [X5625

Singer.

14 2½h.p. Singer, just overhauled, good running order; offers.—Hart, 30, Eltisley Av., Cambridge. [7559

GER 1914 4½h.p. Combination, C.B. sidecar, clutch, countershaft, B.B., Bosch; nay trim; £48. tom bell, 43, Birnam, Tollington Park, London. [7925

Sparkbrook.

18 Sparkbrook 2½h.p., lamps, horn, spare belt, good order; £55.—Salt, Hollington, Staffs. [7604

ARKBROOK (1919) 2-speed, dynamo lighting, £50; portable workshop, fitted, £25, or exchange car.—M., 89, Priory Park Rd., Kilburn. [7455

W 2½h.p. Sparkbrook, Villiers engine, single speed £69, 2-speed £75, or on Harrods unique easy pay-system, 4% extra.—Harrods, Ltd., 118, Brompton London. [7676

Sun.

h.p. Sun Villiers, nice running order; 29 gns.— 3, Parker Lane, Barnsley. [X5710

16 Sun Villiers, 2-speed, reliable; £31, bargain.— Shaw, Park St., Wellington, Salop. [X5680

20 (June) Sun-Vitesse, S.A. 2-speed, clutch, K.S., discs, lamp, as new; £60.—Platt, Llangollen. [7933

N-VILLIERS 2-stroke, 1915, new bearings, tyres, and Senspray carburetter; £28.—Fernside, Oller-ow Rd., Hale, Cheshire. [7451

W 2½h.p. Sun-Vitesse, 2-stroke engine, single speed, £52/10, ditto with clutch and kick starter, lady's model ditto, £73; or on Harrods' unique payment system 4% extra.—Harrods, Ltd., 118, npton Rd., London. [7680

Sunbeam

1920 Sunbeam 3½h.p. Solo; £155/8; in stock. —Randall, Andover. [0366

NBEAM 3½h.p. Combination, perfect running order; £100.—Muir, Little Nast Hyde, Hatfield. [7549

p. Sunbeam Combination, 1919, hood, screen, lamps, horn, speedometer; £165.—Fenwick, Gas Works, il. [7371

NBEAM 1920 3½h.p. Model, equal to new; £140. —Parker's, Bradshawgate, Bolton, 245, Deansgate, chester. [X5634

19 (Nov.) 8h.p. Sunbeam and Sidecar, as new, all accessories, guaranteed perfect; £205.—Tew, rsfield. [7823

NBEAM Brand New 3½h.p., solo model, complete with Lucas lamps and horn; £157/10.—The Wal-Garage, Walsall. Tel.: 444. [4008

21 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith Co., 52-54, Hampstead Rd., N.W.1. [0353

NBEAM 3½h.p. Solo, late 1920, Lucas, accessories, cost £161, little used; reasonable offer.— er, Butler, 51, Poplar Rd., Edgbaston. [7952

19 3½h.p. Sunbeam, in splendid condition throughout, horn, lamps, new tyres; £110.— limms, 19, Portland St., Cheltenham. [X5702

20 Sunbeam 3½h.p., brand new, in stock; £155; exchanges or easy payments accepted.—Homac's, Lower Clapton Rd., N. 'Phone: Dalston 2408. [8028

NBEAM Combination, 3½h.p., Sept., 1920, C.A.V. electric lighting, mudshields, fully insured, unctured; £185.—Sunbeam, 88, Ebury St., Victoria. [7824

20 Sunbeam Combination, perfect order, speedometer, horn, wind screen, luggage grid, etc.; 4, no offers.—4, Westcote Terrace, Whitstable. [X5662

NBEAM 3½h.p. 1916 Model and sidecar, new tyre, Existing wind screen, excellent condition, carefully ; £105, no offers.—10, Parsifal Rd., West Hampd, N.W.6. [7869

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1920 3½h.p. Sunbeam Combination, electric lighting, speedometer, horn, etc., mileage negligible; cost new £225, accept £185.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0435

1919 3½h.p. Sunbeam Combination, wind screen, luggage carrier, lamps, Klaxon, Dunlop extra heavies, condition as new; £155; by appointment.—Hubert, 10, Tanza Rd., Hampstead. [7657

1920 3½h.p. Sunbeam Combination, fully equipped with hood, screen, speedometer, lamp, horn, Tan-Sad, etc., mileage 800, as good as new; £205.—Smith, 267, Cheetham Hill Rd., Manchester. 'Phone: City 181. [7427

1920 3½h.p. Sunbeam, Grindlay sidecar, Binks, Lucas lamps and horn, tyres unpunctured, spares, tax paid, insurance, excellent condition; £170; G.P. Morgan wanted.—Fisher, 11, Middleborough Rd., Coventry. [X5689

1920 8h.p. Sunbeam Combination, Lucas Magdyno electric lighting, electric horn, Tan-Sad, hood cover, apron, spare wheel, as new, done 300 miles, unpunctured; cost £278/10, accept £265, or nearest.—Barbour, 17, Brigstocke Rd., Bristol. [7426

SUNBEAM 1919 3½h.p. Combination, 3-speed countershaft, kick starter, hand clutch, chain drive, oil bath gear cases, fully equipped with speedometer, lamps, horn, etc., all in practically new condition; £140.—10, Freshford St., Eorlefield, S.W.18. [7923

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—1919 8h.p. Sunbeam combination, spare wheel, hood, screen, lamps, speedometer, mirror, warning signal, tools, condition as new; 190 gns.; easy terms arranged, one-fifth down and the remainder in 12 monthly payments. [8113

1920 3½h.p. Sporting Sunbeam, Millford sidecar to match, Lucas lamps, Cowey horn, Cowey speedometer, Binks carburetter, tyres almost new, 3 spare covers and tubes, taxation paid, splendid condition, fast, economical; £170.—Apply by letter, Greig, 44, Park Lane, Croydon. [7639

SUNBEAM Combination, 8h.p., Lucas Magdyno lighting set and horn, hood with side curtains, wind screen, luggage carrier, leg shields, handle-bar muffs, etc., mileage 500, condition absolutely as new; cost £285; £240.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6302

8h.p. Sunbeam Combination, new October, 1919, mileage 1,600, fully equipped with all accessories and tools, first-class condition throughout; £220; photograph and particulars on application; would exchange for 3½h.p. sporting Sunbeam and cash adjustment.—Percy Hart, Bradley, Wylam, Northumberland. [7749

31h.p. Sunbeam Combination, August, 1920, owner deceased, not done 200 miles, Lucas horn and lamps throughout, never been lit, new Cameo wind screen not yet fitted, silveriog, enamelling, tyres absolutely new; only needs seeing; £180, or nearest offer.—Mrs. Webster, Albion Hotel, Warrington Rd., St. Helens. [7544

T.D.C.

4h.p. T.D.C. Sporting Model, built 1920, very fast, mileage 1,000, discs, lamps, horn, etc.; bargain, £60; seen any time.—Necton, Plough Lane, near Beddington, Surrey. [7661

SUPERB Model 4h.p. T.D.C. de Luxe, 1921, Sturmey-Archer 3-speed and clutch, C.A.V. ignition, large pan saddle de luxe, tank with drip feed, *a la* A.J.S. Amac carburetter, Dunlop 2½ tyres, Dunlop belt, Brampton latest Biflex forks, aluminium chain case and footboards, steel welded carrier, armoured bags, with lock and key, 7in. wide mudguard, superior finish; list price £120, first cheque £80 secures, greatest bargain ever offered in these pages.—191, Sweetman St., Wolverhampton. [8012

Triumph.

NEW 1921 Triumph S.D. Solo; £140; in stock.—Randall, Andover. [0365

ALL 1921 Triumph Models in stock.—Premier Motor Co., Birmingham. [X5350

TRIUMPH Junior, 500 miles, as new; £55.—Clark, 45, Sunnydene Rd., Purley. [7366

NEW 1921 Triumph S.D. Combination; £195; in stock.—Randall, Andover. [0364

TRIUMPH 3½h.p., single speed, clutch; £48.—Maudes', 100, Gt. Portland St., W.1. [8154

TRIUMPH, Baby, 1920, in perfect condition; £60, lowest.—House, 2, Lexington St., W.1. [7717

TRIUMPH, 1914, 3-speed, new Dunlops, good offer; £46.—Shaw, Park St., Wellington, Salop. [X5675

1920 Triumph and Millford Sidecar, complete lamps etc.; £140.—Cross, Agent, Rotherham. [X5690

1912 Triumph, clutch model; £37, or near offer.—Gutteridge, Jeweller, Market Harborough. [7391

£90.—Triumph 1918 combination, lamps, screen, etc. —Grimes, 18, Bruton Place, Bond St., W.1. [7344

TRIUMPH, renovated W.D., countershaft, accessories, excellent; £70.—167, Camberwell Grove, S.E.5. [7315

TRIUMPH, 4h.p., countershaft, lamps, horn, good condition; £63.—Rogerson, Newtown, Wigan. [X5709

MOTOR CYCLES FOR SALE.

Triumph.

1920 Baby Triumph, equal to new; £60, or near offer.—J. Steeve, 68, High St., Crawley, Sussex. [7839

TRIUMPH 4h.p., W.D. model, in excellent condition; £78.—Maudes', 100, Gt. Portland St., W.1. [8153

4h.p. Triumph, Philipson, accessories, new tyres, belt, Binks, 1912; £40.—Cable, Bridge St., Homerton, London [7457

1920 4h.p. Triumph, new tyres and belt, splendid condition; £110, must sell.—Tobitt, Pebmarsh, Essex. [7715

TRIUMPH, 4h.p., countershaft, 1920, brand new; £120.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5531

TRIUMPH 1919 Countershaft, £85; with Montgomery sidecar, £100.—71, Livingstone Rd., Derby. [7961

1912 Triumph, lamps, horn, good running order; £30.—Elsome Villa, Old Cresby, Scunthorpe, Lincs. [7910

1919 (late) 4h.p. 3-speed Countershaft Triumph, small mileage, nice condition, tools, etc.; £93/10.—Below.

TRIUMPH, 4h.p., 3-speed countershaft, new Dunlops, large P. and H. head lamp, tail lamp, horn, aluminium discs; sacrifice, £78/10.—Below.

TRIUMPH, 4h.p., countershaft new, renovated, guaranteed by makers, 1921, new Triumph Montgomery sidecar, lovely lot; bargain. £130.—Harry Nash, Triumph agent, 365, King St., Hammersmith, W.6. [8001

TRIUMPHS.—A fine selection of Triumphs in stock, fully guaranteed; inspection invited.—Ross, 86, High Rd., Lee. [5671

BRAND new 4h.p. Triumph, model H, in stock; list price, £127/10.—Bamber's, Easthank St., Southport. Tel.: 607. [7943

60 GNS.—1915 Triumph and C.B. Sidecar, clutch, Philipson, nice outfit, perfect.—Derby Arms Garage, Mortlake. [X5574

TRIUMPH Late 1919 Combination, and all accessories; price £120.—Apply, 3, Dartmouth Row, Blackheath, S.E.10. [7557

TRIUMPH 4h.p., fixed, running excellently, owner going abroad; what offers?—Scarfe, 48, King's Hall Rd., Beckenham. [7308

TRIUMPH 4h.p., Sturmey-Archer gears, excellent, renovated W.D. bike, all accessories; £69.—4, Green St., Cambridge. [7316

1921 4h.p. Triumph, Model H, S.A. 3-speed; list price; for immediate delivery.—Morriss and Co., 139, Finchley Rd., N.W. [7441

1921 2¼h.p. Junior Triumph, 2-stroke, 2-speed; list price; for immediate delivery.—Morriss and Co., 139, Finchley Rd., N.W. [7442

TRIUMPH 1921 All-chain Combination; cost £193, run few miles only; £146 gns, bargain.—Clark, 7, Exhibition Rd., S.W.7. [7630

TRIUMPH 3½h.p., 2-speed gear and coachbuilt sidecar, in splendid condition; £65.— S. Curtis, Godmanstone, nr. Dorchester. [7409

TRIUMPH 1921, 3-speed, countershaft, just as received from makers, not used; £98.—Wallis, Hartington Grove, Cambridge. [7349

14 GNS.—Triumph, reliable; also 3h.p. Peugeot-Chater, mag., B.B., new tyres, perfect, £15.—Derby Arms Garage, Mortlake. [X5575

TRIUMPH and Sidecar, Grado gear, recently overhauled, good condition; £48, or exchange for solo mount.—Malley, Builder, Welling. [7310

1921 4h.p. Triumph, countershaft model, in stock for immediate delivery.—J. Smith and Co., 52,54, Hampstead Rd., N.W.1. [0354

TRIUMPH, all models in stock, W.D., fully guaranteed by makers; £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0436

TRIUMPH, 1921, Model H, guaranteed only done 170 miles and good as new, licence paid; £120, or nearest.—Tippen, Marden, Kent. [7827

TRIUMPH Combination, 4¼h.p., very little used, sidecar new, perfect condition; £120, or near offer.—'Phone May (Wimbledon 227). [7979

1920 Triumph, all-chain, mileage 80, unscratched; £110.—Edwards, 50, Harrington Rd., South Kensington . 'Phone: Kensington 3709. [8167

1913 Triumph Gloria Combination, S.A. 3-speed, lamps, horn, spares, perfect condition, trial; £68.—72, Beaconsfield Rd., Coventry. [X5737

TRIUMPH, Oct., 1919, in good condition, small mileage, tools, spares, etc.; £95.—Payne, next to Church, Heath Hayes, Cannock, Staffs. [7463

TRIUMPH and Gloria, splendid condition, very powerful, lamps, horn, Tan-Sad; £80.—Apply, 410, West Green Rd., South Tottenham. [7353

4h.p. Triumph Countershaft, 3-speed, K.S., fully equipped, lovely condition, Mackintosh's racing helmet; £65.—19, Streatley Rd., Kilburn. [7816

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, mileage about 500; £68.—D. Lavin, Old House, Sonning, Berks. [5091

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TRIUMPH Combination, 1917, countershaft, 3- kick start, fine condition, lamps, and £97/10.—261, Mitcham Lane, Streatham, S.W.

FOR Sale, Triumph combination, 1914-15, during war, perfect condition; sacrifice £7 J. Searle, Chambers 437, 61-62, Chancery Lane,

1910 Triumph, with 1916 4h.p. engine fitt speed countershaft, cane underslung si £35.—Davis, 6, Millburn Av., Drumcondra, Dul

3½h.p. Triumph, adjustable pulley, Bosch, new complete, Miller's lighting set, tyres good and reliable; £30.—73, Mill St., Norton, Maldon,

1920 T.T. Triumph, Type D, Lucas equip spares, tyres unpunctured, in new cond £90.—Braithwaite, 32, Winchester Rd., Colche

TRIUMPH Junior, 1920 model, as new; 60 gu exchange higher power.—Newnham Moto 223, Hammersmith Rd., W.6. 'Phone: Hamme 80.

LATE Countershaft Triumph Combination, slung coachbuilt sidecar, wind screen, all tools, spares, as new; £100.—62, Upper Tooting S.W.

TRIUMPH 1918-19 Countershaft, speedometer accessories, complete, thoroughly reliable, to go anywhere; £90; seen week-ends.—64, Balloch Catford.

1920 Triumph, countershaft, Klaxon, knee- P. and H. lamp set, all in excellent cond any examination; £87/10.—12 The Quadrant, W more Hill.

TRIUMPH, 1920, Philipson pulley, guarantee under 1,000, cost £114; accept £90, or ex modern dynamo combination, cash adjustment. Baildon, Shipley.

1920 Countershaft Triumph Combination, u about 400, electric lighting, exceptional e any trial; £130; exchanges.—60, Wallingford North Kensington.

1919 Triumph Combination, aluminium dis round, screen, lamps, tools, Tan-Sad, ge 1919, not ex war, in perfect condition; £115. Highbury Grove, N.5.

F.O.C.H. have a new S.D. Triumph, 1921, all- £140.—5, Heath St., Hampstead (nr. Ham Tube Station). 'Phone: Hampstead 3752. Hour including Saturdays.

1920 Triumphs.—A few slightly shop-soiled ma at greatly reduced prices, solo and sidecar. for special clearance bargain list.—The Premier Co., Aston Rd., Birmingham.

1914 Triumph, 3-speed hub, Gloria coachbuilt car, Easting wind screen, complete with spares, excellent condition, smart outfit; £85.—M Broomfield Av., Palmers Green.

1920 4h.p. Triumph S.C., Model H., horn, speedometer, knee-grips, special engine, tinguishable from new; £160, or near offer.—Fre 27, Templars Av., Golders Green.

TRIUMPH Combination, discs, brand new bod tirely overhauled, countershaft, model en overhauled, restored, and plated, 3 months' guar —Effra Motor Works, 14, Effra Parade, Brixton.

TRIUMPH 1921 Models in Stock for imm delivery, exchanges arranged; also Triump Models, renovated by makers, just delivered, as £105.—Eagles and Co., 275, High St., Acton, Lo

TRIUMPHS.—We are the North London agents can give immediate delivery. Chain drive, cum-belt, and renovated models.—Jones Garage, M Hill, N.10; and at Woodside Parade, North Fin

TRIUMPH 1921 All-chain S.U. Model, del September, mileage under 200, engine No. 7 cost with accessories £150; will accept £135 cas offers.—Mile Oak Products, Ltd., Portslade, Sus

TRIUMPH-MILLFORD Olympia Corvette Con tion, May, 1920, Ace discs, F.R.S. electric spares, mileage under 2,000, tax paid 1921; cost accept £155, or near offer; trial.—Dr. Pracy, Ather Warwickshire.

1919 Triumph and Gloria special sidecar, mech perfect, oversize tyres in splendid cond plating, enamelling, and bodywork as new; no lamps, all spares; bargain, £130.—Kershaw, 2, Rd., Burton-on-Trent.

1919 Triumph, 4h.p., 3 speeds, clutch and starter, with new Swan sporting sidecar lamps, speedometer, absolutely as new; must be to be appreciated; £130.—Homac's, 243, Lower Cl Rd., N. 'Phone: Dalston 2408.

TRIUMPH Countershaft 1919 Engine, No. 6 and 1920 super Grindlay spring wheel si Cowey speedometer, electric light, horn, and licen 1921, mileage 3,000, excellent order; £150, or ne —Millward, 9, Allen Rd., Peterborough.

TRIUMPH 1921 4h.p., countershaft model, £12 4h.p., Type W.D.B., £105; 4h.p., all-chain £140; 4h.p., fixed engine, sporting, £105.—Cam agents for Triumphs, Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycl

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ABY Triumph, 2-stroke, purchased last June, perfect condition, run about 1,000 miles, decarbised and tuned, engine dismantled for inspection if tired; any trial; £65, including any new gas lamp ted.—Meeton Motors, Dorking. 'Phone: 163. [7991

AUCHOPE'S, 9 Shoe Lane, London, E.C.4.—New 4h.p. 1921 Triumph solo, delivery from stock, 7/10; also new 1921 4h.p. Triumph combination, hain drive, £195; new 4h.p. 1921 Triumph solo, hain, £140; and 4h.p. W.D. Triumph solo, £105; 1920 4h.p. Triumph combination, £150; 4h.p. umph, 1915, £65.

LSO 3½h.p. Triumph and Sidecar, 1913; £47/10. Easy terms, one-fifth down and the remainder in monthly payments. [8103

Union.

)20 2¾h.p. 2-stroke Union-National, 2-speed Burman gear box, clutch, kick-starter, lamps; £60; vered.—Hardman, Lorne Terrace, Darlington. 7931

Velocette.

ULIAN'S, of Reading, for Velocette. [7565

ELOCETTE, 1920, excellent condition; £50.—Exmocyco, 7, Bath Rd., Exeter. [7914

)19¼ Velocette, 2-speed, all-chain, tyres, enamel, etc., as new, running perfectly, Lamp set; first offer r £40.—63, Peaksfield Av., Grimsby. [7407

MMEDIATE Delivery of new 1921 Velocette, 2-speed, all-chain drive; £75.—Sole Birmingham Agents, Premier Motor Co., Aston Rd., Birmingham. [X5352

'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate very.—O'Donovan Motors, 76a, Gt. Portland St., [4708

MMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¼h.p., 2-speed, all-chain ve; £75.—Agents: W. Sparrow, Ltd., Osborne age, Yeovil. [1632

Verus.

ERUS 1920 2¾h.p., 2-speed, K.S., fully equipped; £60.—Ratcliffe Bros., 200, Gt. Portland St., W. fair 5042. [0428

35 down and 8 monthly payments of £7/10 secures a brand new shop-soiled 1920 Verus-Blackburne peed 2¾h.p.—Maudes' (below).

ERUS 2¾h.p., practically new, 2-speed, clutch, kick start, lamps, horn, etc., ideal lady's mount; what rs?—Bowers, The Villor, Dunley, Stourport. [X5609

40 down and 8 monthly payments of £8/15 secures a brand new 4h.p. 3-speed Verus Blackburne.—ndes', 100, Gt. Portland St., W.1; and Paris St., ter. If these prices do not interest you, read our tre page advertisement, and you will see our other rs. [8149

Victoria.

ICTORIA, April, 1920, 2¾h.p. Villiers, 2-speed, lamps, tools, spares, etc., complete; £60; week nings after 7.—Lyall, 18, Trafalgar Rd., Moseley, mingham. [7395

Williamson.

h.p. W.C. Williamson Combination, lamps, horn, mirror, speedometer, luggage grid, 60 m.p.g., smart fit; £120.—451, West Green Rd., N.15. [7786

ILLIAMSON 8h.p. Coachbuilt Combination, water-cooled, screen, hood, lamps, splendid con. ion; trial; £104.—69, Beckenham Rd., Beckenham, nt. [7728

Wolf.

)19 Wolf 2-stroke, 2-speed, appointment; £40.—M., 25, Aberdeen Place, Maida Vale. [7881

3h.p. Wolf-Jap, good condition, ride away; £30 cash. 4 —P., Church Hill, Loughton, Essex. [7398

OLF-VILLIERS 2-stroke, 2¾h.p., 2-speed countershaft, brand new machine; accept £48.—139, ntwood Lane, Enfield, S.W.18. [7922

)20 Shop-soiled Wolf Machines, fitted with Blackburne and J.A.P. engines, and Sturmey-Archer r boxes; cheap to clear.—Tel.: Museum 6626.—C., 60, Mortimer St., W.1. [8065

Wooler.

)20 Wooler, spring frame, fully equipped, plenty of spares, done 500 miles; owner bought car; sacri- £68.—Martin, 13, Turnpike Lane, Hornsey, N.8. [7747

AUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. Wooler 1921 touring models from stock, 03/10; also 2¾h.p. Wooler, 1920, £75; easy terms -fifth down and the remainder in 12 monthly pay- nts. [8112

Zenith.

ENITH 1920 8h.p. Model H., shop-soiled only; £120.—Exmocyco, 7, Bath Rd., Exeter. [7916

h.p. Zenith, with 2-speed gear box, Bosch, B.B.; £15.—14, Laundry Lane, Belgrave, Leicester. [X5713

.p. Zenith C.B. Combination, kick start; £75.—59, Palfrey Place, Dorset Rd., Clapham Rd., W.8. [7586

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WE Cater specially for the Zenith rider, and can supply all 1921 models from stock. We have also some real bargains in 1920 models as follows: 5h.p. sporting model, speedometer, mileage 3,000, indistinguishable from new, unpunctured; £115.

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COME and See them in our showrooms.—The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W. Mayfair 5598. [7508

1921 6h.p. Zenith Model H; immediate delivery; list price.—Morriss and Co., 139, Finchley Rd., N.W. [7440

ZENITH Combination, late 1914, 4h.p. twin, countershaft, kick start; £75.—2a, Delafield Rd., Charlton, S.E. [7753

1920 Zenith, 8h.p., sports, new; £120, cash, exchange, or easy payments.—Dunn, 326, Euston Rd., N.W.1. [8037

1920 Zenith, 4-5h.p., sports; £110; new; cash, exchange, or easy payments.—Dunn, 326, Euston Rd., N.W.1. [8038

ZENITH Coachbuilt Combination, 4h.p., good running order; £48.—Rosemount, St. Albans Av., Weybridge. [7690

ZENITH 6h.p. Sports Model, 1920, shop-soiled, unused; bargain, £118.—P. J. Evans, 81-91, John Bright St., Birmingham. [0455

GENUINE Bargain.—Zenith 8h.p. sporting solo, 1920, new; £125.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [0319

ZENITH Combination, 1920 Henderson sidecar, not run 800 miles; £145.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0408

ZENITH 4h.p., 1913, £40; owner going to India wishes to part with same, in perfect order.—Phillips, 165, Shooters Hill Rd., Blackheath. [7516

ZENITH 1920 Countershaft Combination, wind screen, speedometer, lamps, Klaxon, spares, as new; £170.—Green, High St., Thames Ditton, Surrey. [7959

1919 4-5h.p. Sports Zenith, speedometer, lamps, mechanical horn; £90.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [8173

SPECIAL 10h.p. 90 bore Side Valve Racing Zenith, as new, free engine to 2-1 top, 75 m.p.h.; £85; exchange lower power.—9, Redhill, Bassett, Southampton. [8130

ZENITH 8h.p. 1920 Sports Model, brand new, specially tuned up for speed; £125, list price £ 39.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0419

ZENITH 1921 Models, orders now accepted for early delivery; 1920 models at greatly reduced prices; write or call.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0437

1920 Zenith Model H. Sidecar Combination, new in May, done about 1,500 miles, all accessories, condition excellent; offers considered.—L. C. King, The Croft, Stourbridge, Worcs. [7640

1917 Zenith 4h.p., with Millford sidecar, all accessories, in splendid condition; sacrifice £75; exchanges.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [8030

8h.p. Zenith and Racing Cannelet S.C., new June, 1920, electric lighting, Cowey horn, mileage not 1,000 done, 72 m.p.h. solo, insured £170; accept £145. —G. and J. Dawson, Engineers, Cambridge. [8177

1920 S-6h.p. Zenith, Watford trip speedometer, lamps, Klaxon, grey discs, mileage 68, last word in motor cycles; cheap, £125, or offers; owner bought car.—L. Dudley, Wentworth, The Avenue, Bushey, Herts. [7597

NEW 8h.p. Zenith Model H Combination; £204, or on deferred payments one-fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [7677

ZENITH 1920 8h.p. Countershaft Combination, Millford sidecar, special roomy body, Easting screen, luggage carrier, electric lighting, horn, speedometer, insured, tax paid, absolutely new condition; sacrifice £165. —Cutting, Ebor Villas, Stamford. [7859

1920 8h.p. Sporting Zenith, perfect appearance and mechanical condition, Bonniksen speedometer, mileage 1,050, Lucas lamps, Cowey horn, knee grips, D.A. cylinders, etc.; £130.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [8125

ZENITH, 1920, 5h.p., sporting Model C, only run a few hundred miles, and is unscratched, fitted with Hunt's electric lighting as on Show model; £110, or offer; would exchange C.S. model or 4h.p. Norton; private owner.—Seen any time at S. E. Clapham, Stockwell St., Greenwich. [7707

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2-STROKE Lightweight, splendid order; £32.—Platts, 602, King's Rd., Fulham, S.W.6. [7698

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JONES' Garage.—1920 2¼h.p. Villiers, 2-speed, as new, perfect; £52.

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JONES' Garage.—1917 8h.p. Sunbeam combination, M.A.G. engine, Lucas dynamo, electric light throughout, hood, screen, spare wheel, etc., a real good outfit; a gift, £155.

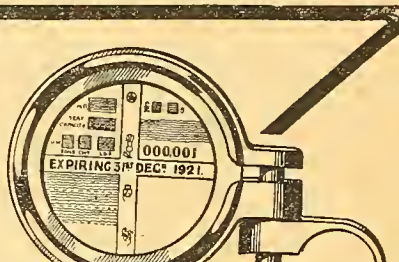
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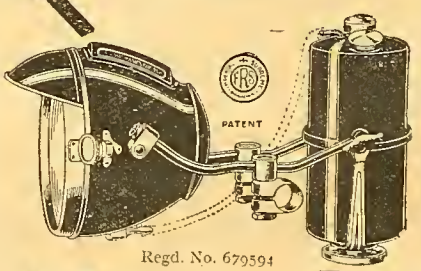
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INGSBURY Cycle Car, 1914, 2-seater, 10h.p., J.A.P., overhauled, retrimmed, repainted, new and screen; £125.—Henry and Leslie, Ltd., 135, on Rd., South Norwood, London, S.E.25. [8126

21 Morgan, W.C. J.A.P., special aero locker in tail, new in stock; list price £230; exchange deferred payments.—Edwards, 50, Harrington Rd., h Kensington. 'Phone: Kensington 3709. [8172

RAND Prix Morgan, water-cooled M.A.G. engine, complete with discs, lamp set, horn, finished in al blue and polished aluminium bonnet, tyres practlly new; £175.—Sims, 85, Cromwell Rd., Luton. [7939

917 Grand Prix Morgan, 8h.p. J.A.P. engine, hood, screen, electric lighting; £175; exchanges, raoteed perfect.—Homac's, Morgan Service Depot, , Lower Clapton Rd., N. 'Phone: Dalston 2408. [8031

920 Bleriot-Whippet Cycle Car, complete with spare wheel and all accessories; exceptional gain, £175.—Elce and Co., 15-16, Bishopsgate , Camomile St., E.C.3. 'Phone: Avenue 5543. [0069

URNER Cycle Car, 8-10h.p., twin V engine, water-cooled, 2 speeds, reverse, wire wheels, 26×2½, s, splendid order throughout, fully equipped; £85. peechley, 1, Gunnersbury Lane, Acton Hill, London, S. [7894

.V., 1920, 8h.p., 2-speed, accumulator, electric lighting, body heated by exhaust pipe, speedometer, n, mileage under 2,000; £110, or exchange modern amo combination; cash adjustment.—Vos, Baildon, pley. [X5588

LERIOT Whippet, new July, 1920, mileage 1,300, special cream colour body, blue upholstery, spare eel, speedometer, other extras, perfect condition, l; £190.—Cross, 2, Mount Adon Park, Lordship ne, S.E.22. [7826

AMPLIN Tandem, to makers' specification, £165, or fully equipped with hood and screen, lamps, n, aluminium discs on wheels, £189/7, or on deed payment 4% extra.—Harrods, Ltd., 118, Brompn Rd., London. [7683

VAUCHOPE'S, 9, Shoe Lane, London E.C.4.—New 1921 8h.p. Coventry Premier, spare wheel, tachable wheels, dynamo lighting; price 275 gns. sy terms one-fifth down and the remainder in 12 nthly payments. [8109

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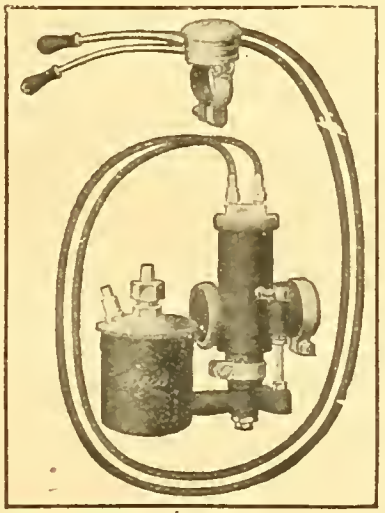
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J.A.P. Engines, new, 5h.p. £22, also 8h.p. £25; J.A.P. flywheels, 45/- pair; B.S.A., 50/-.—Davies, 471a, Holloway Rd., London. [7608

3½h.p. Peugeot Unit, mag., carburetter, silencer, excellent condition; cheap, 115 -.—Hudson, 14, Conway Rd., Plumstead, London. [7706

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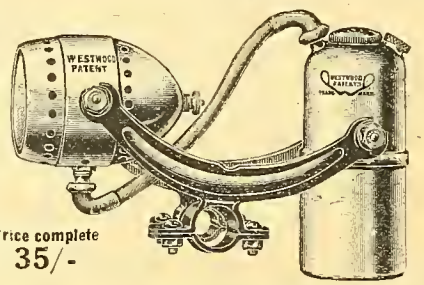
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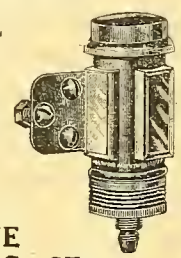
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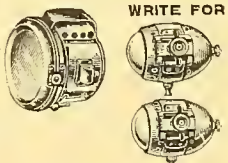
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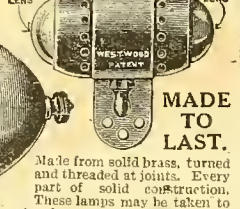


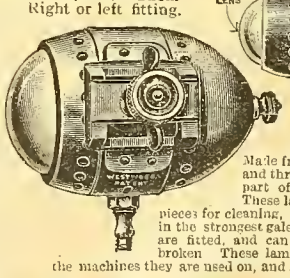
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ECONOMIC.—Fully guaranteed, Dunlop rubber-studded, 24×2 27/9, 26×2 29/9, 26×2¼ 31/6.

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MOTOR Cycle Tubes.—Best red quality, with small patch vulcanised by makers: 24×2, 5/3; 24×2¼, 5/6; 26×2, 5/9; 26×2¼, 6/-; 26×2⅜, 6/3; 26×2½, 6/6; 26×2½×2¼, 6/9; 26×3, 7/-; 28×2, 7/3; 28×3, 7/6; 29×3½, 7/9; 650×65, 8/-. All leading makes and sizes in stock.—H. Emanuel, Tyre Factor, 27, Belgrade Rd., N.16. Stores: 37a, Balls Pond Rd. 'Phone: Dalston 3161. [0346

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	FOR 2½ RIM.	
26×2½	Heavy Rubber Non-skid	27 6
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26×2⅜	Dunlop Heavy Rubber Stud.	42 6
,,	Palmer Cord Heavy	39 6
,,	Bates' Special Heavy	44 –
,,	Wood-Milne Extra Heavy	37 6
,,	Avon Tricar	34 6
,,	Hutchinson Passenger	36/–
26×2½	Hutchinson Rubber Stud.	52/–
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,,	Englebert Touring	47 6
,,	Goodrich Safety Tread	61 –
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26×2½	Heavy Non-skid	37 6
,,	Wood-Milne Combination	55 –
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Send carriage paid on 7 days' approval against remittance.

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WANTED, position as competition rider, tester, or similar capacity; capable of doing all tuning, etc. —Box 1,586, c/o *The Motor Cycle.* [7357

KEEN Motor Cyclist seeks situation as competition rider, tester, or sales demonstrator of motor cycles or light cars.—Box 1,656, c/o *The Motor Cycle.* [7622

ADVERTISER Desires Situation as motor cycle, cycle car, and accessory sales manager or assistant; London district preferred.—Box 1,623, c/o *The Motor Cycle.* [7443

ADVERTISER Desires Situation as manager of testing dept. of light car or motor cycle manufacturing company, age 29, late manager to motor cycle manufacturing company.—Box 1,624, c/o *The Motor Cycle.* [7449

TO Manufacturers.—Advertiser, resident in South Africa, with knowledge of dealers, conditions, and requirements gained through business and road experience in that colony dating from 1906, is desirous of obtaining appointment in England. Competent to undertake export sales management, lengthy workshop experience, and considerable technical knowledge, good references, able to organise agency service on lines which must bring business results; competent to advise on general and detail design suitable for the Colonies. —Reply, stating position, prospects, and salary offered, Box 1,505, c/o *The Motor Cycle.* [6781

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GARAGE and House, near busy centre, £200, or £50 cash, £175 easy, or exchange similar premises between South Coast-Croydon.—Belmont Park Garage, E.10. [X5677

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ADVERTISER, designer and patentee of spring frame, has a most attractive lay-out for same, which includes shaft drive, wishes to meet someone to finance same, or would exchange patent rights, etc., for good position on progressive firm, or would sell same outright. Hand made experimental frame has completed 1,500 miles satisfactorily.—Box 1,662, c/o *The Motor Cycle.* [8052

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AUCTION Sales.—Palmer's Garage, Tooting, the oldest solely motor auction rooms in London. Terms 7½%, not chargeable if machine unsold. Motor cycles bought and sold for cash. Nearest goods stations: Falcon Lane, L.N.W. Rly.; Wimbledon, L.S.W. Rly.; and G.W.R. Sole address: Palmer's Garage, Tooting, London. [7848

WANTED.

WANTED, spare wheel for 1915 4h.p. A.J.S.—Babb, South Molton, Devon. [7917

UNDERSLUNG Chassis, 26×2½, suit 6h.p.—Taylor, 25, Barlby Rd., W.10. [6923

2-SPEED Gear wanted for lightweight; state make.—15, Dallin Rd., Woolwich. [7863

FOLDING Sidecar wanted, good condition.—21, Rudloe Rd., Clapham Park, S.W.12. [7303

OLD Motor Cycle, cheap.—Particulars to Whibley, 25, Ramsbury Rd., St. Albans. [7774

WANTED, sidecar or chassis, for 4h.p. machine.—Matthews, Minsterley, Salop. [7645

WANTED, Hopley or Paragon sidecar.—Lowest price to 145, Douglas Rd., Surbiton. [7436

WANTED, 1919-1920 2¾h.p. Douglas or Coulson-B.—Box 1,605, c/o *The Motor Cycle.* [7387

WANTED, 1913 Bat frame for 8h.p. engine.—Hall, 5, Front St., Castleside, Consett. [7478

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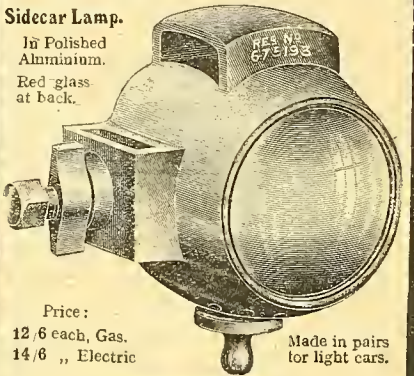
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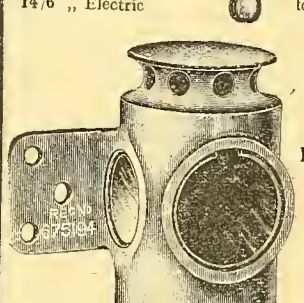
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PALMER'S Garage, Tooting, will collect machi from any London railway station. The auct sale is held every Thursday, commencing 2 p.m. [78

WANTED, J.E.S. or similar machine; exchar 3½h.p.—83, Pedro St., Clapton, E.5. [74

EISEMAN Magneto (type EFDX1) with Rudge drive Holness, Elmer House, Saadgate. (D) [75

WANTED, cylinder for 3h½p. B.S.A., 1913, p shape.—Oakley, Hurst Green, Sussex. [72

WANTED, 5-6h.p. Rex front cylinder.—Ford, O dene, Huntoa Bridge, King's Langley. [74

WANTED, pair Rudge touring handlebars.—Gee, Constantine Rd., Hampstead, N.W.3. [75

N.S.U. or Grado Gear, whole or parts, also acc sories.—Box 1,667, c/o *The Motor Cycle.* [80

WILLIAMSON Machine.—Wanted, flywheel and ba carrier.—Peel, 35, Hart St., London, W.C. [750

COMBINATION, 5-6h.p., about 1918; no dealers. Marshall, 121a, Western Rd., Southall, Middlese [750

WANTED, P. and M., 1910-1914, 2-speed mode about £25.—King, Egrove Farm, Oxford. [X567

WANTED, shop-soiled T.T. Triumph or Norton; w give £85 cash.—Box 1,635, c/o *The Motor Cycle* [750

REAR Wheel, back stays, and gear box for Triump —Dives, 253, Lower Rd., Rotherhithe, S.E.8. [749

2-SPEED Free Engine for Early Triumph or fr engine gear; sidecar body.—Brown, Wollaton. [81

GLORIA Sidecar wanted for Triumph.—Price an particulars to Phillips, Lowerhead Row, Leeds. [790

1920 4h.p. Triumph, shop-soiled, touring model. Apply by letter, P.S., 49, South Molton St., W. [746

WANTED, 1911 Douglas connecting rod, complet —Platts, 602, King's Rd., Fulham, S.W.6. [760

HENDERSON B Sidecar, good, reasonable, Triumph.—150, Cambridge St., Belgravia, Londo [809

LEVIS'S, 2¼h.p., late models, wanted; no dealers. Particulars, price, Box 1,668, c/o *The Mot Cycle.* [805

MOTOR Cycle; exchange smart economical 7-9h. Premier cycle car.—26, Ballina, Honor Oak Park S.E.23. [781

WANTED, electric horn, 4-volt, good condition, suit able for lightweight.—16, Falkland St., Middle brough. [749

MOTOR Cycle, countershaft, 2-stroke, any condition about £25.—Polmer, Milford Cottage, Coopersale Epping. [774

WANTED, 1920 good combination and solo; reason able; cash waiting.—60, Wellingford Av., Nort Kensington. [793

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3-Speed Countershaft Gear, for chain drive, suit to 4h.p. single.—Henry Williamson, Brigham Hill Cockermouth. [754

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WANTED, 4-cyl. F.N.'s, T.A.C.'s, T.M.C.'s, Hender sons.—Wandsworth Motor Exchange, Ebner St. Wandsworth. [618

WANTED, combination, Enfield, A.J.S., Triumph preferred.—Mosedale, 30, Canterbury Rd., Kil burn, N.W.6. [772

WANTED, motor cycles for cash; any make o condition if really cheap.—D., 181, Newton Rd. Burton-on-Trent. [788

RUDGE T.T. Frame, forks, tank, front wheel, second hand.—Grierson, c/o McDonald, 28, Roseneath Place, Edinburgh. [750

WANTED, Douglas or Scott, also electric Harley, o other 28in. wheel model.—Sinclair, Blencathra Walton-on-Thames. [752

WANTED, Morgan, 1920-21; expert examination and trial.—Full particulars, Hall, 54, Maygrove Rd., Brondesbury. [765

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The Speed Limit.

IT has become general knowledge that recommendations regarding motor cycles and motor cars, their speed limits and drivers' licences, will shortly be made to the Minister of Transport by the Departmental Committee on the Regulation of Road Vehicles. The A.C.U. is about to place the views of motor cyclists on these questions before the Government, and at the next meeting of the General Committee at Shrewsbury, on February 12th, the whole question will have consideration. Both the A.C.U. and the A.A. are circularising their members as to their views on these important questions.

The matter is one of great difficulty, and motor cyclists asked by the bodies as to their views would, we think, undoubtedly state with little hesitation that the abolition of the speed limit altogether would be most desirable. There is no doubt that a speed limit in itself is a very arbitrary means of regulating the driving of a motor vehicle. Take, for instance, a town in which a ten mile an hour limit is imposed. On a market day this speed is quite in order and may, at times, be too fast for the amount of traffic on the road. But take the same town at five o'clock on a summer morning; obviously the ten mile speed limit at this time of day is perfectly ridiculous. Fifteen or twenty miles an hour would be absolutely safe. Also, it is clearly absurd to place any speed limit on certain fast stretches of road in this country. On the other hand, there is a feeling that if the speed limit were removed altogether too much power would be placed in the hands of the magistrates as to the interpretation of Section 1 of the 1903 Act (Driving to the Common Danger). It is also possible to argue that a Bench of magistrates may decide on any speed in excess of a certain limit imposed by them constituting "driving to the common danger." Again, to ask for no speed limit at all might well be asking too much, and it is doubtful, even though motorists are unanimous on this subject, whether they will get so generous a concession.

Abolition or Modification?

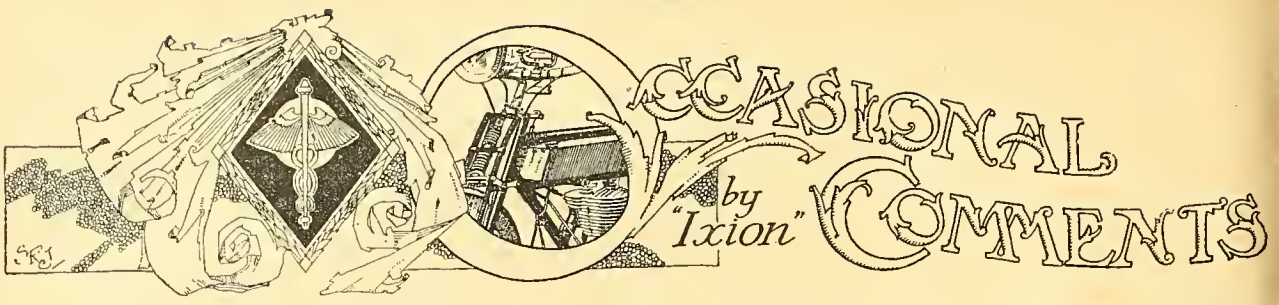
Another point which can be put forward is that if police traps are abolished it is better to leave things as they are. It is not generally known, but it is, nevertheless, a fact, that there is a speed limit in France, namely, 30 kilometres (19 miles) an hour. This law has become as dead as the ancient law in England that everybody must attend church on Sundays. The latter law is still in existence, and has never been repealed. The speed limit in France is completely ignored, and is only enforced in certain populous places.

There are plenty of speed limits in towns and villages, and very often the smaller the village the smaller the speed limit. It is by no means uncommon to come across a notice stating that the speed for all vehicles is 8 km. (5 miles) an hour.

A number of people consider it would be best to leave well alone, but in this case there is no doubt that the police at any time could enforce the old limit, and, since this is so, it is perhaps better to make a compromise, and raise the speed limit to thirty miles an hour. This is a happy medium between the old limit of twenty miles an hour and no speed limit at all. Thirty miles an hour is a very useful speed, and it is usually found that most motorists drive at something between twenty-three miles an hour and thirty miles an hour, and there seems to be a very fair chance of motorists obtaining this concession.

There is no doubt that the Section 1 regulation to which we have referred requires revision. In the case we have previously mentioned, of a village with a ten mile limit, at 5 a.m. on a summer day a motor cyclist might drive through with perfect safety to himself and everybody else—because no one would be there—at twenty miles an hour, and yet run the risk of being prosecuted for driving to the common danger and for not having taken into consideration "the traffic which might reasonably have been expected to be on the road at the time." This must clearly be altered.

An Index to the advertisements in this issue will be found on the page facing the back cover.



Personal Insurance.

WITH all the care in the world motor cycling adds a trifle to the inevitable risks which we run in passing through this vale of tears, microbes, Kaisers, and Bolshevists; and the wise motor cyclist consequently insures his person as well as his machine. I notice that the wily companies add 15% to the premium on an ordinary "sickness and accident" policy, if one pleads guilty to being a motor cyclist; and I imagine that they make a handsome profit out of this percentage, as a mileage approaching 250,000 has not yet put me into the doctor's hands. However that may be, I am broaching the subject of personal insurance because I have recently changed my own practice in this respect. I used to include my person in my machine policy. I discovered the other day that for a very trifling additional cost per annum I could insure myself handsomely against all kinds of accident and many forms of sickness, instead of merely against the road crashes which I never sustain. So now I take out two policies—one for the machine, and another of a comprehensive kind, not limited to motoring, for myself.

Finding Illegitimate Noises.

NOTHING is more fascinating than tracing unlawful sounds in a motor to their hidden lair, provided the tracking succeeds; and nothing is more irritating than being baffled by them. On my Scott, for example, I was recently subconscious of a squeak and a rattle. The squeak occurred when coasting with the engine off, but not when wheeling. I hunted for it "times," as they say in Devon, but without success; it disappeared when the rear chain got its fortnightly oilbath. The rattle was easier to track, for the pull-off coil spring of the kick-starter had weakened, and failed to keep the pedal up against its stop. Until a stiffer spring could be faked up, silence was earned by a bit of insulating tape on the stop and on that part of the chain stay most concerned. The resultant silence impressed a friend who had previously tried to stir my ire by terming the Scott a rattletrap, and who was now rather irked by illegitimate noises on his own 'bus. He demanded my assistance. We started out on the car and he bumped me over a rough road at fifty. My startled ears heard a noise suggestive of the glass in the windscreen grinding internally. We could not provoke this noise by any stationary tests, and needless to say that at fifty we could hear, but not trace it. I suggested he should drive her all out down a hill of 1 in 5, when the afflicted item would probably reveal itself by fracture. This remark was coolly received; yet if ever we envy the lordly car owner, let us rejoice that there are no body timbers secreted within a motor cycle. The second noise was worse. As he accelerated from the change up on to his top gear, a solitary but appalling mechanical thump was occasionally audible. It sounded for all the world as if one of the crank pins had gone down wallop to six o'clock, and found the lower half of its split bush missing. I surveyed his power unit: engine, clutch, gear box, dynamo, etc., all bolted up into a solid mass; advised him to dismantle it, and calliper each detail precisely; and then I fled for my life

Life's Little Worries.

ONE must not be hard on the trade in these worrying days. They are doing their best to fit us all out with roadworthy machines under conditions of unprecedented difficulty. So I tell the two following yarns in no captious spirit, but solely because of their intrinsic humour. Let it be supposed that Plantagenet de Vere is a motor cyclist of the gentlemanly type: a hard rider withal, but not of that kidney which enters the lounge at the Hotel Majestic with a smear of B.B. on his right temple and a miniature reproduction of the devastated Somme area on his oilskin trowtrows. P. de Vere takes delivery of his new two-stroke, unwitting that the foot brake is of the heel pedal variety, and that the heel is situate perilously near the revolving clutch boss of his countershaft two-speed gear. After a day with a sporting provincial club, he hobbles into the dining-room at the Hotel Titanic minus his left boot heel. Boots now cost about 90s. in Bond Street, where de Vere deals!

The shoe pinched our second hero in a different place. A diligent reader of *The Motor Cycle*, he had assimilated the benefit of the spring frame, and his latest mount was of that variety. Unfortunately, he selected for his patronage a firm afflicted with a designer who was a thought too sanguine. In fact, this designer was so utterly enamoured with the superb insulation afforded by his post-war spring frame that he dispensed with a saddle, and substituted a scarlet leather hassock of the pattern upon which one supposes Royalty to perform their orisons. For that purpose such hassocks may do well enow. But Major X. (that is neither his name nor rank) rashly entered for, let us say, the Exeter run, before he had sufficiently proved the new seating accommodation. Seeing him dismount—at Andover, would it not be?—a kindly constable thought to himself, "Another of our wounded heroes!" and proffered a ready arm. Major X. said ——. Had it been a beauteous maiden, in lieu of a burly constable, the designer might have been blessed instead of accursed.

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Roads Like Glass.

THE other night I had one of the nastiest rides in my whole experience, though it did not exceed ten miles in length. Heavy frost had converted wet roads into sheets of glass. What was worse, the surfaces were not uniform. On a southerly slope the road was still mushy in parts, except in shaded patches, where it might either be hard and safe or ice-filmed with moisture. Skidding and wheel-slip, super-added to intense cold, made this short expedition as lively as anybody could wish. When I arrived at my destination, I was mentally inventing knee and elbow pads, on the lines of an R.A.F. "crash" helmet; but, thanks to well-scolloped rubber tyres and a plentiful use of second gear, my machine never actually went over. It is under such circumstances that three or four wheels are so pleasant, because they permit of very slow speeds on surfaces where steering is something of a gamble. Some years ago an intrepid member of *The Autocar* staff took me for a 300 mile run over snowclad roads at Christmastide, and, though we had many anxious moments with his little car, we were never in danger of physical injury, as I certainly was a few nights ago. As I grow older, I sometimes pine for a monocar in wintertime; and so, I fancy, do other veterans. Moreover, a raging wind at zero temperature inspires dreams of a cosier seat than the saddle of a motor cycle: 'tis a naked perch in such weather. *En route* I passed an unfortunate stalled with a drowned charge in his acetylene generator. I told him that, in theory, I was the best of Good Samaritans, but that on such a night I would not take £1,000 to tow him home, and that my fingers were far too numb to play with his lamp. Luckily, a friendly car came along, and, being an ancient dug-out, it bore acetylene lamps, and was able to set him going again. Quite sensibly its occupants enquired why the Kaiser we were out in such weather on motor bicycles.



FROM SINGLE TO THREE TRACKS.

A. J. Dixon, a pre-war Singer exponent, re-entered the competitions field in the recent London-Exeter Run, when he drove a Coventry Premier runabout and obtained a gold medal.

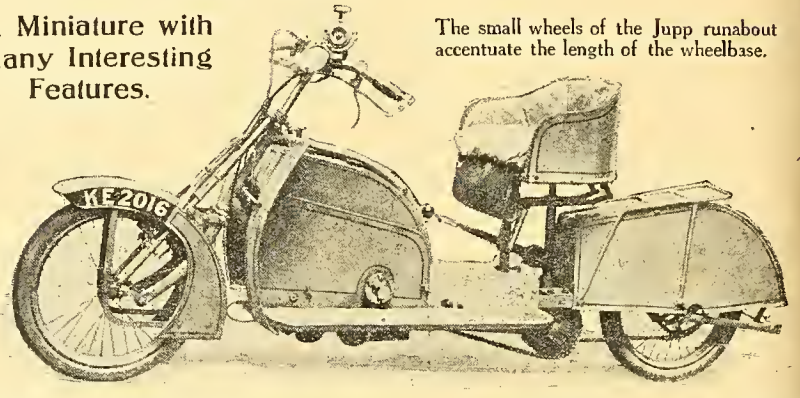
Petroiling a Scott.

ONE of our readers, who dislikes watching one sight-feed on the road, found the twin glasses on the Scott somewhat of a strain, and consulted the makers as to the safety of mixing the oil with the petrol. They replied that they did not recommend the method because it is apt to be messy, but that it suits their engine perfectly, provided an occasional charge is given *via* the pump to lubricate the compression glands on the crankshaft. Consequently, my correspondent commenced experiments a month ago, putting half a pint of engine oil in each gallon of benzole and injecting half a pump every fifty miles through the pump to the glands. He is delighted with the results. As a cork-seated petrol tap is used on the Scott, and his Binks carburetter is more petrol-tight than some which I could name, he has only been troubled with greeny stains at one point of the machine, viz., the petrol tank stopper. He has not yet devised a really workmanlike dodge for curing this, but is content to wrap a piece of rag round the stopper. This bit of experience is useful in two ways. In the first place, it relieves the owner of what is rather a tedious job on the machine in question, viz., replenishing the frame tube reservoir with oil. In the second place, it shows up a petrol leak which probably exists on all Scotts, as on other machines fitted with similar tank stoppers, but which escapes notice till the fuel is coloured. Of course, this leakage only occurs when the tank is full.

When adding the oil to the petrol, it it wise to mix it in the tin first, as, if poured into the tank, it tends to drop straight to the bottom.

A SINGLE-TRACK RUNABOUT.

A Miniature with Many Interesting Features.



The small wheels of the Jupp runabout accentuate the length of the wheelbase.

HUNDREDS of our readers have asked for a lightweight motor cycle which will keep them clean on their pleasure trips or journeys to business. With a view to this special market, Mr. L. Jupp, of 165, Camden Road, Tunbridge Wells, has designed and constructed the interesting little vehicle described herewith.

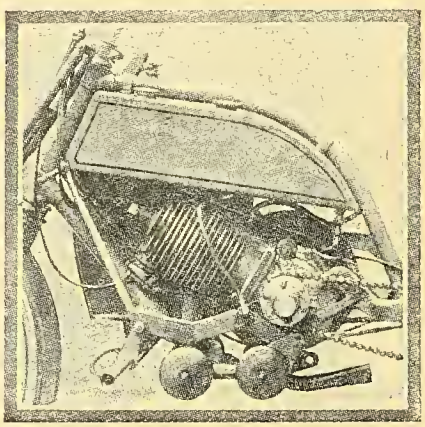
When examining the illustrations, it should be remembered that the wheels are 18×2in., and that the whole machine weighs but 170 lb., in spite of its very complete guarding. With the exception of the frame and wheels, the specification is much the same as that of any high-class lightweight, and includes Villiers flywheel magneto two-stroke engine, Sturmey-Archer two-speed gear and clutch, and all-chain drive. The kick-starter, however, has been modified, and the engine is started by pulling up a long lever conveniently situated to the driver's right hand.

Both side members of the frame are of angle steel, the remainder of the frame being tubular in construction in the first models, though angle steel may be used throughout for production purposes.

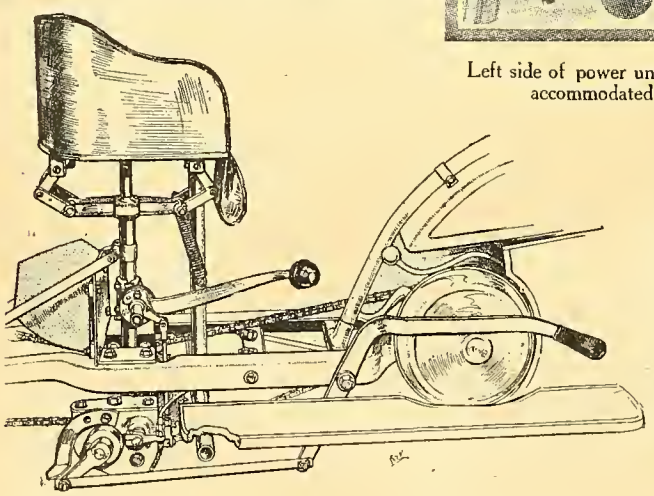
Spring Footboards and Seat.

Telescopic tube front forks are used, a coil spring being fitted within the top portion of each "girder" member; in addition, the footboards and the comfortable bucket seat are spring suspended.

At first sight it would appear that the engine and transmission are somewhat inaccessible, but we have seen the rear mudguard and carrier, the transmission housing, the engine housing, and leg shields removed in the space of two minutes, leaving all working parts exposed for inspection or adjustment.



Left side of power unit, showing how it is accommodated in the frame.



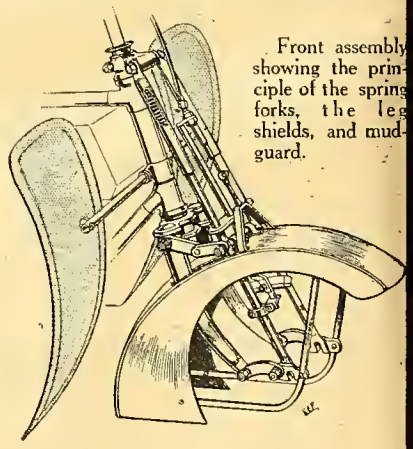
Details of the transmission and seat suspension. The lower lever is connected with what is normally the kick-start pedal. The small lever above the flywheel magneto operates the variable ignition

A large leather tool bag is suspended from the front of the bucket seat, the tank holds rather more than a gallon of petrol and a quart of oil, and a band brake on the rear wheel is assisted by a handle-bar-operated brake acting on the front wheel rim.

In spite of the fact that the machine we inspected was an experimental model, the guarding was well carried out, and should efficiently protect the rider from mud and oil.

Lightweight Motor Cycle Cost.

It is hoped that when manufacturing facilities have been arranged it will be possible to market this little runabout at a price in the neighbourhood of £80, so that it will compare favourably with existing lightweights as regards price, and will offer certain advantages which will appeal strongly to a large number of prospective purchasers.



Front assembly showing the principle of the spring forks, the leg shields, and mudguard.

FUN AT A SALE.

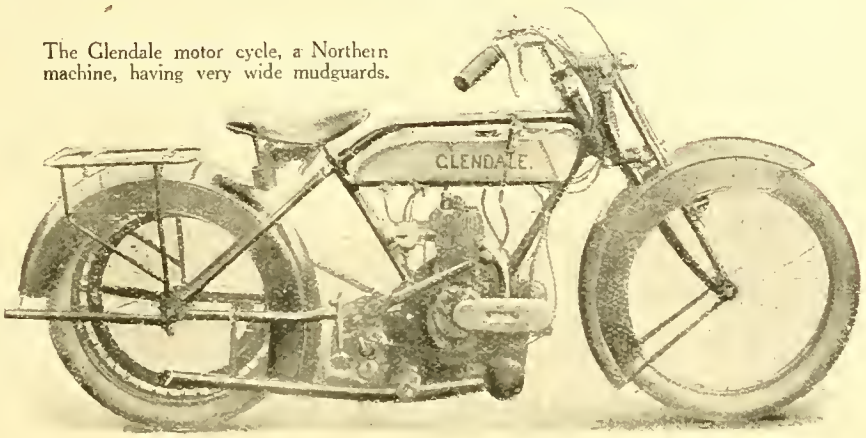
WE would have given a good deal to have been present at a sale recently held at Southsea, where a number of motor parts were put up for auction. Neither the man who printed the catalogue, the auctioneer, nor the majority of the buyers had the least idea of motor technical terms, and the specimen catalogue sent to us by a reader is a weird and wonderful production.

How the auctioneer persuaded his hearers to buy Lot 107, which was down in the catalogue as a "Split zioue," we cannot imagine; and we cannot understand any buyer being taken in by Lot 104, which was described as a "Millemum pulley deceiver." There are numerous other curios, such as Lots 127 ("Valcanised pulley"), 133 ("Crank, pum"), 136 ("Box addrents"), 142 ("One Sans-play"), 45 ("Commitator"), and 50 ("Gcle stand—back"). Other attractive lines were Lots 92 ("Two pistons 80 mm. and gudgeonpuns"), 93 ("Set trim tremble coils in case"), and 96 ("Polishing bot"). Our informant says that the parts had apparently been preserved since the day of the red flag, and were for the most part a collection of obsolete items.

A Dual Purpose Machine from the North.

Exceptionally Wide Mudguards Characterise the New Blackburne-engined Glendale.

A USEFUL double-purpose mount has lately been placed on the market by Messrs. Luke Atkinson and Son, Glendale Works, Wooler, Northumberland. It is constructed with a strongly built frame, Brampton Biflex forks, 26×2½in. wheels with flat base rims to which Bates' 26×2¾in. tyres are fitted. Very wide mudguards form a feature of this machine, being 6¾in. across with 3in. valances, and on those on the front guards the registration numbers are painted. Footrests are provided.



The Glendale motor cycle, a Northern machine, having very wide mudguards.

Large Tank Capacity.

The tank is tapered from 12in. in front to 8in. at the rear, and carries one and threequarter gallons of petrol and three-quarters of a gallon of oil. The reason for this is that the makers have found by experience that it is often more difficult to get a particular brand of oil than it is of petrol, which can now be bought anywhere. This is a great convenience to the rider who purchases his oil in bulk.

The power unit is a 4 h.p. Blackburne engine driving by chain through a Sturmey-Archer three-speed gear box. The final drive is by belt. Silencing arrangements are attended to by a large silencer and long tail pipe. The machine is well equipped and appears to be a thoroughly up-to-date mount.

Cooling the Piston.

A Design which Utilises Crank Case Suction to Induce an Air Draught.

WHILE efforts to provide adequate cooling of the cylinders of modern air-cooled engines have been persistently kept in view, much less attention has been paid to the cooling of pistons. Nevertheless, in all probability, excessive heating of the latter is one of the most serious defects militating against the efficiency of many existing engines.

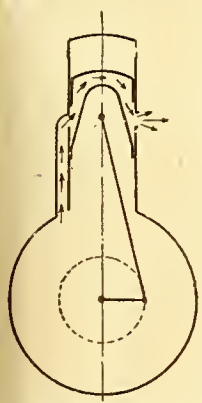


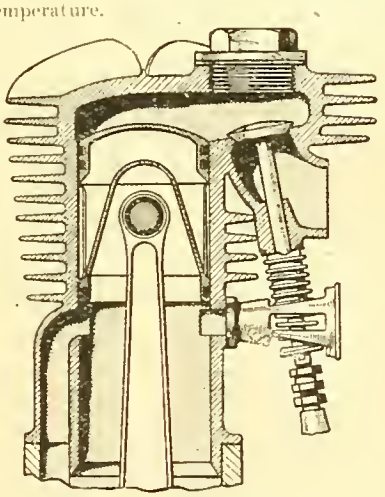
Diagram showing the path of the cooling draught on the under side of the piston.

With a view to eliminating any troubles arising from inadequate piston cooling, one of our readers, Mr. A. Freeman Sanders, of Pensford, near Bristol, has produced a design of four-stroke unit in which very thorough efforts are made to keep down the temperature of the internal working parts. The idea used is not altogether new, but the thorough way in which it is proposed to carry out the arrangement should tend towards a decided improvement in the running of air-cooled engines.

No Extra Parts Needed.

An explanatory diagram and a more complete section of a cylinder and piston render description almost unnecessary, but it will be seen that the piston has long slots at each side communicating with each other through a chamber formed by the piston top, and a "false roof" to the piston which clears the gudgeon pin bosses. The piston slots correspond with ports cut in the cylinder walls; these are opposite each other, one opening directly to the atmosphere, and the other communicating with the crank case by means of a duct in the cylinder casting. On the up stroke air is drawn through the ports and across the hollow head of the piston, into the crank case; on the down-stroke this air is pumped out again through the same passages.

By this arrangement cooling of the piston by an excess of oil should be unnecessary, as the continual flow of air under the hottest part of its crown should maintain it at a reasonable temperature.



The cylinder of a four-stroke engine designed to permit of cooling the piston

AN EXHIBITION IN THE EAST INDIES.

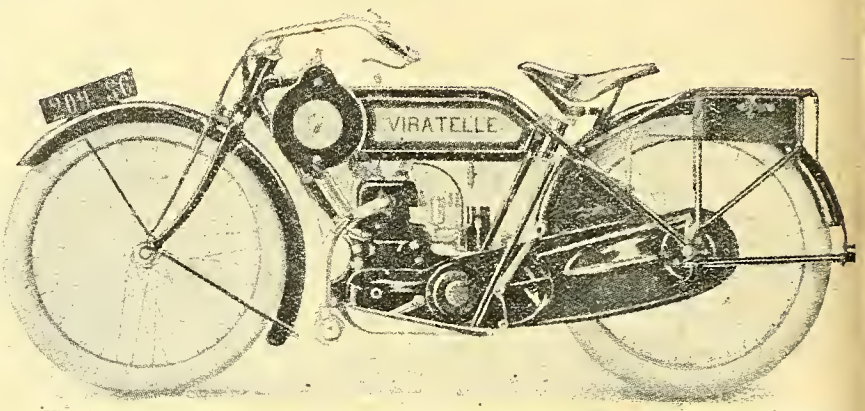
BRITISH manufacturers and exporters who seek to develop trade in the Netherlands East Indies—one of the most lucrative markets in the world, and one that is by no means over-supplied and over-developed—should be interested in the announcement that the Second Netherlands East Indies Fair is to be held at Bandoeng (Java) from September 19th to October 9th of this year. The Fair will be international in character, and will offer manufacturers an opportunity of exhibiting wares of all kinds to a vast number of potential buyers in the East. Everything that pertains to industry, commerce, and agriculture will be represented at the Fair, and a Motor Vehicle and Tractor Exhibition will be held simultaneously in the same town.

Preliminary arrangements are well forward, and a booklet setting forth all details, in English, is being prepared by the British Chamber of Commerce for the Netherlands East Indies, to whom, at 38, Dover Street, London, W.1, all enquiries in connection with this Fair and the concurrent Exhibition should be addressed. There is every prospect of the Fair being a great success.

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THE VIRATELLE ON THE ROAD.

A French Machine with "Side-by-side" Twin Engine and many Other Innovations.

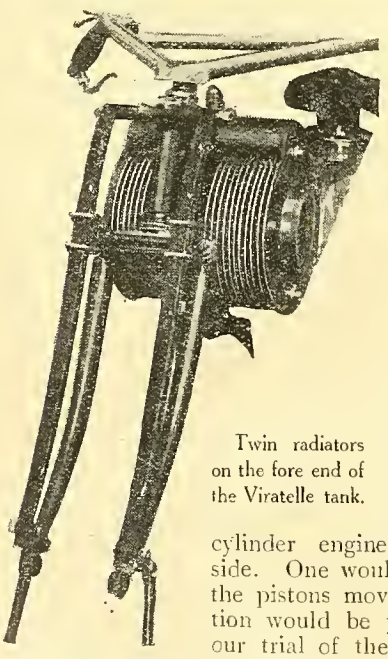


The 6 h.p. model of the Viratelle, which has two water-cooled cylinders side by side, having 73 mm. bore and 82 mm. stroke (686 c.c.)

SINCE our brief inspection of the Viratelle—an interesting machine of French origin (a description of which appeared in the issue of December 9th)—M. Viratelle, whose name it bears, gave us a demonstration of its road performance.

It may be recalled that the Viratelle is a water-cooled four-stroke machine, one model of which has two cylinders side-by-side; and as no similar motor cycle is on the British market its running was of particular interest. Probably the side-by-side twin is the neatest form of two-cylinder engine, and the reason why four-stroke engines of this type have not been more greatly favoured is on account of (1) the difficulty of balancing them if even impulse torque is obtained by arranging the cranks at 360°, and (2) the uneven firing torque if good mechanical balance is secured by using cranks at 180°.

We have had both types in the small car field, and excellent examples are still giving satisfactory service. The 8 h.p. Perry has the 360° crank arrangement, and the engines of the 7 h.p. Swift and 8 h.p. G.W.K. have cranks set at 180°. Owners of the first mentioned car will tell us that the vibration set up by the 360° setting is imperceptible, while Swift and G.W.K. enthusiasts state that there is no inconvenience or irritation accruing from the uneven firing, *i.e.*, two explosions in one revolution and none in the next.



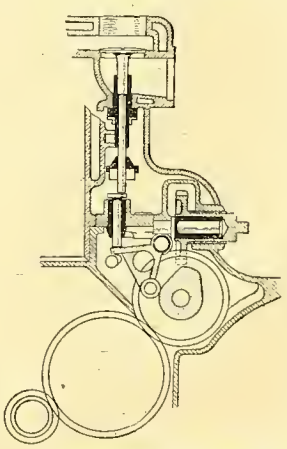
Twin radiators on the fore end of the Viratelle tank.

The two-cylinder Viratelle engine is of the Perry type, and is, therefore, artificially balanced, as, say, two single-cylinder engines placed side-by-side. One would suppose that, as the pistons move in unison, vibration would be present, but, after our trial of the French machine, we must admit that these theoretical objections are not so serious as is generally thought.

Unfortunately, a sidecar body was unavailable; consequently it was impossible to appreciate the comfort provided by the long laminated spring which supports the bearers of the Viratelle chassis.

Perched on the carrier, however, which is incidentally abnormally wide, we were able to follow with interest the ease with which the machine is controlled.

Starting is effected by inserting a detachable handle, which is neatly clipped to the carrier stays, into a recess at the front end of the transmission case. The engine responded immediately to a half turn of the starter, and, with the first gear engaged, a touch of the clutch pedal, which, since the gear is of the epicyclic type, is actually a brake, set the machine in motion.

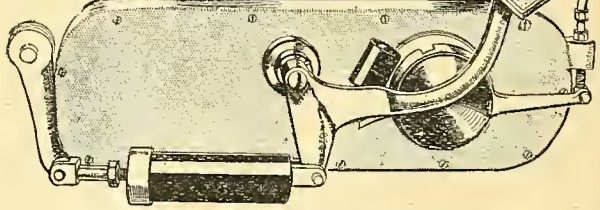


Valve gear of the two-cylinder Viratelle engine.

The transmission is smooth, whilst the silence of the engine was quite car-like. The gears are engaged by moving a small lever on the handle-bars, and it is possible to prepare a gear ratio long before it is required. To bring it into direct engagement, the clutch is operated.

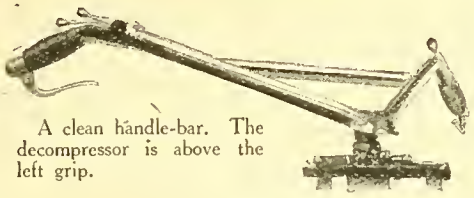
Responsive Gear Changing.

This scheme has a unique advantage, and would permit a change to a lower gear at the precise moment of advantage when ascending difficult gradients. The slow running of the engine is also worthy of note, and M. Viratelle demonstrated the working speed of his machine by keep-



The clutch pedal also actuates the carburetter control, and automatically throttles down when changing gear.

The Viratelle on the Road.— ing the front wheel within three inches of a slow moving vehicle. The efficiency of the radiator requires no comment, and the cylinders kept remarkably cool. The 3 h.p. single-cylinder model runs quite as well as the big machine, and hauls a light sidecar with ease.



A clean handle-bar. The decompressor is above the left grip.

It is hoped that these machines may have an opportunity of figuring in some open competitions, when their performance under difficult conditions would excite much interest.

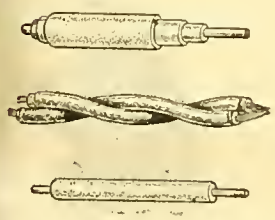
ELECTRIC WIRING FOR MOTOR CYCLES.

A Review of Various Types of Cables Suitable for Lighting Sets.

ELECTRIC lighting has become so popular with motor cyclists that the details of such equipment are now an important subject. With electricity a little knowledge is dangerous, and not a few amateur mechanics have invited trouble in installing electric lighting on the experience gained from tinkering with electric bell wires.

A little consideration will show that if an electrical installation is to be a success, it must be carried out in the proper manner, and, in this connection, there is a no more important point than the wiring.

There are two principal troubles to be feared with the wiring of motor vehicles generally; what electrical men call "shorts," and disconnections. Shorts are generally far the more serious: they may lead to serious damage to the dynamo, to the running down of the battery, and possibly to other troubles. Disconnections only lead to the loss of current to the apparatus supplied by the wire in which the break occurs. By a "short" is meant a short path for the current from one wire to the other with double wiring, from the wire to the frame of the machine with single wiring; in either case, the electrical resistance of the apparatus the current is to supply is cut out of the circuit by the short, and the pressure has very little resistance opposed to it, and delivers a very powerful current through the conductors remaining in the circuit in consequence. As the heat delivered to the conductor by the current increases as the square of its strength, the possibilities of trouble will be appreciated.



Types of electric wires suitable for motor cycles. (Top) Concentric. (Centre) Twin. (Bottom) Single.

Forms of Wire Available.

There are three kinds of wire available for motor vehicles; twin wire, single insulated wire, and concentric wire. By concentric wire is meant a single wire, insulated in the usual way, with a second conductor forming the return, outside of the insulation, the outer conductor being concentric with the inner one. The outer conductor may be insulated, or may be allowed to make as much "earth" as it can.

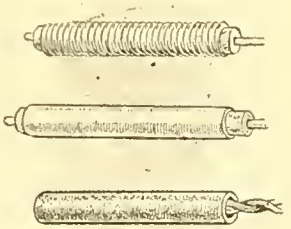
Twin wire consists of two conductors each carefully insulated, the two being enclosed in some kind of protecting envelope. Its advantage is that it requires two earth faults, two connections to the frame of the machine, or one connection between the two wires themselves, to form a short circuit; usually shorts with twin wire are due to separate connections to the frame of the machine, one on each wire. The disadvantage is, the wiring is more complicated, two wires have to be taken everywhere, and the twin wire is usually not as well protected from mechanical injury, and from grease, etc., as the single wire. There is usually greater danger of a connection occurring between the two wires.

With the single wire, one side of the battery, and one side of the dynamo, are connected to earth, the frame of the machine; and one wire is led from the battery and dynamo to everywhere that current is wanted, switches being interposed for control; it has the advantage of simplicity; one wire only is required to be taken everywhere, and that is a great convenience in itself, especially for lamps. It is much easier to protect the single wire from mechanical injury, and from oil, grease, etc.

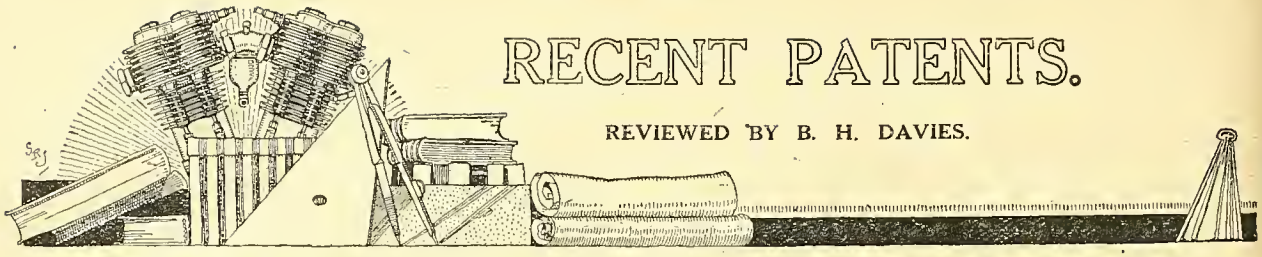
Concentric wire is a late introduction. The present writer is not enthusiastic about it. Special fittings are required with lamps, etc., where it is used, and in his view, shorts are more liable to occur through direct connection between the inner and outer conductor.

Protection of the Wires.

The protection of the wires, and their insulation, is really the crux of the whole thing. Wires should be made strong, and flexible; half the troubles with wiring outfits are due to the wires themselves being too small; the present writer would not use a smaller gauge than No. 16, or its equivalent, anywhere. Next, the protection of the insulation; there are three methods possible, armouring, drawing into lead tubes, and covering with cab tyre sheathing. The writer very much prefers the last. Lead tubes for protecting wires are formed over the insulated wire, and can be made very flexible, and not at all liable to crack. A wiring outfit with wires equivalent to No. 16 gauge, insulated with a good thick envelope of vulcanised rubber, the rubber protected by braid, and the whole drawn into a modern lead tube, should answer well, and give very little trouble; but the same wire protected with cab tyre sheathing, which stands mechanical injury, as well as oil, etc., is even better and cheaper. S.F.W.



Methods of protecting the insulation. (Top) Armour. (Centre) Lead tube. (Bottom) Cab tyre sheathing.

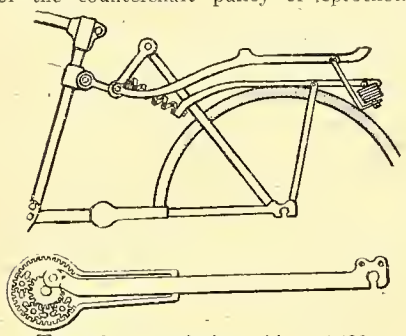


RECENT PATENTS.

REVIEWED BY B. H. DAVIES.

Compensating Gears for Springing.

ONE of the minor troubles encountered in developing a spring frame is to keep the final drive—whether chain or belt—at the correct tension. It is almost impossible to make the hinge pin of the rear frame coincide with the centre of the countershaft pulley or sprocket.

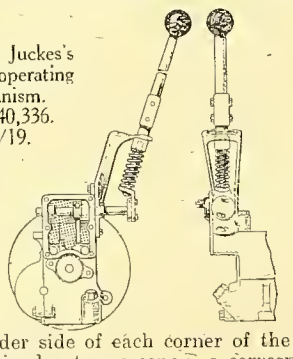


Tranter's rear springing. No. 145,292. 5/8/19.

Most designers put up with a compromise, and in some cases no ill effects are perceptible on the road. But it is not unknown for the belt on such frames to slip more than it should, or to snap its fastener or pull through a belt screw oftener than would occur with a correct design; whilst on one well-known chain-driver it is wise to put a heavy rider in the saddle before adjusting the rear chain. Messrs. Tranter and Brookes have evolved the arrangement shown herewith to correct these evil tendencies. They introduce compensating gears in the hinge of the chain stays, whereby the path of the wheel spindle is kept at a true radius from the centre of the countershaft pulley or sprocket. This invention effects its purpose, but fails to do so with that simplicity which is at once the hallmark of genius and the secret of commercial success. The weight, complication, and manufacturing cost of the apparatus are too great to justify its adoption. Noteworthy, however, is the proposed method of springing the carrier, which is pivoted at the front to the frame, and suspended at the rear on coil springs from the wheel member.

Four-speed Gate Control.

Mr. T. C. Juckes protects a neat type of four-speed gear change. In general outline it is of the ordinary gate pattern. The special features are its adjustability for angle of the lever, and the method of locking the lever in each corner of the gate. The gate bracket is slotted for attachment to bolts on the gear box, and the foot of the lever is also slotted for attachment by bolts to the end of the rod which controls the selector mechanism. It is thus possible to swing the lever through an arc depending on the length of the slots; and the rider can thus set his gear control to suit his reach; or to clear any fittings which he may desire to mount on the machine.

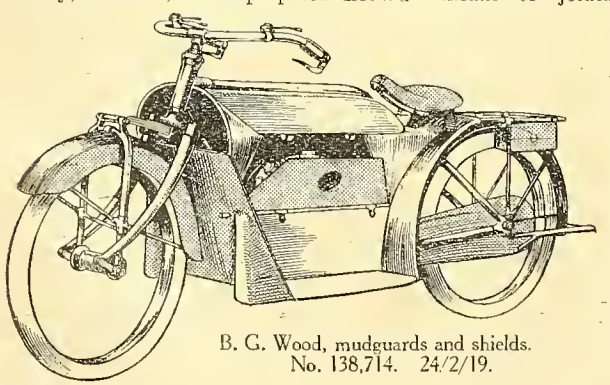


T. C. Juckes's gear-operating mechanism. No. 140,336. 13/10/19.

The under side of each corner of the gate is machined out as a cone; a corresponding spring operated cone slides on the gear lever. Thus the lever is freed whenever its knob is depressed, and locked when the knob is released. A separate spring trigger lock is, of course, provided on each selector position inside the gear box.

Cowling and Weatherproofing.

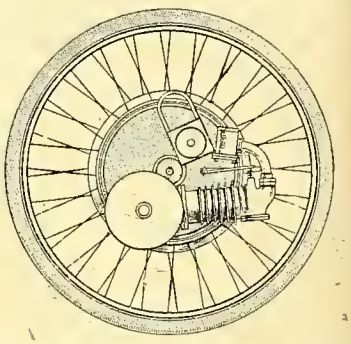
Mr. B. G. Wood is interested in the cowling of an air-cooled engine. By means of joining the footboards into an undershield, adding detachable side covers, fitting a wide front splasher, etc., he boxes the engine in, and provides a wide funnel mouth bisected by the steering head. The draught enters the cowl through the opening, and may be concentrated on the cylinders with the aid of any suitable interior baffles. It is doubtful whether this construction would be satisfactory without a forced draught.



B. G. Wood, mudguards and shields. No. 138,714. 24/2/19.

Motorising the Pedal Cycle.

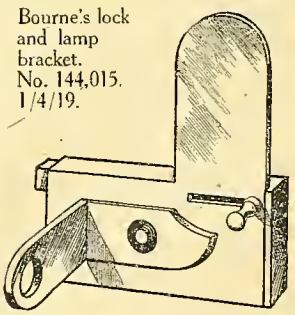
Mr. E. F. Eveleigh is out to motorise push bicycles without any structural alterations. He uses a fixed spindle for the rear wheel, and at one end of the spindle he mounts a fixed disc on which the engine, magneto, etc., are carried, thus avoiding any reconstruction of the rear frame, such as would be necessary if a fat motor wheel were employed. The road wheel consists of a hub of large diameter secured by wire spokes to the tyre rim, and is driven through a clutch and internally toothed gear wheel by a small pinion on to the crankshaft. The device appears to be quite practicable, though neither its weight nor cost could be very low.



Eveleigh's motorised cycle. No. 144,008 27/3/19.

Combined Lock and Lamp Bracket.

Messrs. Bourne and Bourne propose to safeguard a cycle—motor or otherwise—against theft by means of a spring-operated bolt, which is controlled by a lock and key, and can be fixed so as to protrude between the spokes of the back wheel. A bracket for carrying the tail lamp may be included in the gadget. I am all in favour of a thiefproof device which does not have to be carried loose in the pocket. At the same time, I am always a little nervous about using one



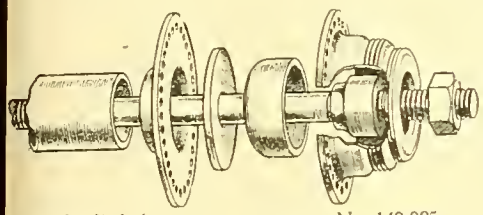
Bourne's lock and lamp bracket. No. 144,015. 1/4/19.

ecent Patents.—

hich does in a few spokes if some clumsy iot pushes the machine a foot or so. e need security against fools as well as gainst rogues.

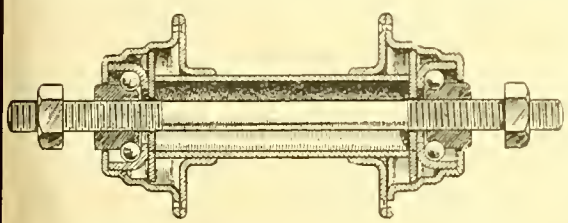
Hubs from Stampings.

M. L. A. Berland's invention is chiefly interest to manufacturers, being esigned to cheapen the production f hubs. His idea is to use three stamp-



Berland's hub—component parts. No. 140,895.

ngs for the parts composing the business nd of a hub, as shown in the sketch, and o weld them in position on the end of he plain tube which composes the shell f the hub. No machining would be ecessary, except perhaps on the faces of

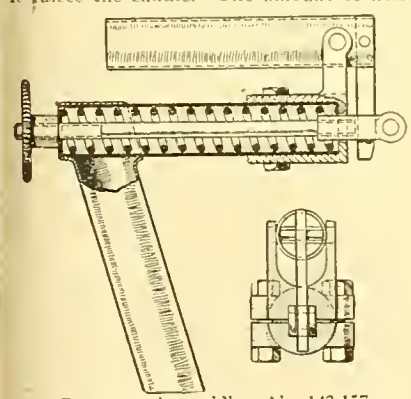


Berland's hub in section. No. 140,895. 19/3/19.

the bearing cups and on the outside of the end caps. I am not a hub manufacturer, but I wonder whether the heat of welding would affect the temper of the steel used for the bearing cups.

Saddle Springing.

The construction of Messrs. Burgess and Winter's saddle mounting is obvious from the sketch. The horizontal tube of the ordinary saddle-pillar is utilised to contain an adjustable coiled spring, the saddle being mounted above this tube on a pivot. The obvious defect of the device is that it raises the saddle. The amount of hoist

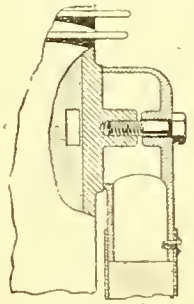


Burgess spring saddle. No. 143,157. 17/12/19.

shown in the drawing is not more than 2in., but for motor cycling over modern pot-holes, or for the jump mount, the saddle would have to be raised considerably more than this amount.

Exhaust Pipe Fixing.

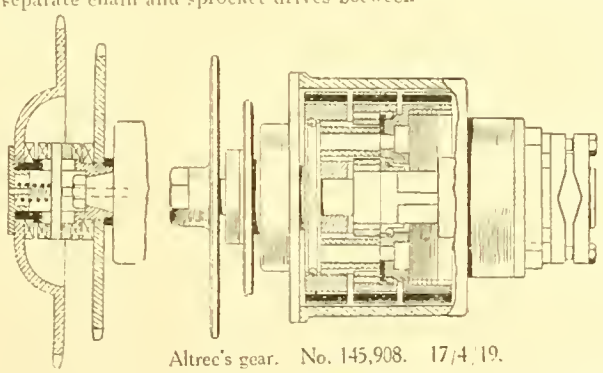
Messrs. George and Bircumshaw, like all the rest of us, have evidently wasted some time in wrestling with unsatisfactory exhaust pipe fixings. As the sketch shows, they give their preference to a stud screwing into a boss on the cylinder walls and clamping a cowl on the end of the pipe. The system certainly renders the pipe easy to fix or detach. It may be a little apt to shake loose, and a little difficult to safeguard against leaks. It probably will not make a hotter spot on the cylinder wall than rival methods.



George's exhaust pipe fixing. No. 144,494. 12/7/19.

Countershaft Epicyclic Gears.

Mr. A. Alltree's name is probably unfamiliar to the majority of our readers, but his brain is responsible for more than one popular gear box, and any new ideas of his on the subject of transmission command our respectful attention. There are two points of quite special interest in his present set of patents which cover a good deal of ground without betraying exactly what final pattern some firm of manufacturers presumably intend to market. The first novelty is that he proposes to adapt the epicyclic type of gear box for countershaft use, and to supply either three or four ratios. The second is that he also covers the use of two separate chain and sprocket drives between

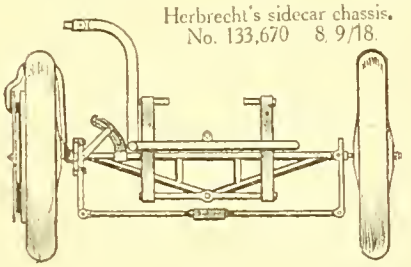


Altrec's gear. No. 145,908. 17/4/19.

the engine and the gear box, coupling up either of them by means of a dog clutch, as was done on the A.J.S. machine which won the 1920 T.T. The sketches explain the technical details. The control policy is to use a plate clutch with a neat concentric cam action and to fit a gate for the gear controls. A more convenient or foolproof policy could hardly be imagined, and the clumsiest beginner will experience no difficulty in handling such a transmission at sight. On the other hand, unless the double primary chains are included merely for racing stunts, it is difficult to see how they can be justified. When two chains share a common adjustment they worry a skilled rider and often baffle a novice. Under Mr. Alltree's design four ratios can be provided in a reasonable space at a moderate weight, and at no very great cost, all quite weighty considerations.

Flexible Sidecars.

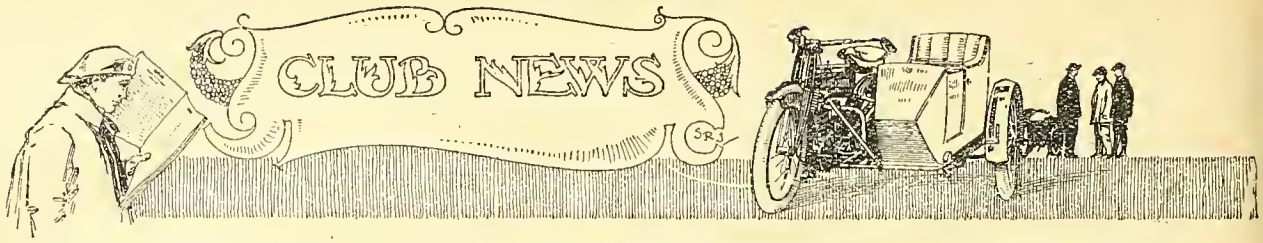
The maintenance of the sidecar wheel in a vertical plane at right angles to the axle became standard practice long ago, although many experiments were made with side wheels (to mention only the Montgomery flexible and Millford caster wheel types) which moved in some way in sympathy with the steering or inclination of the machine when cornering. Now, however, M. Louis Herbrecht, of Belfort, proposes a modified edition of the pattern in which the motor cycle wheel is linked to the sidecar wheel by a tubular framing which takes the form of a vertical parallelogram jointed at the corners. This construction enables each rear wheel to bob up



Herbrecht's sidecar chassis. No. 133,670 8/9/18.

and down independently when the machine is travelling in a straight line. In rounding corners the side wheel tilts in unison with the driving wheel. M. Herbrecht's arrangement differs from previous constructions in that the upper edge of the parallelogram is in line with the wheel axles, which improves the stability. The practical drawback of this flexible construction is that the combination lacks what an airman would call "automatic stability" when the outfit is stationary. M. Herbrecht prevents his outfit from wilting sideways when stationary by providing a locking arm working in a sector, as shown at the left of the sketch. He suggests a nut and spanner, but such a clumsy expedient would be fatal to the commercial success of his sidecar. If his drawing is to scale, the slot in his sector permits a rocking action of about 75°. It is just possible that he may find a limited market if he fits stops reducing the rock to 30°, or if he provides a lever lock for use in stoppages. But I doubt the success of the system under any circumstances, for the rigid sidecar has proved quite acceptable to the public. I should add that the lower ends of the C springs are secured to a horizontal lever which is centrally pivoted, so that the sidecar hangs vertical when the frame tilts. The success of the flexible sidecar in America cannot be denied; and at least two firms in this country make what might be termed the "semi-flexible" type.

B.



Mexborough and District M.C.C.

A club has been formed at Mexborough under the above name; and we are requested to call the attention of local motor cyclists thereto. The annual subscription is 10s. 6d., and the secretary is Mr. C. Smith, 52, Main Street, Mexborough.

Stockport M.C.

The Stockport Motor Club held its general meeting on January 11th at the White Lion Hotel, Stockport, at which the president, Mr. H. Marsden; the treasurer, Mr. H. Greenhalgh; and Mr. E. S. Abram, secretary, were unanimously re-elected. The secretary's report was of a very satisfactory nature, the membership of the club having increased from 40 to 170. A very energetic programme has been arranged for 1921.

Surrey M.C.C.

The annual general meeting took place at the White Horse Hotel, Guildford, on January 19th. The report and balance sheet showed a satisfactory position; but, in view of the increasing costs, it was decided to raise the annual subscription from 10s. 6d. to 15s., plus any increase in affiliation fees.

A supper will be held at Ripley on Wednesday, February 16th, and the annual dinner will take place at Guildford on Saturday, March 12th.

North London M.C.C.

An exceptionally enjoyable evening was spent on January 21st, at The Refectory, Golders Green, when a social evening and whist drive was held. Mr. J. F. Hull, who is a vice-president of the club, was present, and kindly presented the prizes to the successful competitors. It is hoped in view of the success of this evening to secure a record attendance at the club concert which has been fixed for February 12th. Full particulars can be obtained from the secretary, Mr. A. W. Day, Lynton, Park Crescent, N.3.

Birmingham M.C.C.

With Mr. Lycett in the chair, about 130 members and friends of the Birmingham M.C.C. enjoyed an excellent dinner and musical programme on Friday, the 21st inst. During the evening 163 awards were distributed, no fewer than 127 going to members of the club. In addition, Mr. Egginton (hon. sec.) and Mrs. Egginton received handsome mementos subscribed by the club in recognition of their excellent work on the club's behalf. The Birmingham M.C.C. was founded in 1903, and, with a membership of well over 300, claims to be one of the oldest and largest motor cycle clubs in the world. There were many well-known figures in the motor cycle world present on this occasion, and the dinner, held at the Midland Hotel, Birmingham, was voted a great success.

Rochester, Chatham, and District M.C.

A general meeting of this club will be held on Tuesday, February 8th, at 8 p.m. at the Royal Crown Hotel, Rochester. It is requested that all members interested in the future of the club should attend.

Oxford University M.C.C.

At a general meeting of the Oxford University M.C.C. held on January 18th, the following new officers were elected: Hon. sec., Mr. I. P. Riddoch, 58, Holywell, Oxford; hon. treas., Mr. F. P. D. Scott, Balliol College, Oxford.

A hill-climb between the Oxford and Cambridge University M.C. Clubs will take place on March 6th, or, if wet, on March 13th, on Aston Hill, near Tring.

Purley and District M.C.C.

An extraordinary general meeting of the Purley and District M.C.C. will be held on February 23rd at the Railway Hotel, Purley, at 8 p.m. The club, which was founded in 1907, has an excellent programme for 1921. Enquiries from prospective new members are invited. The hon. secretary is Mr. A. O. Gruzelier, 93, Foxley Lane, Purley.

Plymouth and District M.C. and L.C.C.

The Plymouth and District M.C. and L.C.C. is anxious to organise an inter-club trial for West Country clubs in 1921 and a general meeting of motor cyclists. Mr. S. L. Snell, sports hon. secretary, 97, Old Town Road, Plymouth, will be glad to get into communication with secretaries of clubs who are likely to be interested.

Leeds Motor Union.

The annual dinner of the Leeds Motor Union took place recently at the Victory Hotel, Leeds, when 146 members attended, Mr. E. H. Hepper (president) presiding. After dinner, the usual toasts were given, these being interspersed by musical items of a very high quality. Mrs. E. H. Hepper presented the prizes, amongst which were the Mitchell Trophy and the Great North Cup, and, in addition, about fifty medals.

Wallington and District M.C. and L.C.C.

This club held its opening run on January 22nd to Burford Bridge, when twenty-eight members were present. The club flag, which is black and white check, aroused a great deal of interest on the road. Particulars of the club may be obtained from the secretary, Mr. C. M. Bowen, The Chalet, Woodcote Avenue, Wallington, Surrey.

A comprehensive programme has been drawn up for 1921, and for February there is to be a fancy dress dance on the 19th, and a social run on the 27th. It is hoped that there will be large attendances.

North Wales M.C.C.

Established about twelve months ago, the North Wales M.C.C. held its first annual dinner and distribution of prizes at the Bull Hotel, Denbigh, on January 18th. The club has now a membership roll of between eighty and one hundred, of which seventy, including several ladies, attended. Mr. William Edwards, who initiated the club, presided, and was supported in the vice chair by Mr. Sidney Watkins. The meeting proved a thorough success. A programme of music had been provided, which was much enjoyed.

Wolverhampton M.C.C.

At the headquarters, the Talbot Hotel, on the 17th inst., the above club held its annual dinner, which was attended by about seventy members, including the president, Sir Alfred Bird. An excellent concert followed the dinner, the songs and music being well received. In a very witty and suitable speech, Sir Alfred touched on the fame of the club in the world of motor cycling, several national events last year being won by the members, chief among which should be mentioned the Tourist Trophy Races in the Isle of Man.

Western Centre A.C.U.

Preparations for the open two days trial, to be held on April 8th and 9th, are now well in hand, and forty applications for entry forms have been received. A number of officials are required to carry the trial through successfully, and an appeal is made to secretaries of affiliated clubs to render all the assistance they can. The hon. trials secretary's address is St. Moritz, Wyche Road, Malvern. It is anticipated that there will be a large entry from manufacturers and private riders, while other centres are invited to nominate centre teams of three riders to compete for a special award. There are prizes also for manufacturers' teams and for teams from clubs within the centre.

The next board meeting of the Centre will be held at Bath on February 19th.

Newcastle and District M.C.

About 100 members attended the annual meeting of the Newcastle and District Motor Club held at the Grand Hotel on January 21st, when Mr. Fred Keir presided. Sir Arthur Sutherland was elected as president, and it was intimated that he would present a president's cup for competition. A friendly arrangement between Sunderland M.C. and the club was outlined by the chairman, under which, for a 3s. capitation fee, Sunderland members are to be admitted to the Newcastle competitions. Messrs. S. Bell and W. Chase were elected as secretaries, and Mr. W. R. Lister as treasurer.

The Balance of Motor Cycle Engines.

Some Informative Notes on Improving the Balance of Existing Engines.

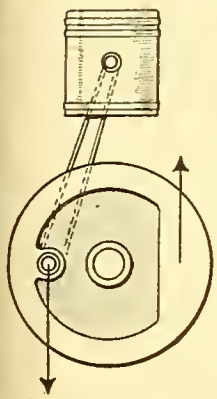


Fig. 1.—Here the whole of the reciprocating masses are moving at the same speed as the crank pin.

THE necessity of balancing arises from the old and obvious principle of action and reaction: whenever force is exerted on an object, causing it to move, an equal force is exerted in the opposite direction.

For example, when a man pushes a cart forward, his feet are all the time tending to push the earth backwards; when the exploding gas pushes down the piston of an engine, there is an equal force tending to push up the cylinder; when the engine pulls round the chain, there is an equal pull tending to twist the engine in the frame; and so forth. Now in the case of an engine there are certain parts which we wish to move, while we desire the body of the engine as a whole to keep still. But, as just explained, for every motion of the moving parts, there is a tendency towards a reverse movement of the "stationary" parts. The difficulty can be got over by arranging the moving parts in pairs, so that for any one considered there is an equal one moving in the opposite direction. But this is not always practicable, so some compromise has to be arranged; and in the design of this compromise lies the science of balancing.

A Simple Explanation of a Common Difficulty.

The best modern engines are exactly balanced by their makers; but many owners of older machines could improve their running by a slight alteration.

As a general rule, articles on balancing confine themselves to the ideal engine with connecting rods of infinite length, with the result that the conclusions arrived at are appreciably incorrect.

In this article an attempt is made to set out the ACTUAL conditions of balancing in a simple manner, together with hints on carrying out the alteration in practice.

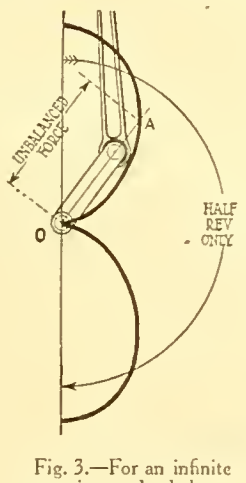


Fig. 3.—For an infinite connecting rod: balance weights equal to rotating masses only.

The distance from the centre to the curved line (OA) indicates the amount of unbalanced force. For any other position of the crank draw centre-line and measure from where it cuts the curve. In this case the maximum force is 58 units.



Fig. 4.—For a connecting rod of 1¾ times the stroke: balance weights equal to rotating masses only.

The light line shows the curve of fig. 3 (infinite connecting rod) for comparison. The maximum force is here 73 units.

Taking first the case of a single-cylinder engine, there are three types of motion to be balanced: the crank-pin and connecting rod big end moving in a circle; the piston and small end in a straight line; and the rest of the connecting rod the motion of which varies along its length, but is always of oval form.

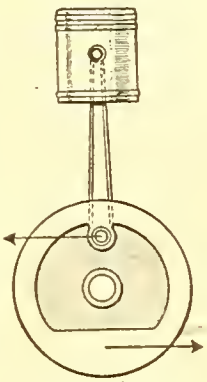


Fig. 2.—In this position the piston is stationary: only the lower end of the connecting rod is moving.

The circular motion is easily balanced by giving the flywheels excess weight on the side opposite to the crank-pin, the excess weight being equal to that of the crank-pin and big end, and at an equal distance from the centre. But the straight line movement of the piston can only be *completely* balanced by a similar straight line motion. As, however, this would entail complication — practically a second (dummy) cylinder, etc.— the piston etc., is usually partially balanced by increasing the excess weight on the flywheel.

Lastly, the oval motion of the shank of the connecting rod is usually balanced by considering it in two parts: we deal with it as if part of the rod moved straight up and down with the piston and the remainder revolved with the crank-pin. If the right proportions are chosen for the two parts, no error is introduced.

Now comes the important question: what should be the weight of the "bob-weight" or "balance-weight" to be added to the fly-

The Balance of Motor Cycle Engines.—

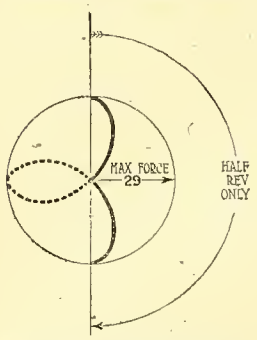


Fig 5.—Showing the effect of adding extra balance weights to an engine with infinite connecting rod. In this case the balance-weights are equal to half the reciprocating masses as well as the rotating. The maximum force is reduced to 29. The dotted part of the curve represents a *push* on the crank instead of a pull.

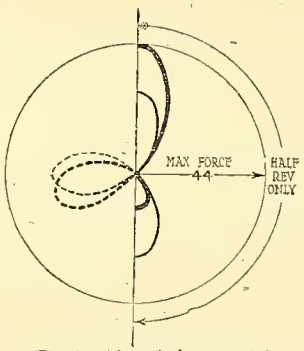


Fig. 6.—Here, balance weights, as in fig. 5, have been added to an engine with connecting rod of $1\frac{3}{4}$ times the stroke.

The maximum force is 44 units. The curve of fig. 5 is repeated for comparison.

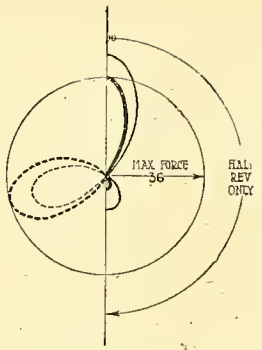


Fig. 7.—Balance weights increased from $\frac{1}{2}$ to ·65 of the reciprocating masses improve an engine with short connecting rod ($1\frac{3}{4}$ times the stroke), reducing the maximum force to 36 units. The curve of fig. 6 is repeated for comparison.

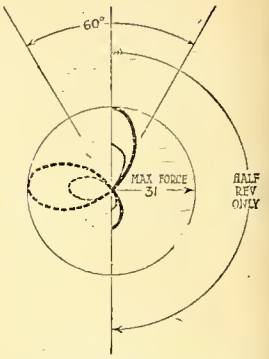


Fig. 8.—60° twin engine, connecting rod $1\frac{3}{4}$ times stroke, balance weights equal to rotating + ·54 of total reciprocating weight.

Heavy curve, bore and stroke, same as single already considered; maximum force 31.

Light curve, total c.c. same as previous single; maximum force $15\frac{1}{2}$.

wheel? Looking at fig. 1, we see that the whole of the piston, rod, and crank-pin are moving downwards. One would, therefore, be inclined to add a balance weight of equal amount. But now compare fig. 2. Here we see that the only parts actually moving are the crank-pin and that part of the rod that we have agreed to include with the pin, the piston being stationary for this instant.

Diagrams of Unbalanced Force.

Obviously, the same balance weight cannot suit both cases, so, again compromising, we make the weight equal to the crank-pin and "rotating part" of the rod (which are together known as the "rotating masses") and then add part only of the weight of the piston and the other part of the rod (known as the "reciprocating masses.") It is frequently stated that one-half of the reciprocating parts should be balanced: but this is derived from calculations on the basis of a connecting rod of infinite length. In actual practice, the fact that the rod is of finite length, and usually short at that, exerts a much greater influence than is usually supposed.

In the following diagrams an attempt has been made to show its effects. All these balance diagrams are to be read in the same way.

In fig. 3, for example, the crank has been shown. If its centre-line is prolonged to cut the curve, the length OA represents the out-of-balance force pulling on the crankshaft bearings, and hence tending to shift the engine in the frame, and thus causing vibration. For any crank position to the right of the centre-line the force is found in the same way. The forces for crank positions on the left of the centre-line are exactly similar, and are omitted to keep the diagram as simple as possible.

Shortness of Connecting Rod.

Fig. 4 shows the effect of a short connecting rod. Rods in use on petrol engines vary between one and threequarter times and two and a quarter times the engine stroke, and the force curve in this instance has been drawn out for a rod equal to one and threequarter times the stroke. The force for an infinite connecting rod has been repeated for comparison. It will be seen that the unbalanced force is now much greater at top dead centre than at bottom, and that instead of being zero at half the stroke, this ocurs some time before (actually at about 75°). These facts have most important effects, especially when dealing with twin engines.

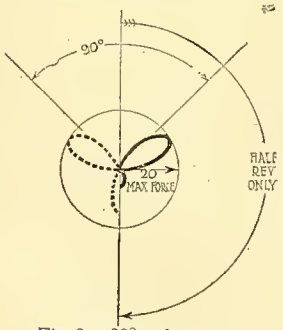


Fig. 9.—90° twin, connecting rod of $1\frac{3}{4}$ times stroke, balance weights equal to rotating + ·53 of total reciprocating masses.

Maximum force 20 units.

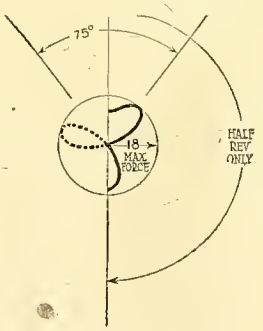


Fig. 10.—75° twin, connecting rod of $1\frac{3}{4}$ times stroke, balance weights equal rotating + ·48 of total reciprocating masses.

Maximum force 18 units.

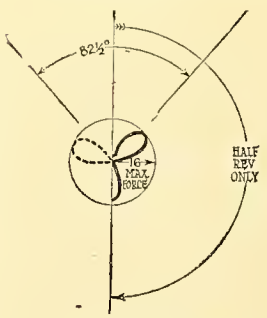


Fig. 11.—$82\frac{1}{2}$° twin, connecting rod of twice the stroke, balance weights equal rotating + ·5 total reciprocating masses.

Maximum force 16 units.

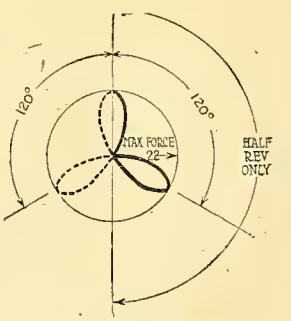


Fig. 12.—Three-cylinder radial, total capacity equal to twins already dealt with. Connecting rods of $1\frac{3}{4}$ times stroke, balance weights equal to rotating + ·52 of reciprocating masses.

The Balance of Motor Cycle Engines.—

In both the last cases, the forces are shown as entirely unbalanced, *i.e.*, the bob-weights are equal to the rotating masses only. Fig. 5 shows the effect of adding to the imaginary engine, with infinite connecting rod, bob-weights equal to half the reciprocating masses as well. The dotted part of this curve, to the left of the centre-line, represents the period during which the force due to the bob-weight is greater than that of the piston, etc. During this time, the force on the bearings is a pressure *away* from the crank. It will be noted that the greatest "negative" force (*i.e.*, *away from* the crank) is equal to the greatest positive; that they both have maximum values of twenty-nine units instead of forty-seven, as in fig. 3; and that there are now four small kicks per revolution instead of the two large ones—a great improvement.

Fig. 6 shows the corresponding state of affairs in a practical engine with short connecting rod, the curve of fig. 5 being reproduced for comparison.

It will be seen that the shortness of the connecting rod has raised the maximum force to forty-four units; but the maximum negative force due to the bob-weight is only twenty-eight units. Hence, as shown in fig. 7, the balance can be improved by increasing the bob-weights, when the maximum force is thirty-six units, the bob-weights being nearly two-thirds of the reciprocating weights (actually 0.65).

This is one quite important fact: the correct balancing of an engine *depends on the connecting rod length*. Further on are given some practical hints on the subject.

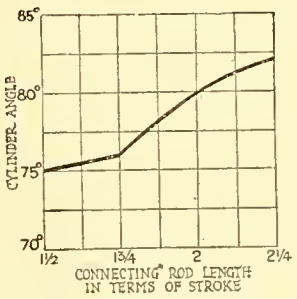


Fig. 13.—Showing the angle between cylinders which gives the best balance for various lengths of connecting rod.

As the calculations needed for this and fig. 15 are exceedingly laborious, part of the work has been done graphically. Accordingly, the accuracy of the results is not greater than about 2%, or 1 in 50. This, however, is amply sufficient for practical purposes.

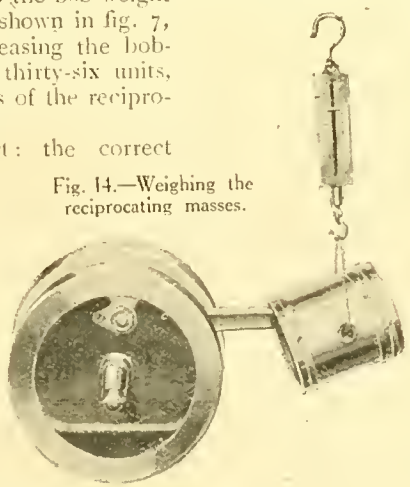


Fig. 14.—Weighing the reciprocating masses.

Twin Engines.

Turning now to the consideration of V twin engines, fig. 8 shows the forces for a 60° twin (the centre lines of the cylinders are shown) with short connecting rods. For a particular reason, the diagram has been drawn for an engine of the same bore and stroke as the single already dealt with. For real comparison with the single, in fig. 8 there has been added a smaller curve giving the forces for a twin of the same total capacity of the single: its maximum is fifteen and a half units, as compared with thirty-six as the best for the single—no wonder twins are smooth-running! The bob-weights here are one and one-twelfth the reciprocating masses of one cylinder; *i.e.*, slightly more than half the total reciprocating masses. But we are usually told that the 90° twin is far above others for balance—in fact, it is supposed to be perfectly balanced. Accordingly, its forces are shown in fig. 9. The "big" twin shows twenty units maximum, or ten for equal capacity with the single. (Henceforward only the forces for the big twin are shown; divide by two to compare them with the single.) Bob-weights are slightly less than in the case of the 60° twin.

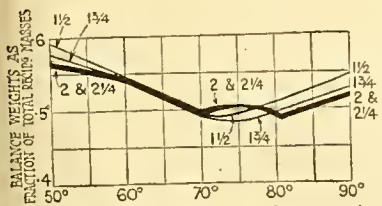


Fig. 15.—Each curve gives, for a certain length of connecting rod (in terms of the stroke), the portion of the total reciprocating masses which should be balanced.

Obviously, the 90° twin is not perfectly balanced with short connecting rods, though it is for long ones. As a matter of fact, on trying several angles it was found that the best results for connecting rods of one and threequarter stroke-lengths were obtained (fig. 10) for an engine of 75°, in which case bob-weights of slightly less than half the total reciprocating weights gave a maximum force of eighteen units. If longer connecting rods are used, the angle should be greater, as shown in fig. 11, which is the best for connecting rods of twice the stroke. The cylinders are at 82½°, the balance-weights exactly half the reciprocating parts, and the maximum force is sixteen units.

Hence we have found another important point: the best angle for a twin is *not* 90°, but a smaller angle, its exact value depending on the length of the connecting rods.

Radial Engines.

Another engine popularly supposed to have perfect balance is the radial. Actually, this would appear to be not perfect even with infinite connecting rods. With short rods, it gives the results shown in fig. 12, which is for an engine of the same total capacity of the twins already considered. It will be seen that the maximum force is greater than that of the 90° twin, let alone the 75°. Of course, it must not be forgotten that the balance of moving parts is not the only thing to be considered. There are the questions of uneven firing intervals, crankshaft stresses, etc., in many of which the radial is much to be preferred.

The Flat Twin.

One case where theory and practice agree thoroughly is that of the flat twin. No diagram of unbalanced forces is shown here, because there are none. In this case every moving part has a corresponding part moving in the opposite direction, and complete balance is obtained for all connecting rod lengths, except for a small force of a different kind caused by the fact that the use of a two-throw crankshaft necessitates the two connecting rods being out of line with one another.

In actually attempting to improve the balance of a given



Fig. 16.—Where to hang the test weights on the flywheels: A, ⅛in. hole to take a wire hook.

The Balance of Motor Cycle Engines.—engine, three problems arise: first, to find the weight of the reciprocating parts; second, to find whether the balance weights are correct; and third, to make any alteration required. Unfortunately, the angle between the cylinders cannot be altered, but we give a curve (fig. 13) showing the best angle for various lengths of connecting rod. To weigh the reciprocating masses, hang one of the pistons on a spring balance, with the connecting rod horizontal and the big end supported, as in fig. 14. In the case of a twin check by weighing the other in the same way: they must be equal, or it is useless to attempt successful balancing. Now, having measured the connecting rod length, find, from the curve in fig. 15, what proportion of the total reciprocating masses should be balanced.

Drill a small hole through the flywheels opposite the crank-pin and at equal distance from the centre, as shown at A in fig. 16; arrange a pair of level runners at such a height and distance apart that the two ends of the main shaft can roll on them, taking care to level them accurately. If there are ball bearings to the main shaft, the two halves of the crank case can be used: the only necessity is that the flywheels should be perfectly free to rotate with the connecting rods and pistons hanging free (fig. 17). Now, hang from the small hole above-mentioned weights equal to the total reciprocating parts *less* that portion which should be balanced: for example, in a 60° twin with connecting rods of one and threequarter strokes, the bob-weights should be 0.55 of the total reciprocating masses; so weights of 0.45 should be hung on the flywheel. When this has been done the flywheel should remain indifferently in any position. If any one part tends to remain at the bottom, that part should be lightened, or the opposite point weighted: the alteration must be made at a distance from the centre exactly equal to the crank radius. Lightening, by simply drilling out metal, is the simpler method: weighting the opposite side by drilling out and filling the holes with lead is the better, as it increases instead of diminishes the total flywheel weight.

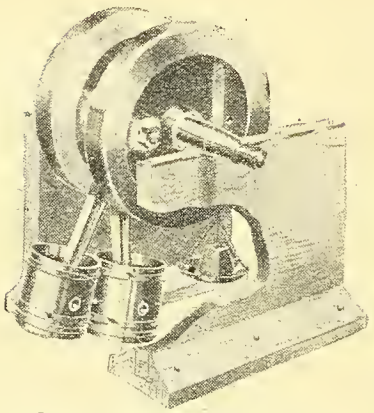


Fig. 17.—Arrange a set of runners on which the flywheels can roll freely, with the pistons, etc., hanging free.

Care must be taken, in lightening, that the drilling is not enough to cause weakness, and in weighting that there is no possibility of the plugs coming adrift.

TABLE FOR SINGLE-CYLINDER ENGINES.

Connecting rod ÷ stroke	1½	1⅝	1¾	1⅞	2	2⅛	2¼
Balance weights ÷ reciprocating parts	2/3 (.667)	17/26 (.654)	9/14 (.643)	19/30 (.633)	5/8 (.625)	21/34 (.618)	11/18 (.611)

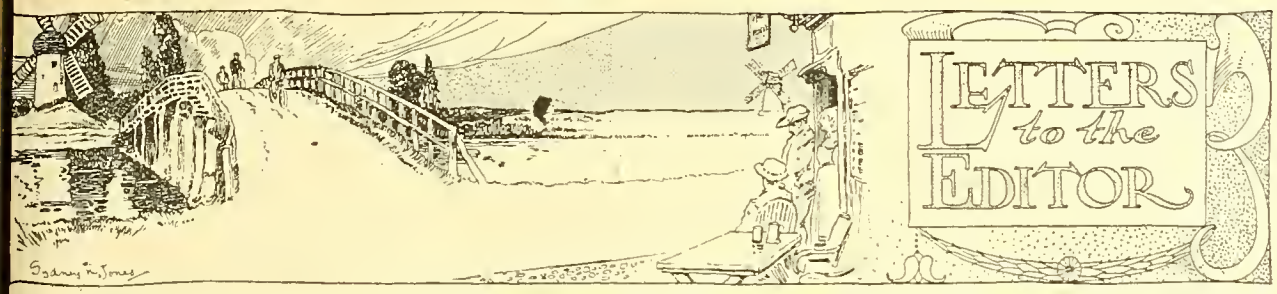
This table shows the correct bob-weights, expressed as a fraction or decimal, for various connecting-rod lengths.

Prices of Second-hand Motor Cycles.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

Make, H.P., and Date.	Classified Prices.	Average Price.
A.B.C. 3 h.p., 1920	£60, £110, £125, *£125, £140	£112
Abingdon 5-7 h.p. sc., 1920	£137	—
Acme 8 h.p. sc., 1920	£195	—
A.J.S. 6 h.p. sc., 1920	£175, £180, £190, *£190, £200	£189
A.J.S. 6 h.p. sc., 1919	†£145, £170, £170, £190	£174
Alion 2¾ h.p., 1920	£55, £70, £70	£65
American X 7-9 h.p., 1920	*£110	—
American X 7-9 h.p. sc., 1920	†£145, £178	£161
Ariel 6 h.p. sc., 1920	£120, £160	£140
Ariel 3½ h.p., 1920	£105	—
Bat 8 h.p. sc., 1920	*£165, *£170	£167
Beardmore 5 h.p., 1920	*£85	—
Blackburne 4 h.p., 1920	£98, *£115, *£120, *£120, £120	£115
Blackburne 8 h.p. sc., 1920	£175, †£178	£176
Bradbury 4 h.p. sc., 1920	£145	—
B.S.A. 4½ h.p., 1920	*£100	—
B.S.A. 4½ h.p. sc., 1920	£125, †£155, †£155	£151
Calthorpe 2¾ h.p., 1920	£61, *£80	£70
Cleveland 3 h.p., 1920	£60	—
Clyno 2¾ h.p., 1920	£50, £55, £56, *£63, £65	£58
Connaught 2½ h.p., 1920	£50, £50, £58	£53
Coulson-B. 4 h.p., 1920	*£95, £110	£102
Coulson-B. 2¾ h.p., 1920	£79	—
Coventry Eagle 2¾ h.p., 1920	£75	—
Douglas 2¾ h.p., 1920	£80, £85, *£90, *£100	£89
Douglas 4 h.p. sc., 1920	£115, £125, £135, £135, £140, £140, £140, £145, *£153, £155, †£155	£140
Edmund 2¾ h.p., 1920	*£80	—
Enfield 8 h.p. sc., 1920	†£125, £145	£135
Enfield 2¾ h.p., 1920	£55, *£60, *£63	£59
Excelsior 2¾ h.p., 1920	£80	—
Francis-Barnett 2¾ h.p., 1920	£75	—
Harley-Davidson 7-9 h.p. sc., 1920	†£150, †£158, †£205	£171
Harley-Davidson 4 h.p., 1920	†£130, †£131, †£140	£133
Hazlewood 5-6 h.p. sc., 1920	£155, *£175, *£186	£172
Humber 4½ h.p., 1920	£110, *£125	£117
Indian 4 h.p., 1920	£130	—
Indian 7-9 h.p. sc., 1920	†£145, †£150, †£165, †£165, †£170, †£175, †£175, †£179, *£180, †£200, †£210	£173
James 5-6 h.p. sc., 1920	£150, £170, *£175	£165
James 2¼ h.p., 1920	£57	—
Lea-Francis 3½ h.p., 1920	£77, £105, £115	£96
Levis 2¼ h.p., 1920	£42, £55	£48
Martinsyde 6 h.p. sc., 1920	£140	—
Matchless 8 h.p. sc., 1920	£175, †£182, †£185, †£185, †£185, †£200, £200, †£220	£191
Metro-Tyler 2¾ h.p., 1920	£50, *£70	£60
New Hudson 2¼ h.p., 1920	*£63	—
New Imperial 8 h.p. sc., 1920	*£160	—
New Imperial 2¾ h.p., 1920	£60, £65, *£70	£65
New Scale 3½ h.p. sc., 1920	£105	—
Norton 4 h.p. sc., 1921	£120, £130, †£160	£133
N.U.T. 3½ h.p., 1920	†£128, £130, £135, £135	£132
Omega 2¾ h.p., 1920	£65, £80	£72
P. & M. 3½ h.p. sc., 1920	*£120, £130	£125
Rover 3½ h.p., 1920	£85, £120, £125	£110
Rover 5-6 h.p. sc., 1920	£125, †£176	£150
Royal Ruby 3 h.p., 1920	£90, *£99, £100	£96
Rudge 3½ h.p., 1920	£75, £75, £80, £85, £87, £90, £95, £95, *£95, *£97	£87
Scott 3¾ h.p. sc., 1920	£140, †£150	£145
Scott 3¾ h.p., 1920	£110, £110	£110
Sunbeam 3½ h.p., 1920	£140	—
Sunbeam 3½ h.p. sc., 1920	£145, £170, £170, £180, £185, £185, £205	£177
Sunbeam 8 h.p. sc., 1920	£220, †£240, †£265	£231
Triumph 4 h.p., 1920	£90, £110, £110, *£120	£107
Triumph 4 h.p. sc., 1920	£130, £130, £140, £155, £160	£143
Velocette 2½ h.p., 1920	£50	—
Verus 2¾ h.p., 1920	£60	—
Wooler 2¾ h.p., 1920	£68	—
Zenith 8 h.p., 1920	£120, £120, £125, £125, £130	£124
Zenith 8 h.p. sc., 1920	£145, £165, £170, £190	£174

†Dynamo lighting. *Unused.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

STANDARDISATION OF CONTROLS.

Sir,—As regards the standardisation of throttle controls, it appears to me to be an open question.

With touring bars the more easily manipulated controls are those which open inward, whilst with T.T. bars it is more convenient to have them opening outwards. In fact with more or less straight T.T. bars it is almost impossible to open the levers inwards. It would therefore seem that the only solution is to use the two types, the one for touring bars and the other for flat bars.

Douglas, I.O.M. AUREA MEDIOCRITAS.

ANOTHER LICENCE POSITION.

Sir,—Through the medium of your valuable paper, I should like to give a tip for fixing the new licence holder to a 1921 and possibly 1920 model Matchless. If the top and bottom screws of the brass fitting that holds the windscreen in place in the near side are taken out it will be found that most of the licence holders can be fitted on very neatly with the same screws again. It is quite a simple job, and saves damaging the sidecar in any way. A brass holder is best, as it matches the windscreen. T.M.

Leigh-on-Sea.

2¾ H.P. DE DION HINTS WANTED.

Sir,—I am assembling a machine with a 2¾ h.p. De Dion engine, and I should be glad if Mr. B. F. C. Fellowes would give me a few hints on it, and also what consumption I am likely to expect. The carburetter is a Binks. I should also like to know its climbing powers, as I contemplate making it a single speed 'bus.

To change the subject. I do not like the A.C.U. standardisation system. It merely makes things hot for those manufacturers who are sensible enough to fit controls opening outwards. To my mind, the choice of direction of opening should be left to the discretion of the rider concerned.

NORMAN H. MILLS.

WHO ORIGINATED DISC WHEELS?

Sir,—I think it would be most interesting to know who claims to be the originator of disc wheels as fitted to motor cycles. I may say that I fitted them as far back as 1912 to a 3½ h.p. Triumph, but they were not to be compared with the present-day fitment. I made them out of sheet aluminium and riveted them so as to make the conical shape required. As I used to ride quite a good deal in London, I presume many motor cyclists of a sporting nature copied my idea, for on returning from the East I was amazed at their popularity. Although I do not claim to be the originator, up to the time of fitting them myself I had never seen them fitted to any other motor cycle. I took the idea from discs on cars, which I first saw fitted on the Continent.

CHAS. DAUNTON-SHAW.

ARE MOTOR CYCLISTS FICKLE?

Sir,—The letter penned by "Crimson Rambler" and published in *The Motor Cycle* gave me much pleasure in reading. As pointed out by him, a certain section of us motor cyclists do make a point of purchasing a new 'bus yearly, probably after spending many a pleasant hour at the Show, and also, probably, very many more regretful ones after. But that is beside the point. There is another section who, from lack of funds, keep their "grids," take an interest in and retain them until such time as the pass-book shows favourable figures. Then, hey presto! . . . There is also (and I belong to it) another section who buy a machine, spend their leisure hours working on it (when not riding) and get it into such trim and tune that it becomes part and parcel of their existence. Then, and then only, can such an owner become really enthusiastic. He knows its every mood and humours it accordingly, the result being that his pleasure is assured all the more because he has personally contributed in no small degree towards it.

My own machine, a 1915 2¾ h.p. three-speed T.T. Douglas is such a 'bus. It was bought in 1916 (quite 10,000 miles was to its credit at the time), and through careful, yet hard driving, is to-day, like Charley's Aunt, still running, and well at that. I have covered over 30,000 miles on it, have yet to record a breakdown, and hope to cover another 30,000 before I shall, with regret, part with it. It will do 55 m.p.h. in touring trim (proof if required). It has just been thoroughly overhauled, new parts fitted where necessary, re-enamelled (Robbialac, by hand), and could not be bought for £100. I am with "C.R." every time when he says that heartache is bound to be caused through parting with one's pet machine. I shall delay that parting as long as I possibly can.

MARTIN J. WRIGHT.

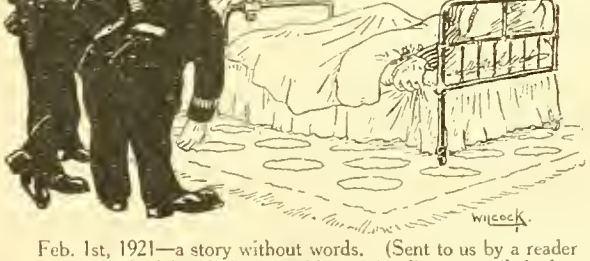
TO SAVE SHOE LEATHER!

Sir,—Referring to "Bow-wow Bang's" letter, I may say that I anticipated his "cerebral undulation" about a year ago. Being at that time much troubled by local canine projectiles with uncertain trajectories and velocities, but which only rarely impinged on my toe, I took to carrying anti-dog bombs in the form of burnt out electric bulbs.

I only used two, but they were highly successful. The victims promptly retired with shell-shock. The vacuum exhausted their lungs in a single yelp, and they departed from my path for ever on top gear with an acceleration causing audible claw slip.

As I thought that the remnants of glass and metal might damage tyres, I reluctantly abandoned the treatment, and carried a dog whip, but found it disappointing. In the end, I tactfully interviewed one or two dog owners (without the dog whip), and am pleased to say that since then canine projectiles have almost ceased to velocitate in my direction.

Saltburn. DOG-BOMBER DICK.



Feb. 1st, 1921—a story without words. (Sent to us by a reader who apparently delayed obtaining his taxation licence until the last day, and now finds that the authorities are so busy serving other laggards that he is without the use of his machine.)

RIGHTS OF WAY.

Sir,—I read in *The Motor Cycle* Mr. A. W. Bailey's suggestion that the "right of way" at cross roads should be indicated by black lettering on the sign visible to the approaching driver and red lettering on the road which has *not* the right of way. Theoretically, this seems sound; but I am very dubious about the working of it. At present every good driver takes it for granted that he has not any right of way, and, accordingly, proceeds cautiously; but if he is encouraged to dash on, conscious of his right, what happens if, at the cross roads, he meets that terror who, in spite of red letters, prefers to risk losing a limb rather than losing a minute?

Without any right of way, there is only this terror who rushes cross roads. H. FRANCIS KINGSTON.

FOLDING SIDECARS.

Sir,—I venture to write my experiences of folding sidecars. As a tradesman desiring some kind of an adaptable arrangement for pleasure and work, I decided on a folding chassis and sidecar. I purchased one made by Hopleys, Upper Highgate Street, Birmingham, during the year 1915, to which I also fitted a box sidecarrier for carting working plant about (being in the building trade), so that I am able to change from sidecar to box or *vice versa* in one minute.

During the five years I have had this chassis practically in daily use I have not had the slightest trouble with it, no screws or joints coming loose; in fact, it is as rigid as ever, and I have had weights in the box amounting to 4 cwt., and have done a great amount of touring with a ten-stone passenger and the necessary luggage. I consider this bears good testimony to the reliability of this make of chassis, and to those desiring an adaptable arrangement I can honestly recommend this to them. SATISFIED.

Sparkhill, Birmingham.

CRUELTY TO SIDECARS.

Sir,—In your issue of January 13 Mr. Leat gives an illustration of a Clyno and sidecar doing farm work.

In the early days of the war I was having a short holiday in Bishopdale. My host, an elderly gentleman and small farmer, had a two acre field ready for loading. Being the middle of hay time, labour was scarce and horses difficult to get. The weather, also, was very unsettled, and mine host was uneasy about his hay. I asked him if he had a sledge. (Sledges are always used in the fields in the high parts of the Yorkshire dales.) He had the sledge, but nothing to pull it with, so I suggested my 'bus, an 8 h.p. Matchless and sidecar. This was coupled to the sledge by a rope from the sidecar chassis. We set off for the first load at 6 p.m., and had all the hay up (and a good heavy crop, too) and in the house, and mine host, myself, and gentleman friend enjoying an excellent Yorkshire dale supper at 9.30. The only assistance required was a slight pull when starting off with the loaded sledge owing to the back wheel slipping on the grass. I have seen motor cycles used for various work, but never before, or since, have I seen one with a sledge full of hay at the back of it. WALTER WATERHOUSE.

LUCK (?) IN TRIALS.

Sir,—Some months ago there were several letters in your excellent paper dealing with luck in trials. I think this letter might be of interest to some of your readers. During the past eighteen months I have entered five twenty-hour trials, and never once have I gained an award. The following are the reasons:

(1.) York to Edinburgh and back, 1919. Notwithstanding the fact that the back and front tyres were new, we managed to get two punctures and a burst, eventually having to buy a new sidecar tyre.

(2.) London-Exeter, 1919. The failing of our electric lights and a puncture were the main causes of our retiring on this trial.

(3.) Jarrott Cup, 1919. In this trial we also had two punctures—one in the sidecar tyre and the other in the petrol tank. The latter was caused by the sparking plug blowing out and badly splitting the tank.

(4.) London-Edinburgh, 1919. A chain broke a few miles from a check, and in the consequent blind we had a nasty skid, bending the front forks so much that we could not proceed. It was a new chain on a new machine.

(5.) London-Exeter, 1920. Into this trial I took a new Alecto solo, and, for the first time, had an absolutely no-trouble ride, and arrived at Staines very satisfied, only to find now that I have been disqualified through arriving early at the secret check at Whitchurch, my watch having "crocked" early in the trial. In this case it was particularly bad luck, as the friend from whom I was taking my time, and who left the control a minute before I did, took the wrong road after leaving the Salisbury check, thus allowing me to get in front of him without my knowing it, and it was in trying to catch him up, thinking he was ahead, that I became early.

London, S.W.4. R.S.R.



The days are slowly lengthening, and the motor cyclist's thoughts turn to spring and picnics away from the madding crowd. Here is a party which has reached the banks of the Wye between Rhayader and Builth Wells with the aid of an A.J.S. outfit and a New Hudson lightweight. Such beauty spots are inaccessible to those who do not know the joys of the motor cycle.

DOG CATCHING.

Sir,—Is the following occurrence unique? On Boxing Day, in Aylestone Lane, Leicester, a small rough-haired fox terrier made a dash at my machine (nothing unique in that!). As I passed it I heard a yelp and felt a drag, and pulled up promptly. Looking round, I could see nothing, so I got off, and after a moment's inspection I found, to my amazement, that the unfortunate dog was jammed on the top of the wheel under the mudguard. So tightly was it fixed that, unaided, I could not release it; but with the help of a passing car driver and a couple of near-by footballers, by pulling the wheel round and hauling at the dog, we at last succeeded in getting it out, and—*mirabile dictu*—the dog trotted away under its own power, seemingly none the worse for its adventure.

My machine (a 2¾ h.p. Wilkin), in spite of a 3in. back tyre, has a large mudguard clearance, and is fitted with a steel strap puncture preventer fixed to the carrier stays. It was this, apparently, which prevented the dog from being carried further round the wheel. But how did it get there? I could understand it getting tangled in the spokes, but it was on top of the tyre and nowhere near the spokes. Can any of your readers relate a similar experience?

(Rev.) J. M. PHILPOTT.

LUBRICATION COMPARISONS—CAR AND MOTOR CYCLE TYPES.

Sir,—May I, with some nervousness (as the amateur with the expert), disagree with your contributor "Ixion" on the desirability of sump lubrication for motor cycles.

Before buying my first motor cycle last summer, I was a car owner-driver for eight years, and, therefore, approached the motor cycle from a somewhat critical standpoint, but have been agreeably surprised, among other things, with engine lubrication, which I had always considered to be of a very rough and ready kind as compared with a car.

Your contributor is, of course, correct in what he says about drip feed, but I am convinced that a far better alternative to the sump is a mechanical pump similar to that now fitted to the P. and M., which delivers fresh oil alternately to the cylinder walls and big end.

As regards sump lubrication on cars, your correspondent, "Patient Pete," is right when he says that the ordinary car is not lubricated with oil beyond the first few hundred miles after refilling the sump, and I do not think that this system would prove more satisfactory on a cycle, when the sump would contain a smaller volume of oil, and the engine would be working under harder conditions.

I do not, however, agree with him that as regards oil economy the car has it all the time. I, myself, found that to obtain perfect lubrication a car sump had to be drained every 500 miles, and never allowed to remain longer than 1,000 miles, and with a large sump the amount of oil used is considerable. (I am aware that not one car in a thousand is treated thus, but that does not disprove my point.)

While on the subject of lubrication I should like to mention my experiences of enclosed all chain drive. I have had no experience of shaft drive on cycles, but as between chain and belt, of which I had some experience under active service conditions, I greatly prefer the former.

The P. and M. system includes a pipe conveying any surplus oil from the crank case to the chain case, which has the great advantage of making it impossible to make the engine smoke for any but the shortest periods, and in spite of a very free use of the auxiliary hand pump at first, I have never sooted up a plug, and there is yet no outward sign of carbon deposit.

At the same time I do not consider this entirely adequate for complete lubrication of the chains, and have always supplied very thick gear oil (Vacuum C.C.) direct to the chain case. As a result, I believe, of this, after about 1,500 miles, all chains are as tight as when delivered, showing no signs of wear, and have never been adjusted.

In conclusion, speaking as a late car owner, I should like to record with pleasure the great (and to me, unexpected!) reliability of the modern motor cycle, and the ease of maintenance as compared with a car. The essential finish, of the P. and M. at least, is superior to any car I have owned. For example, whereas a car engine will become externally an oily mess unless cleaned almost daily, I find that all crank case joints are so perfectly made that it hardly shows a speck of oil outside even in the hottest weather. While on the subject of cleanliness, why are so many cycle engines spoilt, as to appearance, by rusty cylinders, when by applying blacklead mixed with turpentine, a finish can be given that seems impervious to wet? K.B.

Charlbury.

NOVELTY IN DESIGN AND CONSTRUCTION.

Sir,—Your welcomed criticism on the two-speed gear incorporated in my design for a motor cycle, which appeared in your last issue, prompts me to show you the line of reasoning I adopted before putting even pencil to a sketch block in an attempt to achieve simplicity and cheapness in motor cycle manufacture, and yet provide something more than the minimum considered desirable, from a point of view of handiness in control, weather protection, etc.

Thusly—

Me: We'd simply love to have a three or four-speed box and a real clutch.

Myself: Remember, my son, you are standing the racket yourself for experimental 'buses.

Me: Yes, that's so. Well, then, let's have a really simple thing—say a selective type dog clutch two-speed gear. That *will* be cheap.

Myself: But what about getting under way and changing up and down?

Me: Oh—ah—of course; we need a clutch.

Myself: Right oh. Suppose we substitute a friction clutch for the low gear dogs. We can start off nicely; we can change up on the exhaust lift or throttle. The clutch will come in handy in changing down, and it *can't be slipped on high gear.*

Me: Of course, you'll want a decent shock absorber in the transmission. But you'll need that in any case with all-chain drive.

Myself: Then, that is settled. It won't cost much, and it will be simple. Let's go into details.

The same sort of inward conversation took place when the cylinders, etc., were being decided upon. And in the same way were all other superfine details reluctantly shelved.

May I point out to interested readers that I shall be only too pleased to go into the thousand and one details—necessarily omitted through space limitation, etc., from your admirable journal—if they care to take them up.

The methods of construction, details, and accessories alone have accounted for more than six months of my spare time, the whole machine having been nearly two years on the paper "stocks." Now, unfortunately, funds are getting low ("excessive economic pressure," some call it), and a purely personal attempt at manufacture has become rather remote. However, the essentials of the design are covered by patents, and time will show what can be done in the way of production.

There is a sidecar to go with the machine, and in its design a real attempt has been made to eliminate all forces which tend to distort the frame of the cycle to which it is attached.

Simplicity, cheapness, and sound principles of design have again been the watchwords. I. P. MILLAR.

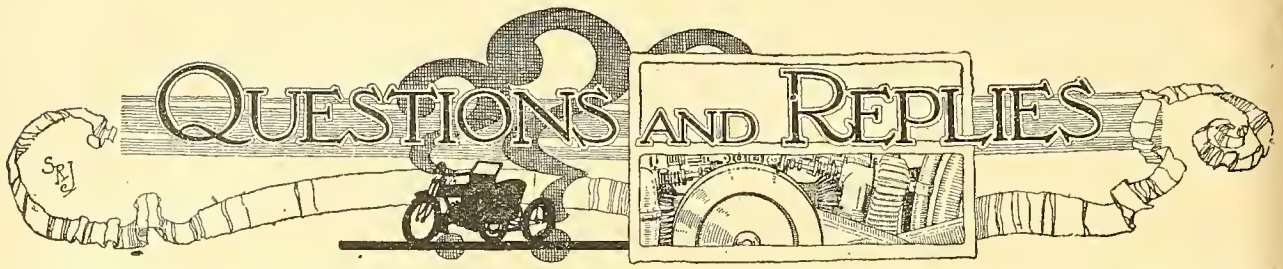
SUMMARY OF CORRESPONDENCE.

Regarding "W.D.W.'s" speedometer lamp on page 30, Mr. Paul Taylor recommends a No. 126 Ever Ready battery which may be obtained in neat canvas case with straps for attachment to the machine.

Referring to correspondence on increased A.A. subscriptions, Mr. C. G. Virgoe considers that, if dissatisfied members made more use of their association in such matters as route finding, etc., they would view the matter in a different light. Personally, he praises the organisation of the A.A., judging from his own experiences with its Touring Department.

We have received numerous letters describing home-made licence holders, and more particularly licence holder clips. A few of these are obviously intended for "Ideas" page, but their number and similarity prevent us publishing them *en bloc*. It may be inferred, however, that a great many motor cyclists are adapting this new fitment to all sorts of weird fixtures and positions.

Recently there has been a gratifying lack of complaints regarding what is very popularly and freely called "profiteering," *i.e.*, charging more for an article than the customer considers it is worth. This week, however, there is a "Disgusted" who complains of being compelled to pay 9s. 6d. for a new throttle lever.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

CASE HARDENING.

I am just overhauling my motor cycle, and wish to case harden a piece of mild steel. Could you, please, tell me how this is done?—W.G.

The most effective way of case hardening mild steel is by means of the patented preparations which you can buy at most large ironmongers or tool warehouses. Both "Kasenit" and "Rapid Durvite" are very effective, and full instructions are printed on the packages

CLUTCH SLIP.

I am having a great amount of trouble with my clutch, which is of the Ferodo ring variety. The makers say that the rings might be worn, but I feel sure they are not. I have repeatedly cleaned them and washered the springs. The metal plates of the clutch are quite shiny.—A.G.W.

Slipping with this type of clutch is due either to wear of the Ferodo rings or to oil on their surfaces. If the latter, the remedy is obvious. In the former case either new rings must be fitted, or you might fit an extra one at the side of the sprocket, that is to say, lay the two rings side by side between the sprocket and the next steel plate. This has the effect also of increasing the tension on the springs, and usually cures the trouble.

NO COMPRESSION AFTER OVERHAUL.

My 1912 Triumph has been running well for the last two years, giving me very little trouble. I have taken the cylinder off, removed all carbon deposit from piston, ground in valves, freed the rings (which have had very little wear), and on assembling find that there is practically no compression. When turning the pulley round there seems to be only a sucking in and blowing out of air, through the pulley centre. Before dismantling the compression was quite good. Being about to sell the machine, am I liable to a fine if I run it on the road to show the customer, having taken out no Revenue licence this year?—G.W.

It often happens that an engine has very little compression on reassembling after overhaul. About fifty miles running on the road would put this right. Of course, we take it that you have taken all the usual precautions, such as tightening the valve caps, sparking plug, and compression tap. If you take the machine on the road at all you become liable to pay the Inland Revenue taxation.

UNDER OILING.

I have a 1909 or 1910 P. and M. 3½ h.p. two-speed gear with B. and B. carburetter variable jet. On taking the machine out I could climb a good stiff hill on top gear with sidecar and passenger, but after doing from ten to fifteen miles I cannot take the level on the same gear, and there is a very distinct knocking about the engine. Immediately I change down the engine runs very smoothly and simply roars along.—A.G.

The details you give are insufficient to enable us to diagnose accurately your trouble. You should use a first-class heavy grade oil suitable for air-cooled engines, and a charge should be given every six miles when riding with sidecar and passenger.

Important Dates.

Feb 21st-28th—
Paris-Nice Trial.

March 25th—
Richmond Meet.

March 26th—
M.C.C. London-Land's End Trial.

April 27th—
A.C.U. One-day Winter Trial for Stock Machines.

May 14th—
M.C.C. London-Edinburgh Run.

May 25th—
A.C.U. Silencer Trial — Brooklands.

June 14th-16th—
Tourist Trophy Races.

June 25th—
M.C.C. Inter-team Trial for "The Motor Cycle" Cup.

July 6th-7th—
Arbuthnot Trophy Trial for Naval Officers.

July 23rd—
Grand Prix Race—Le Mans.

August 8th—
International Six Days Trial—Geneva

August 28th to Sep. 3rd—
A.C.U. Six Days Trials.

Sep. 17th—
Grand Prix Race for Cycle Cars.

HOT CRANK CASE.

I have a 1919 Triumph, which I ride solo. The machine runs well, but the crank case and carburetter get so hot that it is impossible to bear one's hand on them. I give plenty of oil (Price's Huile de Luxe), and the machine has only run 1,000 miles. I decarbonised after having done 800 miles. Is this usual, or, if not, what is the cause and remedy? I always ride with the air lever fully open and at moderate speeds.—B.W.C.

If the machine is quite powerful and capable of maintaining fairly high speeds indefinitely, there is no need to worry about the heating of the crank case, which is probably due to conduction in the cylinder. If the engine overheats, however, and knocks when picking up on top gear, it evidently requires some attention, but you do not give sufficient details of the trouble.

BENZOLE FOR TWO-STROKES.

(1.) Is benzole as suitable as petrol for a 2½ h.p. air-cooled two-stroke? (2.) How does it compare with petrol as regards economy, hill-climbing, cooling, starting from cold, and speed? (3.) Would any alteration to Amac standard carburetter be necessary? (4.) Is a half and half petrol-benzole mixture more satisfactory in these respects?—B.A.W.

(1.) Benzole is quite suitable. (2.) Hill-climbing will be better, starting quite as easy as with petrol, cooling about the same, and 10% to 15% more miles per gallon should be obtained. (3.) It might be necessary to fit a slightly smaller jet, but you should first try the effect of lowering the level until it is $\frac{3}{32}$in. below the top of the jet. (4.) The petrol-benzole mixture can be used without any alteration to the carburetter setting.

A DRIP FEED TROUBLE.

I recently dismantled the drip feed on a J.A.P.-engined lightweight to clean the glass, which was very dirty, and since then I have been troubled with a distinct snort in the glass chamber, as though part of the compression was being blown up the oil pipe. The oil union on the crank case is a clear passage, as is the oil pipe itself. There is no ball or disc valve of any kind. Is this as it should be? Inside the pump there was a small flat disc of metal, which I think I replaced wrongly. This, I think, is probably the cause of the continued snorting noise. Should there be a valve in the crank case union?—G.D.

You have probably failed to replace the small disc valve which is normally situated in a small valve chamber below the drip feed body. We should recommend that you write to the makers of the drip feed for a diagram of the device, as you will understand this much better than any explanation in words. It should not be necessary to have a non-return valve where oil pipe enters the crank case. Make quite sure that there are no air leaks past the edges of the sight glass.

EXPERIENCES WANTED.

"R.M." (Streatham).—Cleveland two-stroke; general experiences.

"C.S.B." (Leicester).—2¾ h.p. Coulson B; life of engine and spring frame; stability.

READERS' REPLIES.

Removing Rust.

Re letter from "L.W." in your issue of January 20th, asking for a tip for removing rust from plating, I am pleased to say I came across a capital article at the exhibition held in Glasgow last November. It answers the purpose admirably. It is called "Rustrimova," and can be had from the Silver Replating Powder Co., Stoke Newington, London, N.16. They have also a "Nickeldep" for depositing nickel on handle-bars, etc. —T. A. McCREADIE.

In your issue of January 20th, you advise "L.W." to use fine emery-cloth for removing rust from plated parts. This, of course, cuts the plating unless very carefully used. If fine pumice flour is used, applied with a rag dipped in a *weak* solution of oxalic acid, the rust will be removed with far less damage to the plating. This treatment will remove both rust and mildew from steel, nickel-plating, and aluminium, but great care must be used to clean off carefully, and dry the part treated, as any acid left on will gradually eat into the metal. —A. W. STILES.

I notice "L.W." wishes to know of a good rust remover capable of taking rust off the nickel parts of a motor cycle. May I say that I have found good quality typewriter eraser rubbed over the affected parts to be very satisfactory. If the rust be very bad, first soak a rag with paraffin, and well rub over the rust to remove as much as possible; this will loosen it; then, when dry, use the eraser, and the rust will come away. I have used this with every satisfaction on affected nickel parts of typewriters, and I have also used it for motor cycle plating with good results.—J. E. WHITE.

RECOMMENDED ROUTES.

NEWCASTLE TO CHESTER (avoiding traffic). —A.F.

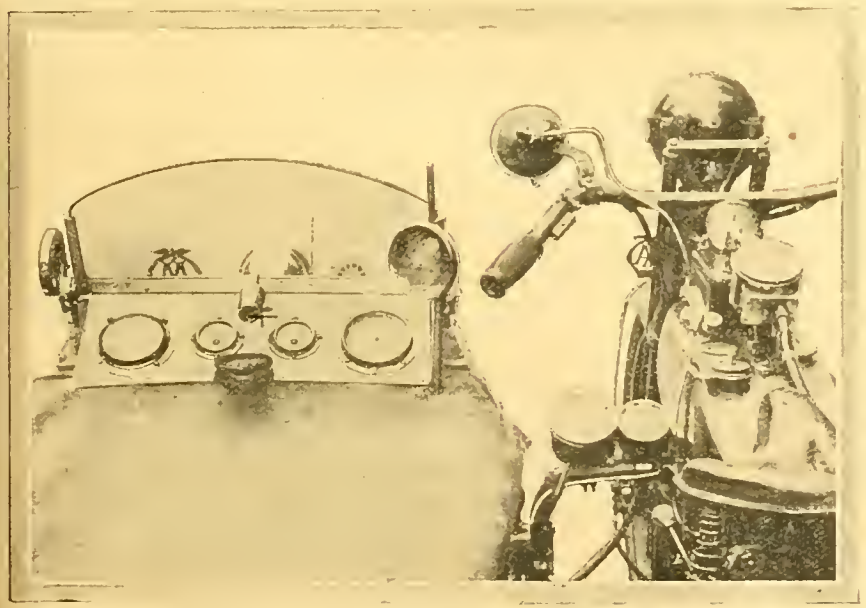
Newcastle, Neville's Cross, Darlington, Northallerton, Ripon, Ripley, Blubberhouses, Skipton, Gisburn, Clitheroe, Preston, Ormskirk, Liverpool, by ferry to Birkenhead, Chester.

WOOBURN GREEN TO WESTON-SUPER-MARE. —W.T.S.

Wooburn Green, Marlow, Henley, Reading, Theale, Hungerford, Marlborough, Calne, Chippenham, Bath, Chelwood, Compton Martin, Sandford, Weston-super-Mare. Approximately 127 miles.

ALDERSHOT TO YORK.—W.F.

Aldershot, Farnborough, Bagshot, Ascot, Windsor, Slough, Beaconsfield, Amersham, Chesham, Tring, Dunstable, Westoning, Ampthill, Bedford, Eaton Socon, Alconbury, Hill, Norman Cross, Wansford, Stamford, Grantham, Newark, Tuxford, Retford, Bawtry, Doncaster, Brotherton, Tadcaster, York. Approximately 225 miles.



ACCESSORY COLLECTION AS A FINE ART.

A very complete Harley-Davidson outfit owned by Mr. J. L. Marvin, of Ballards Motors. On the sidecar dash there is an aneroid, volt and amp. meters, a clock, a compass, and a lamp to illuminate them. Both the A.C.U. and the A.A. badges are carried in front of the Triplex glass screen, on the left of which is a licence card holder, and on the right a mirror. In addition to the usual lamp equipment, an American "spot" light for reading signposts is on the handle-bar, while between the sidecar and the motor cycle are an air speed indicator and a revolution counter. A speedometer and a gradient meter with a lamp are on the top tube, and in order to make the outfit really complete, there are a hand Klaxon, a cigarette lighter, three mascots, and several other items of a mechanical nature.

SPARKLETS

To Golf Enthusiasts.

Many motor cyclists who also follow the royal and ancient game will be interested to learn that a branch of the County Chemical Co., Ltd., well known for the Chemico motor specialities, is concentrating on golf ball manufacture.

Motor Cycles for the Police.

As the utilitarian value of the motor cycle becomes recognised by the police, its use by the authorities will increase. In the meantime it may interest chief constables to know that hundreds of machines are in use in New York, Philadelphia, and Boston. Incidentally, over two hundred of these machines are Indians.

Chat on Chains.

The above is an apt title for a useful booklet which tells the rider about the chain, what it is, and what it has to do. It also gives information as to how to minimise the effect of destructive factors on chains, deals with their lubrication, the effect of bad alignment, eccentric and oversize wheels, and gives other information concerning the cause of chain defects and wear. The booklet is published by Messrs. Brampton Bros., Ltd., Oliver Street Works, Birmingham.

Catalogues Received.

A. J. Stevens and Co., Ltd. (1914), Graiseley House, Wolverhampton: Describing the new 7 h.p. 1921 model sidecar outfit. Detail photographs of most of the distinctive features are well reproduced.

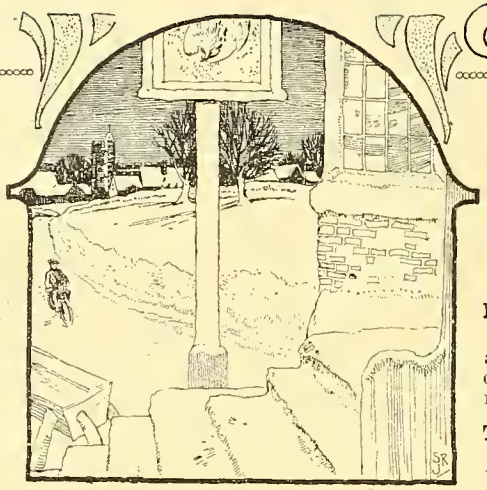
B.S.A. Cycles, Ltd., Birmingham: Complete specifications of the B.S.A. single-cylinder machines with chain-cum-belt and all-chain drives, also the 6 h.p. twin outfit with chain drive and interchangeable wheels. The very moderate price of the chain-driven single is remarkable.

Enfield Cycle Co., Ltd., Redditch: Brief descriptions and specifications of the Royal Enfield models, both 2¾ h.p. two-stroke and 8 h.p. sidecar outfit. Special attention may be drawn to the trade delivery outfit, which consists of a standard machine and chassis with a special box carrier mounted on the latter. A touring body may be easily substituted.

Ward and Goldstone, Ltd., Frederick Road, Pendleton, Manchester: The first catalogue to be received from the new address of this well-known electrical accessory house is the sectional list dealing with supplies for motorists. All manner of electrical novelties are mentioned, and its pages should be studied by all who contemplate, or already use, electric lighting on their motor cycles.

H. Collier and Sons, Ltd., 44, Plumstead Road, London, S.E.: The Matchless machine is well described in this leaflet, and its salient points are almost too familiar to need mention. A model which is apt to be forgotten is the double-seated sidecar "family" outfit.

CURRENT CHAT



Times to Light Lamps

Feb.	3rd	... ...	5.20 p.m.
,,	5th	... ...	5.26 ,,
,,	7th	... ...	5.29 ,,
,,	9th	... ...	5.30 ,,

Weights.

All 2¾ h.p. Douglas machines, of any date, with the exception of the new o.h.v. Sports model, are under 200 lb.

A Health Bulletin.

We are pleased to learn that Mr. George Stevens, of Messrs. A. J. Stevens and Co. (1914), Ltd., who recently had to undergo a serious operation, is now making good progress towards recovery.

Buy Now.

Both to ease the present heavy unemployment figures, and to avoid a very possible rush, with all its "delaying" consequences, potential buyers are advised to place their orders for new mounts at once.

Help Wanted.

Motor cyclists who would care to assist in what promises to be a most sporting event (the Western Centre A.C.U. Two-day Trial on April 8th and 9th) should communicate with the Trials Secretary at "St. Moritz," Wyche Road, Malvern.

The Legal Limits.

The A.C.U. is asking all its members to give their opinion on three important points, upon which, it is understood, recommendations will shortly be made to the Minister of Transport. The three questions of the A.C.U. are: (1.) Should there be any limit of speed for motor cycles, bearing in mind that the removal of a limit might encourage prosecutions for driving to the common danger? (2.) Should the 20 m.p.h. limit be increased? (3.) Should applicants for driving licences be required to undergo tests? The A.A. also is asking all motorists for their opinions as to whether 30 m.p.h. is a suitable speed limit.

Ten Thousand Orders.

10,000 letters were received by Maudes' Motor Mart, 100, Great Portland Street, London, W.1, in connection with their second offer of a free 4 h.p. Verus Blackburne motor cycle and two Autoped scooters to the senders of the first three orders opened on Monday, January 24th. The winners, respectively, were: (1) Mr. H. O. Bryant, 46, Poplar Avenue, Edgbaston, Birmingham; (2) Mr. W. N. Fowles, London House, Lord Street, Wotton-under-Edge, Glos.; and (3) Mr. F. W. Wells, Market Place, Alford, Lincs.

A similar draw was held by Maudes' Motor Mart Depot at Paris Street, Exeter, on the same date, the winners being: First prize (2¾ h.p. Verus-Blackburne), Mr. Froggatt, John Street, Scunthorpe, Lincs., while the second prize was won by Mr. Bonser, the Café, Salcombe, Devonshire.

Prices.

Apropos our remarks last week concerning the improbability of a reduction in the prices of motor cycles at the present time, it is interesting that one firm—the makers of the Coulson—have had slightly to increase the prices of their 2¾ h.p. and 4 h.p. three-speed models. The prices of these are now 96 guineas and 120 guineas respectively, as compared with 95 guineas and 118 guineas as ruling in 1920.

Sidecar Wheel Brakes.

The official consulting engineer to the Birmingham Police, who passes all taxi-cabs for that city, is advocating that brakes be fitted to sidecar-taxi wheels. Our experience with sidecar brakes has led us to believe that they can be very dangerous, and it is significant that the Rover Co., who at one time standardised a sidecar brake, no longer do so. Whether compensating brakes are less liable to cause erratic steering in the case of an emergency is a question that has never been definitely settled. Readers who have had experience with such brakes on the sidecar wheel are invited to give their impressions in our correspondence columns.

Special Features.

A TRIO ON TOUR.
THE BALANCE OF MOTOR CYCLE ENGINES.
INTERNATIONAL SIX DAYS TRIAL REGULATIONS.

N.B.—in Cambs.

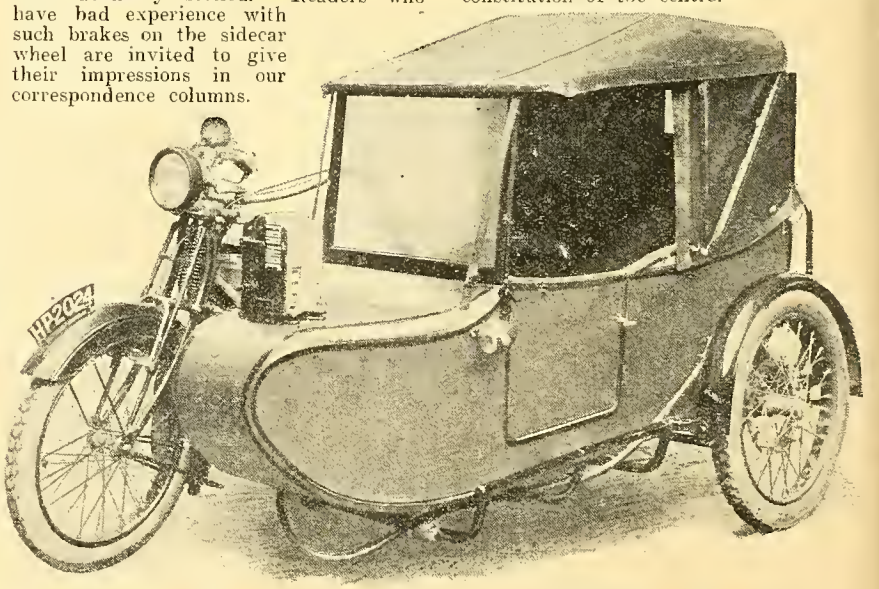
A considerate victim acquaints us of a most efficient police trap which is in operation at the Whittlesford cross roads, Cambridge.

The G.N. to be Made in France.

The French company of Messrs. Gaston, Williams, and Wigmore, and the Société des Moteurs Salmson, are manufacturing the G.N. cycle car in France.

Ulster Centre M.C.U.I.

The Ulster Centre of the Motor Cycle Union of Ireland has for some time past occupied rather an anomalous position, being the governing body of the sport in the province of Ulster and at the same time carrying on the functions of an ordinary club. During the past year the subject was discussed a good deal by the committee, and at the annual general meeting held on January 20th, they made a recommendation to the effect that an end should be put to the anomaly by confining the operations of the union to its original function as a governing body of the sport and forming a new club, to be known as the Ulster Motor Cycle Club, to carry on the work hitherto performed by the centre. Mr. Harold McMullen has been appointed hon. secretary *pro tem.* of the new club, and the existing officers and committee of the Ulster Centre were retained in office to take the necessary steps to alter the constitution of the centre.



Another taxi outfit consisting of a Dalton two-seater sidecar which has staggered seats. The machine has a Coventry-Victor flat twin engine.

How are the Mighty Fallen!

According to *Auto-Technik*, Krupps, of Essen, are turning swords into ploughshares by manufacturing a motor scooter! It is fitted with a 1¾ h.p. engine placed in the left-hand side of the front wheel.

A Misapprehension—

There is an impression abroad that the improved W.D. model 21 2¾ h.p. Douglases are rebuilt from old W.D. material, or that they are actually rebuilt ex-W.D. machines. This is not so, as they are entirely new machines in every respect, only the basis of the design resembling the old but popular W.D. mount.

—And Another.

The Raleigh Cycle Co., Ltd., who are now making deliveries of the Raleigh motor cycle, wish us to correct a prevalent impression that they are fitting a proprietary engine to this machine. A glance at the design, however, should prove instantly that it is original, and entirely of their own manufacture.

What's in a Name?

We have been asked to point out that there is no connection between the two firms who trade under the names of Millfords, Ltd., of Bullock Street, Birmingham, and Mills and Fullford, of Coventry, the makers of the well-known Millford sidecars.

Lost, a Cylinder!

It is astonishing the nature of articles lost by motor cyclists on the road. They vary from spare wheels to suit cases, any one of which, one would think, the owners would hear fall. The latest is the loss of a D.A. cylinder reported by Mr. P. Mister, of 21, Howard Road, Cricklewood, as occurring between Finchley Police Station and Tally Ho Corner.

French Competitions

In a letter from M. F. Colli, treasurer of the Motor Cycle Club de France, we are asked to make it clear that the 1921 Paris-Nice Trial is organised by the M.C. de F., and that that body alone is responsible, and that this fact is a guarantee of good organisation. The M.C. de F. is in collaboration with the *Petit Journal*, and will receive the help of *Motorcyclisme* and the *Eclaireur de Nice;* but, in order to remove suspicion of a fiasco, as last year, the governing body has assumed control. Entries at ordinary fees close on February 10th, and at double fees on the 15th.

The Belgian Grand Prix.

It is officially announced that the Belgian Grand Prix will be held on August 13th, on a fifteen kilometre circuit in the neighbourhood of Spa. As stated in our last week's issue, the Belgian Moto Cyclists' Federation is extremely enthusiastic over its proposed motor cycle Grand Prix, which will take place probably the day before the car event.

"Magnetos."

In our last issue the second edition of A. P. Young's informative handbook, "Magnetos," was reviewed, and those readers who desire to increase their store of knowledge on this subject should place their orders at once. The price is 4s. 6d., or by post 4s. 10d. (home and abroad), from the publishers, Messrs. Iliffe and Sons Ltd., 20, Tudor Street, London, E.C.4.

Martlesham Heath Reunion Dinner.

A reunion dinner for officers of the Aeroplane Experimental Establishment, Martlesham Heath, will be held at the Café Royal, Regent Street, London, W., on February 25th, at 7 p.m. Air Commodore H. R. M. Brooke-Popham, C.B., C.M.G., D.S.O., R.A.F., will be in the chair. Tickets (£1) may be obtained from Captain P. G. Robinson, Room A, 139, Air Ministry, Kingsway, London, W.C.

Prospects of a Scottish Motor Cycle Show.

There is a strong feeling in Scotland that a motor cycle show is necessary north of the border. Prominent members of the trade in Scotland are taking the matter up, and during the present car show in Glasgow a deputation waited on Mr. T. A. Fairley, the secretary of the S.M.T.A., with a view to forming a motor cycle section of the S.M.T.A., and reserving a part of next year's space for motor cycle exhibits.

Club Week-ends on the Coast.

Mr. E. M. Ford, of the St. Leonard's Adelphi Hotel, St. Leonard's-on-Sea, is an old motor cyclist, and contemplates organising week-ends at St. Leonard's among the motor cycle clubs in the London area. The idea is to provide week-end accommodation on first-class lines, with a dance on the Saturday evening and a concert on Sunday night, with trips to interesting local points in between. The idea is a good one, and might be copied by other hotels at favourite resorts.

Cylinder Wear.

According to Mr. W. H. Wardall, who read a paper last week on "Cylinder Wear" before the London Graduates' Section of the Institution of Automobile Engineers, the bore of a cylinder does not in the ordinary way wear truly taper, but in a series of steps.

A Show at Dinner.

In conjunction with the annual dinner and presentation of prizes of the Glasgow M.C.C. on Wednesday of last week, a display was held of 1921 models kindly lent by the various agents in the city. All the popular makes were represented. A large turnout of members and friends spent a most enjoyable evening.

Lost en Route.

During the return run of the Liverpool-Edinburgh Trial on January 23rd, Hugh Gibson, who tied for the premier award on his 8 h.p. Royal Ruby outfit, had the misfortune to lose a suit case containing personal belongings, as well as a 28×3in. inner tube and a set of Lucas electric bulbs in a metal container. It was last seen a little south of Lancaster, and, so far, enquiries of the local police have been unavailing.

A Contrast.

At the request of the Board of Education, Messrs. F.N. (England), Ltd., have sent a 7 h.p. four-cylinder F.N. to the Science Museum, South Kensington. This is a great compliment to the famous F.N. production, which will be housed in the same section as Col. Holden's famous and historic four-cylinder of thirty years ago. A direct comparison between the two will demonstrate the progress of the motor cycle movement during its short history.

Ambiguity.

There are two ways of interpreting the words "manufacturer's name." It may mean the name of the manufacturer or the name of the article marketed by the manufacturer. The two words appear under Section B of the new licences, Subsection *(d)*. We understand that the idea of the Ministry of Transport is that this does not mean the name of the manufacturers of the motor cycle, but the manufacturers' name for the machine. For example, if the owner of an Indian registers his machine he is intended to put the word "Indian" opposite Subsection *(d)*, not the name of the Hendee Manufacturing Co., Ltd., who are, of course, the manufacturers.

WHERE CYCLISTS AND MOTOR CYCLISTS FRATERNISE.

USUALLY cyclists and motor cyclists do not "mix," but members of the Midland Cycle and Athletic Club are exceptions; and last Saturday about 150 members, representative of the car owners, motor cyclists, and cyclists of this old-established club, sat down to dinner at the Queen's Hotel, Birmingham. Mr. C. Gough, the president, was in the chair, and among the many visitors were Major H. R. Watling (of the Manufacturers' Union), G. H. Stancer (C.T.C.), and F. T. Bidlake, the well-known timekeeper. Mr. J. Urry, who is regarded as the father of cycling in the Midlands, in proposing the toast of "The Visitors," urged that cyclists and motor cyclists "run together," as most of their interests were identical. Mr. H. C. Stancer (C.T.C.) suggested that cyclists and motor cyclists should work out their own destiny without interference from the other. He referred to motor cyclists as representing the lion and cyclists as the lamb; but Major Watling, who represented the interests of both, later remarked that from his observations he thought the cyclists were more lion than lamb, but agreed that a coalition body was most desirable.

The M.C. and A.C. has proved that cyclists and motor cyclists can fraternise to the advantage of both, and is doing everything in its power to make the two classes of road users one brotherhood.

One of the features of the M.C. and A.C. dinner was the excellent musical fare provided by the club chorus party in costume, who gave several selections from the "Mikado," which were enthusiastically received. The club is rightly proud of its concert party, which is led by Mr. J. Doherty, jun.

We congratulate the club on its successful year—its thirty-second, by the way.

A SIX DAYS TRIAL IN THE ALPS.

Preliminary Details of the Big International Event to be held in Switzerland, August 1st to 6.h

A 1,200 Mile Course.

WE have previously referred to what should be the finest reliability-trial ever held, and which will start from Geneva, August 1st to 6th. Organised by the Union Moto-cycliste Suisse, 42, Rue du Rhône, Geneva, this trial will be held during a month when Switzerland is looking its best, and when the country is full of visitors from Great Britain and numerous other countries, among whom there should be a large number of potential purchasers of economical motor vehicles.

The trial will be about 1,200 miles in length, and will comprise secret controls and observed sections, hill-climbs, speed hill-climbs, and, on the last day, a kilometre speed trial and the final examination. The competitors will be divided into the following classes: *(a)* individual entries according to category; *(b)* teams of different makes; *(c)* club teams; *(d)* teams nominated by the various countries competing for the International Trophy, presented by the British Cycle and Motor Cycle Manufacturers and Traders Union, Ltd., which is at present held by Switzerland.

The Itinerary.

The course, which is indicated on the accompanying map, will be as follows:

MONDAY.—Geneva to Chaux-de-Fonds.
TUESDAY.—Chaux-de-Fonds to Bâle.
WEDNESDAY.—Bâle to St. Gale, Zurich.
THURSDAY.—Zurich to Lugano.
FRIDAY.—Lugano to Fribourg.
SATURDAY.—Fribourg to Geneva.
SUNDAY.—Examination of machines.

The trial is to take place "no matter what the weather and no matter how many entries are received." Every competitor must belong to a club affiliated to the F.I.C.M. Class A will consist of entries by manufacturers or agents, Class B by individual riders not belonging to the above class, who must sign an undertaking that they are not and will not be manufacturers or agents or paid riders to manufacturers or agents during the trial. The entry fees are: Class A 300 fr. (about £12 10s.), Class B 150 fr. (about £6 5s.). Entries close at ordinary fees on July 15th, and are payable in Swiss money.

The classification will be according to the usual classes: Solo—250 c.c., 350 c.c., 500 c.c., 750 c.c., and 1,000 c.c.; side-cars—600 c.c. and 1,000 c.c.; cycle cars—up to 1,100 c.c. Machines must be equipped according to the new F.I.C.M. rules, details of which appeared in our issue of August 12th, 1920.

Spares to be Declared.

All important parts will be sealed. Spares may be carried, but a list must be made out in duplicate, one of which must be surrendered to the organisers. No other spares may be carried, except sparking plugs, tyres, belts, chains, or chain links. Vehicles with more than two wheels may carry a spare wheel. This must be carried throughout the competition, and if the spare wheel is used the wheel and damaged tyre must be carried throughout the competition.

During the trial competitors must carry armlets, and those who are entrants for the International Trophy must have these armlets coloured according to their countries. The British national colour in this event is green. Two numbered discs must be carried, one on each side of the machine and a number plate in front, which will be clearly visible and free of all obstruction. Each English competitor must be provided with an A.C.U. competitor's licence and an International travelling pass.

Details of the Trial.

The average speed throughout will be thirty kilometres (nineteen miles) an hour, with allowances for difficult sections where the course is of exceptional severity. One and a half hours will be allowed for lunch.

There will be controls at intervals, where a competitor must mark his time-sheets. An allowance of ten minutes ahead of, or behind, schedule time is permitted, but competitors will be penalised one mark per minute early or late beyond this limit. Competitors must also stop at all secret controls when these are encountered, and these same rules apply. Any competitor who is one hour late at a control is deemed to have retired from the trial, and in such case must surrender his number plates. Should a competitor lose his way, he must return to the point where he went wrong, as no short cuts are permitted, but arrows will be arranged at all doubtful points.

After lunch intervals, competitors will start according to schedule, and not in the order of arrival, *e.g.*, a man who is fifty minutes late will have only forty minutes for lunch.

If the packet of spare parts is opened, a declaration must be made to the nearest marshal, who will seal it afresh. Failure to observe this rule will involve a penalty of ten marks for each part not declared.

In the luncheon controls and at the starting and finishing depots, competitors may only replenish their tanks; no work of any kind may be done. There will be special replenishment depots throughout the trial.

Speed Limits.

All speed limits must be strictly observed. On the last day, the flying kilometre speed test will be on the Eau-Morte road, near Geneva, and each competitor will have to maintain the particular speed designated to his own class. There will also be a six kilometre speed hill-climb on a straight road. Both these events will be electrically timed. Each competitor will have 1,000 marks to his credit at the beginning of the trial.

Penalties.

In addition to being penalised one mark for each minute, early or late, no penalty for being late must exceed sixty marks. For not maintaining the set speed during the speed trial one mark per kilometre under the set speed will be imposed, and as regards the hill-climb one mark will be deducted for every ten seconds under the speed of the fastest man in that class.

Awards.

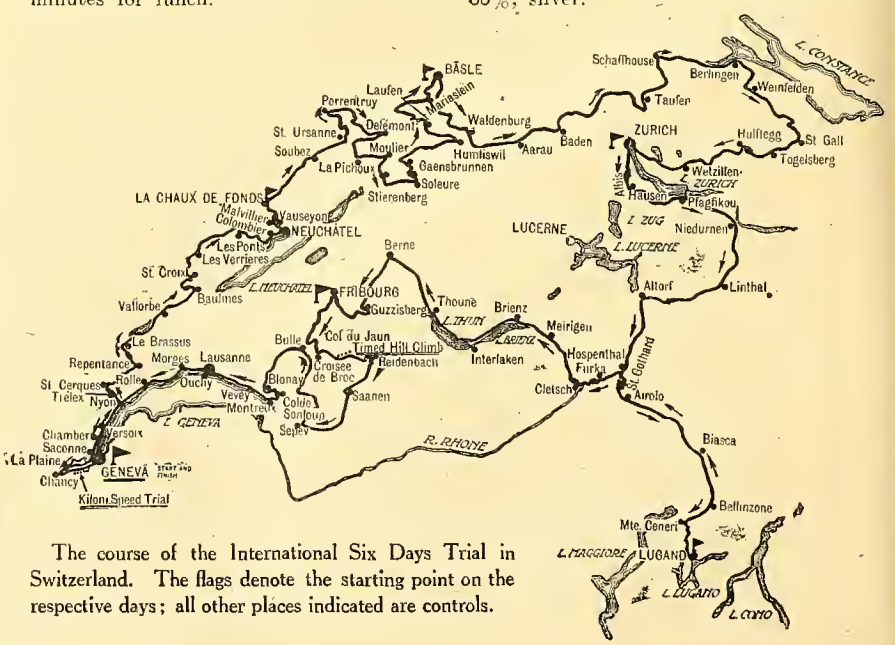
INDIVIDUAL AWARDS.

250 c.c. class: 75% marks, gold; 55%, silver.

350 c.c. class: 80%, gold; 60%, silver.

500 c.c., 750 c.c., and 1,000 c.c. classes: 90%, gold; 70%, silver.

Sidecars (600 c.c. class): 75%, gold; 55%, silver.



The course of the International Six Days Trial in Switzerland. The flags denote the starting point on the respective days; all other places indicated are controls.

A Six Days Trial on the Alps.—

SIDECARS.

Sidecars and cycle car (1,000 c.c. class): 80%, gold; 60%, silver.

All competitors finishing the trial without loss of marks will gain the U.M.F. special gold medal, and a bronze medal will be awarded to all who finish the trial and have gained no other awards.

As regards the teams of different makes, three machines of the same make must be nominated by a manufacturer or agent twenty-four hours before the beginning of the trial. The awards will be

(a) Silver cup and three silver medals to the first team.

(b) A silver cup and three bronze medals for the second team.

Club teams, or clubs affiliated to one of the national bodies, will be composed of three machines of makes nominated beforehand, and these will compete for the same prizes and under the same conditions of entry.

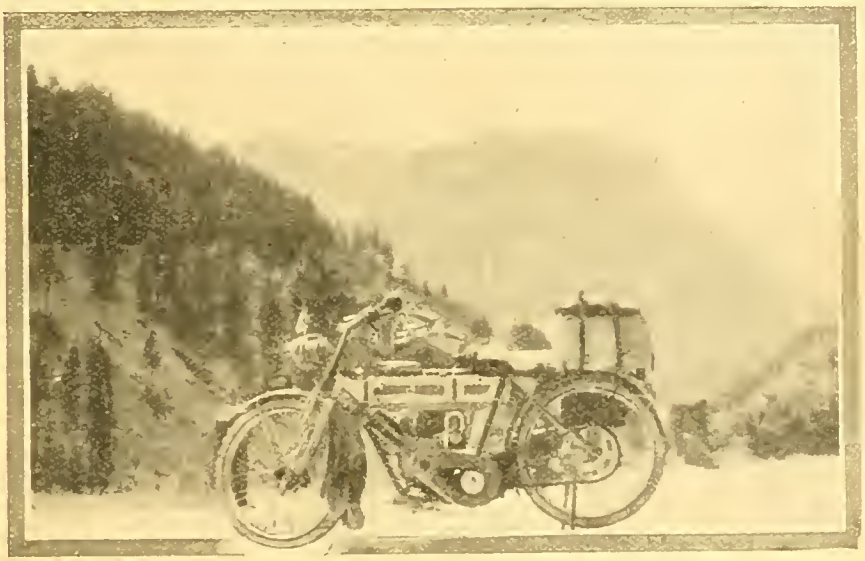
In the case of a dead heat the winners will be the team having the smallest quotient obtained by dividing the c.c. of the three machines by the number of passengers carried.

The International Trophy

Entries for this award will consist of one team of three riders entered by the governing body of each nation entering the competition. Riders must be of the nationality of that country, and must enter machines made or assembled in that country. Teams must be composed of two solo motor cycles and one sidecar outfit or cycle car. Motor cycles must be of Classes A, B, or C, and the cycle car or sidecar may be in any class.

Insurances throughout the trial are included in the entrance fee. Any protests must be made at latest one hour after the competitor arrives at the end of a section; and fifty francs must be deposited, which will be returned if the protest is upheld.

In the map accompanying these details, competitors must bear in mind that the names of the places are in their French form. A large portion of Switzerland being German-speaking, some of these names are quite different from those by which they are locally known. For example: Schaffhouse, where is the luncheon stop during the third day's journey, is known as Schaffhausen. What we know as the Lake of Constance is called locally the Bodensee. What we know as the Lake of Lucerne is known by the French as Lac de Quatre Cantons, but locally as the Vierwaldstättersee. Finally, the Lake of Thun, shown on the map as Thoune, is known locally as the Thunersee. Intending competitors should, therefore, study their maps carefully.



A British tourist's P. and M. in one of the passes of the Swiss Alps

GLASGOW DISPLAY WEEK.

DURING the present week (January 28th to February 5th) the Scottish Motor Exhibition is being held in Kelvin Hall, Glasgow. This show is only open to motor cars and car accessories; but, in conjunction with local motor cycle traders, most of the leading machines are on exhibition in various showrooms in the city. All Scots and North countrymen who had not the opportunity of visiting Olympia will find the latest models on view as follows:

Alexander and Co., 272-274, Great Western Road: Bat, Clyno, Coventry Eagle, Coulson-B, Diamond, Douglas, American Henderson, Indian, Levis, Matchless, Norton, N.U.T., Omega, P. and M., Quadrant, Rex, Enfield, Velocette, Verus, Wilkin, Zenith, and Morgan.

Ariel Works, Ltd., 81, Dunlop Street: Ariel.

Bell Bros., 238-250, Great Western Road: A.J.S., B.S.A., Edmund, Harley, James, Millford, and Watsonian.

Dickies, Ltd., 222, Bothwell Street: F.N.

Douglas-Deans, Ltd., 74, Great Western Road: Lea-Francis, New Imperial, and Sparkbrook.

General Motors (Glasgow), Ltd., 22, Wilkie Street: Wooler.

Harry Gold, 149, Elderslie Street: Corona Junior.

V. Jennings and Co., Ltd., 86, Mitchell Street: Bradbury, Coventry Acme, Humber, O.K., and Sunbeam.

North British Machine Co., 56-60, Great Clyde Street: Excelsior, Calthorpe, Lincoln-Elk, and New Hudson.

Raleigh Cycle Co., Ltd., 34, Queen Street: Raleigh.

James Robertson, 11, Bath Street: Beardmore-Precision.

Rossleigh, Ltd., 532, Great Western Road: Allon, Martinsyde, Rover, Royal Ruby, Scott, A.V., Premier Runabout, and Scott Sociable.

Rudge-Whitworth, Ltd., 16, West Nile Street: Rudge.

G. M. Smith, 19, West Regent Street: M-L Maglita.

Triumph Cycle Co., Ltd., 14, Waterloo Street: Triumph, Whitley, and Grindlay.

Victoria Motor and Cycle Co., Victoria Works, Dennistoun: Victoria.

Gerard, Wakeham, and Co., 114, Duke Street: Alecto.

John Wishart, 3, Cadogan Street: Sun-Vitesse.

M.C.C. ANNUAL GENERAL MEETING.

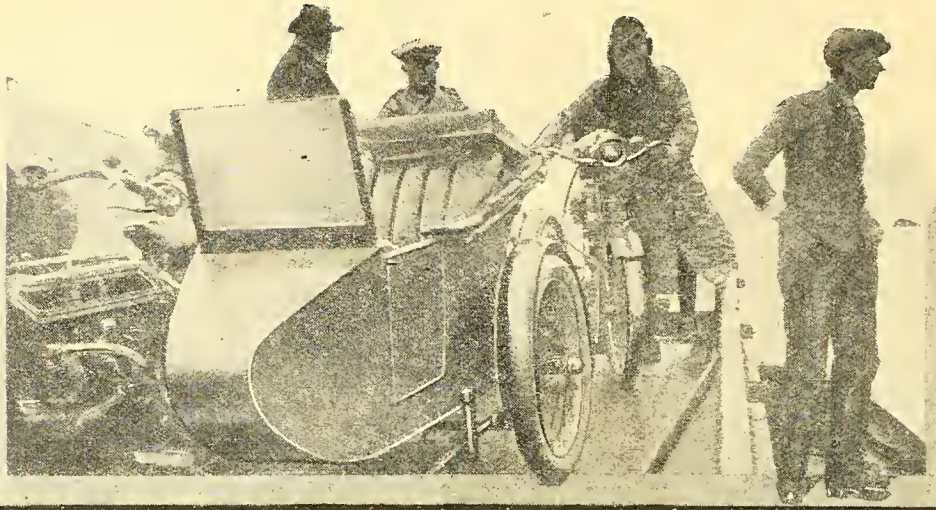
LIEUT.-COL. Charles Jarrott, O.B.E., occupied the chair at the annual general meeting of the Motor Cycling Club which took place on January 26th, at Pagani's Restaurant, and in the course of his opening speech congratulated the committee on the terse and businesslike way in which they had presented the report and spoke of the efficiency of the captain of the club, Mr. W. H. Wells.

Mr. Head made a short speech in which he referred to the success of the 1920 events, showing how easily they surpassed those of 1921 as regards entries. He tendered his thanks to the President for presenting the Jarrott Cup again, and to Messrs. Wells, Lester, Elce, Seed, Pettytt, and Messrs. Godfreys for the cups they had presented to the club. The club was in a strong position, and the usual competitions would be carried out in 1921, while the London to Lugano run would receive the committee's consideration for this year. Proposals for a seaside camp were also considered.

During the ballot for the new committee a general discussion was opened. Mr. B. Marians made a special plea on behalf of lady motor cyclists, urging the advisability of admitting lady members to the M.C.C., and allowing them to take part in the club competitions. Messrs. A. Candler and R. H. Head spoke against this proposal, and eventually it was decided to abandon the idea.

The committee for 1921 has been elected as follows: Messrs. R. H. Head (chairman), A. Candler, E. A. Bridgman, B. A. Hill, W. Cooper, H. G. Bell, E. M. P. Boileau, V. Olsson, E. James, J. Ogilvie, J. A. Masters, and A. C. Robbins.

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A TRIO ON TOUR

Being Extracts from the Diary of a Motor Cyclist during a Scottish Tour in Good Company.

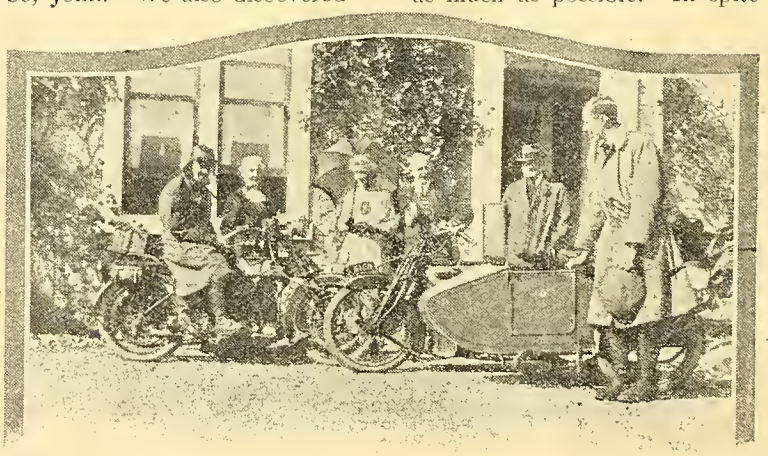
ACT I. Scene I. Glasgow.

THE first actors to appear in this drama are discovered trying to get away from Glasgow at 6 p.m. to keep an appointment at Clynder, scheduled at 5 p.m. The younger of the two is dashing round with an oilcan and a handful of grease trying to put it into the greasers, but only succeeding in anointing the exterior of the machine; the elder brother, who is lashing cans of petrol on the back of the sidecar, is protesting that oil is unnecessary, as the bicycle had some four months ago.

When every inch of "cargo space" had been loaded the outfit moved off looking something like a tinker's caravan.

ACT I. Scene II. Clynder.

Arriving at Clynder, only three hours late, we were greeted by a totally undeserved flow of condemnation from our companion-to-be, John. We also discovered that our friends, the Hardies, had been searching the Gareloch in their motor boat for us, which we considered rather pessimistic of them. The "Bulldog" (John's B.S.A.) was reported to be simply "pawing" the ground to get away. We discounted John's impatience; solo men do not sympathise with the responsibility of packing a sidecar.



Fully loaded and ready to leave Clynder.

ACT II. Scene I. Same as Scene II., Act I.

The morning was one of surpassing loveliness. After all, one reflected, Clynder is not such a bad little place. Certainly, but for the urgings of John, we would not have left for many hours. But John would have none of the "drinking in of the beauties of Nature" stunt, and, amidst protests that we were comfortable where we were, he marshalled the cavalcade in front of the house and, after a little work with a measuring tape, a theodolite, and a slide rule, in order to adjust his lens, he took the official photograph of the "meet." Finally, as the clock paused between the fifth and sixth strokes of eleven, we left amidst a chorus of blessings and farewells.

We made fair progress up Whistlefield Road to Arrochar, where we thought it necessary to alter the alignment of the sidecar in order to minimise our load as much as possible. In spite of this, however, the engine was so hot by the time the foot of "Rest and be Thankful" was reached that it was necessary to resort to low gear for the climb; the B.S.A., of course, climbed it easily on second gear.

From "the Rest" to Inveraray was accomplished practically non-stop, as it was downhill most of the way. We had lunch at the Argyle Arms Hotel,

A Trio on Tour.—

which all enjoyed except John, who was greatly annoyed by the inattention of the waiter. The only relaxation permitted us was a walk down the pier to inspect the vessels lying there, then once more we were urged to mount and ride on.

After leaving Inveraray the road is very beautiful; we passed through a fir wood which is alleged to contain some of the largest fir trees in Scotland, and certainly some of them were strongly reminiscent of the picture on the Australian burgundy bottles.

Passing through Dalmally, John spotted a Druidical stone, and insisted on being photographed with the "Bulldog" in front of it.

Leaving Loch Awe Hotel one passes through some beautiful scenery, including the famous pass of Brander, and on arriving at Taynuilt we repaired to the local inn and had an excellent tea.

From Taynuilt we dashed on to Connel, where James made friendly advances to the manageress of the hotel, and secured rooms. As the A.J.S. had been running very badly it was decided to overhaul the magneto. On dissecting it, the wire to the condenser was found to be cracked and required soldering.

While working on the bicycles, the owner of a 2¼ h.p. Levis, which was standing in the garage, appeared, and got into conversation. He informed us that he had "coom fra Manchester." He congratulated us on obtaining rooms, and on James explaining that someone had to be put out of a room into a small cottage in order to let us in, he laughed loudly, but changed his tune somewhat on finding out, when we adjourned to the hotel, that it was he who had to transfer.

After an unsuccessful attempt to solder the magneto with the aid of a candle and a piece of copper wire, we took the globe and mantle off the petrol gas bracket in the bathroom, and scraped some solder off one of the water pipes, but, owing to the want of Fluxite, we were baulked again.

One would not think that there would be very much shunting done on the railway at a one-horse township like Connel, but we soon discovered that Willesden Junction is a quiet place by comparison. To make matters worse, the engine which did the shunting kept up such a pressure of steam that it hissed loudly all the time, and whistled on every possible (and impossible) occasion.



The tickets issued at Connel Ferry Viaduct. A person was rated with a dog—fee 2d. The A.J.S. was equivalent to a cow—fee 4 -, and the B.S.A to a pig—fee 2 -.

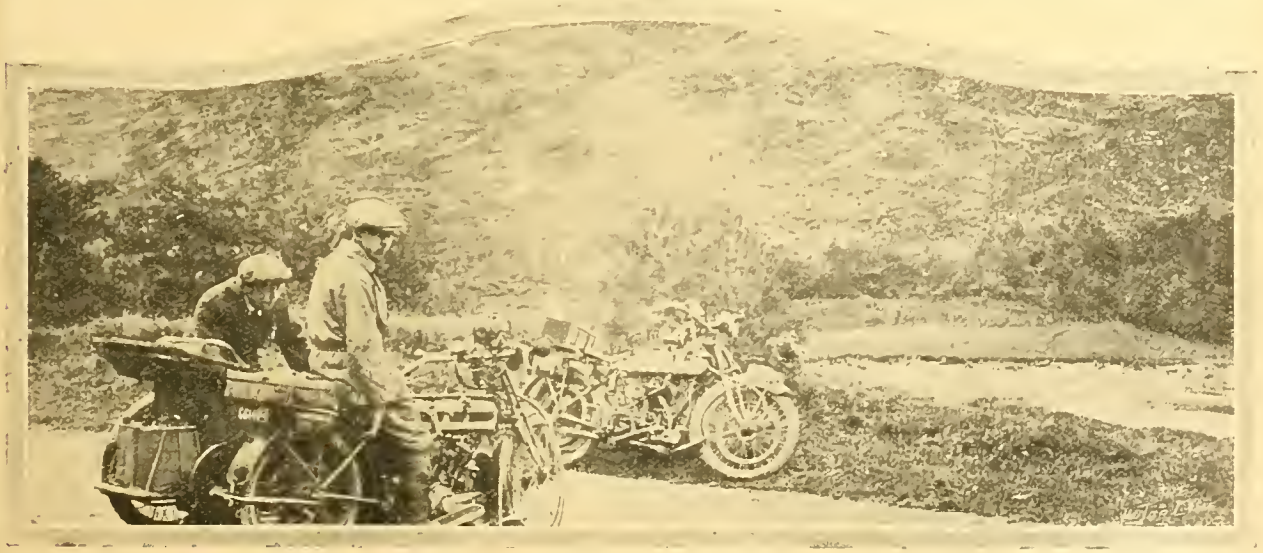
ACT III. Scene I., and Several Others.

After breakfast John took Tom into Oban on the tail of the "doggie wee bike," where, with the aid of a friendly plumber's soldering iron, the magneto was put to rights.

The glorious weather of two days before had been replaced by a steady drizzle and a dull grey sky. On returning to Connel, and reassembling the magneto, a fine healthy spark was obtained, and the engine ran beautifully. As it was almost lunch time before the A.J.S. was ready we stayed at Connel for that meal.

Our friend of the Levis was preparing to depart. On the carrier of his tiny mounts he had a gigantic bag. An idea of its size can be gathered from the fact that one half of it (it opened down the middle, longwise) contained a two-gallon tin of petrol, half a gallon tin of oil, some tools and clothes, the other half being filled with clothes. How the poor little engine managed to get along amazed us.

On starting off ourselves, we crossed the Connel Ferry Viaduct, being mulcted to the extent of six and sixpence in the process. The tickets issued us were most insulting. A person was rated with a dog, fee 2d.; the A.J.S. was the equivalent of a cow, fee 4s.; but worst



A wayside halt at the foot of Ben Nevis.

A Trio on Tour.—

of all was classing the B.S.A. with a pig, fee 2s. During a roadside halt shortly afterwards a large tack was discovered in the front wheel of the A.J.S. John wanted to push on to our destination before repairing the tyre, and finally carried the day, and we proceeded, pumping up the tyre when it went down.

Shortly after this there came on what is known in Scotland as a Scotch mist, and in other parts of the globe as heavy rain. There are few ways so effective of getting thoroughly wet as driving through a Highland rainstorm.

As we were not sure if we should get rooms at Ballachulish, John pushed on. We sorrowfully pushed the A.J.S. back under a railway bridge which happened to be near. An arm of Loch Linnie conveniently placed near the railway bridge provided us with the means of locating the puncture in the tube.

Just as the puncture had been sealed, John returned with the news that he had secured rooms. All the time we were struggling to get the cover on, John kept on eulogising his Bates tyre till we threatened to take it off and strangle him with it.

We arrived at Ballachulish in plenty of time to change into our dinner trousers before dinner (we kept our dinner jackets on, even when under way, as this economised luggage space).

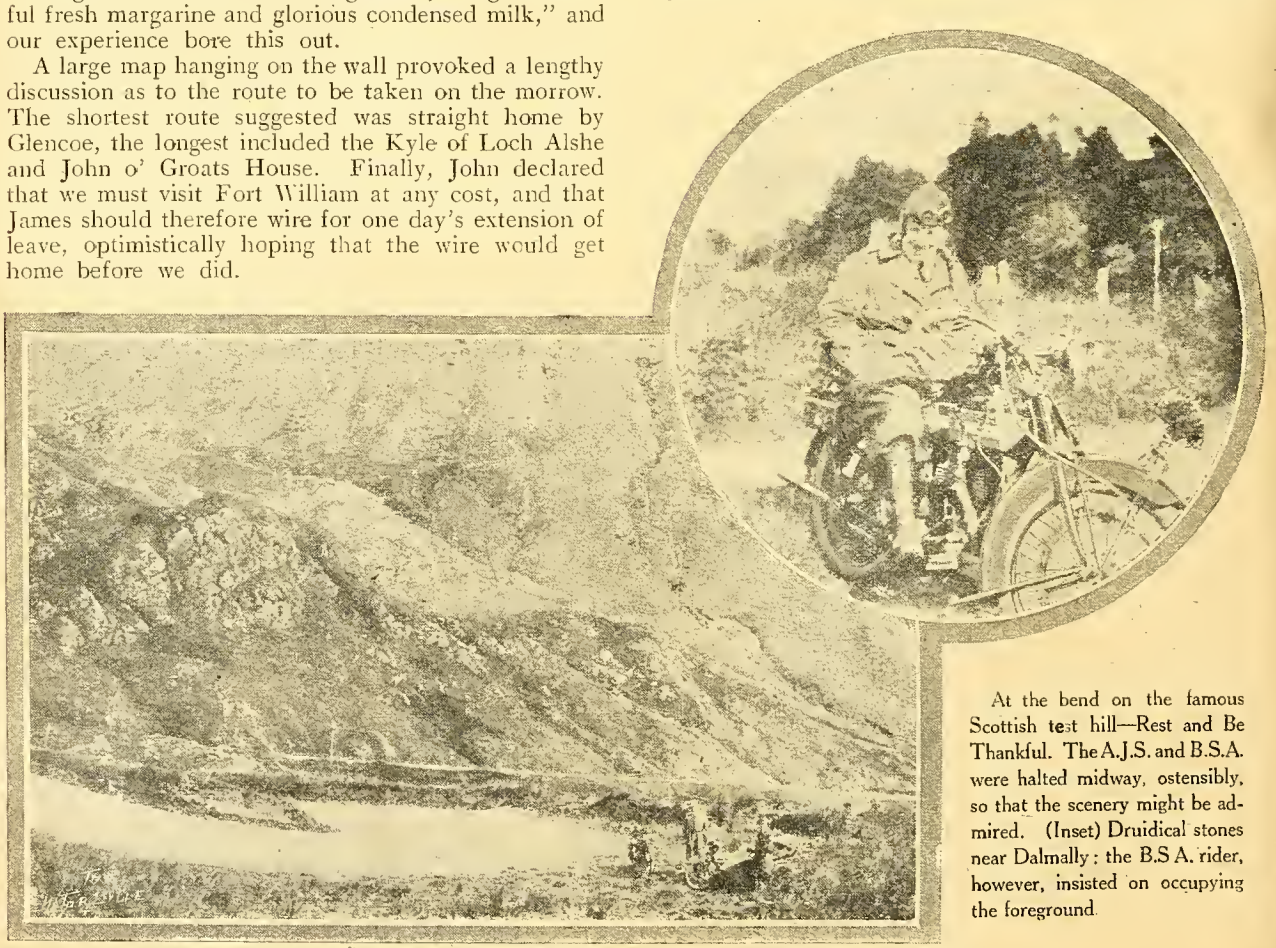
Someone writing of a visit to Ballachulish said, "Being in the heart of the Highlands, we got beautiful fresh margarine and glorious condensed milk," and our experience bore this out.

A large map hanging on the wall provoked a lengthy discussion as to the route to be taken on the morrow. The shortest route suggested was straight home by Glencoe, the longest included the Kyle of Loch Alshe and John o' Groats House. Finally, John declared that we must visit Fort William at any cost, and that James should therefore wire for one day's extension of leave, optimistically hoping that the wire would get home before we did.

ACT IV. Scenes from Ballachulish to Ben Nevis

After breakfast we proceeded on board the Ballachulish ferry boat, which crosses Loch Leven at a point where the banks are only about two hundred yards apart. The following is a brief description of this most rag-time craft. Mounted on the large flat boat is a turntable, which is rotated to bring it end-on to the jetty at either bank, while at the same time allowing the boat to lie alongside the "pier." As the latter is very steep the turntable touches it at the upper side only, while the "seaward" edge of the table is about a foot or eighteen inches above the surface of the jetty. Once the cargo is aboard the turntable is swung round until it lies fore and aft of the hull. As the whole of the tide ration for the upper part of Loch Leven has to flow through this narrow channel, the speed of the current is tremendous; it was given us by a native as ten knots, which we fully believed.

As the ferry is not nearly fast enough to steam against the full force of the current "she" crawls along the shore in most hair-raisingly close proximity to the latter, in order to get the benefit of the slack water. When the ferryman judges he has gone far enough against the tide, he steers for the opposite side. As soon as the boat encounters the full force of the tide it is whirled away like a leaf in a mill-race, but the ferryman has so judged the speed of the tide, that by the time the landing jetty is passed the boat just enters the slack water behind this, and makes



At the bend on the famous Scottish test hill—Rest and Be Thankful. The A.J.S. and B.S.A. were halted midway, ostensibly, so that the scenery might be admired. (Inset) Druidical stones near Dalmally: the B.S.A. rider, however, insisted on occupying the foreground.

A Trio on Tour.—

fast, when practically the same performance is gone through as at the loading.

In the case of motor cycles one end had to be lifted to prevent the crank case fouling the edge of the turntable. A stranger with a Harley-Davidson was also going along to Fort William, as the Highland Games were to take place there that day. On landing at North Ballachulish, the order of leaving was arranged. The A.J.S. was sent on first with instructions to go as fast as it possibly could (there was a nasty insinuation contained in these instructions). John followed, while the Harley brought up the rear. We had hardly gone half a mile when a large Rolls Royce appeared behind the Harley-Davidson, thereby speeding up the whole procession considerably. On arriving in Fort William the A.J.S. people stopped. Feeling they had gone fairly quickly, they expected to get off with a few insulting remarks on their slowness; instead, however, they were assailed with a perfect torrent of abuse in what appeared to them to be Arabic for going so fast. It seemed that the road had been far too loose and rutted for John's liking, and, judging by his comments, he did not seem to have enjoyed the ride at all.

When peace had been restored, we made for the Highland Games. Evidently the promoters of the games knew their audience, for they had erected high screens of pack-sheet round the enclosure. The shilling admittance fee coming on top of a fare of four shillings to cross the ferry was too much for our Scotch blood, so we decided to push on and see Ben Nevis, which was free. We did get some of the "atmosphere" of the games by standing outside, however, as everyone was running about in kilts, while someone inside the enclosure was playing Handel's "Messiah" on the bagpipes.

We proceeded up a small side road towards the Ben. There are few roads in Scotland, surely, which could surpass this one for beauty or scenery. On the one hand was a pretty woodland, while on the other rushed a sparkling river, from the further bank of which rose some of the finest mountains in Scotland. Their tops were wreathed in mist, and though this prevented us seeing the actual summit of Ben Nevis we could make out the "road" which leads up to the observatory on the top.

By general consent the scene was voted magnificent, but we all agreed that, as usual, we had been "done," as we could only see the foothills. James lay at his ease on a grassy bank and kept on telling us that he would have climbed Ben Nevis if it had not been for the mist.

After a long, last look, we reluctantly wended our way back to Fort William, where, the games being over, the shops had opened. Being seized with an economical spirit, we dined at a small eating shop, whose customers seemed to be chiefly fat Highland mothers, with multifarious families, who dished out tea in saucers to their offsprings, and jabbered to each other in Gaelic at a most frightful speed.

After having increased our weight we proceeded to a garage in search of oil and, perchance, petrol. John asked for a filler for his gear box, but the garage proprietor only possessed petrol fillers with wire gauze strainers in them; however, he obligingly knocked the gauze to pieces with several pokes of his large horny finger.

The gallon of oil filled both tanks, John's gear box, all available oilcans, and even the hubs of the wheels so full that the street was slippery with oil, but even then we had reluctantly to leave some of it in the tin. It seems to be a trait in most motor cyclists' characters that they will cheerfully spill half a pint of oil when filling their tank, but it is like losing a tooth for them to have to leave even a drachm of oil in the tin. By the time we had finished filling up fully threequarters of the children in Fort William had collected round us asking questions and passing remarks. To keep down our average speed a little we stopped outside Fort William and gathered some very fine heather with which to decorate the machines.

(To be continued.)

The New "Six Days" Scheme.

Testing a Racehorse between the Traces of a Plough.

IN his otherwise comprehensive article of January 20th, under the above heading, my friend Mr. B. H. Davies somehow overlooks what seems to me an important point, anent machines of over 350 c.c. being compelled to draw sidecars in the next Six Days event.

I had in my possession recently two machines of approximately this capacity. One was a low compression, outside flywheel single-cylinder, and the other a high compression overhead valve flat twin. Both were excellent solo machines in their way, but for real pleasurable riding there was no comparison—the high compression twin being far and away preferable according to my own tastes.

Of these two machines, the single was quite capable of drawing a lightweight sidecar anywhere within the limits of reason, but the other was so essentially a solo machine that not only would it have been a hopeless proposition with sidecar attached, but it would have been absolutely criminal to have imposed such a load upon it. Yet this machine suited me admirably, and it would be foolish to discourage its type.

It may be said that even a solo machine should possess a sufficient reserve for sidecar haulage, but I fail to see the reason of this argument. Would it be any test of a thoroughbred racehorse to sample its pulling powers between the traces of a plough? No, it would merely ruin the racehorse.

Some manufacturers of purely solo machines may be sufficiently bold to stipulate that their guarantees become void immediately a sidecar be attached, and I think that such a stipulation made public by the makers should, at any rate, exempt machines of that make from the imposition the A.C.U. propose to inflict.

The idea does not seem to be a fair one. Obviously such a machine as a Triumph would not be so heavily handicapped by the attachment as would such a machine as the overhead valve flat twin Brough.

H. MORTIMER BATTEN.

CLUB NEWS. (Continued from page 130.)

Newport and County M.C.C.

The annual general meeting will be held at the Town Hall, Newport, Mon., at 7.30 p.m. on February 9th, for the purpose of electing officers and arranging a programme for 1921.

Woolwich, Plumstead, and District M.C.C.

At the annual general meeting on Friday (January 21st) of the Woolwich Club this year's competitions were left to a sub-committee appointed. Mr. T. J. Ross was re-elected captain and Mrs. Hardee captain ladies' section.

North Wilts M.C. and L.C.C.

About fifty members and friends of the North Wilts Motor Cycle and Light Car Club spent a convivial time at the King's Arms Hotel on Wednesday of last week, when, following a supper at which Mr. D. W. Mercer occupied the chair, an informal but helpful discussion took place.

Brighton and Hove M.C.C.

At the first annual general meeting of the above club satisfactory reports of the various activities of the club were received from the sub-committees, and officers for 1921 were elected. A very ambitious programme has been arranged, opening with a fancy dress ball at the Old Ship Hotel on February 22nd. Social runs and competitions are to be a weekly feature.

Grimsby M.C.C.

The winter reliability trial for the Best Silver Challenge Cup was run on Saturday, January 22nd. The course was a short but exceedingly stiff one. Mrs. M. C. Jennison, on a 2¼ h.p. Velocette, was the winner of the Best Cup, club's gold medal, and special prize for the best performance under 350 c.c. Silver medals were awarded to F. Plastow (2¼ Triumph), W. Maltby (4 Triumph), J. Woods (3 A.B.C.), and H. Jennison (2¾ Verus).

Sports Committee medals for meritorious performance were awarded to Messrs. Hercock, Eves, and Burton (4 Triumphs).

Newcastle and District M.C.

Newcastle and District Motor Club has fixed 30th April next as the date of the open Travers Trophy hill-climbing competition. The trophy is a two hundred guineas gold challenge cup, with a £50 first prize.

Leeds and District M.C.

Headquarters of the above club are now at the Albion Hotel, Briggate, Leeds, where there is yard accommodation for members' machines. The adjourned general meeting will be held there on Thursday, February 10th, at 7 p.m.

Bradford M.C. and L.C.C.

A very enjoyable "smoker" was held at the Belle Vue Hotel, Bradford, on Thursday, January 27th, and the members were much indebted to Messrs. Dewhirst Bros., Sydney Firth, and C. C. Cooke for a delightful musical programme. Mr. T. G. Bullus (the club trials hon. secretary) gave a "lecturette" on "Reliability Trial Riding."

Yorkshire Centre A.C.U.

The first annual general meeting was held at the Hotel Metropole, Leeds, on Monday, January 24th, Mr. Norman Longfield presiding. He stated that the centre had been allowed three open events for 1921 instead of two, as originally arranged.

It was decided to hold four Yorkshire Centre events in addition to the three A.C.U. open events.

Wrexham and District M.C.C.

The first annual general meeting was held at the headquarters, Talbot Hotel, Wrexham, on January 28th. Twenty-three new members were proposed and enrolled. The membership and financial state of the club proved very satisfactory. A dinner will be held at 7 p.m. on February 9th at the Wynnstay Hotel, Wrexham, his Worship the Mayor, Ald. T. Sauvage, presiding. Information and tickets (6s.) may be obtained from the hon. secretary, 32, Norman Road, Wrexham.

Cambuslang and Rutherglen M.C.C.

It is proposed to form a club as above. Interested motor cyclists in this neighbourhood should communicate with the secretary *(pro tem.)*, Mr. G. MacGregor, Hillside Terrace, Main Street, Cambuslang.

The Public Schools M.C.C.

Col. Lindsay Lloyd, C.M.G. (the President), occupied the chair at the first annual dinner of the Public Schools M.C.C. since the war, which was held at the Café Royal, Regent Street, London, W.1, on Thursday last. It was a very jolly affair, and quite informal.

Wellingborough, Rushden, and District M.C.C.

After a lapse of five years the Wellingborough, Rushden, and District M.C.C. was restarted at a meeting held at the Queen Victoria Hotel, Rushden, last week. A temporary committee, consisting of Messrs. H. Macleod, C. Ette, W. Watts, W. H. Mason, S. R. Edwards (Wellingborough), and Claridge Chettle (West Rushden), were appointed to carry out preliminary arrangements, with Mr. W. A. Fathers honorary secretary *pro tem.*

Coventry and Warwickshire M.C.

The Coventry and Warwickshire M.C. held its annual general meeting last Friday, when activities for the past year were satisfactorily reported. For 1921 Col. Cole, managing director of Humber, Ltd., has been elected president, while the officers are: Hon. sec., J. F. Spencer; captain, A. McGowran; treasurer, C. H. Elson; committee, G. E. Roberts (chairman), F. Hulbert, A. Elson, S. Wright, M. W. Danks, M. Sampson, W. Brandish, E. J. Appleby, G. I. Francis, H. L. Davey, W. A. Atkin, G. L. White, J. Bachelor, and E. Barnett. The subscription has been raised to 12s. 6d., and the entrance fee to 7s. 6d. The opening run will be held on Saturday next, meeting at Davenport Road, Coventry, while a twenty-four hours trial to Torquay and back for the Golden Goblet is being planned for June 18th.

LIVERPOOL-EDINBURGH TRIAL RESULTS.

QUITE a high percentage of the thirty-seven starters secured gold medals in the recent two-day winter trial of the Liverpool M.C. from Aintree to Edinburgh and back.

The Horsman Cup for the best motor cycle performance cannot be awarded, as both Hugh Gibson (8 Royal Ruby sc.) and H. F. Brockbank (8 Blackburne sc.) qualified; the tie will be run off by arrangement subsequently. G. F. Burns, riding a new 3½ h.p. T.T. Sunbeam, secured the Triumph gold medal for the best single cylinder performance. His riding was very consistent, and the success of this machine on its first appearance in a club run bears out its promise as a super-excellent sporting solo mount. A special prize for the best performance of a 350 c.c. machine was secured by F. Highfield (Beardmore-Precision).

GOLD MEDALS.—Hugh Gibson (8 Royal Ruby sc.), G. Roddick (8 Zenith), S. V. Banner (8 Sunbeam sc.), G. F. Burns (3½ Sunbeam), J. G. Collins (6 A.J.S. sc.), H. F. Brockbank (8 Blackburne sc.), J. L. R. Jensen (7-9 Harley sc.), J. Lee (7-9 Indian sc.), D. G. Prentice (8 Morgan), J. H. Green (6 Martinsyde sc.), H. Karslake (5 Brough), and S. Parker (8 Matchless sc.).

BRONZE MEDALS.—F. Highfield (2¾ Beardmore-Precision), N. C. Slater (3½ Norton), M. Deeley (4 Triumph), S. Bartley (6 A.J.S. sc.), and F. Gunton (2¾ Dalton).

A ROUND THE COAST TRIAL FOR 1921?

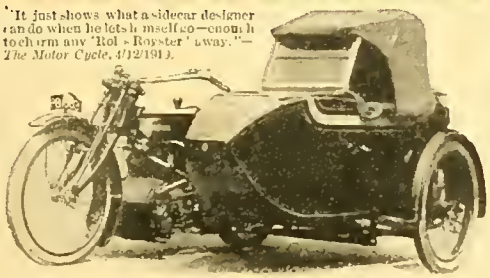
THERE is a very large section of the community which considers that the time has come when the public should be shown what a motor cycle can do, instead of its few failures being emphasised, as is usually the case in big competitions.

Undoubtedly the best way of carrying out this propaganda is to arrange a long distance trial in which all the machines will pass through various important centres on schedule time so that the general public may see how reliable a mount is the modern motor cycle.

With this in view, the Birmingham Motor Cycle Club proposes to organise a "round the coast" trial lasting thirteen days and covering a distance of approximately 2,300 miles. At present the idea seems to be receiving very favourable comment.

S&M SIDECARS

"It just shows what a sidecar designer can do when he lets himself go—enough to charm any 'Rol-Royster' away."—*The Motor Cycle*, 4/12/19[illegible].



As fitted to the 8 h.p. Zenith. Auster Triplex screen, disappearing hood, £86/5/-

CAPJON & MUDD, ENGINEERS,
Works: Durham Wharf, The Mall, Hammersmith.
'Phone—Hammersmith 1600.

PRATT'S
"PERFECTION"
SPIRIT

is the spirit for motorists who count the cost—who record the miles—and judge by results alone.



In the Green Can available everywhere

Anglo-American Oil Co., Ltd., 36, Queen Anne's Gate S.W.

Further great Reductions in
MOSELEY
TYRE PRICES

MOSELEY Motor Cycle Tyres have always been sold at the lowest possible price consistent with the highest quality and workmanship. A further fall in the price of raw materials enables us at once to pass on the benefit to our customers.

Moseley Motor Cycle Tyres are now moulded in the form they take when inflated on the rim, with the result that the labour of fitting on the rim is reduced to a minimum. The beads are also specially strengthened to avoid rim cutting.

These improvements are further evidence of the constant watchfulness and effort of Moseley to serve the motor cyclist's interest.

MOSELEY MOTOR CYCLE COVERS REDUCED—15 %

Examples of New Prices:

Heavy 3-ribbed Cover, 3-ply Canvas, 26 x 2½ £2- 8-3

Heavy 3-ribbed Cover, 4-ply Canvas, 28 x 3 .. ..£3-18-3

Light Rubber-studded Cover, 2-ply Canvas, 28 x 2 ..£1- 8-0

SEND TO-DAY FOR COMPLETE LIST SHOWING NEW REDUCED PRICES.

The prices of Moseley Cycle and Motor Tyres have also been reduced.

David Moseley & Sons, Limited,
Ardwick ——— Manchester.

BRANCHES:—*LONDON: 19-21, Holborn Viaduct, E.C. MANCHESTER: 2, 4 & 6, New Brown Street. LIVERPOOL: 9, Commutation Row. BIRMINGHAM: 4, Lancaster Street, Corporation Street. NEWCASTLE-ON-TYNE: 44, High Bridge. GLASGOW: 126, Ingram Street. DUBLIN: 16, William Street. AUSTRALIA—SYDNEY: 352, Pitt Street. BRISBANE: Fitzroy Buildings.*



"There's a time for everything"



Party-Time

at Christmastide is the happiest time of the year

—and everybody at parties loves Mackintosh's Toffee de Luxe; the little folk and grown-ups and even grandad watching the fun from his arm-chair by the fire.

Get a 4-lb Family Tin for Christmas. Sold also in ½-lb. and 1-lb. Tins and loose by weight.

Buy from Confectioners everywhere.



Mackintosh's time is all the time

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GREAT CLEARANCE SALE

15 to 50% reduction off usual list prices

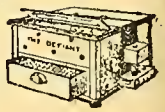
ALL NEW GOODS. BEST MATERIAL AND WORKMANSHIP.



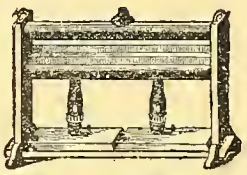
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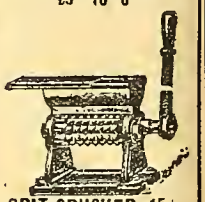
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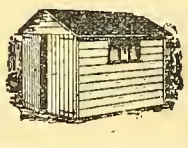
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OUR NEW SHOWROOMS ARE NOW OPEN.

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Harley-Davidson and Sidecar, 7-9 h.p., 1920. Reg. No. L.R.3225. Engine No. 19A4644.

Rover, 3½ h.p., 1914. Registered No. A.R.8802. Engine No. 5056.

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The above motor cycles, insured by this Company, have recently been **stolen.**

A Reward of £25

is offered for information which leads to the recovery of any of the machines.

Provident Accident & Guarantee Co., Ld.

HEAD OFFICE:

54-55, Coleman Street——London, E.C.2.

'Phone: London Wall 5306 (4 lines). 'Grams: Perpend, Ave, London



Says Clem the Clubman—

"Do you want to know *why* you have so much trouble to get away these cold mornings, kick-starting till you're white in the face sometimes? Do you want to know what's wrong, and how to cure it? "O-I-L, Oil, and nothing more! How can you expect to spin the engine over fast enough to get a spark when the piston and rings are covered with so-called oil. It's just like thousands of tiny invisible fingers tugging against you. You want Lubricant in your engine, not gum! in short, you want SPEEDWELL!"

Running Made Easy

REGISTERED TRADE MARK

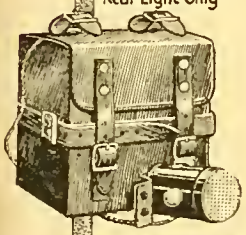
THE BRITISH OIL & TURPENTINE CORPORATION LTD., 55-56, Chancery Lane, LONDON, W.C.2.



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DRY BATTERY ELECTRIC LIGHT EQUIPMENT

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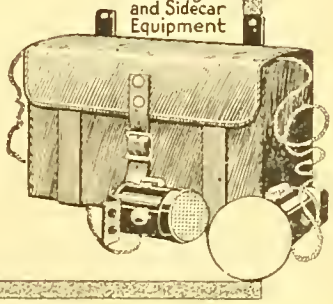
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Rear Light and Sidecar Equipment



She'll eat up "50"

Good! but don't lose sight of the safety margin so absolutely necessary to high speed.



No. 10. CLAYRITE HORNS are perfect for warning **13/-**

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6 h.p. Standard Combination Again.

100% SUCCESS

Liverpool Motor Cycle Club's Touring Test to Edinburgh and back, including a journey over Kirkstone Pass.

Martinsyde 6 h.p. Standard Combination, ridden by J. H. Green, succeeded in gaining a GOLD MEDAL.

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Telephone:
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MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed & Co. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, 1 %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

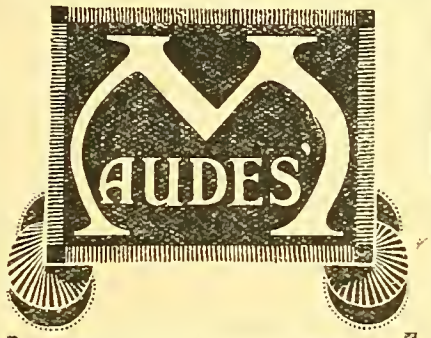
A.B.C.

NEW 1920 A.B.C. 4-speed; £140; in stock.—Randall, Andover. [0367

A.B.C., 1920, brand new; £125.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5515

A.B.C. Motor Cycle, Aug., 1920, in new condition; £110; complete lamps, speedometer, etc.—Gibbs, Dundle. [8994

A.B.C. 1920 T.T., mileage 700, specially tuned for competitions, horn, tools, etc.; £115, or nearest.—Sawers, 2, Kemplay Rd., Hampstead. [8578



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19[20] 3h.p. 4-speed Twin A.B.C., very little ridden, in splendid condition and running order; £140, or near offer.—Write Box 980, Reynell's, 44, Chancery Lane, W.C.2. [6619

A.B.C. 1920, lamps, horn, accessories, spares, small mileage; best offer, or exchange big combination, cash adjustment.—Waterhouse, Briarfield, Barrington Rd., Altrincham. [8263

Abingdon.

3½h.p. Abingdon King Dick, wicker sidecar, 2 speeds, free engine and clutch, Bosch, tyres and belt good; £40.—M. Sims, 61, London Rd., Salisbury. [8611

19[20] Abingdon King Dick 5-6h.p. Combination, all lamps, 3-speed, countershaft, very low mileage, as new; £137/10; exchanges.—Homac's, 243, Lower Clapton Rd., Dalston. 'Phone: Dalston 2408. [8951

Acme.

ACME 8h.p. Combination, screen, Tan-Sad, spare wheel, belt, nearly new; £175.—Lathwell, 54, Clarendon Rd., Luton. [8620

ACME 8h.p., with conchbuilt sidecar, 1920 demonstration model, only run 200 miles, spare wheel and tyre; £195, complete.—Box 1,377, c/o *The Motor Cycle*. [0405

NEW Latest Type 8h.p. Acme Combination, J.A.P. engine, spare wheel and tyre, slightly shop-soiled, at great reduction. Write for special bargain list.—The Premier Motor Co., Aston Rd., Birmingham. [X5340

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JULIANS of Reading have 1921 A.J.S. in stock. [8300

A.J.S. 6h.p., about 1914, sidecar; £95.—17, Hooley Range, Heaton Moor, Stockport. [8194

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A. Parts. [7993

A.J.S. 1921 Models. Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [7313

BRIGHTON, Hove, and District A.J.S. Agents. Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. 1920 Combination, with lamps, horn, speedometer; £180.—Fair, 201, Cheltenham Rd., Bristol. [8313

A.J.S. 1920 Combination, mileage 300; £180.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5517

A.J.S. 1921 Combinations, 2¾h.p. lightweights; easy payments.—Clifford, Motories, Eastwood, Notts. [8717

19[21] A.J.S. 7h.p. Combination, spare wheel, etc., perfect; offers. — Chatham, Cefn Quarries, Ruabon. [X6118

WAUCHOPE'S, 9, Shoe Lane, London.—7h.p. A.J.S. combination, latest 1921 model, standard model; £215. [8910

A.J.S. 1920 Combination, dynamo lighting, electric horn, speedometer, etc., tax paid; £205.—7, Lockwood Rd., Ilford. [8522

19[20] 6h.p. A.J.S. Combination, lamps, hood, screen, speedometer, mileage 1,200; £200, offers.—Slade, Garage, Penn. [8557

A.J.S. 1921 6h.p. Combination, new, £195; A.J.S. 1921 7h.p. models; early delivery; book now. Taylor's Garage, Wednesbury. [5827

19[20] 6h.p. A.J.S. Combination, as new, completely equipped, mileage 250; £185.—Charles Moxham and Co., 32, Torwood St., Torquay. [8231

A.J.S. 1921 Models, delivery guaranteed when required; deferred payments arranged.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4003

A.J.S. Combination, 1929, dynamo lighting, speedometer, Tan-Sad seat, hood; £190.—Brookman and Co., Nascott Motor Works, 5, St. Albans Rd., Watford. [8195

IMMEDIATE Deliveries 1921 A.J.S. Combinations, 7h.p., dynamo lighting models; also 2¾h.p. shortly.—The One Tree Motor Cycle Co., Huddersfield. 'Phone: 1920. [6405

19[20] A.J.S. Combination, Lucas Magdyno, exceptionally fine engine, special draughtproof hood, perfect order and condition; £200 for quick sale.—Box 140, c/o *The Motor Cycle*. [X6081

A.J.S. 1920 Combination, perfect condition, screen, spare wheel (tyre unused), Lucas, F.R.S. lamps, Watford trip, horn, mirror, muff; £185, or close offer.—Mosey, Estate Agent, Scarborough. [8744

A.J.S. Combination, condition as new, complete with lamps, horn, spring seat, hood, wind screen, spare wheel, and all tools, guaranteed; £175.—H. J. Marston, 50, Argyle St., Birkenhead. [8752

A.J.S. 6h.p. 1916 Combination, spare wheel, lamps, screen, etc.; £125; exchange lightweight 4-stroke and cash.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [9045

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A.J.S. 1920 6h.p. Combination, spare wheel, speedometer, dual lighting, absolutely perfect condition; great bargain; making room for new stock; 160 gns.—Longman Bros., 17, Bond St., Ealing. Tel.: 689. [8709

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

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ALECTO, the first 2-stroke to break records; 1921 models, immediate delivery; cash, exchange, and deferred payments; catalogues and full particulars on request.—11L, Kramer Mews, West Brompton, S.W.6. [6523

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ALLON 2-speed Gear Box, perfect condition; what offers?—Apply, Turner, 58, Holyhead Rd., Handsworth. [X6028

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1920 Alldays-Allon, 2-speed, clutch and kick-starter, absolutely as new, tax paid; £70; exchanges.—Homac's, 243, Lower Clapton Rd., Dalston. 'Phone: Dalston 2408. [8943

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ALLDAYS Matchless, 2½h.p. Villiers, 3-speed and clutch, all accessories, needs slight adjustments, would make anyone mechanically inclined a very serviceable mount; nearest to £30 secures.—Address, Box 1,803, c/o *The Motor Cycle*. [8980

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£130.—American X, 1920-21, brand new, unridden, unsoiled, dynamo lighting.—54, Coval Rd., Mortlake. [X6095

AMERICAN Excelsior Combination, 7-9h.p., accessories, very fast, as new; £178.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0410

NEW 1921 Model American X. for immediate delivery, 7-9h.p., 3-speed, 3½in. tyres, etc., Millford de Luxe sidecar; £213; liberal exchanges.—The Premier Motor Co., Aston Rd., Birmingham. [X5341

Ariel.

WAUCHOPE'S, 9, Shoe Lane, London.—6-6h.p. Ariel twin, 1916 Model; £52/10. [8907

1921 Ariels for Immediate Delivery.—E. Brown, Ariel Expert, 3 and 7a, Parker Lane, Burnley. Tel.: 1032. [X6090

ARIELS, all models, orders now accepted for early delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0438

ARIEL 1920 New 3½h.p. Solo; list price £120, our price £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0422

5-6h.p. Ariel 1919 Combination; £125.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [7812

1920 Ariel Combination, practically new, hood, screen, lamps, guaranteed; nearest offer £140.—89, East Hill, Wandsworth. [8950

1919 3½h.p. Ariel Combination, electric lighting, horn, wind screen, as new; £125.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [9057

3½h.p. Ariel Combination, Sturmey 3-speed hub, B. & B., Bosch, just overhauled, in perfect running order, tax paid; £39.—Laurel Farm, Headington, Oxford. [8696

ARIEL Combination, 1920, 3½h.p., complete equipment, delivered November last; cost £165, sacrifice £125.—Longman Bros., 17, Bond St., Ealing. Tel.: 689. [8712

ARIELS.—Order now for 1921 all-chain and chain-cum-belt models; spares in stock.—Geo. Taylor, Ariel Agent, 28, Lower Addiscombe Rd., East Croydon. [8165

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Aster.

4h.p. Aster-Chater-Lea, new mag. and carburetter; £17.—17, Heaton Rd., Mitcham. [8813

Bat.

BAT 1921 Models.—We are now accepting orders for early delivery. Your enquiry esteemed.—Below.

BAT, 6h.p., fully equipped as makers' specifications, shop-soiled; at greatly reduced price; also second-hand combination, same make.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [8363

BAT 6h.p., 3-speed, brand new; £130.—Clark, 7, Exhibition Rd., South Kensington, London. [8961

1920 8h.p. BAT Combination, unused, soiled only, listed £210, sacrifice £150.—Arthur G. Daw, 114, Brixton Hill. [8822

BAT 1920, shop-soiled only, list price £160; our price £132.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0439

1920 8h.p. Bat Combination, spare wheel, usual equipment; offers.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [9058

BRAND New Bat 8h.p. Combination; £165.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [7813

6-8h.p. Bat-Jap, 2-speed, F.E. clutch, spring frame, good running order; £50; exchange Douglas preferred.—30, York Rd., Long Eaton. [8352

WAUCHOPE'S, 9, Shoe Lane, London.—6h.p. Bat combination, new 1920 model, all-chain drive, 3-speed countershaft, kick start and clutch; £175. [8911

BRAND New 6h.p. Bat and coachbuilt sidecar to match, a really smart and reliable combination; a genuine bargain, £160.—Bambers', Eastbank St., Southport. Tel.: 607. [8901

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BEARDMORE-PRECISION 1921 Model, in stock for immediate delivery; your enquiry esteemed.—Below.

BEARDMORE-PRECISION, 1920 model, fully equipped with P. and H. head lamp set, rear lamp and generator, scarcely used, in new condition; special bargain, £90, for quick sale.—Mebes and Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [8365

BEARDMORE, 1920, scarcely used, with accessories; your best bid please.—Bunting's, Exchange, Wealdstone. [9026

BEARDMORE-PRECISION, 1920 (Sept.), fully equipped, many refinements, improved front guard and engine shield, low mileage; £80.—73, Southfield Rd., Oxford. [8190

BEARDMORE-PRECISION, 1920, spring frame, kick starter, 2-speed, footboards, electric lamps, horn, full tool kit, guaranteed as new; 75 gns.—H. J. Marston, 50, Argyle St., Birkenhead. [8758

1921 Beardmore-Precision Spring-frame Motor Cycle, absolutely as new, fitted with electric lamps, horn, and trip speedometer with back wheel drive, machine only done 200 miles; price £75.—Duncan and Shepherd, 33, The Parade, Goldere Green. [8413

Blackburne.

1920 4h.p. Blackburne, coachbuilt sidecar, lamps, Easting; £120, offers.—Pearce, 13, St. Alban's Rd. Bristol. [8686

GENUINE Bargain.—Blackburne 4h.p., 1920, new; £120.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0320

BLACKBURNE new 1920 4h.p., list price £135; our price £120.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0430

BLACKBURNE 4h.p., 1920, brand new; list price £135, £120.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0420

BLACKBURNE 4h.p. and Sidecar, 1920, practically new, undershield to engine, lamps, etc.; £120.—1, Skinner St., Whitby. 'Phone: 11. [8257

BLACKBURNE 4h.p., 1920 model, Sturmey-Archer 3-speed gear, unused, shop-soiled only; £115.—P. J. Evans, 81-91, John Bright St., Birmingham. [8495

1920 4h.p. Blackburne Combination, all lamps, speedometer, 2 horns, Easting wind screen; £150.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [9056

1920 8h.p. Blackburne, Magdyno, 2-seater sidecar, spare wheel, new 1921 engine, unscratched; £165.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [9035

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1921 4h.p. Douglas, brand new, £117; or with new Douglas sidecar, £152.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 709. [9037

1916 2¾h.p. Douglas, perfect, very fast; £55.—Dunn, 326, Euston Rd., N.W.1. [8041

1917 2¾h.p. Douglas, 2-speed, good condition; £48.—41, Anerley Park, S.E.20. [8586

DOUGLAS.—A fine assortment in stock at prices to suit all.—Ross, 86, High Rd., Lee. [5670

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1921 Douglas, all models; immediate delivery; catalogues free.—Kemp's Garage, Louth, Lincs. [X6067

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1919 Douglas 2¾h.p., splendid condition, lamps, horn, speedometer.—Stokes, Elmhurst, Elstree, Herts. [X5810

1915 2¾h.p. T.T. 2-speed Douglas, fast and reliable; £42.—R. V. Foster, Station View, Hitcham, Bucks. [8243

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1919 2¾h.p. 2-speed Douglas, perfect, well equipped; £58; exchanges.—60, Wallingford Av., N. Kensington. [8655

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1920 2¾h.p. Douglas, 3-speed and clutch, lamps, knee grips, spares.—18, Eastwood Mount, Rotherham. [8740

1920 4h.p. Douglas Combination, complete with lamps, as new; £135.—J. Smith, Hampstead Rd., N.W.1. [9030

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DOUGLAS 1917 Combination, good condition, lamps. Existing private owner; £90.—Baker, 4, Lonnpot Hill, Lewisham. [8426

DOUGLAS 1916 2¾h.p., overhauled, enamel, plating as new, trial; £50.—30, Crystal Palace Park Rd., Sydenham. [8601

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1918 4h.p. Douglas Combination, running order needs slight clutch repair; £75.—Dunn, 326, Euston Rd., N.W.1. [8043

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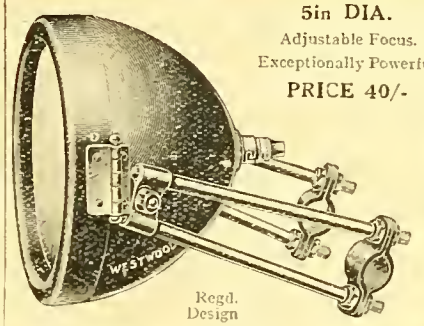
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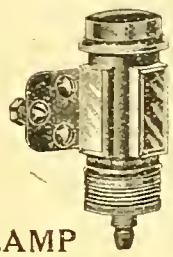
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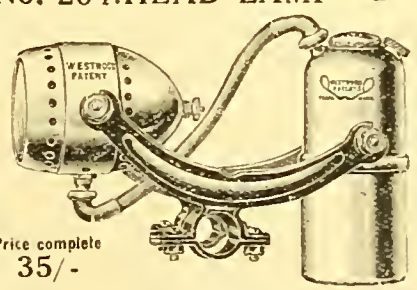


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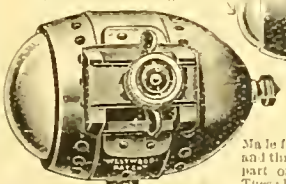
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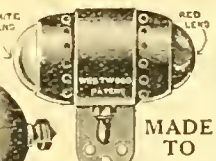
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MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 4h.p. Solo, 1920, brand new; list price £130, £120.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0421

DOUGLAS 2¾h.p., 1920, splendid condition, all accessories; £85.—Taylors, Ltd 52, Sussex Place, S.W.7 'Phone: Kensington 7260. [0411

DOUGLAS 1921 Solos, £85, £100, £105; combination, £170; cash, exchange, or easy payments.—Motories, 25, Horton St., Halifax. [8445

DOUGLAS Combination, Aug., 1920, mileage 1,700, lamps, horn, trip speedometer, as new; £130.—Seen 132, High Rd., East Finchley. [8816

DOUGLAS 2¾h.p., purchased new 1919, 2-speed, all expensive accessories, unscratched, unworn; £60.—288, Sangley Rd. Catford, S.E. [8967

DOUGLAS 2¾h.p., late 1915, only run few miles, absolutely as new, guaranteed, complete lamps; £48.—Gough, 248, Drakefell Rd., Brockley. [9082

DOUGLAS 1917 2¾h.p., 2 speeds, new 1920, C.A.V., makers' colours, accessories, perfect order; £47 secures.—G., 63, Solon Rd., Brixton, S.W.2. [8876

4h.p. Douglas Combination, 1918, renovated makers' colours, new carburetter, new sidecar body; £85.—Motor, 39, Essex Rd., near Angel, Islington. [8395

SLUMP Bargain. — Douglas Four combination, August, 1913, in exceptional condition, insurance; £95.—9, Victoria Parade, Kew Gardens. [8631

4h.p. Douglas Combination, late 1919, nice condition, speedometer, lamps, accessories; any trial; £78.—Jones, 151, Beechcroft Rd., Upper Tooting, S.W. [8702

1920 2¾h.p. Douglas, 3-speed, clutch, kick starter, complete with lamps and horn, very small mileage; £75.—J. Smith, Hampstead Rd., N.W.1. [9054

DOUGLAS 2¾h.p., 1916, re-enamelled and plated, like new, Triumph front forks and bars; ride away; £55, or nearest.—202, Trinity Rd., S.W.17. [8507

4h.p. Douglas Combination, 1920, unscratched, done under 1,000 miles, Easting, heaps of spares, tax paid; £165.—Chatham, Cefn Quarries, Ruabon. [X6119

DOUGLAS 4h.p. 1919 Combination, very little used, electric lighting, all accessories, tax paid, must sell; what offers?—41, Cowley Rd., Brixton, London. [9065

DOUGLAS, May, 1920, 2¾h.p., 3-speed, clutch, kick start tyres and condition as new; £95.—F. H. Crabbe, 17, Douglas Rd., Acocks Green, Birmingham. [8646

DOUGLAS 4h.p. Combination, wind screen, accessories, small mileage, guaranteed perfect; first reasonable offer.—Greenlees, 98, Holm St., Glasgow. [X6096

DOUGLAS 1920 4h.p. Combination, hood, screen, speedometer, lamps, mileage 2,400, new condition; £110.—Longman Bros., 17, Bond St., Ealing. Tel.: 689. [8711

4h.p. Douglas Combination, 1917, tax paid, absolutely as new, saxe blue sidecar, any trial, or deliver 60 miles radius; £82/10.—91, Mapledene Rd., Dalston. [8603

1921 Douglas, 3-speed model, used 100 miles, perfect; £95, or near offer.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [7810

1916-17 4h.p. Douglas Combination, 3-speed, K.S., clutch, Myra dynamo lighting, P. and H. head lamp; any trial; bargain, 80 gns.—Yeates, Chislehurst Rd., Orpington. [8483

1916 4h.p. Douglas Solo, overhauled, good running order; owner going abroad, must sell; accept £48.—Apply, Crouch End Motor Co., Coleridge Rd., Crouch End, N.8. [8318

DOUGLAS Combination, 4h.p., 1920, hood, speedometer, lamps, not run 1,000 miles; £145.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0407

DOUGLAS 4h.p. Combination, 1920, P. and H. lamps, Cowey speedometer, Klaxon horn, good condition; £165; Saturday or by appointment.—Holmesdale, Hadley Wood, Barnet, Herts. [8347

DOUGLAS, 1911, 2¾h.p., very good running order, nearly new tyres, just overhauled; £20.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9007

BARGAIN for quick sale, Douglas 1916 2¾h.p., 2-speed, lamps, horn, long exhaust, fast, splendid condition throughout; £43, no offers.—59, South Island Place, Brixton. [9072

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

DOUGLAS 2¾h.p., 1916, 2-speed, T.T., all lamps, horn, etc., in splendid mechanical condition and guaranteed; £45.—Butterworth's Garage, 64, Mill Lane, Brixton Hill, S.W. [8863

£38.—Douglas 2¾h.p., 2-speed, lighting set, horn, Tan-Sad, undershield, licence holder, tax paid, good tyres, in perfect runing order; £38; lowe-f.—4, Yewtree Rd., Beckenham, Kent. [8790

1917 2¾h.p. Douglas, 2-speed, makers' colours, new P. and H. Lead lamp, Thomson-Bennett, Amac, enamel and plating unscratched, several new parts; £55.—63, Solon Rd., Brixton. [8314

MOTOR CYCLES FOR SALE.

Douglas.

1916 Douglas 4h.p., 3 speeds, kick-starter, just overhauled, all lamps, fitted with brand new coach sidecar; £95; exchanges.—Homac's 243, Lower Clapton Rd., Dalston. 'Phone: Dalston 2408. [8932

DOUGLAS Twin Motor Cycle, 2 speeds, first-class running order, tyres good, acetylene lamps; bargain, £38 net; can be seen any time between 10 and 6. —C.R.C. Co., Ltd., 1-5, Fitzalan St., S.E.11. [8645

DOUGLAS 2¾h.p., 2-speed, W.D. models, 1916, uncrated last year, lamps, horn, footboards, Links carburetter, makers' colours, good condition; £45.—Harris's Garage, 514, Commercial Rd., Portsea, Hants. [8311

4h.p. Douglas, W.D. unrenovated, with sidecar chassis and wheel, less mag. and carburetter and small parts, £30; Thomson-Bennett magneto for same, £3/15.—Banister and Botten, 341, Upper St., Islington, N.1. [8841

BRAND New 4h.p. Douglas Combination, with special cream and black bulbous sidecar, beautifully equipped, exceptional outfit; cost £198, sacrifice £148; exchanges.—60, Wallingford Av., N. Kensington. [8658

DOUGLAS, 1915-16, 2¾h.p., reconditioned model, complete with lamps, horn, etc., aluminium covered footboards, polished discs, perfect order; £45. —Snodgrass, 18, Junction Rd., Brentwood, Essex. [8625

DOUGLAS 4h.p. Combination, 1920, equipment includes Cowey speedometer, mechanical horn, pillion seat, guaranteed perfect condition; £135.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0416

1918 2¾h.p. Douglas, 2 speeds, Tan-Sad, Lucas lighting set, Lucas horn, original plating and enamel, excellent order, not W.D., date guaranteed; bargain, £52.—436, Whitehorse Rd., Thornton Heath, S.E. [8806

1920 4h.p. Douglas Combination, 2,000 miles, splendid condition, wind screen, hood, Cowey speedometer and horn, set dry battery lamps or acetylene; best offer over £130; North Weald.—Box 1,746, c/o *The Motor Cycle.* (D) [8245

1911 2-speed Douglas, 2¾h.p., recently enamelled and overhauled, tools, horn, and rear lamp, footboards, Brooks saddle, nearly new Dunlops and belt; £30, or exchange good 2-stroke, Levis preferred.—Thorpe, East Heath, Wokingham, Berks. [8256

DOUGLAS 1920 4h.p. Combination, bought August, mileage 1,000, perfect order, all accessories, including speedometer and Easting screen; any trial given; 130 gns., or very near offer.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [8624

DOUGLAS 1921 Models in Stock, 2¾h.p., 3-speed, clutch, kick start, £105; 2-speed model, £85; 1921 second-hand 2¾h.p. 3-speed model, used once, only £90; extended terms.—Authorised Agents, Elce and Co., 15-16, Bisbopsgate Av., Camomile St., E.C.3. [0069

WAUCHOPE'S, 9, Shoe Lane, London.—New 1921 2¾h.p. Douglas, 3-speed, clutch and kick start model, £105; new 1921 4h.p. combination, £170; solo 4h.p., £130; new 1921 improved W.D. pattern, 2 speeds, £85; easy payment or exchanges arranged.—'Phone: 5777 Holborn. [8915

JULY, 1920, Douglas combination, small mileage, brand new condition, lamps, speedometer, specially built to carry 3, luggage and petrol carrier, all spares; ill-health only reason; nearest offer £160; any trial any time.—Morgan's Garage, Prittlewell, Southend, Essex. Privately owned. [8617

1920 4h.p. Douglas Combination, fitted with polished aluminium discs, Lucas horn, front mudshields, Rotax dynamo lighting set, Cameo wind screen, mileage 1,250, practically new appearance, mechanical condition guaranteed perfect; £155.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9003

1919 4h.p. Douglas Combination, in perfect order, small mileage, just overhauled (engineer's certificate), sidecar reupholstered, tank re-enamelled, 3 brand new Dunlop heavy tyres, C.A.V. mag., Blumels wind screen, oak locker under dash, Cowey horn, Watford speedometer, P.H. head lamps, Lucas sidecar lamp, Clayrite reflector, spare brass petrol can, copper exhaust, Tan-Sad. engine shield, spare tyre, tube, belt, chain, contact-breaker, H.T. cable, licence holder, luggage grid; first £150, or nearest offer.—Lt. West, Goatland, Yorks. [8289

Edmund

EDMUND 2¾h.p., 1920, 2-speed, clutch, kick starter, under 400 miles; bargain, £65.—34, Park Rd., Chiswick. [8886

EDMUND, 2¾h.p. J.A.P., 1920 model, Enfield 2-speed, spring frame, lamps, accessories, tax paid; bargain, £65.—Jones, London House, Hay, Hereford. [8691

1920 2¾h.p. Edmund-Union 2-stroke, Enfield 2-speed gear, spring frame, perfect condition.—Seymour, 57, Bridge Rd., East Molesey. Bargain, £73/10, with licence. (D) [8618

EDMUND-J.A.P. Spring Frame Lightweight, 1920 model, 2-speed, kick start, hand clutch, footboards, guaranteed as new; 80 gns.—H. J. Marston, 50, Argyle St., Birkenhead. [8753

EDMUND 2¾h.p., 1920 model, J.A.P. engine, Enfield 2-speed gear and clutch, spring frame, unused, shop-soiled only; bargain, £80.—P. J. Evans, 81-91, John Bright St., Birmingham. [8498

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DOUGLAS Combination	£170 0	£152 10
DOUGLAS, 2¾ h.p. (2)	£100 0	£89 0
NEW HUDSON, 2-stroke (2)	£75 0	£65 0
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ROVER 5-6 h.p. Combination	£235 0	£155 0
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1919 **ENFIELD,** lightweight	£52 0
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1918 **HARLEY-DAVIDSON** and S/car.	£130 0
1915 **HARLEY - DAVIDSON,** dynamo, and Sidecar	£105 0
1916 **HARLEY-DAVIDSON** Comb.	£115 0
1920 **LEA-FRANCIS**	£85 0
1919 **TRIUMPH** and Sidecar	£130 0
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MOTOR CYCLES FOR SALE.

Enfield.

JULIANS of Reading have 1921 Enfields in stock [8305

1920 8h.p. Enfield Combination, brand new; £152 —Below.

1914 Enfield Combination, wind screen, hood, Tan Sad, lamps, horn, condition excellent; £74.—Edwards, 50, Harrington Rd., South Kensington 'Phone: Kensington 3709 [9036

NEW 1920 Enfield, 2-stroke, 2-speed; £65; in stock.—Randal, Andover. [0365

ENFIELD 1921 8h.p. Latest Combination; sacrifice £150.—12, Wellington St., Eastwood, Notts. [8756

ENFIELD Combinations, 1921, in stock; best proposition on the market.—Clifford, Motories, Eastwood, Notts. [8717

ENFIELD 1921, all models for immediate delivery —Ratcliffe Bros., 200, Gt. Portland St., W. May fair 5042. [0432

1921 Enfield Combination, from stock with or without Magdyno lighting; exchanges.—Chaston, Blackwood, Mon. [8736

ENFIELD 3h.p., 1916, 2-speed, kick start, magnificent condition throughout; £55.—52, Worthington Rd., Surbiton. [8236

1920 Royal Enfield Combination, mileage 1,200, like new, lamps, horn, screen.—Apply, E. Hollier, 16 Beaufort St., Redditch. [8256

BRAND New Enfield Lightweight; £60.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3 Tel.: Kensington 7113. [7816

6h.p. Enfield, 1920 model, J.A.P. engine, housed shop-soiled only; £150.—P. J. Evans, 81-91, John Bright St., Birmingham. [8498

1916 Enfield Combination, 6h.p. J.A.P. engine, hood, lamps; £85.—29, St. Leonard's St., Bromley-by-Bow, East 4708. [8795

1920 Royal Enfield, 2-stroke, 2-speed, perfect condition, lamps and tools; best cash offer.—Pearce, 89, Whiteladies Rd., Bristol. [8585

1917 6h.p. Enfield Combination, completely overhauled, all accessories; £120, tax paid; seen any time.—245, Whitehorse Rd., Croydon. [8511

LATE 1920 8h.p. Enfield Combination, new condition, dynamo lighting, speedometer, Binks, 1921 licence; £170.—74, Malpas Rd., S.E.4. [8577

ENFIELD Combination, 1913, Easting screen, spare inner tube and chain, tools, good running order £75.—Howse, c/o Dan Guy, Weymouth. [8235

1921 New Enfield Outfit, Vickers engine, all lamps, Klaxon; owner unable to take delivery £150.—Box 1,804, c/o *The Motor Cycle.* [8981

1916 Enfield Combination, unused 2 years, exceptional condition, all accessories, licence paid £130; after 6.30 p.m.—43, Tantallon Rd., Balham. [8411

1920 Royal Enfield 6h.p. Combination, electric lighting, Cameo screen, perfect condition, hardly used £160; tax paid.—Ibberson, Ltd., King's Lynn. Tel. 23. [8245

1919 (delivered 1920) 3h.p. Enfield Twin, 2 speeds, kick starter, lamps, horn, licence, done 1,500 miles; £75.—Pugh, Craigddu, Alexandra Rd., Aberystwyth. [8315

1921 Enfield Combination, dynamo lighting, with or without dynamo; in stock, immediate delivery, list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0355

3½h.p. Twin Enfield, 1916, M.A.G., 2-speed, K.S. and Canoelet S.C., lamp, all accessories; any trial; £55, or separate; 50/- tax.—19, Varney St., Tooting. [8586

ENFIELD 6h.p. Combination, Easting, lamps, Klaxon speedometer, hood, pillion seat, excellent condition very little used; £125.—Wells, 92, Loampit Vale, Lewisham, S.E. [8385

1916-17 Enfield 3h.p., 2-speed, kick start, speedometer, lamps, etc., tyres nearly new, splendid condition; first wire 43 gns.—Pearce, Bramley Cottage, Handsworth, Sheffield. [8844

WAUCHOPE'S, 9, Shoe Lane, London.—Enfield 1921 combination, with dynamo lighting set £182; standard model, £160; 2-stroke solo, £65; easy terms arranged, one-fifth down and the remainder in 12 monthly payments. [8911

1921 Enfields in stock for immediate delivery; 8h.p. combination, £160; 2-stroke, £65; easy payments.—Homac's, 243, Lower Clapton Rd., Dalston 'Phone: Dalston 2408. [8931

ENFIELD Combination, good condition, thoroughly overhauled, worn parts replaced, new heavy Dunlops; £75.—Scotswood, Sandon Rd. (corner Drayton Rd.), Edgbaston, Birmingham. [X6134

ENFIELD 1920 (August) 6h.p., with comfortable Sandum bulbous sidecar, Easting, mileage under 900, engine just run in, tax paid, genuine; £130.—R.S., Ridley Hall, Cambridge. [8256

ENFIELDS 1921 Models in Stock, 8h.p. combination, £160; Lucas Magdyno lighting set combination, £182; lightweight model, £65; extended terms.—City Agent, Elce and Co., 15-16, Bisbopsgate Av., Camomile St., E.C.3. [0067

MOTOR CYCLES FOR SALE.

Enfield.

1919 6h.p. Enfield Combination, very good condition, lamps, tools, hooter, speedometer, muffs, mirror, ggage grid, nice hood, Easting screen, tyres nearly w, spare tyre valve and plug, A A. insured; £135.—35, ender St., New Cross, S.E.14. [8643

ROYAL ENFIELD 1916 Combination, overhauled. tyres as new, complete with lamps, horn, tools, nd screen, hood, luggage carrier; any trial given; a rgain, £95.—Autolee Motor Engineering Co., 1, ltham Rd., Lee Green, S.E.13. [8507

NFIELD 6h.p. Combination, 1916, lately overhauled small mileage, bought May, 1917, by owner, then 5 years, screen and hood, extras, car tyre puncture roofed tube, new tube and chain, bought car; £100.—lepherd, Beechcroft, Bassett, Southampton. [7369

NFIELDS.—The cheapest twin combination on the road. We are North London agents, and can give mmediate delivery of the standard model, £160; elec ric model, £180; trade supplied. All spares in stock Jones' Garage, Muswell Hill, N.10, and at Woodside arade, North Finchley. [0380

Excelsior.

EXCELSIOR, 4½h.p., new October, 1920, done 200 miles, lamps, horn, etc.—Kirkup, Kibblesworth, ateshead. [8951

1920 Excelsior-Jap, 2¾h.p., SturmeyArcher 2-speed clutch and kick starter, Cowey horn, absolutely new; £80; exchanges.—Homac's, 243, Lower Clapton d., Dalston. 'Phone: Dalston 2408. [8937

F.N.

4-CYL. F.N. Combinations and Solo Singles actually in stock.—Grimes and Co., 18, Bruton Place, New ond St., W. [6305

F.N. 4-cyl. Coachbuilt Combination, perfect order, excellent condition; £35; bargain.—Box 142, c/o *The Motor Cycle*. [X6128

F.N. 4-cyl., converted, wide tank, enamelled red, new tyres, not quite complete; £30, or exchange.—1, erry Rd., Long Ditton, Surrey. [8762

F.N., 4-cyl., 1914, No. S0767, good condition, over hauled discs, Brooks B170 saddle, electric light ng, 8in. rear, wide valanced front mudguard, specia ong aluminium foot boards, engine shielded, Amac nd Dunlop tyres, Brooks carrier bag; £50.—Tonks lanor House, Brompton, Chatham. [8187

Francis-Barnett.

JULIANS of Reading have Francis-Barnett in stock. [8303

FRANCIS-BARNETT, late 1920, 2½h.p. J.A.P., 2-speed, clutch, K.S., completely equipped; £90, or ffer.—22, Leyton High Rd., E.15. [8799

Harley-Davidson.

1918 7-9h.p. Harley, like brand new; £85.—29, St Leonard's St., Bromley-by-Bow. East 4708. [8792

HARLEY-DAVIDSON 7-9h.p., good condition; £75 exchange Douglas combination.—44, Penrith Rd. Thornton Heath. [8387

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross 68 High Rd., Lee. [5669

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole agents, Bambers', Southport, Lancashire. Tel.: 607 [5009

1920 (July) 4h.p. Harley, mileage about 2,000, full equipment; reasonable offers to E. Shenstone, Grange Rd., Leyton, E.10. [8533

1919 Harley 7-9h.p. Combination, brand new condition, exceptional engine; 120 gns.—Cartwright, 1, Brighton Rd., Stoke Newington. [8836

1918 7-9h.p. Harley-Davidson, 3-speed, K.S., with new Canoelet sidecar; £100, bargain.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [8972

HARLEY-DAVIDSON 1919 7-9h.p. Combination tools, mileage 1,200, electric lighting; £184.—L Vest, 71, Norbury Crescent, Norbury, S.W.16. [0377

HARLEY-DAVIDSON 1920 8h.p. Combination, fully equipped, nearly new; £190.—Parker's, Bradshaw gate, Bolton, and 245, Deansgate, Manchester. [X6033

HARLEY-DAVIDSON, 1920, 7-9h.p., electric model as new, discs, speedometer, mileage 200; £150.—Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5522

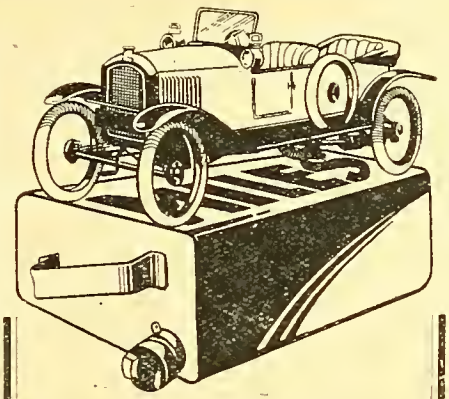
HARLEY-DAVIDSON Combination, 1915, excellent condition, all accessories and spares; any trial; 105.—Luis, 9, Greencroft Gardens, Swiss Cottage, N.W. [8527

HARLEY, complete less engine, unit 1919, W.D.; price £45; good condition.—Barker's Motors, 194, alham High Rd., S.W.12. 'Phone: Latchmere 4441. [7383

1920 Harley-Davidson 7-9h.p., magneto model, perfect condition, electric head and tail lamp, electric horn, tax paid; price £155.—75, Cleave Rd., Gillingham, Kent. [8337

1920 7-9h.p. Harley-Davidson, disc wheels, lamps, speedometer, Klaxon horn, under 2,000 miles; rice £140.—Duncan and Shepherd, 33, The Parade, olders Green. [8414

HARLEY-DAVIDSON Combination, 4½h.p., 1915, lamps and horn, in excellent running order; £70; xchanges entertained.—Bambers', Eastbank St., South ort. Tel.: 607. [8902



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MOTOR CYCLES FOR SALE.

Harley-Davidson.

HARLEY, 1917, not W.D., dynamo lighting, new accumulator, speedometer, gradometer, Tan-Sad, excellent order throughout; £84, offers.—Heath, 10, Amblecote Rd., Grove Park, S.E.12. (D) [8542

1920 Harley 7-9h.p. Electric Combination, speedometer, Easting, discs, College, tax paid, new condition, cost £262, £170; new sports model, £140. —Clark, 7, Exhibition Rd., South Kensington. [8955

1919 Harley-Davidson Combination, big bulbous back sidecar, in first-rate running order; any trial, engine No. 19T5058; £125.—Lieut. G. Conner, c/o Stevens' Garage, 184, Pentonville Rd., King's Cross. [8422

HARLEY'S.—1918 models, good appearance, running order, a few left at £85; aeroplane propellers, new, 2-bladed 4/6, 4 blades 10/-, carriage extra.—Owen, 59, Scholefield Rd., Upper Holloway, N.19. [X6087

1915 Harley-Davidson Combination, 7-9h.p., mag. model, 3 speeds, K.S., electric and acetylene lighting, Cameo, 2 horns, 2 new tyres, economical, guaranteed mechanically perfect; £90; tax paid.—Matthews, Grocer, Little Ealing Lane, South Ealing. [8803

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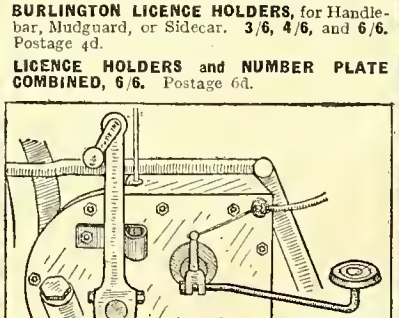
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Metro.

METRO-TYLER, 1920 model, Type S, 2-speed, un- used, shop-soiled only; list price £96; accept £70.—P. J. Evans, 81-91, John Bright St., Birming- ham. [8497

METRO-TYLER, 1920, Model S, 2-speed, 2-stroke, new, shop-soiled only; no reasonable offer re- fused.—Call, Douglas S. Cox, 6c, Lansdowne Hill, West Norwood. [8726

Minerva.

3½h.p. Minerva, mag.; £20.—30, Harpenden Rd., West Norwood. [8436

MINERVA 2¾h.p., mag., good order; £15.—57, Kenbury St., Camberwell, London. [8883

5-6h.p. Minerva Combination, Bosch, B. and B., 650×65 tyres, powerful; £22.—434, Fulham Rd., S.W. [8551

5×6 Twin Minerva Watertight Magneto, spring forks, tyres as new, with coachbuilt sidecar; £25.—Box 143, c/o *The Motor Cycle*. [X6129

Monarch

MONARCH-VILLIERS 1920 2½h.p., 2 speeds, first- class condition throughout; £45.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6042

Motosacoche.

MOTOSACOCHE 2h.p., 4-stroke, good condition, per- fect running order; £25.—Kynaston, Reabrook, Munsterley, Salop. [8404

MOTOSACOCHE Lightweight, Bosch mag., running order, but requires belt; £10.—Plater, 64, Park St., Thame, Oxon. [8779

MOTOSACOCHE 2¼h.p., new Amac, mag., Whittle belt, tyres unpunctured, as new; £25, or offers. —Green, Stationer, Brandon, Suffolk. [8334

Neal

1920 Neal-Dalm, Henderson sidecar, lamps, mileage 800; bargain, £85.—Taylor, Glenholme, Rich- mond, Sheffield. [8854

New Hudson.

1920 New Hudson 2¼h.p., 2-stroke, as new; £60.—3, Melville Rd., Barnes. [8521

1920 New Hudson Lightweight, 2-speed, practically new, licence paid; £65.—Rogers, 42, Church Rd., Hendon. [8642

NEW HUDSON 3h.p., 3 speeds, clutch, K.S., acces- sories; £48, or near offer.—75, Tottenham Rd., Islington, N.1. [8511

NEW HUDSON 4h.p., 3 speeds, clutch, K. start, per- fect condition; all on, £60, or offer.—60, Star St., Paddington, W.2. [8524

NEW HUDSON 1920 2¼h.p., 2 speeds, shop-soiled only; £67/10.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6041

1920 New Hudson 2¼h.p., brand new; £63.—Edwards' 50, Harrington Rd., South Kensing- ton, S.W.7. Phone: Kensington 3709. [6357

NEW HUDSON 2¼h.p., single-speed, 2-stroke, good running order; £35; test arranged by letter.—Porter, 49, St. Asaph Rd., Brockley, S.E.4. [8761

NEW HUDSON Combination, 4h.p., 1919, acces- sories, little used; a bargain, £95.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0412

NEW HUDSON 2-stroke 2¼h.p., in perfect running order, tyres, belt new, only waits viewing to buy; £30, or offer.—Marshall, 82, Hampstead Rd., N.W.1. [8839

NEW HUDSON 4h.p. Combination, in perfect condi- tion, ready to ride away, little used, all accessories; accept £75, or near offer.—Adams, c/o Hedges, Butcher, 129, Askew Rd., Shepherd's Bush. [8423

T.T. New Hudson 2¼h.p., sporting model, enamelled red and silver, just spent £25 on same; money wanted; accept £55 for quick sale, worth 70 gns; in- spection invited.—48, Milton St., Southport. [8990

New Imperial.

NEW IMPERIAL 8h.p., sidecar, accessories; £120, offer; just overhauled.—Elmstead Lodge, Colchester. [8247

1917 2¾h.p. New Imperial-Jap, 2-speeds, clutch, kick starter, accessories; £52.—Daw, 114, Brix- ton Hill. [8825

8h.p. New Imperial Combination, as new; £140, or cheaper motor cycle and cash.—Box 1,764, c/o *The Motor Cycle*. [8295

£36.—New Imperial, 2¾h.p. J.A.P., 1918, 2 speeds, lamps, mechanically sound.—143, Ravensbury Rd., Earlsfield, S.W. [8891

NEW IMPERIAL, 2¾h.p. J.A.P., clutch, and kick- starter, 1920; £65.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0413

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed model, brand new, shop-soiled only; bargain, £70.—P. J. Evans, 81-91, John Bright St., Birmingham. [8491

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,,	Clincher de Luxe Ex. Hy..	37/6	62/6
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,,	S. Monlton Extra Heavy..	37 6	59/-
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26×2½	Palmer Cord Heavy	39 6	66/-
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28×3	Goodrich Safety Tread ..	52 6	93/6
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700×80	Wood-Milne Steel Stud ..	97 6	133/6
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New Imperial.

NEW IMPERIAL 1918 8h.p. Combination, absolutely good as new, with every accessory, at slump price £98.—Wallis, 23, Hartington Grove, Cambridge. [847

NEW IMPERIAL-J.A.P., 1921 model, 2¾h.p., 2 speed, kick starter, hand clutch, hraod new, un used; immediate delivery; 85 gns.—Ceotral Garage Heoley-on-Thames. [107

1921 New Imperials, all models in stock for immed ate delivery; exchanges or easy terms fro the official agents.—Holmac's, 243, Lower Clapton Rd Dalston. 'Phone: Dalston 2408. [893

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, in perfe condition throughout, lamps, horn, tools, spa valves and piston rings, hack tyre new; £33.—J. Cha bers, Preston Bissett, Buckingham. [840

NEW IMPERIAL Motor Cycles and Combination supplied at manufacturers' list prices for cash o on Harrods unique easy payment system for a sma extra charge; full particulars on application.—Harrod Ltd., 124, Brompton Rd., London. [909

NEW IMPERIAL Light Tourist, 2½h.p. J.A.P., speed, clutchless, 1918, perfect mechanical cond tion, Miller head light, mechanical horn; £40; on vie Saturday from 1 to 4.30 p.m. by appointment.—8, Cad gan Court, S.W.3. Tel.: Kens. 1814. [X605

New Scale.

NEW SCALE Motor Cycle; original price £8 sacrifice £65; unused.—64, Bishopsgate, Londo [039

NEW SCALE 3½h.p., 1920 model, as new; £80. George Eastwood, Wholesale Market, Hudder field. [832

Norton

JULIANS of Reading have 1921 Nortons in stock. [830

GIBB, Gloucester, can deliver 1921 Nortons fro stock.—'Phone: 852. [044

NEW T.T. Norton, just delivered; £98; in stock. Holland Bros., Ltd., Boston, Lincs. [737

NORTON Motor Cycles.—Can deliver anywhere; ear dates.—Kelly, Bachelor's Walk, Dublin. [612

NORTON 1921 3½h.p., 3-speed. T.T., from stock £132; exchanges.—Chaston, Blackwood, Mon. [873

NORTON Motor Cycles.—Place that order with m early delivery dates.—Cook's Garage, Shifna Salop. [813

NORTON 1920 Combination, special competiti Mabon gear; £150, or offer.—North St. Garag Guildford. [82

NORTON 1921 Models.—Sole district agents, Wess Motors, Ltd., 60, Catherine St., Salisbur 'Phone: 72. [500

NORTON 1920 Big Four, 3-speed countershaft, ful equipped, as new; £125.—30, Crystal Palace Par Rd., Sydenham. [860

1920 Big Four Norton Combination, £15 worth extras; £180, or cheaper motor cycle and cash. Box 1,763, c/o *The Motor Cycle*. [92

NORTON, 1918, B.R.S. Philipson, lamps, spee meter, Klaxon, new back tyre, just been overhaul and enamelled; price £95.—1, Fletcher St., Grantha Lincs. [81

DISTRICT Agent for Derbyshire for the Nort motor cycle; can deliver anywhere; all mode in stock; immediate delivery.—H. Palin, Ltd., Bour St. Derby. [89

1917 Big 4 Norton Combination, large bulbo back sidecar, roomy and comfortable, lam and horn, very fast; £97/10.—Dunn, 326, Euston R N.W.1. [90

B.R.S. Norton 3½h.p., 1919, Philipson, spare eve thing very nearly, very fast, of course; good co dition throughout; £85.—T. Twentyman, Pickeri Yorks. [D]

1921 Norton Models, Big Four, B.R.S. (Philipso and 3½h.p. T.T. countershaft, immediate delivery.—Spa Motor and Engineering Co., South Cl Scarborough [76

N.S.U.

N.S.U. 3½h.p., 2-speed, recently overhauled and enamelled, good tyres and belt and new lamp e £36, or nearest offer.—Carlton, Appleby, Westmorla [82

N.S.U. 4h.p., 2-speed, Miller and Motex lamps, to inflator, horn, just overhauled, fast, £30; a C.B. sidecar, £16.—Smith, 2, Orchard, Goathla Yorks. [81

N.U.T.

N.U.T. 1920, as new, Magdyno; £125, or near North St. Garage, Guildford. [82

3½h.p. N.U.T., 1920, Magdyno, Watford spee meter, fully insured, excellent condition; £1 —M. Lavender, 2, North Brink, Wisbech. [X61

1920 N.U.T., Magdyno, Cowey horn and speedomet practically unused; £125, or exchange lo power.—Leng, 36, West Hill, Sydenham. [83

N.U.T.—Delivery from stock of all models. S wholesale and retail agents for Staffordshire; t trade supplied.—The Walsall Garage, Walsall. Te 444. [40

N.U.T. 1921 3½h.p. Twin, Lucas Magdyno light set, brand new, just received from works; gns.—Elce and Co., 15-16, Bishopsgate Av., Camon St., E.C.3. [0

MOTOR CYCLES FOR SALE.

N.U.T.

TUT-J.A.P. 2¾h.p., o.h.v., very fast, specially tuned engine, adjustable pulley, long plated exhausts, 20 Binks, paintwork, tyres, etc., as new, all accessories, only wants seeing; £58.—33, Streathbourne Rd., Balham, S.W. [8540

N.U.T.—A few latest 3½h.p. N.U.T. machines, standard specification, list price 145 gns., clearance price £125; similar, minus dynamo lighting, £110, and new.—Maudes', 100, Gt. Portland St., W.1, and 90, Paris St., Exeter. [8627

O.K.

JULIANS of Reading have 1921 O.K. in stock [8301

1920 O.K.-Villiers, perfect condition throughout; £35, or nearest offer.—N. A. Lindley, East Harleton, Norwich. [8207

O.K. 1920 (June), Villiers 2-speed, mileage 500, perfect condition, 110 m.p.g.; £55.—A. Wigginton, 10, Walpole Gardens, Chiswick, W.4. [8239

O.K. 2-stroke, 1919, Villiers engine, Albion gear box, 2-speed, condition as new; Derbyshire; £40, or near offer.—Box 126, c/o *The Motor Cycle*. [X5813

1917 2½h.p. O.K. 2-stroke, condition like new, variable pulley, new tyre, fully equipped; 29 gns.; photo.—Argyle Lodge, Newton Rd., Burton-on-Trent. [8852

£25! £25! £25! Absurd bargain.—O.K. lightweight, 1915, 2¼h.p., 2 speeds, free engine, footboards, etc., ready to drive away.—24, Beauval Rd., East Dulwich. [8573

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall, Andover. [0368

OMEGA.—Immediate delivery of all models.—The Rochester Auto Supply Co., Corporation St., Rochester. [0465

1919 2¾h.p. Omega, 2-speed, lamps, horn, legshields, knee grips, etc., copper exhaust, perfect condition; £55.—Ingle, jun., Hais Weston, St. Neots, Hunts [8259

1921 Omega, single speed, 2-stroke, delivery from stock, £50; 2-speed model, £58; other models a few days.—Gray and Raynes, 8, Low Rd., Balby, Doncaster. [8457

OMEGA 2-stroke, 2-speed; £38; good running condition, tax paid; would exchange cash adjustment for twin combination; seen Saturday afternoon, Sunday. 7, Aubrey Rd., Hoe St., Walthamstow. [8434

P. and M.

1918 P. and M. R.A.F. Model Combination; £60.—9, Church Rd., Willesden, N.W. [8591

P. and M., 1917, and 1918, 2-speed, less mag. and carburetter; £33.—24, Church Walk, Hampstead. [8706

1920 (late) P. and M., absolutely new condition; £92.—Clark, 7, Exhibition Rd., South Kensington. [8956

1918 P. and M., renovated, re-enamelled 1920 colours, perfect throughout, as new; £62/10.—1, Othello Av., Liverpool. [8429

P. and M. 1918 Coachbuilt Combination, perfect condition; trials; £70, or offer.—17a, Seeley Rd., Tooting Junction. [8880

P. and M., R.A.F. model, overhauled and re-enamelled; £55.—Stanleys, 173-4, Railway Approach, Shepherd's Bush, W.12. [8865

1916 P.M., handsome sidecar, electric horn, lights, hood, 2 spare wheels, £5 spares; £65.—55, St. Thomas' Rd., Bermondsey. [9078

FOR Sale, P. and M. combination, in good running order, with lamps and tools; £60.—Apply, J. Walker, The Gables, Woodchester, Glos. [6441

P. and M. 1920 3½h.p. Model, brand new Watsonian sidecar, equal to new; £120.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6031

P. and M. Combination, £50, or close offer; coachbuilt sidecar, 2-speed, handle start, good running order.—M., 4, Quentin Rd., Blackheath, S.E. [8514

£45.—1918 3½h.p. P. and M., makers' colours, T.T. bars, Bosch Capac; owner unemployed. — 1, Bonwell Mansions, King St., Hammersmith. [8663

VAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—3½h.p. P. and M. 1917 model, £57/10; 1920 model, £95; and a 1919 model, £85; easy terms of one-fifth down and the remainder in 12 monthly payments. [8917

P. and M. 1921 Olympia Show Combination, ridden 50 miles only, special finish, perfect condition; £135, exceptional opportunity.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Cycles. [9004

P. and M. Motor Cycle Combination for sale, 3½h.p., 2-speed, kick starter, mechanically perfect, late 1919, complete accessories, tyres and new, in perfect condition; offers wanted.—Rich, 100, High St., Harlesden, N.W.10. [8903

PHELON and Moore ex-W.D. Models, thoroughly overhauled and guaranteed, tanks re-enamelled, pat brakes, chain cases; £78. Similar models overhauled and guaranteed by makers, £95; with sidecars, £100 and £110; easy payments 7½% extra.—Maudes', 100, Gt. Portland St., W.1, and Paris St., Exeter [8629

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P. and M.

£50.—Late type 3½h.p. P. and M., not W.D., complete lamps, tools, new licence, perfect condition, privately owned.—Apply, Wilson's, 32, High St., Peckham. [8798

Precision.

4¼h.p. Precision, 2-speed, free engine, handle start, wicker sidecar, engine perfect, gears require adjustment; bargain, £27/10, no offers. — Gibbs, Oundle. [8993

Premier.

PREMIER 1914-15 3½h.p. Coachbuilt Combination, 3-speed countershaft, kick start, condition as new, numerous spares, tax paid; £85.—7, Lockwood Rd., Ilford. [8523

Pebok.

PEBOK 3½h.p., splendid running order, drop frame; £16/10; must sell.—411, Bearwood Rd., Smethwick, Birmingham. [8242

Priory.

1920 2¾h.p. Priory, 2-stroke, 2-speed, never been used; £50; a bargain.—8, Manor Rd., Coventry. [X6203

Quadrant.

£9.—Quadrant, mag., B. and B., spring forks, new saddle, sound tyres.—King, Egrove Farm, Oxford. [X6097

1920 4½h.p. Quadrant Combination; makers' price, £145; what offers?—Shepherd, Enfield Highway. Tel.: Waltham X 31. [0341

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4½h.p. 1921 Quadrant combination, with wind screen, £147/15; also 4½h.p. 1920 Quadrant combination, excellent condition, £120; easy terms of one-fifth down and the remainder in 12 monthly payments. [8918

CLIFFORD WILSON Mfg. Co., 70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: Kensington 7113. Quadrant sole agents and wholesale distributers for London, Southern and Eastern Counties. Immediate delivery from stock of new 4½h.p. and 5h.p. models; all spares. Single and 2-seater sidecars ready for immediate fitting. Deferred payments arranged. [5458

Radco.

RADCO Lightweight, single-speed, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mobes, 154,156, Gt. Portland St., W.1. 'Phone 3426 Mayfair. [8372

Raleigh.

RALEIGH Flat Twin; actually in stock; at list price.—Welford, St. James's St., Brighton. [8720

RALEIGH Combination ready for delivery in March; particulars on request. Quadrant Garage, Winchmore Hill, N.21. [7347

RALEIGH 1921 Model; orders now accepted for this machine, solo or combination.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0425

Rex

REX 5-6h.p. Twin; £22, or offer; must sell.—West, 54, Kenley Rd., Twickenham. [8653

3½h.p. Rex, ride away; bargain, sacrifice £32.—Wright, 14, Gordon Rd., Aldershot. [8593

5-6h.p. Rex, tax paid (light), clutch, lamps, accessories, good order; £39/10.—A. Fogden, Hunston Dairy, Chichester. [8766

LATE Model 6h.p. Rex, 2-speed, clutch, handle start, Bosch, splendid condition, fast; £35.—Gibbs, 58, Ashdown Rd., Worthing. [8427

6h.p. Rex, 2-speed, Bosch, B. and B., rebushed, new tyres, belt, running, needs slight attention; £26.—Whitney, 1, James Place, Northampton. [8268

REX 1916 8h.p. Twin Motor Cycle, 2 speeds, free engine, fitted with side box carrier, very fine and powerful combination, good order; £55, real bargain.—A. Holland, 164, Earlsdon Av., Coventry. [X6206

Rover.

1920 3½h.p. Rover, 3-speed, countershaft, fully equipped; practically new; £87.—37, Arlington Rd., Surbiton. [8801

ROVER 1920 3½h.p., shop-soiled; list price £135, our price £125.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0426

1917 Rover, 3-speed, countershaft, clutch, kick starter, perfect condition; £70.—Burgess, 2, Middle Hill, Egham, Surrey. [8599

ROVER, 3½h.p., b.b.c., Philipson, long exhaust, all accessories, perfect condition, tax paid; £50.—73, Kingsfield Rd., Bushey, Herts. [8621

ROVER 3½h.p., 1920 model, complete with Rover sidecar, unused, shop-soiled only; £155.—P. J. Evans, 81-91, John Bright St., Birmingham. [8493

T.T. Rover 3½h.p., Philipson pulley, 1920 model, complete, in perfect order, very fast; 90 gns.—H. J. Marston, 50, Argyle St., Birkenhead. [8755

BRAND New Rover 6h.p. Combination, luggage grid, accessories; £176.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [7814

1920 3½h.p. Rover, 3-speed, clutch, kick starter, lamps, horn, knee grips, and insurance; £120, or offers.—Apply, 74, Mount Pleasant, Barrow-in-Furness. [7875

MOTOR CYCLES FOR SALE.

Rover.

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery; hire purchase if desired.—Collard, Cook's Garage, Shifnal. [2684

1920 3½h.p. Rover, 3-speed, kick starter, Lucas lamp, horn, Watford speedometer, etc., gold medal winner, machine property of a client.—Seen, Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [8010

W.D. Rover Combination, 5-6h.p. J.A.P., all-chain drive 3 speeds, clutch and kick-starter, all accessories, Easting screen, guaranteed; £125; exchanges.—Homac's, 243, Lower Clapton Rd., Dalston. 'Phone: Dalston 2408. [8945

ROVER 3½h.p., countershaft model, also T.T. model, Philipson pulley, as makers' specifications, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [8373

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed, clutch and kick starter, and with smart coachbuilt sidecar; £180, or on deferred payments 5% extra; one-quarter deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [9089

Royal Ruby.

ROYAL RUBY New 3h.p., spring frame; list price £120, our price £99.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0427

1916 2½h.p. Royal Ruby, Villiers, new tyres, fully equipped, ride away anywhere; £29/10; photo. —181, Newton Rd., Burton-on-Trent. [8851

1919 Royal Ruby Combination, 6-8h.p., all-chain drive, well equipped; makers' price £235, accept £105; exchanges.—60, Walbingford Av., N. Kensington. [8657

3h.p. Royal Ruby, spring frame, 2-speed, clutch, and kick starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used, and condition as new; a bargain, £100; may be obtained on Harrods deferred payment system.—Harrods, Ltd., 118, Brompton Rd., London. [9088

Rudge.

RUDGE I.O.M. Multi, new; £92.—Clark, 7, Exhibition Rd., South Kensington, London. [8960

1920 3½h.p. Rudge. I.O.M., mileage 50 only; £95.—Dunn, 326, Euston Rd., N.W.1. [9019

1912 Rudge, free engine, new tyres, licence paid; £28.—3, Park St., Wellington, Salop. [X6111

3½h.p. Rudge, 1920, I.O.M., mileage 800, perfect condition; £85.—Blaxland, Oriel, Oxford. [8336

RUDGE 1914 3½h.p., excellent condition, solo; £70, or near offer.—Birdwood, 19, Corlton Rd., Ealing. [8420

1920 Rudge Multi, few weeks' running, like new; bargain, £85.—Outwood, King's Av., Malden, S.W. [8330

1917 3½h.p. Rudge Multi, lamps, horn, excellent condition, licence paid; £60.—Cobby, Felpham, Bognor. [8322

RUDGE Multi Combination, 3½h.p., perfect mechanical order; what offers?—Carey, Portmarnock, Dublin. [8635

RUDGE Multi Combination, 3½h.p., 1916, lamps, etc.; £65.—Rowe, 95, Lower Addiscombe Rd., Croydon. [8269

RUDGE Multi, 1915, clutch, lamps, horn, complete, goes splendidly; £42.—134, Ravensbury Rd., Earlsfield, S.W. [8892

1914 Rudge Multi, coachbuilt sidecar, all in excellent condition; price £60.—Welford, St. James's St., Brighton. [8719

1919 Rudge 3½h.p., acetylene and electric lighting, tools, good condition, very little used; £80, offer.—61, Argyle Rd., Ilford. [8508

RUDGE Canoelet Combination, believed 1914, perfect running order, tax paid; must sell; £60.—Bradford, 43, Racton Rd., Fulham. [8379

1920 3½h.p. Rudge Multi, only ridden few hundred miles, lighting set and horn, etc.; £100, or near offer.—Seurie, Chapel Rd., Worthing. [8359

RUDGE Multi 1920 3½h.p. I.O.M. Model, speedometer, Tan-Sad; £95.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6032

1920 T.T. Rudge Multi, perfect, only done 400-500 miles, lamps, tools, knee grips, etc., tax paid; 90 gns.—Harris, Raylton, Westgate-on-Sea. [8616

1920 Rudge Combination, Lucas lamps, horn, unscratched; £70.—Edwards, 50, Harrington Rd., South Kensington 'Phone: Kensington 3709. [9038

1920 I.O.M. Rudge T.T., fine order, Miller lamps, horn, etc.; £85/10; exchanges.—Homac's, 243, Lower Clapton Rd., Dalston. 'Phone: Dalston 2408. [8939

RUDGE I.O.M., 1920, mileage 800, overhauled by makers, very fast, with or without lightweight sidecar; £80.—L. West, 71, Norbury Crescent, Norbury, S.W.16. [0376

1920 I.O.M. Rudge T.T., as new, Lucas lamps, Cowey speedometer, guaranteed; £90; exchanges.—Homac's, 243, Lower Clapton Rd., Dalston. 'Phone: Dalston 2408. [8938

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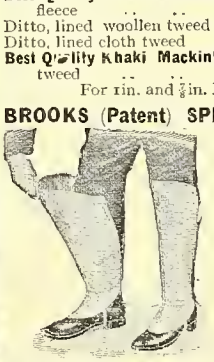


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'Grams: "Admirably, London." 'Phone: 6430, Holborn.

MOTOR CYCLES FOR SALE.

Rudge.

1920 (late) Rudge Multi, I.O.M., lamps, horn, T[illegible] sad, knee grips, licence, little used, as ne[illegible] snip, 85 gns.—8b, Warwick Square Mews, Clarenc[illegible] St., Westminster. [90

RUDGE-WHITWORTH, coachbuilt sidecar, 19[illegible] 3½h.p., 2-speed gear, accessories, good mecha[illegible] cal order; £45.—Taylors, Ltd., 52, Sussex Place, S.W[illegible] 'Phone: Kensington 7260. [04

WANTED, £50.—Rudge Multi coachbuilt combi[illegible] tion, engine No. 11813, clutch model, lam[illegible] Klaxon, 5-6h.p.; ride 50 miles for cash.—Brignall, W[illegible] gate, Rillington, Yorks. [83

3½h.p. 1920 Rudge Multi, I.O.M. Tourist Trop[illegible] complete with lamps, speedometer, knee gri[illegible] and accessories, as new, in perfect order; bargain, £[illegible] —King, Post Office, Arlesey, Beds. [86

RUDGE Multi 3½h.p. Combination, believed 1915-[illegible] speedometer, lamps, horn, tools, etc., good mecha[illegible] cal condition, tyres good, low, comfortable sidec[illegible] £57/10.—104a, Finchley Rd., N.W.3. Hamp. 7822. [85

1920 3½h.p. Rudge Multi T.T. Touring Model, o[illegible] ridden 500 miles, new condition throughout, co[illegible] plete with brand new Mills-Fulford Skiff sidecar; £1[illegible] —P. J. Evans, 81-91, John Bright St., Birmingham [84

1920 Rudge Multi 7-9h.p. Combination, d[illegible] guaranteed, October, Hunt's electric accur[illegible] lator lighting, not done 300; cost £200 (rece[illegible] shown), will sell for £125.—Welford, St. James's S[illegible] Brighton. [87

1916 Rudge Multi Combination, 3½h.p., recen[illegible] completely overhauled and re-enamelled 19[illegible] colours, fully equipped, in perfect condition throu[illegible] out; write for full particulars; £70 lowest; or excha[illegible] late model solo Triumph, 8h.p. A.V., or old G.N[illegible] Madoc, Pembroke College, Cambridge. [81

70 m.p.h.—Rudge Multi, I.O.M., Dec., 1919, t[illegible] enamelled orange, clutch, handlebar controll[illegible] extra air and ignition, large exhaust pipe, scient[illegible] design, winner sidecar race Brooklands Meeting J[illegible] 10th, large number of wins hill-climbs and speed tri[illegible] condition excellent, tax paid; £85.—Kennedy, 116, H[illegible] St., Oxford. [86

Scott.

GIBB, Gloucester, can deliver 1921 Scotts from sto[illegible] —'Phone: 852. [04

1914-15 T.T. Scott, top-hole solo machine, Am[illegible] gift, £50.—88, Lord St., Southport. [88

IMMEDIATE Delivery 1921 Scott motor cycle a[illegible] combination, in stock.—Millards, Chesterfield. [40

1920 Scott Combination, 3in. tyres, accessori[illegible] cheap.—Grimes, 18, Bruton Place, Bond S[illegible] W.1. Mayfair 4792. [73

1920 Scott and Sidecar, lamps, horn, tools, sm[illegible] mileage, excellent condition; £150.—Brow[illegible] Grocer, March, Cambs. [85

SCOTT, 1920, and sidecar, mileage 200, as new, tu[illegible] equipped; £140. — Dunn's, 326, Euston R[illegible] N.W.1. Museum 5391. [55

SCOTTS in Stock at Welfords, St. James's S[illegible] Brighton; demonstration machine always ava[illegible] able; all spares stocked. [87

SCOTT 1920 Motor Cycle, in very good conditi[illegible] small mileage; cash offer invited to clear.—Ma[illegible] 36, Parade, Leamington. [88

SCOTT, 1921, brand new sporting model; £130; rea[illegible] to ride away.—Elce and Co., 15-16, Bishopsg[illegible] Av., Camomile St., E.C.3. [00

SCOTT, 1914, in splendid order, smart sidecar, alm[illegible] as new, hood, screen, electric; quick sale, £60 Bunting's, Exchange, Wealdstone. [90

SCOTT 1920 T.T. Model, sporting sidecar, han[illegible] somely finished, fastest lot on the road; £15 terms if required.—Bunting's, Wealdstone. Clos[illegible] Sundays. [90

SCOTT, engine 3032, gears, radiator 1915, remains[illegible] 1920, C.A.V. mag., Cox-Atmos carburett[illegible] perfect condition, fast and reliable; going cheap cash.—Apply for fuller particulars to Storrar, R.A[illegible] Netheravon. [89

SCOTT Combination, in the pink of condition, r[illegible] gistered late 1917, new chains and spares, lar[illegible] etc., good tyres, little used; price £90, or neare[illegible] or exchange for higher power, not earlier than 191[illegible] Brockbank, Printer, Garston, Liverpool. [X55

SPORTING Scott, delivered Aug., 1919, and recen[illegible] completely overhauled at works, frame, tank, a[illegible] radiator 1920 pattern, footrests, Binks, 3in. Dunlop back wheel, everything in good order, spare chains a[illegible] inner tube; £105, or very near offer.—D. Smith, "[illegible] Motor Cycle" Offices, Coventry. [X56

Singer.

SINGER 2h.p., running order; £8; Cambridge.—[illegible] 1,808. c/o *The Motor Cycle.* [89

Sparkbrook.

NEW 2½h.p. Sparkbrook, Villiers engine, single sp[illegible] £69, 2-speed £75, or on Harrods unique easy p[illegible] ment system, 4% extra.—Harrods, Ltd., 118, Bromp[illegible] Rd., London. [90

SPARKBROOK 2¾h.p., 2-speed, the lightweight w[illegible] an ultra finish, as makers' specifications, sh[illegible] soiled; at greatly reduced price; now is the time[illegible] buy.—Mebes, 154-156, Gt Portland St., W.1. Pho[illegible] 3426 Mayfair. [8

MOTOR CYCLES FOR SALE.

Sun.

SUN-VILLIERS, in good order, 2-speed; £31.—3, Park St., Wellington, Salop. [X6106

1917 2-stroke 2-speed Sun, requires few adjustments, with lamps, horn, etc.; £28, or nearest.—Gibbs, Oundle. [8992

TAX Paid Sun-Vitesse, 2-speed gear box, fully equipped, splendid condition; £35, sacrifice.—10, Clover St., Hackney Wick. [8644

NEW 2½h.p. Sun-Vitesse, 2-stroke engine, single speed, £52/10, ditto with clutch and kick starter, £70; lady's model ditto, £73; or on Harrods' unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [9092

Sunbeam

NEW 1920 Sunbeam 3½h.p. Solo; £155/8; in stock.—Randall, Andover. [0366

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. Sunbeam, new 1921 model, just delivered; £155/8. [8919

SUNBEAM 1920 3½h.p. Model, equal to new; £140.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6037

1921 3½h.p. T.T. Sunbeam, delivery date guaranteed next month; offers under list; particulars.—Box 796, c/o *The Motor Cycle*. [8481

SUNBEAM Brand New 3½h.p., solo model, complete with Lucas lamps and horn; £157/10.—The Walsall Garage, Walsall. Tel.: 444. [4008

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

SUNBEAM, 2¾h.p., K.S., clutch, new piston, connecting rod fitted, makers' parts, good condition; £70.—Bayley, Heathfield Place, Halifax. [X6124

3½h.p. Sunbeam and sidecar, black and gold, 1915, Bosch, absolutely a no-trouble machine; £90 cash.—L. Freeman, Beehive, Weymouth. [8198

1920 Sunbeam, standard model, guaranteed as new, mileage about 400, complete with Lucas fittings; first cheque £140.—King, Butcher, Guildford. [8186

1920 3½h.p. Sunbeam Combination, Lucas lamps, Binks, perfect condition, 3,000 miles; £170.—Wood, Perlydee, Shaftesbury St., Stockton-on-Tees. [8189

1920 Sunbeam 3½h.p., brand new, in stock; £155; exchanges or easy payments accepted.—Homac's, 43, Lower Clapton Rd., Dalston. 'Phone: Dalston 408. [8940

1919 Sunbeam 3½h.p. Combination, in the pink of condition, set of Lucas lamps, Cowey speedometer, spare tyre, tube, and valve; a real bargain, £155.—58, Manor Rd., Rugby. [8751

1920 3½h.p. Sunbeam Combination, electric lighting, speedometer, horn, etc., mileage negligible; cost new £225, accept £185.—Ratcliffe Bros., 200, Great Portland St., W. Mayfair 5042. [0435

LATE 1920 Sunbeam 3½h.p. Combination, absolutely as new not run 50 miles, Lucas best horn and lamps, also speedometer and Cowey mechanical horn; £80, quick sale.—Baron, Hylands, Kendal. [8202

1920 Sunbeam 3½h.p. Sports, electric lighting, 8in. head lamp, perfect condition, unscratched, special sporting sidecar, with locker, new this month; £165; will separate.—2, Kenyon Rd., Wigan. [8687

SUNBEAM.—We are Wolverhampton agents. Spare parts in stock. Repairs and overhauls. Estimates upon request for re-enamelling and plating.—The Hoffmeux Garage Co., Ltd., Wolverhampton. Tel.: 1360. [3458

SUNBEAM, 1920, 3½h.p., sporting model, Lucas electric head and tail lamp with battery, horn, Watford speedometer, Amac and B. and B. carburetters, excellent condition; £125.—Siddeley, Crackley, Kenilworth. [X6194

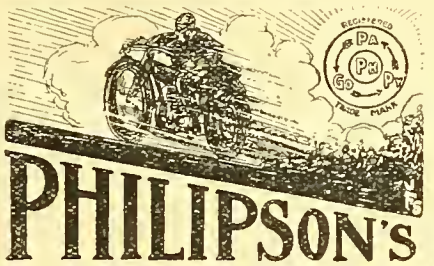
NEW 8h.p. Sunbeam, unused, Lucas Magdyno complete, Sunbeam chassis, Sandum Duo car, wind screen, hood, apron, spare wheel, discs all wheels; cost £296, accept £285.—17, Marlborough Rd., Bradford, Yorks. [8684

1920 (Sept.) 3½h.p. Sunbeam, with Henderson Elite sidecar, luxurious combination, mileage negligible, all lamps, sidecar and rear electric, horn, legshields, etc.; seen any time; cost £220, £190, or near offer.—Show, c/o 22, Blackburn Rd., Haslingden. (D) [X6083

SUNBEAM Combination, 8h.p., Lucas Magdyno lighting set and horn, hood with side curtains, wind screen, luggage carrier, leg shields, handle-bar muffs, etc., mileage 500, condition absolutely as new; cost £385; £240.—Hewin's Garages, Ltd., The Real Service Firm Taunton. [6302

1920 3½h.p. Sunbeam Combination, new July 30th, Easting screen, Cowey trip speedometer, P. and H. lamps, separate generators, horn, spare inner tube, complete set tools, perfect condition, very small mileage; insured to Aug. 4th, 1921, owner abroad; price £70.—Anna-Valley Motor Co., Andover. [8266

1105 (Tax Paid).—Sunbeam combination, 3½h.p., 1915, C.B. cancelet sidecar, overhauled Jan., cost £20, original tyres just renewed, lamps, horn, speedometer, B. mirror, spare tubes and parts, insured to Sept., guaranteed in perfect condition, any trial, owner bought an Sunbeam.—Gage, 22, Woodfield Rd., Ealing W.5. 'Phone: Padd 857 [8516



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LATE 1919 3½h.p. Sunbeam Combination, Lucas horn, mirror and acetylene lamp, accumulator for rear and sidecar, muffs, Watford trip, spare valve, chain, 2 unused retreads, 2 inner tubes, carefully driven, excellent condition; first cheque £145; refund if trial considered unsatisfactory.—Rev. W. H. Thomas, Warwick School, Warwick. [X5817

SUNBEAM Combination, 8h.p. Sunbeam engine, De Luxe Sunbeam sidecar, couch painted saxe blue, upholstered real leather, 2 wind screens (dash and Easting), hood, luggage grid, spare wheel, leg-shields, extra brake, Magdyno electric light and horn, perfect condition, finest outfit in the Midlands; £225.—Egginton, 76, Earlsbury Gardens, Birchfields, Birmingham. [X6015

T.A.C.

4-CYL. T.A.C. Combination, cylinders reground, new tyres; £40.—Hayes, 4, Warwick Chambers, Kensington, W.8. [8278

T.D.C.

1918 T.D.C. 2-stroke, speed, lamps, and horn; £29.—Dunn, 326, Euston Rd., N.W.1. [9020

Torpedo.

1915 (late) Torpedo 2¾h.p. 2-stroke, B. and B. carburetter, new back cover and tube, wheels 26×2¼, all new bearings and rings; nearest offer to £35 secures.—G. Brame, Mere St., Diss, Norfolk. [8873

Triumph.

TRIUMPH Model H and S.D., from stock.—Chaston, Blackwood, Mon. [8737

ALL 1921 Triumph Models in stock.—Premier Motor Co., Birmingham. [X5350

NEW 1921 Triumph S.D. Solo; £140; in stock.—Randall, Andover. [0365

NEW 1921 Triumph S.D. Combination; £195; in stock.—Randall, Andover. [0364

TRIUMPH 3½h.p., splendid order; £18.—57, Kenbury St., Camberwell, London. [8884

1911 F.E. Triumph, Grade, splendid condition.—Savage, Walton Heath, Surrey. [X6101

4h.p. Triumph Solo; £100.—Tel.: Museum 6266.—A.S.C., 60, Mortimer St., W.1. [9061

TRIUMPH 1912, clutch model, fully equipped, trial; £29.—17, Heaton Rd., Mitcham. [8810

TRIUMPH 4h.p., 3-speed, perfect condition; £45.—Sinclair, Blencathra, Walton-on-Thames. [8848

1914 Triumph, 3-speed, clutch, new tyres, faultless; £46.—3, Park St., Wellington, Salop. [X6110

1921 4h.p. Triumph, unused and unregistered; £120.—J. Smith, Hampstead Rd., N.W.1. [9033

£90.—Triumph 1918 combination, lamps, screen, etc. —Grimes, 18, Bruton Place, Bond St., W.1. [7344

TRIUMPH 1918 Countershaft 4h.p., new condition; £75.—76, Herongate Rd., Wanstead Park. [8727

ARTHUR G. DAW, W.D. 4h.p. countershaft Triumph, 3-speed, clutch; £70.—114, Brixton Hill. [8820

BABY Triumph, November, 1919, excellent condition, hardly used; best offers.—Beesley, Exmouth. [8206

SINGLE Geared Triumph, good condition, complete; bargain, £38.—3, Coopers Lane, Grove Park, Kent. [8386

BABY Triumph, splendid condition, licence paid; £50.—Copus, 26, Halstead St., Brixton, S.W.9. [8470

3½h.p. 1911 Triumph, re-enamelled, plated, tyres, carefully used; £26.—3, Park St., Wellington, Salop. [X6113

TRIUMPH, 1917, 3-speed, C.S., hand clutch, as new; £70; offer.—61, Kensington Av., East Ham Station. [8515

1920 4h.p. Triumph Combination, all accessories; £120, or nearest offer.—Atkins, 28, West Park, Eltham. [8748

TRIUMPH 4h.p., ex W.D., countershaft, accessories, recently rebushed, excellent; £68.—4, Green St., Cambridge. [8789

TRIUMPH, 4h.p., countershaft, 1920, brand new; £120 — Dunn's, 326, Euston Rd., N.W.1. Museum 5391. [5531

TRIUMPHS.—A fine selection of Triumphs in stock, fully guaranteed; inspection invited.—Ross, 86, High Rd., Lee. [5671

TRIUMPHS, new Model H, also Junior; also second-hand clutch model, £40.—Bunting, Motor Exchange, Wealdstone. [9027

1918 Triumph Cancelet Combination, privately owned, in beautiful condition; best offer over £100.—475, Oxford St., W. [8435

TRIUMPH 1913 3½h.p., T.T. bars, good condition; £43.—Parker's, Bradshawgate Bolton, and 245, Deansgate, Manchester. [X6041

1920 Model Junior Triumph, all accessories, good condition; £50.—Apply, Russell, Spring Grove, Tenbury Wells, Worcester. [8248

1921 4h.p. Triumph, countershaft model, in stock for immediate delivery.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0354

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1913 3½h.p., clutch, Bosch, lamps, tools, Klaxon, perfect running; £33; tax paid.—58, Upper Tulse Hill, Brixton Hill. [8504

TRIUMPH 1913 Clutch Model, splendid condition, recently overhauled; best over £45.—D. A. Smith, The Old Place, Swanley, Kent. [8335

TRIUMPH, late 1919, countershaft, mileage 1,500, unfurnished, Cowey, Tan-Sad, spares; £105.—Dongall, Photographer, Wrexham. [8845

TRIUMPH, all models in stock, W.D., fully guaranteed by makers; £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0436

1913 Triumph, clutch, Grado, speedometer, lamps, running order; £56/10.—Draper and Tebbutt, Engineers, Hackleton, Northants. [8344

TRIUMPH 1921 Model H, new in January and only done 170 miles, unscratched, tax paid; £115, or nearest.—Tippen, Marden, Kent. [8888

TRIUMPH 1914 3½h.p., clutch, 3-speed hub, C.B. sidecar; best offer; Triumph 1911 solo, £23.—Webb, Hillbrow, Heathfield, Sussex. [8315

1911 Triumph, 3½h.p. clutch model, overhauled, new tubes, tyre, and belt; £25.—Cornwall House, Westgrove, Hersham, Walton-on-Thames. [8529

TRIUMPH 1918-19, countershaft, speedometer, and accessories complete, sound throughout; £90; week-ends.—64, Bullock Rd., Catford. [8417

TRIUMPH, 3½h.p., lamps and horn, etc., in splendid condition; £28 for quick sale.—Moffatt, 139, Burntwood Lane, Earlsfield, S.W.17. [8613

1920 Triumph Combination, mileage 400, well equipped, exceptional engine; £130; exchanges.—60, Wallingford Av., N. Kensington. [8656

1919 Triumph, bulbous sidecar (not W.D.), tyres new, lamps, Klaxon, tools, spare chain, belt, valves, etc.; £95.—106, Church St., Chelsea. [8788

1921 Triumph All-chain Combination, mileage 100, lamps, horn; cost £195, bargain, £152.—Clark, 7, Exhibition Rd., South Kensington, London. [8957

TRIUMPH Sporting Model, excellent condition, toolbox, horn, spare belt, frame dropped, countershaft tank; £35, offers.—5, Thames View, E. Molesey. [8392

TRIUMPH Combination, 3 speeds, hood, screen, electric lighting, speedometer, mechanical condition new; £78.—116, Croyland Rd., Lower Edmonton. [8277

1920 Triumph Gloria Combination, electric light, practically new; offers wanted for cash.—Box 268, Rays Agency, 18, Charing Cross Rd., W.C.2. [8348

1914 Triumph, 4h.p., 3-speed hub, horn, Cowey speedometer, Gloria spring wheel sidecar, Model 2, good condition; £70.—Setton, New Malden, Surrey. [8564

1921 4h.p. Triumph, run 150 miles only, £115; brand new, in stock, £127/10; all chain drive model, £140.—Arthur G. Daw, 114, Brixton Hill. [8821

TRIUMPH 4h.p., late 1914, 3-speed Sturmey hub gear, hand clutch, splendid condition, complete lamps; £49.—Gough, 248, Drakefell Rd., Brockley. [9083

TRIUMPH 1918 Combination, overhauled, new bearings, 2 lamps, Klaxon, tools, £4 tax paid; £115.—M., 46, Clarendon Rd., Putney, S.W.15. [8689

TRIUMPH, 1913, 3½h.p., h.b.c., clutch, new carburetter, good appearance, and mechanically sound; £47.—121, Letchmore Rd., Stevenage, Herts. [8609

1913 Triumph, new dropped frame and tank, Philipson pulley, excellent condition, privately owned; £45, offers.—Seen Avenue Garage, Second Avenue, Hove. [8679

1920 4h.p. Triumph, Gloria sidecar, hood, screen, Tan-Sad, Cowey horn, all lamps, spares, tools, splendid condition; £160.—134, Commercial St., Shoreditch. [X5995

1918 Triumph, brand new Swan sporting sidecar, lamps, and horn; £83.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [9039

TRIUMPH 1919 Combination, coachbuilt, hood, screen, lamps, and various spares, never repaired in any way; £105.—K., 38, Marlow Rd., Anerley, S.E.20. [9079

1914 Triumph, 3-speed, clutch, horn, lamps, tools, insurance, just returned from makers, condition as new, £30 for renovation; £65, bargain.—140, Whippendell Rd., Watford. [8435

1920 Triumphs.—A few slightly shop-soiled machines at greatly reduced prices, solo and sidecar. Write for special clearance bargain list.—The Premier Motor Co., Aston Rd., Birmingham. [X5351

1919 Countershaft Triumph, fully equipped, in perfect condition throughout; exchange with cash for w.c. Morgan-Jap, condition immaterial, or sell £105.—Box 1,795, c/o *The Motor Cycle*. [8480

1919 Countershaft Triumph and Gloria, Miller, Klaxon, Cameo, Tan-Sad, and other fittings, perfect, wants seeing; buying car; £140; Reigate.—Write Z.S. 513, c/o Deacons, Leadenhall St., London. [X6059

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TRIUMPH 1921 Models in stock for immedi delivery, exchanges arranged; also Triumph models, renovated by makers, just delivered, as n £105.—Eagles and Co., High St., Acton, London. [X61

1920 (May 17th) 4h.p. Model H. Triumph, w Douglas sidecar, Cameo screen and apron, lam generators, and horn complete, condition equal to ne £155.—James Conltert, 12, Main St., Kirkby Lonsd [84

£110.—Triumph 1919 Luxurious Combination, al lutely like new, every expensive accessory, sured; or exchange dynamo lighting 2-seater.—3, Mews, Victoria Rd., Clapham, S.W.4. 'Phone: Lat mere 4290. [87

4h.p. Triumph, 1919, 3-speed, K.S., lamps, ho spare belt, discs, tools, etc., semi-T.T. bars, l exhaust, just overhauled, excellent condition, rere tered; £100, or near offer.—Tupling, 3, Alderley E Hoylake, Cheshire. [81

TRIUMPH Combination, renovated 1920, 3 mon old, Mills-Fulford sidecar, lamps, horn, k grips, spare covers and tubes, long nickel exhau wind screen; £125 cash; in perfect order.—J. By Church Aston, Newport, Salop. [88

1919 Triumph, 4h.p., 3 speeds, clutch and k starter, with new Swan sporting sidecar, lamps, speedometer, absolutely as new; must be s to be appreciated; £130.—Homac's, 243, Lower Clap Rd., Dalston. 'Phone: Dalston 2408. [89

1917 Triumph Combination, 4h.p., 3-speed coun shaft, complete with lamps, Klaxon, etc., g tyres, perfect running order, grey sidecar, Easting w screen, luggage carrier; £80 for quick sale.—Wr Philpot, 82, Woodgrange Av., N. Finchley. [84

TRIUMPH 4h.p. Combination, W.D., entirely re vated, complete all equipment, lamps, Cow horn, tools, spare belt, cover, tube, chain, valves, r sidecar; any trial; owner going abroad; £11 Write, D., 138, Dalmeny Av., Norbury, S.W. [82

TRIUMPH 1921 4h.p., countershaft model, £127/ 4h.p., Type W.D.B., £105; 4h.p., all-chain dr £140; 4h.p., fixed engine, sporting, £105.—Cambri agents for Triumphs, Herbert Robinson, Ltd., 32 Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [90

WAUCHOPE'S, 9 Shoe Lane, London, E.C.4.—N 4h.p. 1921 Triumph solo, delivery from sto £127/10; also new 1921 4h.p. Triumph combinati all-chain drive, £195; new 4h.p. 1921 Triumph s all-chain, £140; and 4h.p. W.D. Triumph solo, £1 also 1920 4h.p. Triumph combination, £150; 4 Triumph, 1915, £65. [8

TRIUMPHS.—1918 3-speed countershaft model, f equipped, £85; 1916 countershaft model, £ 1919 Baby 2-stroke, £55; 1914 3-speed hub gear, complete, £35; Dunlop heavy covers, 26×2⅜, u 35/-; Wood-Milne heavy, new, 32/6; aeroplane p pellers, new, 2-bladed 4/6, 4 blades 10/-; all ab plus carriage.—Owen, 59, Scholefield Rd., Upper Ho way, N.19. [X6

Velocette.

VELOCETTE, 1921, in stock at Welfords, James's St., Brighton. [87

1916 Velocette, 2-speed, fully equipped, good ty go anywhere, tank renovated; £31; photo.—1 Newton Rd., Burton-on-Trent. [88

O'DONOVAN Motors are sole London and dist agents for the wonderful Velocette; immedi delivery.—O'Donovan Motors, 76a, Gt. Portland W.1. [4

IMMEDIATE Delivery can be given of the fam Velocette, 1921 model, 2¼h.p., 2-speed, all-ch drive; £75.—Agents: W. Sparrow, Ltd., Osho Garage, Yeovil. [1

VELOCETTE.—Immediate delivery of new 1 Model D2, 2-speed, £75; Model DL2, ladi £78; Model D3, 3-speed, £85.—Sole Birmingh agents, The Premier Motor Co., Aston Rd., B miugham. [90

Verus.

VERUS, Blackburne 2¾h.p., 2-speed, K.S., n £85.—Clark, 7, Exhibition Rd., South K sington, London. [8

£35 down and 8 monthly payments of £7/10 secu a brand new shop-soiled 1920 Verus-Blackbu 2-speed 2¾h.p.—Maudes' (below).

£40 down and 8 monthly payments of £8/15 secu a brand new 4h.p. 3-speed Verus-Blackburn Maudes', 100, Gt. Portland St., W.1, and Paris Exeter. If these prices do not interest you, read column and back cover advertisements, and you will our other offers. [86

1920 Verus-Blackburne, 2¾h.p., 2-speed, F.E., 1 clutch, K.S., speedometer, lamps, generat mechanical horn, knee grips, spare chain, all practic brand new, unscratched, cost £120; best offer over £ —Moore, Central Fire Station, Woodford Green. [8

VERUS-BLACKBURNE 4h.p. Combination, n Dec. 17th, 1920, fully equipped, lamps, mecha cal horn, spares, including 1921 tax, as new; near £110; sell separately; good reasons for selling; trial except Sundays.—35, Wellhouse Rd., Barnet wick. [90

Victoria.

VICTORIA, April, 1920, 2¾h.p. Villiers, 2-spe lamps, tools, spares, etc., complete; £60; w evenings after 7.—Lyall, 18, Trafalgar Rd., Moseley Birmingham. [73

MOTOR CYCLES FOR SALE.

Vindec.

VINDEC, 8h.p. J.A.P., Armstrong 3-speed, lamps, horn, speedometer, tools, spares, 2-seater sidecar, good, screens all good order; 80 gns.; by appointment.—Barry, 20, Falcon Grove, Clapham Junction. [8539

Werner.

WERNER 1¾h.p., good tyres, coil, pedal start, complete and ready for the road; £10; well packed and put on rail free.—P. H. White, 62, High St., Kingston, Surrey. 8924

Wilkin.

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [8376

WILKIN, 2¾h.p., special competition machine, winner of special awards in Ilkley, Scott, and Cumberland trials, never been beaten in open competition, 3-speed gear, all-chain, cush drive, guaranteed as new; first cheque 90 gns. secures.—G. W. Wilkin, c/o Wilkin Motors, Onslow Rd., Sheffield. [X6123

Williamson.

WILLIAMSON, 8h.p., air-cooled, large C.B., equipped regardless; offers or exchange.—29, Selkirk Rd., Tooting. [8585

1914 8h.p. Williamson Coachbuilt Combination, water-cooled, 2 speeds, clutch, kick start, lamps, etc., excellent condition; bargain, £69.—436, Whitehorse Rd., Thornton Heath, S.E. [8807

1915 Water-cooled Williamson Combination, hood and wind screen, Rushmore searchlights, car generator, Zenith carburetter, horn, special mudshields, disc wheels, tyres excellent, spare chains, very fast, 60 m.p.h. guaranteed, gear box just overhauled by makers, receipt shown, mileage about 5,000, guaranteed absolutely perfect, a magnificent outfit; 120 gns.—Frederick Wood, Park House, Church Rd., Hanwell, W.7. [8871

WILLIAMSON Combination, 1916, beautiful outfit, 8-10h.p. Douglas engine, w.c., countershaft, kick starter, cush drive, spring footboards, speedometer, lights, hood, screen, Tan-Sad, horn, etc., recent overhaul costing over £60 new crankshaft, pistons, gears, and chains, also new 700×80 best tyres all round, drives like a Rolls-Royce, and as silent, can crawl at 3 m.p.h. or pass anything; bargain at 140 gns.; tax paid; trial with pleasure.—17, George Lane, Woodford, E.18. [8536

Wolf.

1920 Wolf-Jap, Sturmey 2-speed, K.S., Cowey, lamps, perfect; £48.—Clark, 7, Exhibition Rd., South Kensington, London. [8958

1914 Wolf-Jap 2¾h.p., 3-speed hub, and good sidecar, good order; £45, offers.—W. Salt, 3, Lord St., Etruria, Stoke-on-Trent. [8343

1920 Shop-soiled Wolf Machines, fitted with Blackburne and J.A.P. engines, and Sturmey-Archer gear boxes; cheap to clear.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [9062

Wooler.

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WOOLER 2¾h.p., 1920, plated lamps, Cowey horn, Tan-Sad, makers' price £103, very little used and fast; bargain, £70.—Parsons, 1, Acton Lane, Chiswick. [8775

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. Wooler 1921 touring models from stock, £103/10; also 2¾h.p. Wooler, 1920, £75; easy terms one-fifth down and the remainder in 12 monthly payments. [8921

Zenith.

JULIANS of Reading have Zenith in stock. [8304

ZENITH 1921 Models.—We are accepting orders for early delivery; your enquiry esteemed.—Below.

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [8377

1917 4-5h.p. Twin Zenith, sporting model, fully equipped; £60.—31, Arlington Rd., Surbiton. [8802

ZENITH 6h.p. Sports Model, 1920, shop-soiled, unused; bargain, £118.—P. J. Evans, 84-91, John Bright St., Birmingham. [8496

1920 Zenith 8h.p. Combination, complete with lamps, horn, knee grips, D.A. lighting; 139 gns.—283, Hills Rd., Cambridge. [8648

ONE of the few special 8h.p. o.h.v. model Zeniths, recently overhauled, Cox Atmos; cheap, offers.—Motors, Christ's College, Cambridge. [8467

GENUINE Bargain.—Zenith 8h.p. sporting solo, 1920, new; £125.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [0319

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ZENITH Combination, 1920 Henderson sidecar, not run 800 miles; £145.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0408

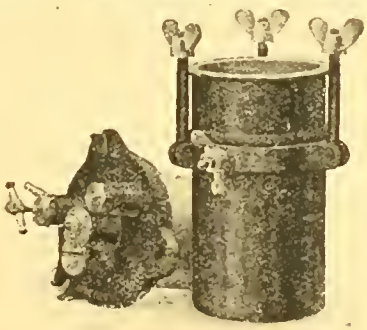
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Miscellaneous.

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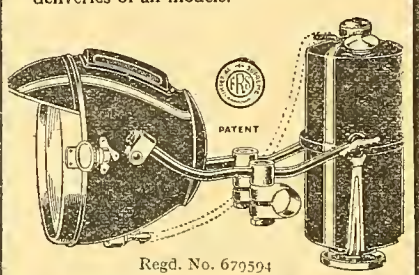
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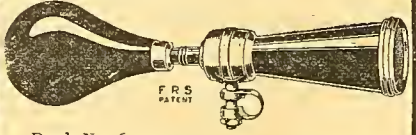
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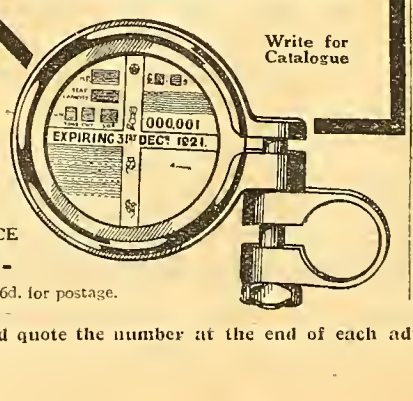
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NEW Grosvenor Sidecar, complete with fittings; cost £23, bargain at £15.—13, Derby Rd., Southport. [8179

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SIDECAR, slightly soiled, but unused, coachbuilt; price £15/10, original price £22/10.—64, Bishopsgate, London. [0399

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MILLFORD Chassis, right-hand, easily converted, 45/- each; W.D. bodies, Enfield, Clyno, etc., 30/- each; Millford 2-seater, £4.—Motors, 39, Essex Rd., N.1. [8397

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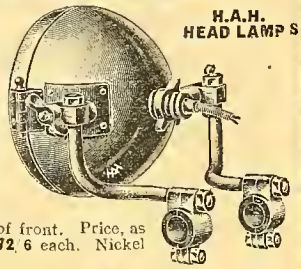
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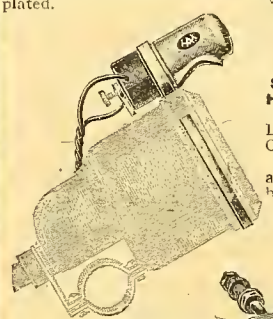


Fig. 347. 'Speedolite,' H.A.H. Patent Speedometer Lamp, 7/6 each. Clips direct on to Speedometer and has coloured bulb to prevent glare.

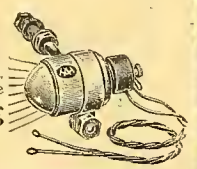


Fig. 560. Side Car Lamp. As illustrated. Complete with switch, bulb, wire, nuts, washers, etc. Price 8/6 each.

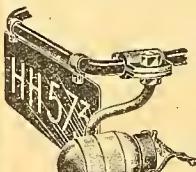


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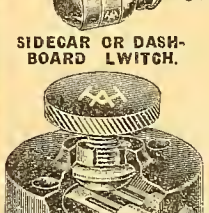


Fig. 429. Very neat, entirely new model, 1-way Switch. Screw action. Cannot shake on or off. Price 3/6 each.

Fig. 428. Ditto with ½" or ⅓" Clip for motor cycle handle-bar or tube. Price 3/6 each.



Fig. 358. Garage Lamp, less bulb and wire. Price, 7/6 each

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3-WHEEL Chassis, 6h.p. W.C. engine, 2 speeds a reverse, worm steering, all in new condition; £ or offer.—K. and T., 62, Southfield Rd., Chiswick [8

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Cycle Cars in Reliability Trials.

AT last post-war four-wheeled cycle cars are to be allowed to compete in open reliability trials on level terms with other vehicles which appeal to those interested in economical motoring. We have urged in these pages that the Royal Automobile Club hand over to the Auto Cycle Union the control of the light four-wheeled vehicles of motor cycle type.

While the R.A.C. has not yet quite fallen in with this suggestion, it is distinctly encouraging to know that the parent body will permit the A.C.U. to assume control in occasional trials. The first of these is the open one-day event now being organised for April 27th, *when all types of motor vehicles which do not exceed 772 lb. in weight will compete together.*

We have already clearly shown the necessity for all classes of vehicles which interest a given public competing together in public trials, and we have suggested that the desirable limits for four-wheelers to be described as cycle cars are 1,100 c.c. engine capacity, and 8 cwt. maximum weight.

In the forthcoming A.C.U. spring trial this suggestion has been followed as regards engine capacity, though the weight limit has been fixed tentatively at 350 kilos. (772 lb.). This weight limit has been introduced in order to comply with international rulings, and therefore has behind it a sound reason. At the same time so long as 8 cwt. is the limit for three-wheelers in the taxation scheme any other definition will have its drawbacks.

From now, it may be said that all four-wheelers are catered for by the R.A.C. and the R.A.C. and A.C.U. jointly; but the international definition automatically rules out several promising propositions of the three-wheeled class which weigh between 350 kilos. (772 lb.) and the 8 cwt. fixed by the Government for taxation purposes.

Cycle cars of both types have now reached a stage of development in which they deserve every encouragement, and if by successes in open trials they compare favourably with sidecars as regards reliability, economy, ease of control, and general utility, their future is assured. Clearly, the best way of attaining this end is for the control of all such vehicles to pass into the hands of the A.C.U.

Manufacturers to Support Trials.

TO a certain extent the attitude of manufacturers towards open trials forms a convenient method of testing the pulse of the industry. Each trial represents a fairly heavy expense to the manufacturer who supports it wholeheartedly, and this expense can only be recouped by the prominence which his machine attains.

Considering these circumstances in conjunction with the present state of the trade, the pessimist might be led to expect but meagre support for 1921 competitions. It is encouraging, therefore, to learn that the Manufacturers' and Traders' Union has decided to support the thirty open competitions which have been sanctioned by the A.C.U. A note of caution is expressed in the reservation that no event of more than one day's duration will receive trade support; but this is a policy of wisdom, since the expenses incurred in a two-day trial are usually much more than double those of a one-day event. Of course, support will be forthcoming only if the regulations and route are approved.

With regard to the more important events of the year, the Tourist Trophy Races have already been sanctioned, and it is most probable that the Scottish Six Days Trials and a Scottish speed event will receive support. The Manufacturers' Union is at present negotiating with the governing body with regard to the A.C.U. Six Days Trials, though we gather that there is little chance of a disagreement. It is the policy of the Union to assist the governing body throughout its programme, but certain difficulties have occurred concerning the selection of stock machines for the A.C.U. spring one-day trial. These difficulties are perfectly genuine, but we hope and believe that they are capable of a solution satisfactory to all parties.

An index to the advertisements in this issue will be found on the page facing the back cover.

OCCASIONAL COMMENTS

BY "IXION"

Benzole.

I IMAGINE that if unlimited supplies of benzole were procurable, even at petrol prices, few of us would trouble the petrol syndicates any longer. Personally, I use benzole whenever the above conditions are fulfilled. But if one is travelling about, or chances to live in a remote corner of England, it often proves impossible to get any kind of benzole; and if benzole happens to be obtainable, it may not be the brand or quality for which the carburetter is adjusted. Three times in the last month I have been tuckered up by the above difficulties. In each case an engine was concerned which had rather a high compression ratio, and suffered from detonation when heavy petrol was the fuel. On any petrol short of the aviation grade, the engines knocked rather badly. To quote examples, one of the 'buses was a 1920 G.N. with the Capac carburetter, which admits of very rapid adjustment to suit various fuels. On petrol it hesitated in accelerating, knocked when picking up, and behaved abominably on hills; on benzole it behaved like a stroked kitten. Requests for benzole at west country garages during a holiday trip provoked the information that "there is no benzole west of Bristol." I don't suppose this is true, but it indicates that the benzole organisation has failed in its early promise.

The Chief Need of the Cycle Car.

FROM a motor cyclist's standpoint, I think we must admit that the best cycle cars, such as the G.N. and the Morgan, already rank as formidable competitors of the sidecar combination, however "de luxe" the latter may be. The cycle car is, however, far more than a potential rival of the sidecar; it also threatens a great offensive on the light car, especially since the price of the latter has shot up to £450. From the small car standpoint the average cycle car is still deficient in one vital respect, viz., the manners of its engine. In point of balance, silence, and exhaust note, the V twin is unquestionably a very crude unit when it is contrasted with the vertical four-cylinder or with the flat twin. Motor cyclists evince no prejudice against the V twin—they are used to it; they accept its failings because they appreciate its merits. On the other hand, new vehicles are gradually appearing which have affinities with the cycle car and yet embody engines which do not dismay a small car man. The flat twin Rover is the cheapest example in this galley. At a far higher cost we meet the flat twin A.B.C.—which is far too refined a chassis to be termed a cycle car; and the American Cotay, which I have not yet seen, and which mounts a four-cylinder air-cooled Cameron engine. If the air-cooled flat twin or line-ahead four-cylinder can be turned out at the same money as a V twin, the cycle car of to-morrow will make vast inroads into the light car market. If I were producing a cycle car, I should try to secure the reduction of vibration, the increased silence and the smoother exhaust note which such engines afford, so that I might draw my customers from the ranks of small car men as well as from motor cyclists.

Engine-starting on Cycle Cars.

ONE will accept many minor inconveniences in order to save £250 in initial outlay and a proportionate sum on the weekly upkeep. It is for this reason that cycle car owners put up with the annoyance of detachable starting handles which have to be unearthed from the boot whenever the engine is accidentally stopped. One criticises the detachable starting handle not because it is a nuisance, but because it is an unnecessary nuisance, which can be obviated by a little ingenuity and a very trifling expenditure. I am not pleading for electric starters on cycle cars—many good authorities hold that they will shortly become obsolete on the cheaper small cars. They cost a lot of money, and it is common knowledge that they give quite a lot of trouble. One of my *Autocar* colleagues owned three £500 cars last year, and I notice that his starter switch is usually thrown out of action (as a precaution against meddlers) by having its push button packed up with a collar. A well-tuned cycle car engine, whether it be a V, a flat twin, or a bijou four, is delightfully easy to start on the handle, and particularly so if it is a flat twin or a four (hence the popularity of these types). All that is wanted is either a handle on car lines, mounted permanently in position, or a pedal starter such as is used on the Horstmann small car. To sum up, a large output is essential to a cheap cycle car. The maximum output will only sell if appeal is made to impoverished small car men as well as to ambitious motor cyclists. A nice-mannered engine and convenient engine starting are essentials if the small car man is to be drawn into the cycle car fold.

Weight and the A.C.U.

IN the first big motor cycle reliability trial ever organised in this country, horse-power was unlimited, but the overall weight of a machine was not allowed to exceed 170 lb. The pundits in question

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

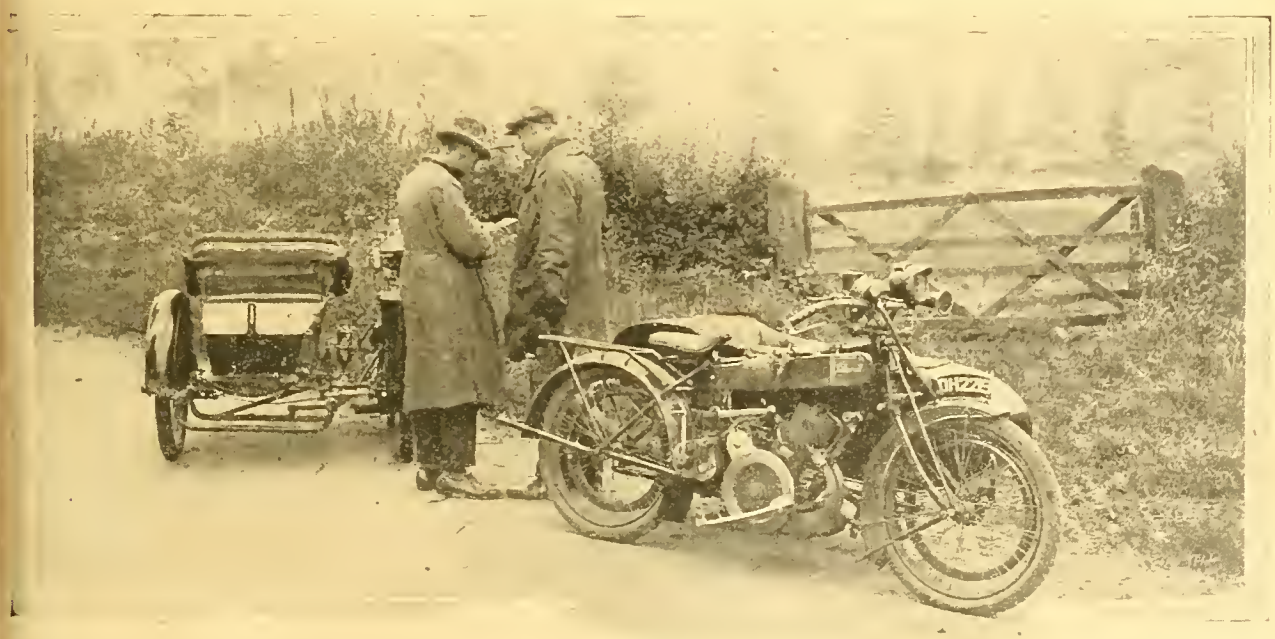
were the Automobile Club, which had not then become Royal. To-day the Auto-Cycle Union, which has yet to become Royal, organises a T.T race for 1921, and as last year will limit the horse-power, but not the maximum weight. This reversal of policy gives one furiously to think. We must admit that the A.C.U. has its hands partially tied. If it organises a race under conditions which the trade disapproves, it will not secure entries. If it accepts conditions which annoy judgmatic users and irresponsible scribblers like myself, it will get badly heckled when it faces its constituents. It is between the "devil" of the trade and the "deep sea" of the motor cycle public. Moreover, a race is not on all fours with a reliability trial; and if six aspiring lightweights broke their front forks when scrapping madly down Snaefell, the Island course might get closed to us. But a race for lightweights in which there is no weight limit is an idea which only Lewis Carroll could handle satisfactorily. I note that in the first trial, alluded to above, *no* machine weighed more than 170 lb.

The F.N. Kick-starter.

THE four-cylinder F.N. has a kick-starter of the usual radial type, but mounted across the track instead of in line with it as the British practice goes. I rather fancy this setting may be worth further attention. After several years of "copy-my-neighbour," designers are beginning to study kick-starters anew. The Show revealed several excellent tendencies—increased leverage, interconnection of the starter and valve lifter, etc. Of course, you *can* start any old engine with *any* old kick-starter. But, at best, the required foot action is not natural; and a good designer will ease it as far as possible. Here is a common oversight. With a solo machine, the kick-starter is sometimes used with the machine on the stand and sometimes with the wheels on the ground, *i.e.*, in positions differing in height by several inches. It is seldom that the action is pleasant under both circumstances.

Lamps in Town and Country.

THE magnates of the Metropolis are naturally obsessed by the problems of street illumination in cities and suburbs: they quite fail to realise how futile most of their laws are in rural areas. When I spend a holiday in the country, I learn to rely on my own lamps and on nothing else. Over large areas of Britain the density of the police is much less than one bobby per ten square miles, and the law is ignored accordingly. In such districts all road laws are more honoured in the breach than in the observance, except by motorists. The carter and the cyclist represent short distance traffic; familiar with the local constable's timetable, habits, and personality, they do not trouble to light their lamps unless they are sure to meet him. If they make a miscalculation and meet him, there is seldom a prosecution. Robert, perhaps, calls round next week to buy a little chicken food, and no more is said. The motorist is similarly free, but owing to the speed of his vehicle and, perhaps, also to the fact that his longer journeys cause him to lose touch of Robert's movements, he is generally law-abiding. Anyhow, the net result is that in rural areas it is essential to the public safety that motors should have long-beam lamps. The solution of the problem is a scientific device for eliminating glare, not a Prussian and senseless reduction of light. In urban districts, where the police are thick on the ground and all road users keep the law, a long beam is quite unnecessary. The total area of such districts is a relatively small portion of the country, however.



LOST! Motor cyclists generally have a very good sense of direction, but sometimes the winding lanes in an unknown district lead them back to the starting-point. Nevertheless, lane exploring has a fascination of its own. The machine in the foreground is the experimental Dunelt outfit.

A Trio on Tour



Being Extracts from the Diary of a Motor Cyclist during a Scottish Tour in Good Company.

(*Concluded from page* 147, *Feb. 3rd.*)

ARRIVING back at the ferry we found a large two-seater motor car waiting to cross. There was, however, no sign of the ferry leaving the other side.

Dressed in the inevitable waterproof there was a big man standing on the quay, gazing disconsolately at the water with an air of resigned patience suggestive of Noah standing on Mount Ararat waiting for the flood to subside.

When at last the ferry arrived and unloaded a victim in the shape of a motor, there followed tremendous excitement (on the part of the occupants) while the large coupé was being shipped, the owner finally getting to the seaward side and pushing the car as if to keep it out of the water.

We Meet a Fellow-traveller.

At length we pushed our machines aboard, and had as a shipmate a very ancient crock with a very high sidecar. [For convenience we will in future refer to this outfit as the Kangaroo.]

The driver explained that he had come from Manchester (he said it like that, and not "coom fra Mannchesster," as might be supposed), and had been all round the North of Scotland, and had no trouble till that day, when he had had two blow-outs (in his rear tyre).

Arriving at the south bank we gave him a push off and followed him after a short interval. Getting away quickly from a given spot is not our speciality, and consequently it was some time before we caught up the Kangaroo, which, slow as we are, we eventually did. He was stopped by the roadside at the top of a small hill cleaning his plug. When he was ready we gave him a hearty push (his only method of starting), and again followed in his wake as far as the top of the next small hill, where the Kangaroo gave a few consumptive coughs and came gracefully to rest. The driver would have carried on repeating the plug cleaning process indefinitely, but an examination of his machine revealed the fact that his spark plug was being short circuited by the carburetter control wires touching the plug top. We tied these back, and he had a short trial run, his lady passenger following him on foot loaded with rug, travelling, one; proof, water, one; basket, luncheon, small, one; scarves, parcels, petrol tin, etc., lot, assorted. We also trailed after the "man from Manchester," and helped to load the passenger and dunnage into the sidecar, and gave them a very hearty push off amidst a chorus of thanks and good-byes. It proved only to be an *au revoir*, however, as shortly afterwards, on topping a rise, we saw him in a dip in the road, climbing the hill on the further side. We judged he would be over the top by the time we reached the bottom of the dip, and so we dashed down in order to make a top gear climb, but unfortunately the Kangaroo man having reached his bottom gear ignominiously konked out half way up the hill and started to run backwards.

Involuntary "Stunting."

For a moment it looked as if we would give him a violent help up the hill, but James cleverly looped the loop sideways into the ditch and the Kangaroo, which had by now gained considerable velocity, flashed over the spot where we had been a second before. When near the bottom of the hill it occurred to the man to turn the machine into the steep bank, which he did, with the result that the back wheel mounted up the grassy slope, while the sidecar "nose" dived

A Trio on Tour.—

on the road, but the whole contraption did not turn turtle (as it should have done by all the laws of dynamics).

The lady extricated herself and her luggage with some difficulty (we noticed that she never left the sidecar without taking her luggage with her), and we pushed the outfit to the top of the hill. The trouble on this occasion seemed to be the steepness of the hill, combined with overheating of the engine. This time we gave him an *extremely* hearty push off.

We followed him within "visual" distance, as they call it in the Navy. On closing up somewhat on the Kangaroo we were astonished to see sheets of flame belching forth from its carburetter and trailing aft in long streamers of light. This did not retard the machine, and the owner, no doubt congratulating himself on the sudden increase of power, was blissfully unconscious of the fact that he would have been safer sitting on the top of a volcano. We dashed up and hollooed to him, and when he saw the flames he immediately "stood on everything," locking his back wheel, and thereby nearly ejecting his passenger.

"A Little Knowledge is——"

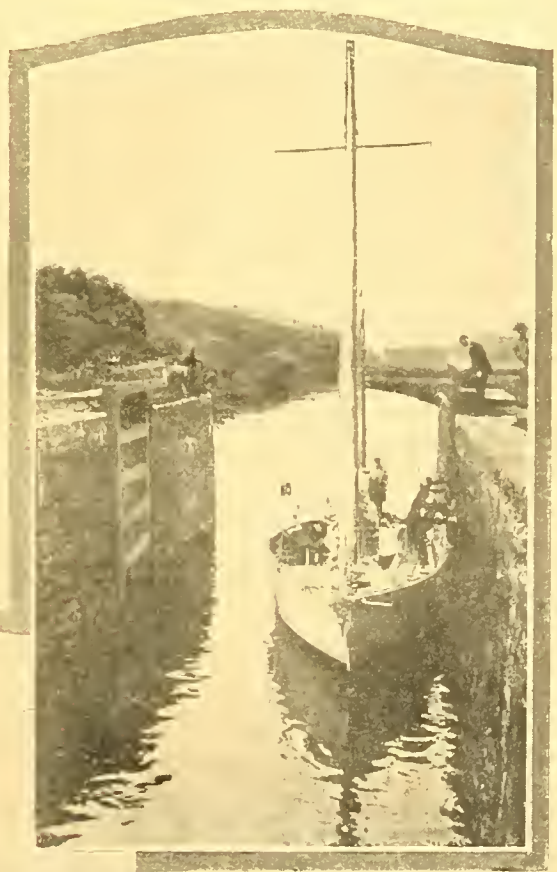
The lady alighted with alacrity, seized her usual burden, *i.e.*, luncheon basket, rug, scarves, and petrol tin, and "hit the trail at speed" for the next parish —with the man in pursuit, as he wanted the rug to extinguish the flames. The fire was eventually got under control, but the machine looked worse than ever, if possible. Certainly it had not improved its appearance, while the driver's coat had several new ventilation holes in it. He explained that his engine had been misfiring before the machine caught fire. His contact breaker was therefore detached, much against his will, and examined. The fibre bush of the rocker arm was found to be swollen, and was reduced with emery paper. John remarked that it was a curious fault on a machine which had been in use so long.

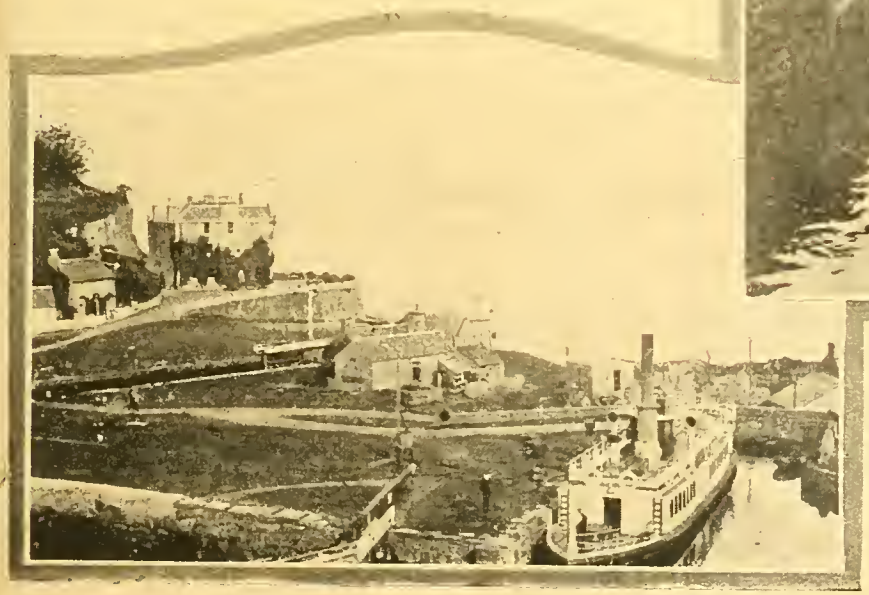
The driver's reply fairly took our breath away; he said he did not think it had much wear; he also propounded the theory that the fire had been caused by the magneto missing one or two sparks, and the next time it sparked, the missing sparks, which, according to his theory, the magneto had stored up, caused such a rush of current that it had set fire to the carburetter!

While James and John were still lying with their foreheads in the damp grass, the man had a trial run without his passenger, after which Tom collected the lady and her luggage and loaded them into the sidecar and once more helped to push the Kangaroo along the road to start it.

The fire seemed to have improved their engine somewhat, but, by and by, we caught up with the pair again, stuck on a hill with their engine very hot. Again we pushed them off, muttering things to ourselves. When they had got out of earshot, we held a council of war and decided to try and induce the pair to stay the night at Port Appin Hotel, which would allow us a clear run to Connel.

We hadn't long to wait for an opportunity to put our scheme into action, as a cloud of blue smoke on





Left. Everyone who knows the Crinan Canal will be familiar with the little "Linnet" shown here preparing for her journey to Ardrishaig.

(Right) Passing through one of several locks on the Crinan Canal.

the next hill proclaimed the presence of the Kangaroo. If the manager of the Port Appin Hotel could have heard how we boomed his hotel to the Kangaroo man, he would have appointed us as advertising agents forthwith. We praised the view, the food, the comfort, and pointed out that it was the spot *par excellence* in which to spend the night. Just when we thought we had him convinced he mentioned the fact that he had booked rooms at Dalmally, and hoped to reach there before dark. John was the first to recover his breath, and proceeded to explain that the roads from Port Appin to Dalmally were amongst the worst in the kingdom, and that Dalmally was at least eighty miles away. We talked so loudly and with such feeling that at last he said he would try Port Appin. We followed him very closely when he got under way, until he reached the gate of the hotel, where he pulled up and started speaking to a man who had come out. There is a steep hill at this part of the road which we went down "all out," and as we dashed past we shouted a cheery "You're all right now!"

Impromptu Wireless.

Spurred on by the thought that they might be following us we managed the next ten miles non-stop, when we felt compelled to give the machines a rest.

Then on again in our whirlwind style. The road at this point was beautiful in the extreme, winding round the very edge of Loch Creran. The ten miles to Connel were covered in record time (for us)—the average being over 25 m.p.h.

As there is an hotel at each end of the bridge, and it costs 4s. for each machine to get from one to the other, we decided that one of us should walk across the bridge (fee 2d.) and ascertain if rooms could be had at the south side hotel. We tossed up who should go and James lost. He took a pocket flash lamp with him to "Morse" the result of his investigations.

The arrangement was that if we received a favourable message, we were to light a small fire as a reply and then join him on the south bank.

In order to acknowledge the signal smartly, we decided to make a fire with petrol, and so got out the spare bottle from the A.J.S., and as soon as we had read James's message we dashed a quantity over some dead thistles on the bank. We put rather too much on, for though some of it evaporated while we endeavoured to strike a match, on a rotten matchbox John produced, when we did apply the light half the bank broke out into a roaring sheet of flame which would have acknowledged a signal from Glasgow.

From our point of view, the plan worked splendidly, and we were saved the time it would have taken James at least half an hour to walk back to us.

We had the same room as before and slept quite soundly in it in spite of the fact that its number was thirteen. Just to cheer us the railway company kindly provided their usual midnight demonstration of shunting and whistling.

ACT V. Scene at Oban and Crinan.

We got under way about 10 a.m. and set out for Oban. We hadn't gone far when we passed our friend on the Kangaroo also making for the "Charing Cross of the Highlands." His machine was running as sweetly as two Fordson tractors having a fight on the corrugated iron roof of a tin can factory. Needless to say, we did not fall in behind him, but dashed past at our very utmost speed. Nevertheless, he was only about one minute behind us when we stopped at Oban. We immediately asked him which way he was going. Fortunately he was still making for Dalmally, so we didn't have to alter our route.

His parting words were to the effect that they might see us in Inveraray. As we were scheduled to arrive a day after them, we didn't see how we could, at the time. However, he proved to be right.

Leaving Oban, we continued south over most atrocious roads, through the Pass of Melfort.

About half a mile from Crinan, we took the wrong road and did not discover our mistake until we had covered nearly two miles, including a long hill about a mile long. Arrived at Crinan, James went to try and get rooms at the Hotel. He must have a very charming way with hotel keepers, for although the hotel was full, they dashed around and made up beds in rooms over the garage, evidently meant for the chauffeurs. The garage accommodation here was the best we had come across on our trip.

ACT VI.

So many people advised us to visit Loch Sween, on our way home, that at last we decided there must be something special there, and altered our route accordingly. We made for Tayvallich, but the road was so rough that it took considerable coaxing on John's part to keep James from turning back. John, who had visited the place while on a voyage in a yacht, remembered a small road across the peninsula which finally landed us at a very small place called Arisaig.

We returned by the same route (the only one) to the Crinan Canal, and stopped above Crinan village on a very tempting blind corner, whence we watched the efforts of a cormorant to swallow a large flounder which it had caught. It could get the flounder half-way down its throat, which caused its neck to become flat instead of round. Remembering the annoyance caused by a single fish bone stuck in one's throat, our sympathies were all with that cormorant.

While we were watching these digestive troubles, a large yacht passed up the canal, on its way to Ardrishaig, and we decided to push on to Cairnban and photograph it as it passed through the locks. We managed to get there first, as the yacht had engine trouble on the way, and we watched it go through the first lock, photographed it, and even went as far as to help by leaning against the beam for opening the gates. We noticed the usual bunch of heather tied to the rigging of the yacht.

Proceeding on our way, we ran non-stop to about a mile from Lochgilphead, when John got into the sidecar and Tom took the B.S.A.

Near Furnace, James suddenly announced that he was going to have a bathe, declaring that this was one of his objects in coming the trip. Tom followed his example. Both were much troubled by midges while undressing. When the bathers had waded in about knee-deep, John decided that he must take a photograph, and insisted on us standing up to our knees in icy water, and being devoured by midges above the water line, while he carefully measured off the distance in order to focus his patent lens.

A Trio on Tour.—

After the bathe, and once more under way, we decided to take the shore to Inveraray in preference to the main road. A warning from a native in Furnace that there were a "wheen braes" on the road proved very correct, the worst "braes" being a gentle slope of about 1 in 2, in climbing which we had to pass a horse and cart and a horse solo, also two open gates.

A few hundred yards from this semi-precipice we "flushed" a black cock, and later a grouse, only missing running over them by about five feet.

Presently we came on a parting of the ways. A fairly decent road went to the right, but was marked "Private." To the left there was a farm track rather deeply rutted, while straight ahead stretched what appeared to be a dry river bed. Naturally we took to the left, and after making one or two sudden bends the road brought us into a beautiful little sylvan glade.

Right About Face!

John had discovered that we were on the wrong road, so we stopped at the end of the glade. As we should have gone along the river bed already referred to, we retraced our wheel tracks thither. John, who was coming along behind, was engaged in a spirited encounter with a collie dog, and in his efforts to get in a kick he did not notice, until he was almost on it, that the sidecar machine was stopped with its back wheel buzzing round in a deep rut. Looking back we saw him frantically stamping on pedals and moving handles, all the time endeavouring to kick the dog.

Almost the first person we met in Inveraray was the passenger of the Kangaroo. Shortly after we met the driver also.

He told us that he had broken the key of his timing gear the night before and had been towed into Inveraray by a Ford.

After bidding farewell to the Kangaroo people we ran from Inveraray to the hairpin bend on "Rest and Be Thankful," non-stop, which we considered pretty good, even though we are accustomed to long non-stop runs! During this stretch the A.J.S. gave one or two demonstrations of frightfulness, but climbed the "Rest" easily (on bottom gear).

As the A.J.S. had still about forty miles to do we didn't stay long on the "Rest," but hurried on to Arrochar. On a previous run John had packed all his luggage in his own bag and found at the end of the day's run that the vibration that the bag was subjected to on the carrier of his bicycle had blunted a packet of safety razor blades, set off a box of matches, and done other minor damage to the contents. As a result of this experience, all the hard and breakable goods in John's bag had been packed in our portmanteau, while soft goods had been transferred therefrom to John's case. This necessitated a complete unpacking of both bags and a sorting out of the contents on the party splitting up.

Home at Last!

When things had been straightened out a bit, and Arrochar had once more resumed something of its usual calm, there was a very touching scene while we took affectionate farewell of the B.S.A. and its rider.

Once more on semi-respectable roads, the A.J.S. made very good time to Dumbarton. By the time Paisley was reached darkness was falling, and we did not want to stop to light up, so we fished out a small electric flash light and switched it on whenever we thought there would be any policemen about. Glasgow was reached at 9.30 p.m., two hours after leaving Arrochar, which we thought pretty good.

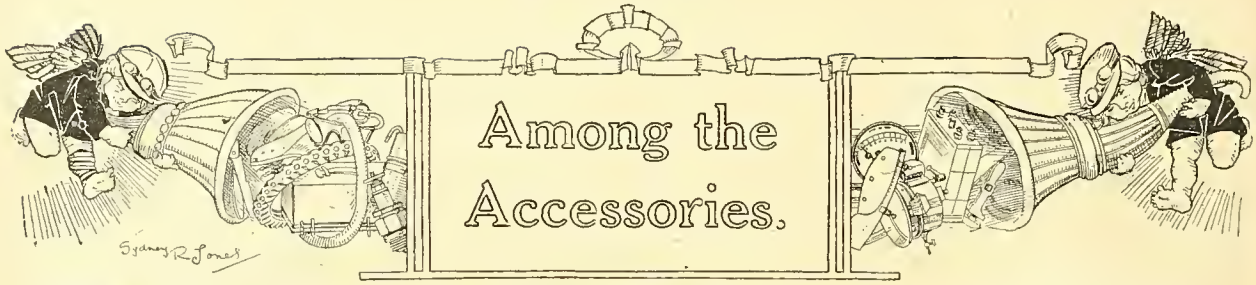
[Curtain.]

J.F.H.



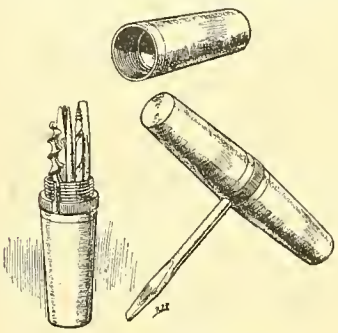
ON THE EDGE OF THE FOREST OF ARDEN.

Reputed to be the centre of England—Meriden, on the main London-Holyhead road, and located between Coventry and Birmingham.



A Waistcoat Pocket Tool Kit.

What motor cyclist has not at some time on the road found a need for a corkscrew, gimlet, bradawl, or a pair of tweezers? The tool kit illustrated is contained in a little case which forms the handle for five of the six tools in the kit,



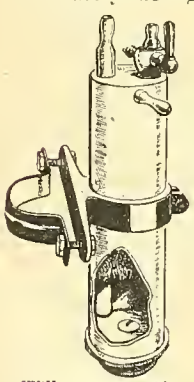
The Gough pocket tool kit.

and the whole may be carried in the waistcoat pocket. This novelty is sold by Mr. A. Gough, 183a, Broad Street, Birmingham, and costs 3s. 6d.

An Acetylene Gas Purifier.

The importance of sturdy construction is a most essential point which is frequently overlooked in the manufacture of small accessories, and causes much inconvenience on the road.

An old principle for purifying the gas in an acetylene lighting outfit is excellently carried out in the purifier illustrated. The construction is unusually strong, whilst a quarter of a turn of the lower milled-edge nut on the base enables the plug to be taken out and the condensed water released. The plug is held by an expanding rubber ring which makes a gas and water-tight joint.

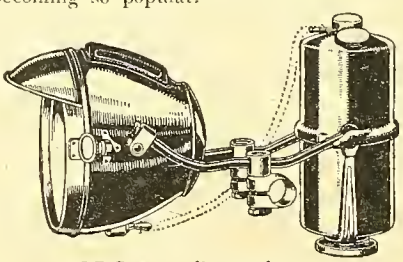


Willcox gas purifier, showing the delivery pipe and base plug.

On a dark night this type of plug, which does not carry any threads, should be much appreciated. This accessory is the product of the Light Car and Motor Cycle Engineering Co., who have recently opened a new garage at 26a, Tulse Hill, Brixton, London, S.W.2. under the direction of Major C. L. Willcox. This firm holds the A.C.U. official repairer's appointment.

A "Streamline" Gas Lamp.

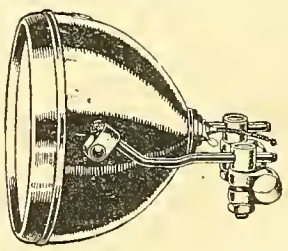
F.R.S. lamps have, for years, been well known to motor cyclists in this country and overseas, and an entirely new design of gas head lamp by the F.R.S. firm is not without interest, even in these days when electric lighting is becoming so popular.



F.R.S streamline gas lamp.

For the past twelve months two members of *The Motor Cycle* staff have used F.R.S. major gas lamps with every satisfaction, and those who favour the acetylene system will find this lamp all they require for the fastest runs in the dark.

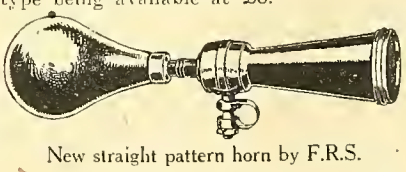
The new Streamline model is a 6in. set having an 800ft. beam and has several features, including a new type of door



The latest F.R.S. electric head lamp.

fastening which prevents the possibility of rattle, an adjustable focus and a genuine optical Mangin mirror. The price is £4, while a 5in. set with a 600ft. beam is offered at £2 15s.

Another addition to the F.R.S. range is a 7½in. electric lamp which, with a 4 volt 8 c.p. bulb is said to give a 1,500ft. beam. It has an anti-glare device operated while riding and is sold for £4, a smaller type being available at £3.

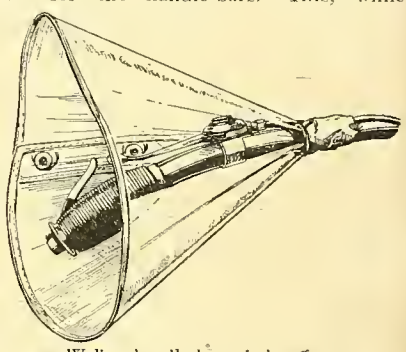


New straight pattern horn by F.R.S.

A neat straight horn is another speciality of this firm, selling at 22s. 6d. The new address of the makers is Beam Works, Vere Street, Birmingham.

Transparent Wind Cuffs.

The ancient handle-bar muff has long been appreciated by the owners of motor cycles during the winter months. The manufacturer of the Walbro windscreen, Mr. H. S. Wallis, Lynn Road, Ely, has lately placed on the market a variation of this in the shape of a celluloid wind cuff for the handle-bars. This, while

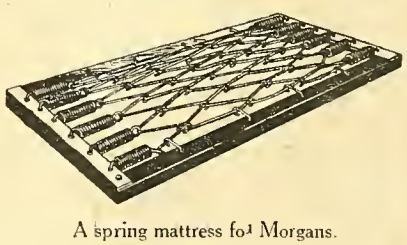


Walbro handle-bar wind cuffs.

preventing the cold air from circling up the rider's sleeve, allows the position of the control levers to be seen clearly, owing to its transparency. Consequently if the rider has to remove his hands from the handle-bars before replacing them he can see the position of his throttle or spark lever at a glance.

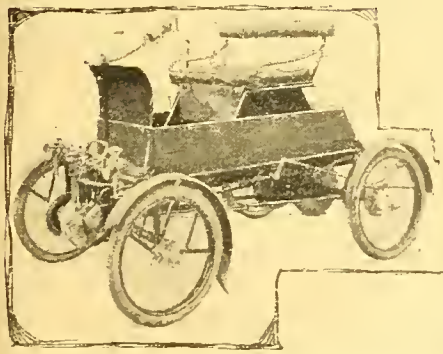
Spring Mattresses for Cycle Cars.

In order to retain a low seating position, many makers of cycle cars fit somewhat thin seat cushions; and owners desiring to obtain greater comfort are not always successful owing to insufficient steering wheel clearance. Here is illus-



A spring mattress for Morgans.

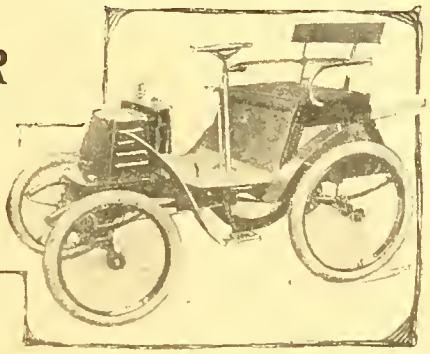
trated a spring mattress, obviously the outcome of road experience, which has been introduced by Mr. L. Marcus, of 9, Golders Green Crescent, London, N.W.11. It is suitable for Morgan Runabouts or similar vehicles where the clearance between seat and steering wheel does not permit the use of a deep cushion, and only raises the cushion about an inch. The price of a mattress for a Morgan is 33s., but any size can be made to order.



A runabout of 1900 having a De Dion air-cooled engine and belt drive. Its weight was 423 lb.

THE SIDECAR ALTERNATIVE

A Brief History of the Cycle Car.



The New Orleans of 1900, which had an air-cooled single-cylinder engine and belt transmission.

At the present time the four-wheeled type of cycle car is in need of encouragement to develop it along sound lines. We urge that the R.A.C. hand over its control to the A.C.U. in order that cycle cars may compete in reliability trials alongside three-wheeled cycle cars of the same weight and engine capacity—i.e., 8 cwt. maximum weight. 1,100 c.c. engine limit.

FOR twenty years or more the cycle car type of vehicle has proved the will-o'-the-wisp of the motor industry. At times it has seemed to promise so much, at others as little of the ideals of the dreamer.

Born in the earliest days of motoring it developed into the small car which, in turn, grew larger and larger into a vehicle weighing over a ton. A few years later, a few makers turned back, as it were, and small cars again appeared, to be eventually dropped, but the little vehicles may be found to-day giving faithful service to those who are content with a moderate speed. We refer to such machines as the old 6 h.p. Rover, 7-9 h.p. Swift, 9 h.p. Riley, Phœnix, 6½ h.p. De Dion, the original Humberettes of 5 and 6 h.p., the 6 h.p. Velox, and the several Baby Peugeots that preceded the miniature four-cylinder model so popular before the war. All of these may be said to be ancestors of the present-day light car.

In the meantime, the motor cycle had developed. From a bicycle fitted with an engine, it became a machine specially designed for self-propulsion, and the next step brought along the trailer and the forecar, and finally it became the luxurious sidecar machine that we see daily. Concurrently there have been attempts to produce four-wheelers, starting with the "Quad." The sidecar caught the public fancy, and the small four-seater on semi-cycle lines, with a very few exceptions, disappeared.

Another Revival.

A decade ago, the cycle car type was again revived, largely due to the undue praise accorded to designs—such as the Bedelia. Promises made at that time that it would revolutionise the passenger motor cycle remain unfulfilled. With four cycle wheels, air-cooled twin engines, and variable pulley devices, these improved vehicles were pronounced as the efficient sidecar substitute. *The Motor Cycle* considered them unmechanical, and in the interests of the innocents did not hesitate to say so. Many other makes quickly appeared, and as quickly disappeared, leaving behind a public distrust of the cycle car, which would never have appeared had responsible design been at the back of the movement. In the meantime, several car manufacturers, recognising the public interest in small two-seated four-wheelers, started to develop light machines grounded on the lines of the conventional car, and knowing that these were likely to provide greater satisfaction, and prove a sounder investment, we encouraged this type. Incidentally, it is not without interest that, as a result of our encouragement of the miniature car, the first details of the Singer, Morris-Oxford, Stellite, and Standard light cars were presented to the world at large in the columns of *The Motor Cycle*.

Thus again the illusive cycle car failed to establish itself as a type. We have always maintained that the cycle car proper would ultimately develop from its chrysalis form, and in our issue for November 3rd, 1910, we expressed our view that "the self-contained vehicle (*i.e.*, a machine of the cycle car type) could be produced at a slightly lower price than the sidecar outfit, and it would possess advantages which the motor bicycle rider at present has to do without."

Room for Both.

We still hold that view, but we do not believe that the sidecar is doomed, or that the cycle car will take its place. First produce the cycle car as durable, as reliable, as fast, as economical, and at the same price as the *de luxe* sidecar outfit, and then the sidecar is bound to feel the competition, *provided the taxation is the same*. But the cycle car must not be a cheap looking vehicle at the same price as an ultra-refined sidecar outfit. The majority of owners of the most expensive outfits do not represent the potential market for a cheap substitute for a car. They are now at the top of one class of vehicle, and will not readily change places to be at the bottom of another.

It must not be overlooked, also, that the majority of sidecars on the road are not of the most powerful and expensive type, consequently to form a sidecar alternative, cycle cars must line up in price and performance with all types of sidecar outfits.

Can it be done? *The Motor Cycle* believes it can. Such cycle cars as the Tamplin, G.N., and A.V. have done much in their respective classes to confirm our opinions of ten years ago. Will it be done generally? Not yet! In our judgment, the moderately priced sidecar will retain its present place in the favour of the public for many years to come.

For the present, we regard the cycle car more as a step between the sidecar and the light car, which therefore appeals chiefly to those who want something

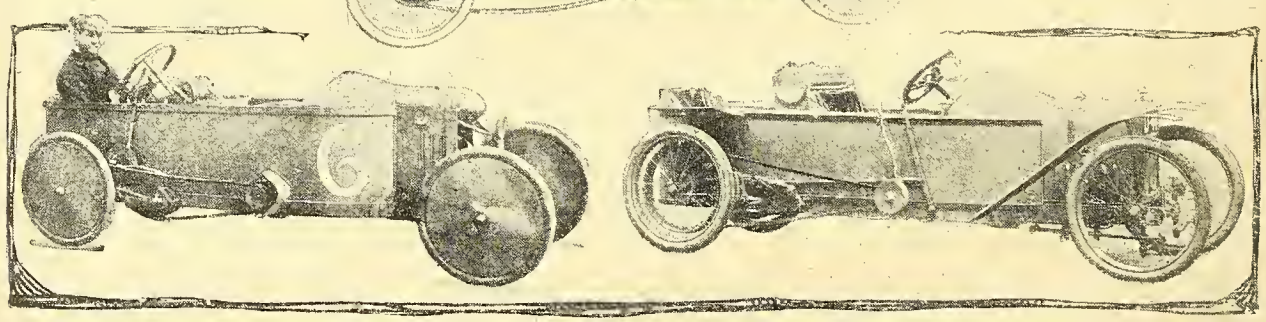
The Sidecar Alternative.—

more than a motor cycle but cannot afford a light car. We repeat what we said in 1911, "the motor cycle runabout must possess two qualities: first, it must be cheap; secondly, it must be a go-anywhere machine."

Will History Repeat Itself?

In our issue of January 13th, we published an article entitled "Wanted—A Cycle Car Trial," which was a plea that three and four-wheeled cycle cars be allowed to compete together, either under the A.C.U. auspices or a joint committee of the R.A.C. and A.C.U. It was then pointed out that, although the former body controls all four-wheelers, it has done nothing to promote the welfare of the motor cycle type of light four-wheeler. It is therefore interesting to know that the A.C.U. One Day Trial in April will include four-wheeled cycle cars

We were asking the same question in 1912, when we said: "In the event of the R.A.C. ultimately taking the Quad car under its wing, it ought to do more than say it will look after the new vehicle. It would be better for the A.C.U. to take up these vehicles at once and allow them to participate in the motor cycle trials, than for the R.A.C., after undertaking to protect their interests, subsequently to neglect them."



Three cycle cars of a decade ago with variable gears, utilising very small pulleys, which proved unsatisfactory.

Energetic action ultimately brought the cycle car under the A.C.U. control, and as a line of demarcation, the cycle car was defined as a vehicle weighing not more than 6 cwt. chassis, or 7 cwt. all-on, with an engine not exceeding 1,100 c.c.

It is interesting to recall that in the Colmore Cup trial of 1913, only two cycle cars (a Morgan and a Humberette) out of twenty starters made non-stop runs. True, it was a very severe course—at least, severe in those days, but one which the motor cycles had no great difficulty in negotiating; therefore, the cycle cars failed to prove their equality with the sidecar outfits.

Since this date, manufacturers of car-type cycle cars have increased their weights until they are outside the old definition, and the four-wheeled type with a few exceptions (notably the G.N.) died during the post-war reconstruction period, after the control of four-wheelers had been handed to the R.A.C. with the result that nothing has been done to demonstrate by official trial the new machines which have since appeared. The Cycle Car Club did useful work, but has, of late, under the Junior Car Club, shown more favour towards the already proved light car. As in 1912, the small four-wheeler is nobody's child, a state of affairs which is unfair to maker and public alike.

We have now commenced the third cycle of the motor industry's will-o'-the-wisp. The 1900 machines developed into large cars, the 1910 types into light cars, the 1921 types into—what? Is the cycle to be perpetual? Are cycle cars always to be the nucleus of something bigger? If they have a place in the sun, that place should be recognised and their capabilities proved by public trial. By their specification and price, some of them challenge the sidecar outfit. Let them fight it out on the trial courses alongside motor cycles. There is no room in the motor field for machines of doubtful character. The public want to know more than is told them in makers' catalogues—and the makers desire an opportunity to prove their claims.

From the public standpoint, trials for cycle cars are more necessary than with any other type of vehicle, for two reasons: (1) they are practically untried; and (2), which is even more important, they are so easy to construct (easier, in fact, than a motor cycle and sidecar) that the good work of the few good machines in the hands of the public may lead pseudo-designers to start again to produce unsatisfactory cycle cars such as appeared ten years ago.

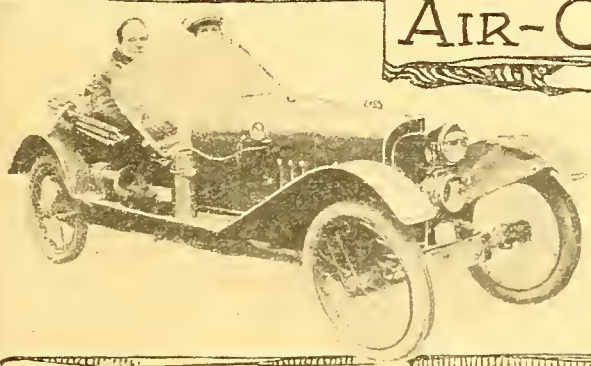
Again we urge that the four-wheeled cycle car be allowed to compete with the sidecar and three-wheeled runabout, and that the R.A.C. give back to the A.C.U. the control of a type of vehicle with which the latter is *au fait*.

Defining the Class.

We have previously given our suggestions for a suitable definition, which, we repeat, should include the following factors: (1) a weight limit of 8 cwt.; (2) an engine capacity limit of 1,100 c.c.

One of our reasons for the first is that the Revenue Department is recognising this limit throughout the new taxation system. Three-wheelers are subject to a tax of £4 only, if they do not exceed this weight, which is also the line of demarcation in several other respects. Therefore, four-wheelers under 8 cwt. should be given

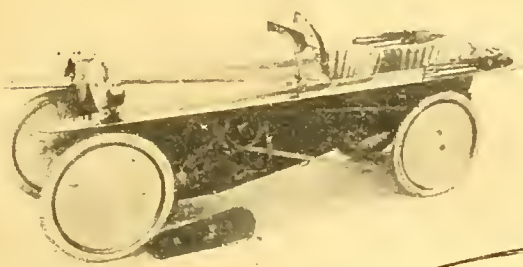
MODERN CYCLECARS WITH AIR-COOLED ENGINES



G.N. (SHAFT & CHAIN)



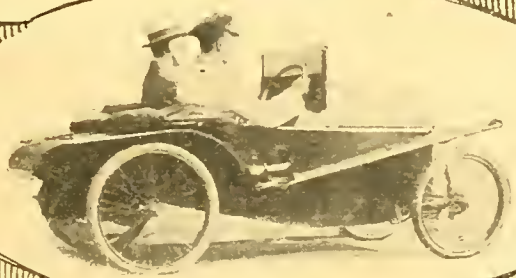
RICHARDSON. (FRICTION & CHAIN)



TAMPLIN.. (CHAIN & BELT)



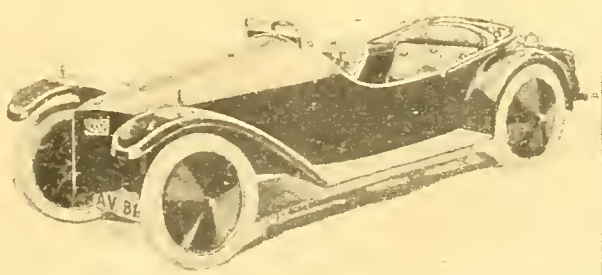
DE MARCAY., (SHAFT)



CARDEN.. (GEAR DRIVE.)



BLERIOT WHIPPET.. (CHAIN & BELT.)



A.V. (CHAIN.)

The Sidecar Alternative.—

the same privilege as three-wheelers of the same weight, instead of being considered as cars and taxed on the £1 per h.p. basis, with a £6 minimum as at present. If the A.C.U. takes up the small four-wheeler again, it is not improbable that the Government too will class together for taxation purposes all vehicles under 8 cwt.

The present taxation is so unfair to four-wheeled cycle cars that their progress is retarded, since, when fitted with motor cycle type V twin engines of 8 h.p., they are subject to a £10 tax, although their capacity is only 998 c.c. or less. A fully fledged car, with four-cylinder engine of considerably greater capacity, and weighing anything up to a ton or even more, is only subject to the same tax, while on a three-wheeler of 8 cwt., only £4 is due as against £6 for a little buck-board of a third the weight, and with an engine one-third the size.

In some quarters it is thought that 1,000 c.c. would be a suitable limit for a cycle car engine, but this would be distinctly unfair considering that most of the three-wheelers with which they would compete have engines between 1,000 and 1,100 c.c. (T.B., Coventry Premier, New Hudson). It may be well to emphasise here that the public generally does not trouble whether a machine conforms to a definition or not—but a definition is necessary for classification purposes.

There is no doubt that the present-day cycle cars are vastly superior machines to those of a decade ago, and given a fair trial, there is every chance for them to make good. Ten years ago, when we had occasion, in the interests of our readers, to criticise the design of cycle cars rather harshly, we prophesied that the cycle car would take ten years to develop. It has. What is wanted now is proof that the development has been along the right lines.

The Future of the Two-stroke.

Some Comments bearing on the Present-day Position of this Popular Type of Machine.

ON the subject of the past and present popularity and potential possibilities of the lightweight, a prominent motor cycle manufacturer a few days ago expressed the opinion that the two-stroke machine had reached its zenith. This particular maker, it should be noted, makes both two-stroke and four-stroke machines, so presumably he is unprejudiced.

That the two-stroke machine is simple was agreed; that it cost very nearly as much to manufacture, the cycle parts being identical, was also agreed; but that the speed of the two-stroke was too low and could not be maintained at a high average was a statement with which I could not agree.

I have ridden many makes of two-stroke machines, and several makes of lightweight with four-stroke engines, and I have come to the conclusion that, capacity for capacity, the best two-stroke machines are as fast as the best four-stroke types, and, more important still, they will maintain their tune longer. I do not agree that the two-stroke, if properly designed, well made, and built of the right material, will not stand up against a four-stroke machine of equal capacity under ordinary touring conditions. At the same time, I believe that under racing conditions a four-stroke machine could be tuned up to travel faster than a two-stroke, but racing is not the motor cycle's sole reason for its existence.

Its Faults and its Charms.

The two-stroke is at its greatest disadvantage when petrol consumption is under discussion, and it is well known that in this respect the type does not shine, and I am afraid the difficulty is almost insurmountable so long as present two-stroke practice is followed, and no additional complications are added to the usual method of charging and exhausting the necessary gases. By more careful study of the question, and closer attention to finding the most suitable type of carburetter, and then giving the most suitable setting to attain the best all-round results, a great saving of petrol could be attained in many instances.

The two-stroke has as its greatest charm its simplicity and flexibility, which really means its ability to develop maximum power at varying speeds or under varying loads, in many instances to such an extent that a two-speed gear can be dispensed with for all practical purposes.

As to the difficulty of getting regular running, the elimination of irregular "two-stroking" can be overcome by a correct design of piston head and cylinder ports, in conjunction with a suitable carburetter.

To Displace the Pedal Cycle

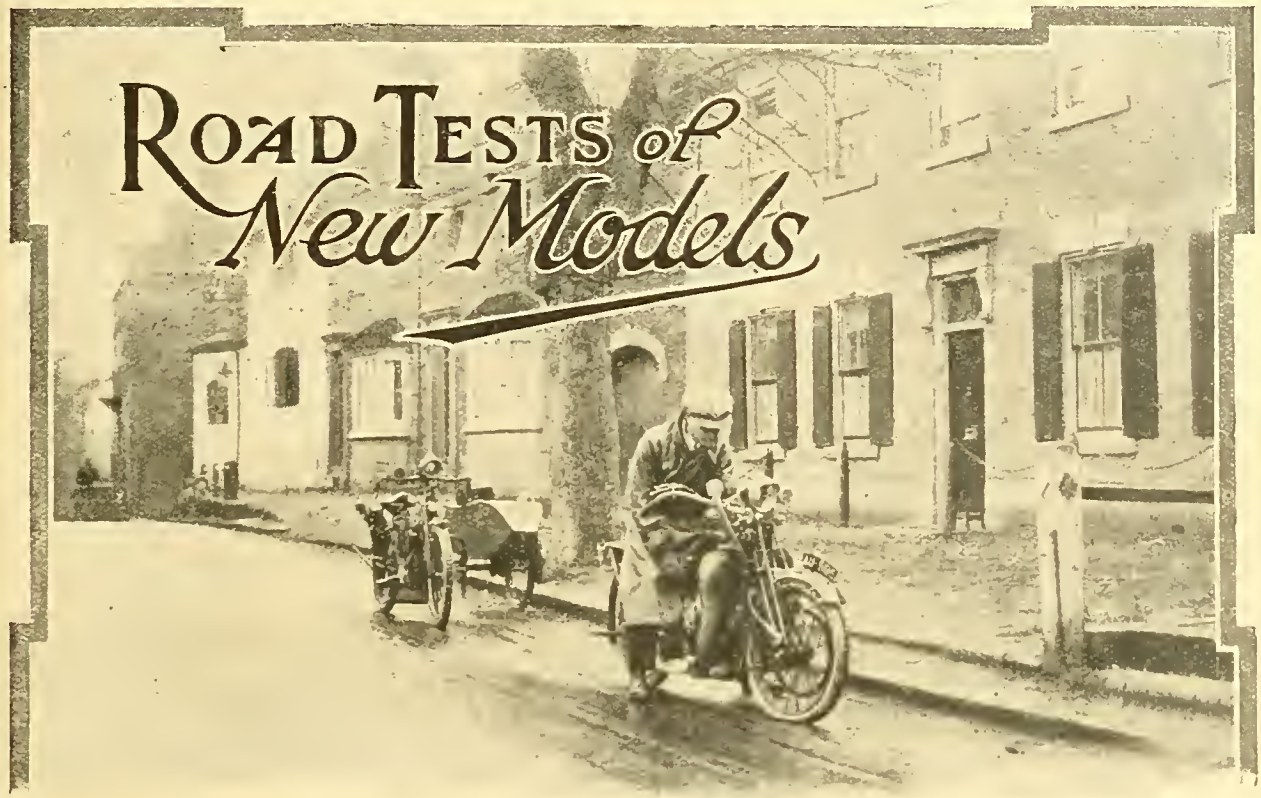
It was prophesied in these columns several years ago that the two-stroke was the machine of the future, the machine for the million—the writer went so far as to say millions, and he still believes this to be the case, in spite of the fact that the present cost of production of a lightweight four-stroke is almost identical. This confidence is based on the simplicity of the two-stroke, its ability to maintain its "tune," its flexibility, and consequent possibility of working without a somewhat costly, complicated, and heavy two-speed gear box, and, above all, its simple construction and fewness of working parts, which make it so pre-eminently suitable for the inexperienced or those who do not possess an engineering turn of mind.

The two-stroke engine carries with it the future of the real lightweight motor cycle, the type so frequently advocated in these columns—the 80 lb. or 90 lb. machine which will ultimately take the place of the pedal cycle, and sell by the thousand. Such a machine will not be suitable for the average reliability trial, or Six Days courses such as those of 1919 and 1920, but it will be good enough to take its owner anywhere within reason, and take him there in comfort and with that peace of mind which can only be attained by reliability coupled with the knowledge that if anything does go wrong it will be simple to put right.

The coming of the lightweight sidecar outfit will help to popularise the tiny two-stroke, and those who have not yet had the experience of driving one of these wonderful little outfits should hasten to do so. The two-stroke is doomed, it has been said. It *is* doomed—doomed to success and to become the machine of the future.

R.V.C.B.

ROAD TESTS of New Models

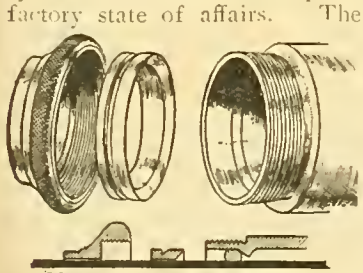


THE 5 h.p. RALEIGH.

SPECIFICATION.

ENGINE: 77 × 75 mm. (700 c.c.) flat twin four-stroke.
LUBRICATION: Drip feed.
MAGNETO: Lucas.
CARBURETTER: Amac (two-lever).
GEAR BOX: Three-speed, constant mesh type, modified Sturmey-Archer.
TRANSMISSION: Enclosed chain.
WHEELS: 650 × 65 mm.
FORKS: Brampton Bi-flex.
FRAME: Leaf spring.
WEIGHT: 290 lb.
PRICE: £162 15s. solo; £204 15s. sidecar.

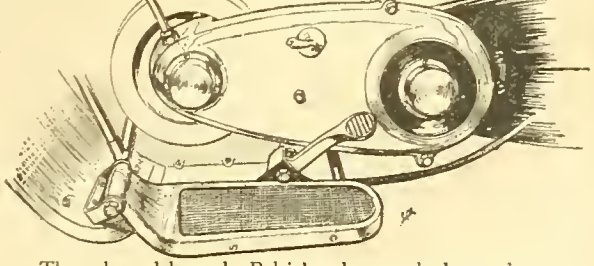
THERE are few firms capable of retaining interest in a product when more than two years elapse between the lifting of the veil from the first model and the actual commencement of deliveries. The Raleigh Cycle Co. is one of the few. A clever design in the first case, and an excellent reputation in the pedal cycle world—fully 90% of the motor cycling community were originally pedal cyclists—these two factors probably explain this satisfactory state of affairs. The fact that two intervening "Shows" revealed an increasingly attractive Raleigh kept alive the interest of even the most casually-minded rider.



How the induction pipes are attached to the passage in the timing cover. The bevelled ring compresses a ring of asbestos string to obtain a simple gas-tight joint

It was, therefore, with a feeling akin to eagerness that we took over one of the first batch of production machines to satisfy ourselves as to whether it was, or was not, as good as it looked. Our expectations were high, and high expectations breed a keenly critical frame of mind.

It had been whispered, too, that the new Raleigh was fast. Now we may confess that in terms of Brooklands and sheer speed. Rumour proved once more a lying jade. But, contradictory as it may seem, there are few T.T. and fewer touring machines on the road

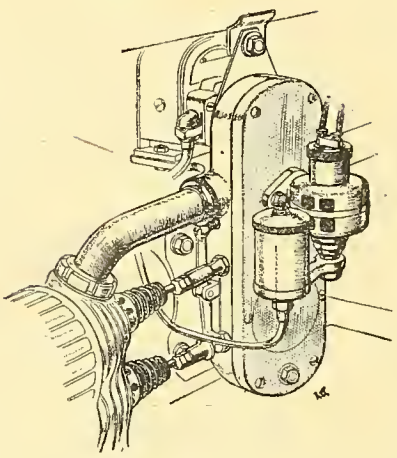


The only pedal on the Raleigh—the rear brake—and a very convenient one, too. Note the clean business-like lines of the footboards, chain cases, and mudshield

Road Tests of New Models.—

to-day that could average safely a better time on a long journey *in the hands of an average rider*. Fifty-five miles per hour as a maximum is claimed by the makers: in our case we failed to persuade the needle of a reliable speedometer further round the dial than fifty-two. But (1) it would stay there, (2) the machine was as "steerable" at that speed as at ten, and (3) it might be sent back to "ten" more quickly than the works of the speedometer allowed for, but with an even smoothness that surprised us. More, however, of the rear brake anon.

Upturned handle-bars, footboards, and a spring frame have never, singly or collectively, entered into the writer's ideal specification of a solo mount, and, coupled with a hefty 700 c.c. engine, we confess that we anticipated—well, a feeling of awkwardness, if nothing worse, during the preliminary negotiation of the busy streets of Nottingham.



An induction system that is unusually neat. The space around the passage through the timing case is warmed by oily vapour, which serves also to lubricate the magneto chain.

Speed—with an Easy Mind.

Directly after the first corner, however, we realised the fact that controllability, balance (of the machine as a whole), and steering were exceptionally good: and before we had glided past the last tramcar we felt as if we had owned the Raleigh for years (incidentally, fancy was playing all sorts of pretty mathematical tricks with a certain bank balance, in an effort to make it pan out at £162 15s.!).

Opening out, the Cowey very quickly said "forty," then "forty-five"; and, accustomed previously to grip a shade tighter and to "get down to it more" on such occasions, it seemed almost ludicrous to be sitting up and admiring the scenery as comfortably and calmly as on a family sidecar. Only the rush of air (and of milestones) saved the Cowey from a charge of gross exaggeration.

Suddenly a wandering pup, evidently agreeing that it was too easy, rushed out on to the road about fifty yards ahead—behaving as if he were a goal-keeper and we were the opposing forward with the ball. These "do or die" tactics of the average dog are often a huge bluff: but we were taking no chances. Home went the throttle and down the brake pedal: we ambled past that cur at less than "five"—too surprised at the sudden and smooth pull-up to carry the football analogy to its logical conclusion!

Three factors help toward such excellent braking—good design of the amply proportioned internal expanding brake itself, an unusually long pedal, and a very convenient position for that pedal. It is very true that a machine is, or should be, only as fast as its brakes allow. Here, then, is one reason why the Raleigh is a suitable mount for the man in a hurry or for one who craves but comfort and reliability.

Regarding comfort little need be said. That much-desired quality is there in large quantities, or perhaps it would be an improvement from the literary point of view to say that discomfort is entirely absent at all speeds. We tested it on some very rough going indeed, and it came through with flying colours.

Pointers in Design.

Such a machine must be ridden at least 5,000 miles before one can speak authoritatively on how the frame maintains its lateral rigidity; but, judging from appearances, this should not be a weak spot. Incidentally, the neatness of the frame was a subject for admiring comment wherever we went. The wheelbase is kept down by making the specially designed Sturmey gear box a member of the frame assembly; and the springing pivot is thus very near indeed to the transmission centre, and is also slightly higher than that point. Therefore, the variation in the two arms is practically negligible. A 75% portion of the rear mudguard is independently attached with the carrier to the wheel, ensuring constant tyre clearance.

Returning to our road impressions, one naturally expects a 700 c.c. engine to play with most single-figure



The average big twin when used as a solo machine conveys an impression of weight, especially at low speeds, but not so the Raleigh, which is as easy to handle as the majority of "singles."

Road Tests of New Models.—

gradients. Expectations in this case were more than fulfilled. As an example, we may cite Edge Hill, which was taken on the run after twenty miles' hard going. Only caution on the initial corner, which was very greasy, necessitated forsaking the top ratio. Should traffic or road conditions make a slow climb preferable, one could not ask for a more suitable mount.

The shock absorber (on a boss outside the flywheel, and a Raleigh patent), and the clutch, both function very smoothly and well, and acceleration is all that could be desired throughout the range of throttle positions. Indeed, "responsive" is an attribute that may very aptly be applied to this machine. Lubrication, by an Enots sight feed, once set attends to itself; and fuel consumption for hard solo riding works out at over 75 m.p.g.

So far we have dealt out nothing but praise: in fairness to all, there are two points that call for criticism. It is true that they do not call loudly, and it is true that they are but details. (1) The valve gear (and indeed the engine as a whole) is not so silent as one would expect on such an otherwise excellent machine: possibly the curved metal legshields intensify the clatter. (2) Clearance in the primary chain case does not appear to be quite adequate. An adjustment of the chain was found necessary early in our test, and, before it was made, the chain made its condition heard. This was our only adjustment, the Raleigh method of sliding the whole engine forward proving remarkably easy.

Summing up, the new Raleigh as a solo mount possesses a combination of virtues, but rarely found in one machine; and it is probably unique as a spring frame big twin so fascinating *sans* sidecar. Delivery has now commenced, and an extensive new factory will shortly increase three-fold the present rates of production. We predict that the man who likes luxury will not allow this enterprise to run to waste.



A low saddle position of the Raleigh permits the rider of average height to place both feet firmly on the ground.

THE PRICE OF MOTOR FUEL.

THE second report on motor fuel by a Sub-committee appointed by the Standing Committee on the investigation of prices has now been issued in the form of a White Paper, and contains many interesting points. The report deals with two headings: (1.) The high price of various petroleum products. (2.) Alternative fuels and other sources of power.

With regard to prices it is recommended that the Government should control freight and fix distribution charges in this country, and that the powerful combinations controlling petroleum products should be controlled by the combined action of consuming nations through the economic section of the League of Nations.

Under the second heading it is recommended (1) that all gas companies above a certain size should be compelled completely to extract benzole from the gases, (2) that shale oilfields should receive Government encouragement for speedy and extensive development, and (3) that power alcohol should be produced in such tropical and sub-tropical parts of the Empire as are suited to its production.

It is recommended that electricity, gas, and steam should be used for transport as far as is possible. It is pointed out that in the case of the two latter sources of power good working plants are already in use for commercial traction.

It is emphasised also that the production of substitutes, and the adoption of alternative sources of power can only reduce prices to a reasonable level if their production and distribution are kept free from the control of monopolists.

CAR PRACTICE OR SIMPLICITY?

Are Car Features Desirable? The Question of Idealism *v.* Practicability. Externals and Internals.

CAN motor cycle designers copy with advantage the best features of car practice? A critic in these pages, subsequent to a visit to the Olympia Motor Cycle Show, averred that much could be learned by motor cycle manufacturers from modern car design.

Largely on the score of low cost of production and the banishment of unnecessary impedimenta on a machine intended as a poor man's motor vehicle, we qualified his plea. Clearly many things may be desirable in a design when cost is no consideration, but when "price" is a question of paramount importance, success can only be achieved by simplicity in design—or, at any rate, by a compromise.

Certainly the car has many qualities which the motor cycle has not, and these the motor cycle designer should set himself to provide. As to whether these attributes will be obtained by following car practice is an open question. We refer to such questions as silence—both mechanical and exhaust—protection from the elements and mud, and increased comfort.

When Critics Disagree.

Other critics have entered the field, and, generally speaking, it would appear that critics accustomed to cars are naturally prejudiced in favour of that type of vehicle. They consider that motor cycles should embody car features, since, in their opinion, the car is the superior vehicle of the two. On the other hand, motor cyclists are inclined to resent any suggestion that motor cycles should follow car practice, merely on the plea that it is car practice.

The original article which opened the discussion—the criticisms of a car engineer—was confined to mechanical elements, and the comments which have followed have hinged upon the advantages of introducing in motor cycles features more general in car design. The aspect of the matter was discussed in our leading article of January 20th, when we expressed the view that "if motor cycles were designed to embody all the points favoured by the car expert, there would be no longer the wide difference between their prices . . . . It may be an ideal to produce a car on two wheels, but ideals are not always profitable, either to maker or user."

The Times correspondent on motoring matters now enters the controversy, using our comments as his text for a long discourse on the subject. His article, however, includes many points which have no part in the original criticism, and, although put forward to show how much the motor cycle designer can learn from car design, they have no bearing on the subject, "Car practice in motor cycle design."

"The problems of power development and power transmission are almost identical for both types of machine," he writes, "and if the designer of the one kind is not prepared to learn something from the designer of the other, he is merely denying himself advantages without any just cause. It is fair to presume, however, that the motor cycle is in a position to extract the greater benefit from any interchange of ideas, seeing that, as a vehicle for the transport of passengers, it is so obviously less highly developed than a car.

"The mere fact that the motor cycle demands special clothing," *The Times* continues, "is a case in point." We do not agree that it is a case in point. To render a motor cyclist immune from the inconveniences of mud does not necessarily mean following car practice. In the majority of cases the special clothing mentioned is necessary to protect the rider from the wind and cold more than the mud.

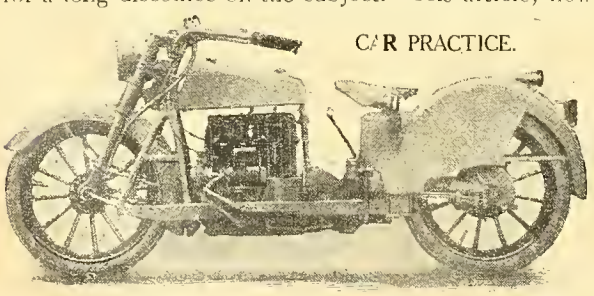
That motor cycles are capable of being made more weatherproof is admitted—and *The Motor Cycle* has been insistent in demanding attention to this vital point, but, as pointed out previously, this is hardly relevant to the question as to whether motor cycles should follow car practice.

An Unfair Inference.

Another statement by *The Times* correspondent is that "One cannot shut one's eyes to the fact that the two-wheeler is more often found in trouble by the side of the road than is the ordinary car, even if the latter is sold at a figure which comes within £20 or £30 of the price of a high-class sidecar combination."

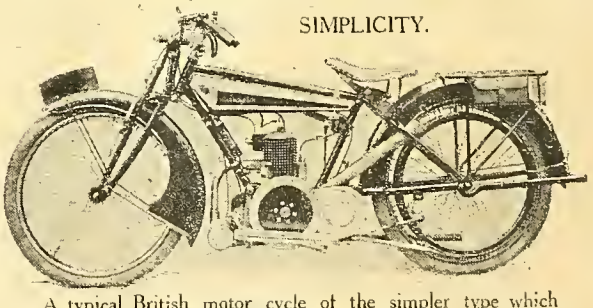
This infers that the modern high-priced motor cycle is less reliable than the car, which inference is entirely erroneous. Actual breakdowns are really few and far between, and roadside adjustments come under several headings. First, the motor cyclist is prone to "tinker"—it is part of the game! A keen rider is part and parcel of his mount, so to speak, and enjoys nothing more than extracting the last ounce of

CAR PRACTICE.



The American Militor, which may be regarded as an example of over-development through following too slavishly the features of the car.

SIMPLICITY.



A typical British motor cycle of the simpler type which car practice has not influenced in any way. Had motor cycle designers followed car practice, two-stroke engines would not have been developed.

Car Practice or Simplicity ?—

efficiency. The motor cyclist who is content to leave well alone seldom has an involuntary stop.

Out of Date Cars Scrapped.

Secondly, there is a class of rider who, having a distinctly limited capital, purchases a worn-out machine, and naturally does not obtain greater reliability than is to be expected. This class of driver in the car field is practically non-existent, for the reason that very old second-hand cars are too expensive to run by the class who otherwise might use them. Most of the car contemporaries of many motor cycles on the road to-day are only to be found in odd corners.

Thirdly, the number of motor cycles on the roads considerably exceeds that of cars, and, lastly, quite a large section of motor cycle users are youths who add to the ranks of the first-mentioned group by their natural thirst for knowledge.

Refinement and Cost.

Every motor cyclist desires the greatest possible refinement and comfort *provided the price of a motor cycle does not become prohibitive. The Times* correspondent goes so far as to agree with us on this point, but, after saying that the problems of power and transmission are identical in each case, he goes on to state that "it is not for a moment suggested that motor cycles should all be made with water-cooled four-cylinder engines, cone clutches, four-speed gear boxes and propeller-shaft transmission, nor even be fitted with detachable wheels and dynamo lighting sets," and says, *"each vehicle must be considered from a design point of view on its merits. It is therefore only natural that, in regard to engines and transmission, there should be wide differences in principle between car and motor cycle.* These are practically the same sentiments expressed by ourselves.

At no point does he suggest where a motor cycle can be improved by adopting car practice, but cites the appeal which the average motor cycle makes to the woman user. "It is," he states, "incomparably less than that which is made by the average car, and the reason for the difference is *solely* connected with internals" *(sic.!)*. He proceeds to infer that a lady's partiality for a car is due to the fact that its mechanism is hidden.

No doubt there is a deal in this—the average woman thinks a car is much less complicated than a motor cycle, whereas the reverse is the case—but the reason cars have a greater appeal to the average lady may be the same that induces her to pay several guineas for a hat when a few shillings will buy something which will give perhaps better protection for the head.

Limitations.

We repeat that because certain features are embodied in a car is no criterion that they will improve the motor cycle. By all means let the motor cycle designer and the car designer take advantage of each other's experience and knowledge. They do so already at the meetings of the Institution of Automobile Engineers, but successful motor cycles designed by car engineers have been distinctly rare. That so much has to be embodied in so little space in a motor cycle is one of the most important points often overlooked by the car designer.

On the other hand, there are points on the motor cycle which car designers could emulate with advantage. Despite the room available in a car chassis, the engine and gear box, especially, are extremely inaccessible.

Prices of Second-hand Motor Cycles.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

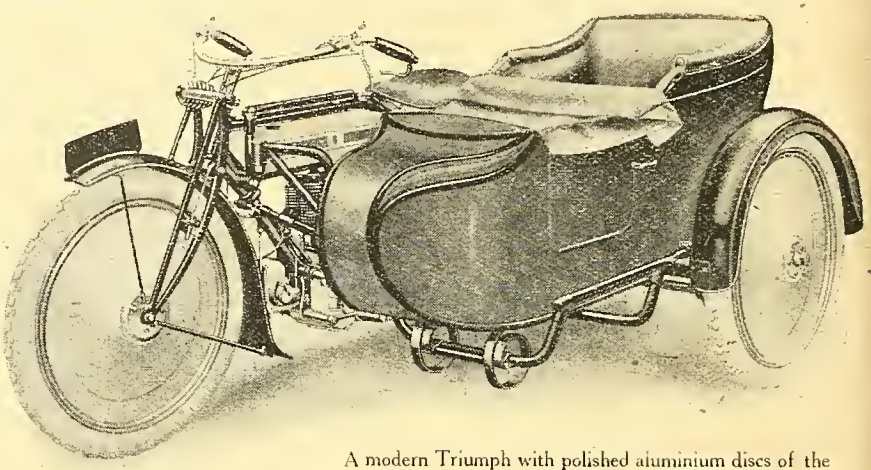
Make, H.P., and Date.	Classified Prices.	Average Price.
A.B.C. 3 h.p., 1920	£110, £115, *£125, *£110, £140..	£126
Abingdon 5-7 h.p. sc., 1920	£137	—
Acme 8 h.p. sc., 1920	£175, £195	£185
A.J.S. 6 h.p. sc., 1920	£168, £180, £180, £185, £185, †£190, £200, †£200, †£205, †£210..	£190
Allon 2¾ h.p., 1920	£75, £70	£73
American X 7-9 h.p. sc., 1920	£178	—
Ariel 3½ h.p. sc., 1920	£140	—
Ariel 3½ h.p., 1020	*£105	—
Bat 8 h.p. sc., 1920	*£150, *£160, *£165	£158
Beardmore 3 h.p., 1920	£75, £79, £80, £90	£81
Blackburne 4 h.p. sc., 1920	£120, £120, £130, £150	£130
Blackburne 8 h.p. sc., 1920	£165, £175, †£230	£190
Bradbury 4 h.p. sc., 1920	£115	—
B.S.A. 4½ h.p., 1920	£100, *£100, £103	£101
B.S.A. 4½ h.p. sc., 1920	£98, £100, £115, £125, £130, £135, †£145, †£150	£127
Calthorpe 2¾ h.p., 1920	£57, £65, £80	£67
Clyno 2¾ h.p., 1920	£50, £60, £65	£58
Connaught 2½ h.p., 1920	*£50, *£58	£51
Coulsou-B. 2¾ h.p., 1920	£80	—
Diamond 2¾ h.p., 1920	£48, £50, £70 ..	£56
Douglas 2¾ h.p., 1920	£75, £85, £90, £95	£85
Douglas 4 h.p. sc., 1920	£105, £110, £115, £130, £135, £135, £137, £140, £145, *£148, £155, †£155, £160, £165	£139
Edmund 2¾ h.p., 1920	£65, £65, £73, £80, £84	£73
Enfield 8 h.p. sc., 1920	£150, *£152, †£170	£157
Enfield 2¾ h.p., 1920	*£60, £65	£63
Excelsior 2¾ h.p., 1920	£80	—
Harley-Davidson 7-9h.p. sc., 1920..	†£140, †£140, †£150, £155, †£190..	£155
Hazlewood 5-6 h.p. sc., 1920	£170	—
Henderson 10 h.p. sc., 1920	£175, £185	£180
Hobart 2¾ h.p., 1920	£55, *£61, *£66	£61
Humber 4½ h.p., 1920	£125	—
Indian 7-9 h.p. sc., 1920	†£155, †£160, †£170, †£180, †£200, †£230	£184
Indian 4 h.p., 1920	£125, £130	£127
James 5-6 h.p. sc., 1920	£170, *£190	£180
James 2¾ h.p., 1920	£55, £62, £68	£62
Lea-Francis 3½ h.p., 1920	£112, *£115, £130	£119
Levis 2½ h.p., 1920	£44, £45	£45
Martinsyde 6 h.p. sc., 1920	£150, £155	£153
Matchless 8 h.p. sc., 1920	£170, £175, £185, £185, †£200, †£205, †*£207, †£220	£193
New Hudson 2¾ h.p., 1920	£60, £63, £65, £67	£64
New Imperial 2¾ h.p., 1920	£65, £70	£67
New Scale 3½ h.p. sc., 1920	£80	—
Norton 4 h.p. sc., 1921	£150, £180	£165
N.U.T. 3½ h.p., 1920	*†£125, †£125, †£125, †£130, †£131.	£127
O.K. 2¾ h.p., 1920	£35, £35	£45
Omega 2¾ h.p., 1920	£55	—
P. & M. 3½ h.p., 1920	£92	—
P. & M. 3½ h.p., 1918-19	£120	—
Quadrant 4½ h.p. sc., 1920	*£120	—
Rover 3½ h.p., 1920	£87, £95, £120, £127	£109
Rover 5-6 h.p. sc., 1920	*£176	—
Royal Ruby 3 h.p., 1920	*£99, £100	£100
Rudge 3½ h.p., 1920	£80, £85, £85, £85, £85, £85, £90, £92, £93, £95, £95, £100	£89
Scott 3¾ h.p. sc., 1920	£140, £150, £150	£147
Sunbeam 3¾ h.p., 1920	£125, £140, £140	£135
Sunbeam 3¾ h.p. sc., 1920	£155, £165, £170, £170, £180, £185, £190	£174
Triumph 4 h.p., 1920	£105, *£120	£113
Triumph 4 h.p. sc., 1920	£120, £130, £155, £160	£141
Verus 2¾ h.p., 1920	£70, *£85	£78
Wooler 2¾ h.p., 1920	£70	—
Zenith 8 h.p., 1920	£135, £145, £146, £155, £175	£151
Zenith 5 h.p., 1920	£125	—

*Unused. †Dynamo lighting.

THE WHEEL DISC VOGUE.

Special Advantages when Fitted on Sidecar Outfits.

LIKE twist grips and pillion passengers, disc wheels probably take a little getting used to on a solo machine. As to such factors as side wind pressures, I prefer to leave them to experienced solo riders to decide among themselves. I am more interested in the sidecar outfit, and driving one continuously robs one of a true perspective where solo machines are concerned. I am as ardent a sidecarist as "Ixion" is a solo rider, and therefore consider disc wheels from the standpoint of the passenger machine man.



A modern Triumph with polished aluminium discs of the Ace variety.

It is the all-weather motor cyclist who fully appreciates the advantages of wheel discs, which to many fair-weather riders are added merely for refinement. There is no doubt that a set of well-made discs enhances the appearance of a machine, but it is the utilitarian view one takes at this time of the year, when they save much time in cleaning the machine.

To remove the mud from exposed wheels is a long task, especially if the mud has been allowed to dry, but with discs fitted it is but a few minutes' work with the hose and wash leather.

After experience with several types of discs I can vouch for their utility, and also enumerate the disadvantages of certain types, both as regards appearance and utility. Some of these are: (1) They sometimes creep, and when it is necessary to inflate the tyre, the disc is found to have moved round until the valve is nowhere near the valve cover in the disc.

SEMI-DISCS FOR SOLO MOUNTS.



A feature of the New Hudson Sports Model

(2) The method of fixing by means of a number of small nuts and bolts near the periphery has certain disadvantages. The bolts impede the cleaning operations, and to remove the mud around them is a lengthy operation.

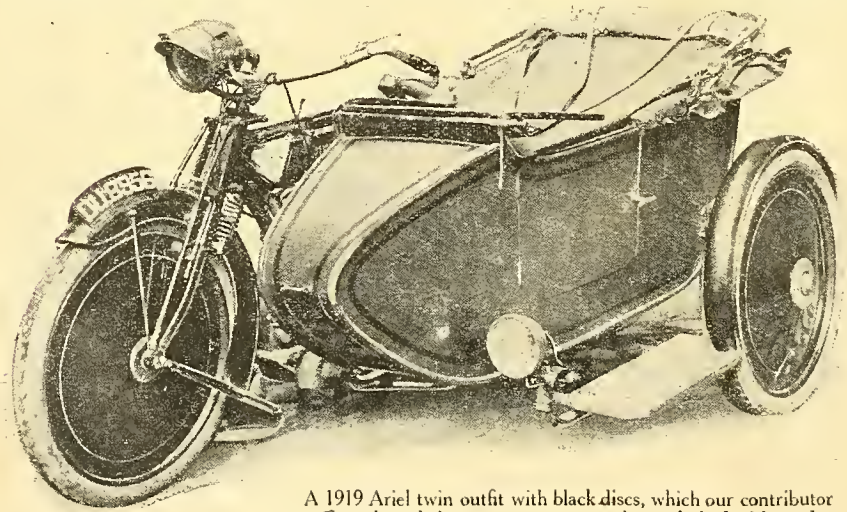
(3) Black and coloured discs look very well when they are new, but after traversing a few miles of wet road they give the machine a muddy appearance by the splashes that are upon them. They are also easily scratched, and a coloured disc that has lost its first gloss soon detracts from, rather than enhances, the appearance of the machine. For this reason a neutral colour is better than black—or, better still, aluminium.

(4) There are some discs that never really present a smooth finish, and under way on the road they convey an idea that the wheels are out of truth. This illusion also occurs on a mud-stained disc which is enamelled black.

(5) Painting a disc in several colours, like the sign displayed by aeroplanes, also gives the idea that the wheel is wobbling.

(6) Occasionally a sheet metal disc will drum; and with any type, if one drops a few valve parts into the interior, on starting off or slowing down, they make a new kind of (more or less!) musical instrument.

(7) Those discs with flaps to cover the valve holes have been known to require a certain amount of periodical attention, or the flaps become loose, and, swinging on the pivot of its retaining bolt, not only make a fearful din—which



A 1919 Ariel twin outfit with black discs, which our contributor affirms lose their smart appearance when splashed with mud.

The Wheel Disc Vogue.—

may be speedily rectified—but so mark the disc that until it is re-enamelled its beauty is destroyed.

In summing up, one may say that all disc wheels save a considerable amount of time in cleaning, but some save more time than others: that most enhance appearance, but some are better than others.

Personally, I prefer the type that is made in one piece of aluminium, and has flange fixings, such as the Ace, made by the Cornercroft Co., of Coventry. The latest type of this company's disc also embodies a device to prevent creeping. There are other discs I should like to try: for example, I once came across a black celluloid disc with flange fixing, which I rather suspect infringed the Ace patents, but the material seemed to offer certain advantages; then there is the disc made of W.A.G. transparent fabric by the Mason Leather Co., of 20, Charminster Road, Bournemouth. If I have a solo machine this year I may try the New Hudson idea of half-discs, such as were fitted to the sporting model of this make at the Show. In any case, on my sidecar machine I shall have discs of some kind, for poking about a wheel with a spoke brush will no longer be tolerated by VEDETTE.

Order of Merit in Six Days Trials.

Power-weight Ratio and General Performance.

THE suggested regulations for the forthcoming A.C.U. Six Days Trials are of interest to most motor cyclists, and there is one point on which we voice the opinion of most of our readers when we say that one important improvement over last year's arrangements would be to issue the official report while the results are still remembered. Last year the trial was held in August, but the judges' report was not issued until the Olympia Show had opened.

Notwithstanding the delay, however, many motor cyclists obtained the report and studied it carefully, and as the 1921 trial is a topic of the present time, we give below the result of an analysis on the part of the Rev. J. M. Philpott, of Nuneaton, who has re-arranged the order of merit by a simple formula. Our correspondent writes as follows:

A question often asked at the end of a trial is—what was the best performance? The answer generally is no more than an expression of opinion. With the help of the judges' report, however, it has been possible to arrange the whole list of the finishers in the Six Days Trial in order of merit, taking into consideration the following details: Weight, power, hill-climbing, speed. The method is as follows: Find the weight-power ratio, *i.e.*, divide the capacity of the engine—in c.c.—into the weight—in lb.—of rider and machine, multiply this figure by the speed—in m.p.h.—on Brooklands; to the result add the marks gained in hill-climbing. There appear to have been twenty-five hills—including Park Rash—on which failures were noted. For each clean ascent two marks have been awarded. In the case of three-wheelers 20% has been added to the weight-power ratio to balance the extra road and wind resistance. This sounds complicated, but put as a formula it is seen to be simple.

Figure of merit = $R \times S + H$ in case of two-wheelers.

or $= \frac{6R}{5} \times S + H$ in case of three-wheelers.

Where $R = \frac{\text{Weight in lb.}}{\text{Cubic capacity in c.c.}}$

S = Speed on Brooklands in m.p.h.

$H = 50 - (\text{number of hill failures} \times 2)$.

This method perhaps seems to place undue emphasis on the speed maintained on Brooklands, but reflection shows that after all it is the acid test of fitness at the end of a gruelling week. That the method gives a fair idea of the comparative merit of all types is shown by the fact that in the first twenty, nine are solos, nine sidecars, and two Morgans. The following is a list of the first twenty:

1.	E. F. Goodman (2¾ Velocette)	119.89
2.	F. J. Price (2¾ Diamond)	100.15
3.	G. Kuhn (2¾ Levis)	103.01
4.	S. Wright (4½ Humber sc.)	101.53
5.	G. Denley (2¾ Velocette)	101.36
6.	H. F. S. Morgan (8 Morgan)	100.83
7.	S. Jones (2¾ Velocette)	100.72
8.	K. Robinson (3 A.B.C.)	100.05
9.	E. James (10 Morgan)	96.41
10.	P. Pehrson (4½ Dunelt sc.)	96.08
11.	H. R. Davies (6 A.J.S. sc.)	95.11
12.	T. J. Ross (7 Matchless sc.)	91.95
13.	J. Cooper (6 A.J.S. sc.)	91.81
14.	G. E. Stobart (7 James sc.)	94.70
15.	E. Williams (9 A.J.S. sc.)	92.76
16.	O. Wade (6 A.J.S. sc.)	92.65
17.	J. W. Wills (2¾ Verus)	92.59
18.	R. B. Clark (2¾ Coulson)	92.15
19.	D. Alexander (8 Enfield sc.)	92.03
20.	T. C. de la Hay (3½ Sunbeam)	91.81



The public displayed great interest in the 1920 Six Days Trials. Any system differentiating the performances by formula should give the general public a true conception of the merit of the respective machines.



West Kent M.C.

The club held a speed-judging competition over a very sporting course on the 30th January, the winner being E. E. Williams (6 A.J.S.), who had a total error of 32 seconds.

Cheltenham and District M.C. and L.C.C.

A whist drive and dance held recently at the Town Hall, Cheltenham, attracted a company of about 360. During the evening the prizes won during 1920 were presented by the Mayor to the successful competitors. Incidentally, the prize list was of most imposing dimensions.

East Midland Centre A.C.U.

The annual meeting of the East Midland Centre of the Auto Cycle Union will be held on Saturday afternoon, February 19th, at 3.30, in the room over Bennett's garage, Shakespeare Street, Nottingham. Representatives of all clubs in the area, whether as yet members of the Centre organisation or not, are heartily invited to be present.

Ealing and District M.C.C.

On January 24th the annual general meeting of the Ealing and District Motor Cycling Club took place at the Prince's Hall, Town Hall, Ealing, Dr. A. M. Low in the chair.

Dr. Low commented on the splendid work done for the club throughout the year by the honorary secretary, Mr. F. A. Longman, and said that, as a recognition, he suggested that Mr. Longman should be made a vice-president of the club. The name of Mr. J. A. Masters was put forward for election as captain, and was received with loud acclamation. Dr. Low was again unanimously elected president, and Messrs. F. A. Longman and A. Tilbury honorary secretary and honorary treasurer respectively.

Bristol M.C.C.

Although their opening run is not until the 19th inst., the Bristol Club started their programme on Saturday, January 29th, when they paid a visit to the Bath Club. Despite inclement weather, about thirty-five members ran over from Bristol, being met, outside Bath, by a few of the local members, who led the way to headquarters and tea. Some sixty members of the two clubs were present, and all adjourned to the Palace Theatre later. An excellent idea, these friendly meetings of neighbouring clubs, and the two western cities, to judge by their fixture lists, intend to meet on a number of occasions this season, both in competition and socially. A return visit of the Bath Club to Bristol, with similar entertainment, is planned for February 12th.

The Motor Cycling Club.

The opening run will take place on Saturday, March 12th, to Brighton as usual. A dinner will be held at the Old Ship Hotel at 7 p.m., at which the medals won in the London-Exeter run will be handed to those of the competitors who will be present. As the accommodation is limited, each member will be entitled to two tickets each. The price of a ticket is 10s. 6d. Early application should be made to Mr. W. H. Wells, 366, Euston Road, London, N.W.

TO CLUB SECRETARIES.

For reference purposes and in order to place on record the numerical strength of organised participants in the pastime, will club secretaries please supply us with the following information:

(1) Date on which club was formed.

(2) Number of members on January 1st, 1921, or in the case of a newly formed club, at current date.

(3) Fixture lists for 1921—when ready.

(4) Secretary's address.

(5) Press Secretary's address.

(6) Whether affiliated to A.C.U. or not.

Envelopes containing club matter should be marked "Club" on the top left-hand corner, and addressed to the Editor of "The Motor Cycle."

Gloucester M.C.C.

It was decided at the annual general meeting on January 31st that the club should affiliate with the A.C.U., and also join the Western Centre (A.C.U.). Canon C. E. B. Kingsford was elected president for the ensuing year. It is hoped that all local motor-cyclists will support the club. The subscription is 10s. 6d. Further particulars may be obtained from the hon. secretary, Mr. G. Brooking, 24, Alexandra Road, Gloucester.

Norwich and District M.C.

The first annual general meeting of the Norwich and District M.C. was held recently at the Bell Hotel, Mr. C. J. Paul in the chair. The secretary (Mr. P. V. Howes) read a letter from Mr. Anthony Sargeaunt, of Mulbarton Hall, intimating that he would be happy to accept the presidency of the club for 1921, and would do what he could to further its interests.

The Chairman presented the awards to the prize winners at the Ringland hill-climb and the reliability trials. The Secretary's Cup (presented by Mr. P. V. Howes) was won by Mr. W. G. Barnes.

N.E.A.A. (Motor Cycle Board).

The Motor Cycle Board of the N.E.A.A. has decided to hold a gymkhana near Newcastle on 28th May, and a team trial on 14th Augnst. It was reported that the Durham M.C. had applied to have the third A.C.U. open event placed at the disposal of the Board allotted to them, and it was decided to agree. Mr. A. Cordner was re-elected as secretary.

North London M.C.C.

The first run of the year, on Saturday, 26th February, will start at the Orange Tree Hotel, Friern Barnet Lane, at 2.45 p.m., and tea will be served at the Red Lion Hotel, Radlett. This event is the opening and invitation run, and visitors are specially invited to come along with the club.

The club has provisionally selected 10th September for the open trial, for which a permit has been granted.

Ipswich and District M.C.C.

Although only recently re-formed, the above club shows every indication of being a great success. The number of old and new members enrolled at present exceeds ninety, and it is hoped to increase this number considerably before Easter. An attractive programme is being arranged, embracing sporting, social, and inter-club events, and the honorary secretary, Mr. Hugh O. Goldsmith, 355, Norwich Road, Ipswich, will be pleased to supply any information to motor cyclists desirous of joining.

Stafford and District M.C.C.

The annual meeting of the Stafford and District Motor Cycle Club was held on Tuesday, February 1st, when the club was reported to be in a sound financial condition after the first season's working. Mr. F. G. Amies was re-elected chairman, Mr. F. M. Webb secretary, and Mr. G. Sandy treasurer, while Mr. E. M. Waitt was elected captain and Mr. Keith Amies vice-captain. It was decided not to affiliate with the A.C.U.

The opening run was arranged to Chester on March 20th.

Worcester and District M.C.C. and Worcester M.C.

At the Pack Horse Hotel, Worcester, on January 31st, Mr. W. T. Thorne delivered another of his interesting series of lectures to a number of members and motorists. He commenced his lecture with the condenser of the magneto, again carefully going over where he left off in his previous lecture, sparing no pains in thoroughly explaining everything before passing on to the tuning of a motor cycle engine, followed up with the tuning of multi-cylinder engines, including car engines.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

DANGERS OF DRIVING TESTS.

Sir,—Examination for driving licences is in the air.

If a man is examined in a provincial town he may not be fit to drive in London; if he is examined in London it will not teach him not to pass on country corners.

All this means new officials; with more taxes to pay their salaries or licences costing pounds instead of shillings.

Let us make our associations fight it. E.P.H.

London, W.1.

SYNDICATED PROPAGANDA.

Sir,—My congratulations on your timely article (of Jan. 27th), "Syndicated Propaganda." From my personal experience of the motor cycle in India and Kashmir, I should say that British motor cycle manufacturers must sooner or later endorse the Syndicate System if they wish to hold their own.

To carry the matter further, how would a syndicate of the twenty-five leading makers with five depots at Karachi, Calcutta, Bombay, Madras, and Colombo, appeal to British motor cycle manufacturers? I am certain they would soon have the Indian market in their hands again.

AUDENTES FORTUNA JUVAT.

Bromley.

FOLLOWING THE SPORT ON PAPER.

Sir,—*Re* the gentleman who had twelve machines in four years, I think it a direct incentive to some of us poor wretches who follow the sport on paper to commit a burglary, when they realise that one man can toy with that number and they with none. I am still too busy tuning up five national assets to repair our country's fortunes, to be able to collect enough of the necessary to acquire a 'bus. May I suggest that if the gentleman has a spare one *(tax 30s.)* that he send it on to my address!

I have taken your paper every week for more years than I care to look back upon, and I still am greatly interested every Thursday. T.P.

Plumstead, S.E.18.

AUTOMATIC LUBRICATION.

Sir,—With reference to the oiling system described by your correspondent of the Doncaster Engineering Co., to my mind there are several points that warrant criticism.

First, unless a silencer with a very restricted outlet be employed, pressure above atmosphere in the exhaust pipe is only present, in the case of a single, during one out of four strokes of the piston. Any pressure created above the oil during the exhaust stroke would most certainly blow off, *via* the silencer, during the next three strokes. Inertia would not allow the oil in the "rising main" to rise and fall about one thousand times a minute. Thus, in order to get any oil to flow at all, a non-return valve *must* be placed in the small pipe leading from the exhaust to the oil tank. Any motor cyclist who has had experience of "small pipes leading from the exhaust" in connection with war-time paraffin gadgets will realise how soon these become blocked with carbon, even when unobstructed. Imagine what the result will be when the pipe includes a small non-return valve!

Secondly, supposing the maintenance of pressure in the oil tank to have been satisfactorily accomplished, on a cold day I wonder how much of the oil forced past the needle valve will flow "by gravity" to the engine, and how much will squirt out of the vent hole. My own experience suggests that 99% of the oil will come out of the vent.

Other disadvantages in the system as set forth by your correspondent are that the rate of drip cannot be inspected. Any loss of tank pressure due to obstruction of gas pipe, failure of non-return valve, or leaky joint of filler cap would at once cause a failure in the oil supply to the engine without the rider being aware of it.

Finally, I personally dislike the idea of contaminating the lubricant with sooty exhaust gas. K.B.

Liverpool.

[Our correspondent should note that the Peters machine, on which the lubrication system in question is embodied, is a two-stroke, and therefore a good deal of his criticism does not apply.—ED.]

PREVENTION OF CREEPING TYRES.

Sir,—As I have on many occasions derived benefit from "Ixion's" remarks, may I offer the following "tip" as a cure for creeping tyres, for, according to your issue of January 27th, he knows of nothing except the hated security bolt which will effect a cure.

Here it is, and please do not laugh till you have tried it, Mr. "Ixion": Purchase from any electrical engineering stores a coil of bitumen tape at least 1in. wide, such as is used for cable joints; ordinary insulating tape is useless. Remove tyre and wind this tape at least twice round the centre of rim, after which the valve hole can be punched through with any handy instrument. Fit tyre as usual, minus security bolts, and I will wager that neither violent acceleration nor thumping on top gear will shift a tyre thus fitted. Of course, this method is no good with a badly fitting tyre (security bolts will not hold that sort), but it *is* a cure for the average tyre which creeps.

With reference to a correspondent's desire for the publication of "Ixion's" portrait, my humble plea, with all due respect, is, please do not! S.A.B.

Harpenden.

ANOTHER SIDE OF THE MAGNETO QUESTION.

Sir,—Having read with interest your articles on the subject of protection for the magneto trade, I venture to give the opinion of a humble motor cyclist. Although quite realising the desirability of preventing Germany from regaining the monopoly of the magneto trade, I certainly think that the existing 33⅓% import duty should afford quite as much protection as is healthy for, and deserved by, the British manufacturers. There cannot be much doubt but that these have made big profits during the war, and if they find that, after six years' experience, they cannot produce a good magneto for less than 33⅓% in excess of the German trade price, then they cannot be worth any further protection or encouragement. The idea of raising the import duty appears to me to be merely an instance in which the Government is to co-operate with manufacturers in keeping prices inflated. We motor cyclists are admittedly an over-taxed body, and surely we ought to oppose, rather than advocate, this new scheme for preventing the initial cost of our machines from being lowered by a pound or two.

Personally, I have yet to find the British magneto which for genuine reliability is the equal of the Bosch.

South Hampstead, N.W.6. BROKE.

[In accordance with our usual policy of ventilating all sides of a possibly controversial subject, we publish the foregoing letter *in extenso*. "Broke," however, is almost alone in his views, and particularly so in his failure to find a British magneto as reliable as the German article.—ED.]

BALANCING OF ENGINES.

Sir,—I was much interested in the reference in the A.C.U. report of the Six Days Trial that "more attention should be paid to the balance of engines, especially at slow speeds."

As far as I can see, the more slowly an engine goes so ought the balance weight to approach that of the reciprocating masses. The faster an engine goes so ought the balance weight to approach that of half the reciprocating masses. That of course is referring to single-cylinder engines. I should like to know what the best compromise is.

I should also like to see described the differences in the balance of different types of engine giving the magnitude of the unbalanced forces and their effect in producing engine vibration. The effect of transverse couple on the Scott type of engine also puzzles me. I know there was an article on this subject before, but it did not go into detail enough.

Perhaps some mathematician will kindly oblige. R.E.C.

Ilfracombe.

[An article on the subject of balancing appears in this issue.—ED.]

WHY NO PRICES?

Sir,—May I be allowed to give vent to a good long "grouse"? I have read your journal from its first number, and learnt much from its interesting articles. This, however, is the first time I have ventured to write to you, and I do so in the hope that the various advertisers in your journal will "sit up and take notice." Like many hundreds of other motor cyclists, I can only afford a second-hand machine, so always look-out for little gadgets to improve its running.

Well, I look through the advertisements and find that Brooks advertise a cantilever saddle. Just the thing on these little pot-holey roads. Can I afford it? The advertisement gives no price, so I cannot tell. The same with the Degory carburetter, the Cox-Atmos, and the B. and B. Most of the advertisements that suffer from this omission are whole page, and give a whole lot of information, but omit the price. Besides the firms I have mentioned are the Burman Gear people, Maglita, Still windscreen, Tan Sad saddles and pillion seats, and many others.

The Sturmey-Archer people tell us to use no other gear, yet when I wrote to them they said that they could not supply me with a gear box inside twelve months, as their output was booked. On September 15th I sent 5s. for two valve air leak preventers, which were advertised as "delivery from stock." Three days afterwards I received a card promising delivery in fourteen days. Twice since then I have written, but the fittings are not to hand yet!

The Government tells us that we should as far as possible limit unnecessary expenditure, and yet all these firms insist that the readers spend one penny or twopence to find out the price of their articles.

I am convinced that such firms lose much custom, because many riders will not take the trouble to write and ask prices.

Where can I purchase a fifty-gallon drum of benzole?

Eastbourne. HC 1724.

SUGGESTIONS FOR THE 1921 ARBUTHNOT TROPHY TRIAL.

Sir,—I wonder if I might encroach on your space to put forward a few suggsetions in respect to the 1921 Arbuthnot Trophy Trial. This may strike you as being a somewhat peculiar time of the year in which to air my views, but my reason is that if I had done so immediately after last year's event everyone would have forgotten all about it by next year, and if I leave it much longer there will be no time to alter anything, in the (extremely unlikely) event of any of my ideas being acted upon.

I think most people will agree that last year's event was somewhat of a failure, bearing in mind what the trial could be if only it had a fair chance. No one is likely to deny that it was a thoroughly well run and sporting affair, and that the winner deserved every credit; but what I mean to say is that this trial should be the greatest amateur event of the year. Given a really good entry, there is no reason why it should not become a classic; at present it seems like degenerating into a farce. One cannot possibly blame the organisation, for the A.C.U. has done all it can to make things go, both in 1919 and 1920, and it would, I think, be somewhat unfair to blame the Navy for not providing sufficient entries. The sea is proverbially a fickle mistress, and it is impossible to arrange an event to fit everyone's leave.

After the 1920 event there was, I believe, some talk of augmenting the entry by allowing a certain number of amateurs outside the Navy to compete. Surely this would cause considerable difficulty, both in deciding who should and who should not enter, and also in defining our old friend the amateur—always a knotty point.

My suggestions are as follows:

(a) That the 1921 trial should be open to officers and men of the Royal Navy, Royal Marines, and Royal Air Force.

(b) That the trophy should be won by the best performance not of a private individual but of a team of seven, representing any of the above Services. Naturally, any Service could enter as many teams as it wished.

(c) In order not to exclude individual riders not sufficiently fortunate to be included in any team, a small separate award should be given for the best individual effort, and silver medals awarded to all those completing the course without loss of marks.

(d) That the dates and conditions of the trial should be announced as soon as possible and freely circulated amongst the Services, so as to give the event as much publicity as possible.

I certainly do not consider myself competent to suggest the form the trial should take. I was myself unable to compete in last year's event, but from all accounts it was a thoroughly sporting and enjoyable event, and needed no improvement save a larger entry. W. S. JAMESON, Lt. R.N.

We have forwarded a copy of our correspondent's letter to the secretary of the A.C.U., who replies as below:

"I entirely agree with Mr. Jameson that if possible the scope of the entry list should be increased so that enough entrants may be obtained to make the trial the success which it should be. The only difficulty is that the trophy was subscribed for by the public on the definite understanding that it was to be competed for at a trial open only to officers of the Royal Navy. Possibly a public announcement that the conditions of the trial were likely to be altered would satisfy any objectors.

"As regards Mr. Jameson's proposals in detail, I have not yet had an opportunity of submitting these to the Competitions Committee of the Auto-Cycle Union so I am unable to comment on them—otherwise than by saying they seem worthy of most careful consideration.

"T. W. LOUGHBOROUGH, Secretary,
"The Auto-Cycle Union."



The police in South Africa have thousands of square miles to cover, extending from Cape Town to Lake Nyassa, a distance of nearly two thousand miles, and the convenience of the handy motor cycle can well be imagined. The illustration depicts a police inspector with his B.S.A at Mengulat, Lake Nyassa.

THEORY AND PRACTICE.

Sir,—In your issue of December 30th there is a request by "A.S.," who wants to fit a switch to a magneto not adapted for one.

I was in the same difficulty many years ago owing to the choking up of a release valve passage on a two-stroke; and, against the advice of experts, I clipped to the tube beneath the tank a piece of spring steel or mudguard stay, which was pulled down into contact with the plug terminal by Bowden wire, and cable worked from the handle-bar.

This has worked as a perfect cut-out for years, and on several machines, apparently with no harm to plug or magneto. It is not in the way when the plug is taken out, nor is there any electric shock therefrom. DITTO.

Dublin.

LIGHTWEIGHTS FOR THE USE OF LADIES.

Sir,—As a reader of your valuable paper and a keen motor cyclist (solo), may I be permitted to say a few words. I think most ladies either do not ride because they don't like wearing breeches, or else they have not found a suitable machine.

I have now been riding some years. My first 'bus was a 1915 lady's open frame Velocette. I have since then tried various diamond frame machines, but still find I prefer to keep my little Velocette, alike for speed, easy starting, and above all as an absolutely no-trouble mount. I have no interest in Messrs. Veloce, and I simply write this letter because I believe, if more ladies knew of this real lady's mount, there would soon be a multitude of lady riders. I am convinced that what the lady requires is a lightweight open frame (very open to allow for riding in skirts as usually worn); she also wants a two-stroke because it starts easily and is simple to understand. Chain drive I consider best, as this form of transmission is more reliable. Automatic lubrication is essential, as on the Velocette all that one has to do is to put oil in the sump, and never think again about it.

I keep my little 'bus in the back kitchen, and if I have some shopping to do, I just take it out, paddle off from the saddle and away I go. I may also say that I get 160 miles to the gallon always, a Senspray carburetter being fitted. I may conclude by saying my husband was so pleased with the way my little Velocette behaves, that he has also got one, and his also is the open frame model, which he much prefers to the diamond pattern. (Mrs.) GLADYS BENNETT.

AN INGENIOUS EXPLANATION.

Sir,—*Re* the letter by "J.K.D.C." in your issue of January 13th, there are one or two things which your correspondent has not quite grasped.

The fact that motor cycle speeds in America are greater than over here is not due to any superiority in design or tuning. The reason is that the air on the other side of the Atlantic is altogether less humid, less damp in other words. Now, the chief factor militating against big speeds is the resistance of the atmosphere, which increases as the square of the speed. In other words, suppose at 10 m.p.h., the atmospheric resistance (or pressure against the direction of motion) were 1 lb. per square inch (this is a purely imaginary example), then at 100 miles an hour, or ten times this speed, it would amount to 10^2 lb. per square inch or 100 lb. per square inch.

Now, the American atmosphere, being dryer, has less retarding effect upon a moving body (not much it is true), and owing to the law of squares, this does not show up at all considerably, until fairly high speed has been attained. So it remains that c.c. for c.c. America will put up bigger speeds than we do, but if American machines were to race at Brooklands their speed would be found to have dropped very considerably.

One of the cars competing in (I believe) the Indianapolis races in 1914 put up much bigger speeds when it arrived in America than it had done on this side.

Harry Vardon, the famous golfer, says in his book that, when playing in America, he found that the drive which he was able to put up was always longer than he had been able to do in this country—another sphere in which the question of atmospheric resistance plays an important part, as we are told that the velocity of a golf ball on leaving the club, on a full drive, is about 300 miles per hour.

L. W. G. HARTLEY.

OVERSIZE TYRES IN BELGIUM.

Sir,—I am a regular subscriber of your very interesting paper, and note that plenty of your readers seem to be quite at a loss to understand tyre sizes and rims.

Will you allow me to tell you what my *actual* experience has taught me? I may say that living in Belgium obliges one to try a way out of the discomfort which is the rule if small tyres are fitted. Hence my knowledge is based on experience. Here are the results:

On the 26×2¼in. rim. (same as 4 h.p. Triumph) one may fit 26×2¼in., 26×2⅜in., 26×2½×2¼in. Dunlops, 750×75 mm. Hutchinsons small car type, and Firestone 28×3in. non-skid without difficulty whatever. The last named give splendid comfort on the Triumph. However, it is not possible to fit them on the front wheel, as they touch the bottom of the mudguard; also it is not possible to fit them on the back wheel of the Model H if the mudguard has been patched up or if the rim is badly out of truth. When fitting, the inner flange of the tyre must be cut with a knife round the place of the valve. English 28×3in. tyres are not satisfactory on the 26×2¼in. rim because they roll. On the new chain-driven Triumph one can put 28×3in. Firestone on both wheels easily. Also, on the 3½ h.p. Ariel one simply forgets all about punctures with them on! On the 26×2¼in. rims one can put 26×3in. English tyres, also 710×90 mm. Michelins.

On the 28×3in. American rims (American X, Harley-Davidson, and Indian) the 760×90 mm. Jenatzy go all right. It is also nice to know that the new 27×3½in. American rim is practically the British 26×2½in. rim, and if an English rider wants to fit an English sidecar to his 1921 American X, or Ace, or 1921 Henderson it will be an easy matter to match the sidecar wheels by fitting a 26×2½in. rim.

In the way of inner tubes, I found that the 26×2½×2¼in. *endless* tube fits the 28×3in. Firestone; the 26×2⅜in. endless fits the 26×2½×2¼in. Dunlop.

I believe in tyres pumped board hard on the back wheel, and I do not believe in taking girls for joy rides on the carrier if they do not sit properly—that is, facing the direction of travel. In Belgium and Holland there is no "pillion question" as one hears of in England, simply because passengers on the carriers do not do such silly things as to sit sideways. The danger comes from that practice and from nothing else. J. TAYMANS.

Brussels.



In France, where the roads are generally straight. One of the great main roads on the Continent, often traversed by British motor cyclists on their tours to the Alps and beyond.

STAND-PIPE PETROL SUPPLY.

Sir,—"Ixion" is asking in your issue of January 27th how one is served, and if any shortage results from the "bulk storage" and stand-pipe system of selling petrol in America.

From my experience out there I can safely say that you get the gallon every time, because your gallon is registered by a sight glass. To prove this system I have measured it after being supplied.

I cannot help but praise this genuine, quick and clean system of supplying petrol, and how crude our system of cans, waste, and mess; not forgetting that many will not split a can.

Again, every petrol supply station in America has the price per gallon displayed where all can see, another convenience all round. REGINALD GEARY.

TWO-STROKES.

Sir,—*Re* the remarks on "Four Stroking" by "July" and others, may I give what I think the real reason? It always occurs when going slowly on level and fast downhill.

The following given is the result of practical experiments. First, it is due only to bad scavenging, and it is only to be remedied by structural alteration provided to exhaust the burnt gas, and cannot be remedied by any amount of careful driving.

In the Dunelt engine we find a step in the right direction. Two-stroking does not depend on speed, but on throttle opening only. When going slowly on level and fast downhill the throttle is nearly closed, but go slowly uphill with a heavy load with full throttle and it will two-stroke. Assuming the piston is at the bottom with a cylinder of burnt gas at atmospheric pressure, the crank case is only partially filled, due to small opening. The small charge from the crank case pressure is not sufficient to expel the burnt charge, and is damped by it, but leaves a better charge ready for mixing with the next inflow from the crank case. "July," by fitting an extra air valve, helps the crank case to get a fuller charge to expel the burnt one, but it is a remedy that cannot be carried far, as the mixture would be too weak.

Radcliffe. ENGINEER.

DAYLIGHT INTO SOME TAXATION ANOMALIES.

Sir,—May I have the pleasure (as a motor cyclist and for many years a regular reader of your paper) of criticising the article which appears in the issue of January 13th *re* the new taxation?

I quite fail to see any difference between a fixed weight of 200 lb. or 2 cwt., because a pound over or under would be the factor in deciding the tax in either case. May I point out here that the 200 lb. limit is just the mark which covers practically all lightweights, and the raising of this figure to 2 cwt. would bring in the greater number of higher powered mounts, defeating the object in view, viz., revenue.

The little joke about the transportation of soil for weighing purposes is funny, but the motorist that would be caught under such circumstances should not only be a rarity, but decidedly unlucky also.

The contrast cited is that a cycle of 198 lb. (a lightweight) with a sidecar affixed weighing 120 lb., presumed to carry two heavy people, making about 6 cwt. and paying a tax of £2 10s., while a cycle of over the 200 lb. limit pays a tax of £3 and has no sidecar.

Well, I have very, very grave doubts if there is a machine anywhere so lightly constructed capable of such service with such a load for any length of time.

The issue of quarterly licences to motor cyclists would again defeat the objects of revenue. There would be by far the greater portion of licences issued in respect of short periods only. In addition to that there would be a considerable increase in labour involved in its collection. Further, the annual sum is not great if money value is taken into consideration.

The crumb of comfort with a sly dig about the tax for a motor bath chair is a little joke which neatly finishes the article signed by "Jam Satis," but it would cease to be an invalid bath chair attached to a machine and driven by other than the invalid.

But, in spite of all, we won the war. We are very much alive, and hope for some enjoyable runs on luxurious roads, and last, but not least, cheaper fuel. CHI.

Chichester.

MAGNETO ADJUSTMENT.

Sir,—I have just spent half an hour in endeavouring to adjust a magneto chain by means of the usual four studs in a slotted platform—the chief feature being that the process of tightening the studs upsets the adjustment.

At first this is wildly annoying, but after a time the would-be adjuster blasphemes, weeps, or goes into a trance according to his temperament.

As motor cycle designers apparently use Rolls-Royce cars, or leave their adjustments to uncomplaining mechanics, would it not be possible to start a list of these abominations which transform peaceable men into raging savages?

If readers would take part in the compilation of such a list we might in time eliminate some of these unmechanical devices so dear to the makers.

We could, at least, say that a machine contained such and such a number of these inanities which would form a useful basis for comparison.

If you will furnish me with the names and addresses of any "Constant Readers" who never experience trouble of this particular nature I will gladly do them to death in the most brutal fashion. P. WYAND.

[This letter was evidently written *before* Olympia, where several machines were shown with a simplified magneto adjustment. However, we are in entire agreement with our correspondent on the awkwardness of most existing designs. —ED.]

SUMMARY OF CORRESPONDENCE.

Further correspondents this week urge "Ixion" to give us a second volume of his reminiscences.

Several readers write to correct "Appreciative's" impression that his Rudge-Multi only weighs 188 lb. They state that this machine weighs 240 lb., and the 188 lb. weight applies to the single-geared T.T. Rudge.

A correspondent, over the signature "Fortiter et Recte," takes seriously the humorous suggestion of "Jam Satis" in a recent article regarding taxation of motor bath-chairs. We had not thought it necessary to label the suggestion in question as in lighter vein, but we take this opportunity of very definitely stating that it was.

In the course of a long letter a correspondent, who signs himself "Troublesome," attempts to estimate the amount of trouble a novice may reasonably expect during his first twelve months' ownership of a good machine. One of his items (for 5,000 miles running) is: "Internal cleaning of crank case—twenty-five times." We trust he does not mean dismantling; but, even a thorough "swill out" every two hundred miles is more than most novices (or experts) of our acquaintance bother with. The rest of his list is similarly rather optimistic regarding adjustments, and pessimistic on actual trouble. We fear his letter, if published, would raise a shoal of claims from readers who have covered greater distances "without touching a spanner."

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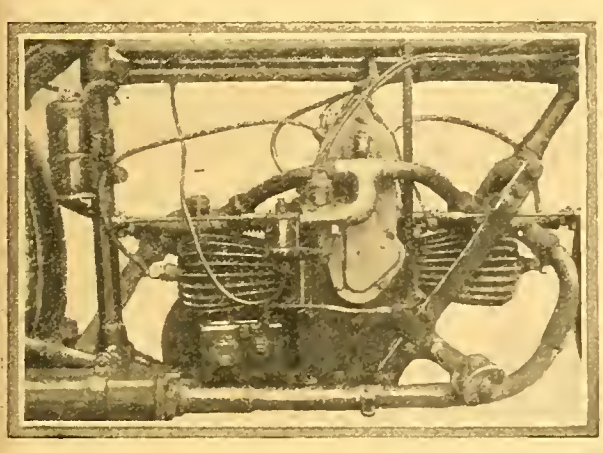
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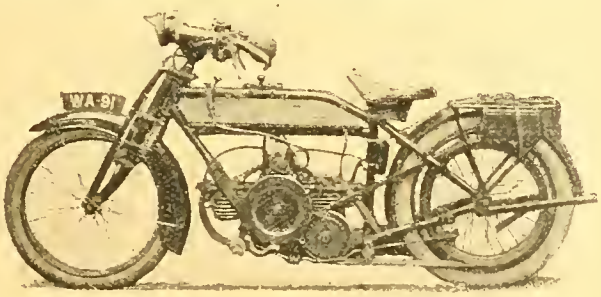
An Excellent Example of Design and Construction under Difficulties.

IT is not often that we learn of "home-made" machines which truly deserve their appellation. True, from time to time, various industrious readers forward particulars of mounts which they have assembled from component units, but the machines built throughout by private riders could be enumerated on the fingers of the hand, figuratively speaking.

Herewith, however, we are able to give two illustrations and some particulars of a decidedly attractive looking 3½ h.p. flat twin which has been almost entirely constructed by one of our Sheffield readers, Mr. W. G. Barber.



Power unit of Mr. W. G. Barber's machine made on a 5in. treadle lathe; the neat appearance and compact housing of the gear box are commendable features.



A Sheffield reader's machine, designed and constructed throughout by himself. It has a 3½ h.p. flat twin engine and two-speed gear box.

In the production of the engine and gear box, the entire machining has been carried out on a 5in. treadle lathe, and only those who have operated a tool of this description will appreciate the patience and physical effort summarised in that simple statement.

The engine capacity is 530 c.c. (71 × 67 mm. bore and stroke), and is unusual in that the exhaust valves only are overhead. The inlets are on the "top" of the horizontal cylinders and concentric with the exhausts. A single camshaft, with two cams, operates the four valves, and although the cylinders are staggered ⅜in., the valve chests are in line, thus allowing the induction pipes to be symmetrical. Plain bearings are fitted to the engine, which has a hardened nickel steel crankshaft of 1in. diameter.

Ubas steel is employed for the pinions in the two-speed dog clutch gear box, and the casing of the latter is a one-piece malleable casting.

Re-enamelling the Motor Cycle at Home.

A Spare Time Task which may Save the Equivalent of the Tax.

NOW that the days are drawing out again one's thoughts turn to the open road, but motor cyclists still have time to turn some attention to details which occupy valuable riding time if undertaken during the summer months. I give below some directions for re-enamelling a machine, which, if carefully followed through, will bring abundant satisfaction and pleasure to the keen rider.

Preliminary Tasks.

To begin with, the first thing to decide is the proposed colour. This settled, work can begin at once, the time whilst waiting for the necessary enamels, etc., to arrive, being occupied by getting the machine as nearly ready as possible. Both tanks (oil and petrol) should be emptied, after which a small quantity of paraffin should be introduced into the oil tank; this, when pumped through to the crank case, assures one that everything is clean in the oil container, greatly frees the engine on rotation, cleans the flywheels, and allows all thick oil to be drained from the crank case. Now commence dismantling, by taking engine out, tank, back and front wheels, mudguards, etc., off, until the bare frame is left standing on front and rear stands. A word of advice here. Some people advocate putting all small nuts and bolts carefully away in a box by themselves. This is quite good, but to anyone who has not taken his particular machine to pieces before, I always advocate "a second sight" principle, *i.e.*, putting nuts and bolts back on parts to which they belong.

Now examine the frame. If the enamel is badly chipped or cracked, then there is nothing for it but to commence scraping, as a good surface is essential. This takes time, and sometimes appears hopeless, but if the "blood is warmed up" to it, it is surprising how quickly this—the worst part of the job—can be overcome. Follow this up with a good smoothing down with fine glass paper, carefully removing afterwards all traces of dust. The frame is now ready for the first coat—a start always being made by applying what is called a "priming coat," and *not* glass enamel, which is only for second and third coats. Whilst—generally three days—this is drying (covered by a newspaper to prevent dust settling), attention may be turned to the other parts, such as the carrier and mudguards, and all parts which require replating should be carefully noted, and delivered to the platers. By the time this is done the frame will be dry, so carefully "flat" this off with fine pumice dust on a wet cloth (to prevent scratches): then wash off clean and dry, and apply first coat of "gloss," taking care that as thin a coat as possible is applied. Three more days are required for drying, and so in the meantime attention may be given to the engine—decarbonising, freeing piston rings, cleaning carburetter, and adjusting magneto—getting all ready for reassembling.

The Final Coat.

When the second coat is dry, "flat" this off again as with the first coat, the result being that now there is a lovely surface on which to put the third and last coat. This should be a fairly full one, and it is the one for which all previous preparations have been made and on which results depend. Allow this last coat of enamel to dry thoroughly, after which—as it is no use spoiling the ship for a hap'orth of tar—and it is a sure preventive from the rain spot trouble, apply a coat of transparent varnish, which, when dry, bathe off in clear cold water. The nett result should be a beautifully finished frame, hard wearing.

With regard to materials and expense, the writer (using Robbialac) spent 12s. 2d. on enamels, brush, and postage, and another 10s. covered all the plating that was necessary. Altogether, it was time and money well spent—the machine being "pounds" better in appearance, not to mention the satisfaction at having carried the work through successfully.

K.W.M.

CURRENT CHAT

Times to Light Lamps.

Feb. 10th	... ...	5.32 p.m.
,, 12th	... ...	5.36 ,,
,, 14th	... ...	5.40 ,,
,, 16th	... ...	5.43 ,,

The A.C.U. Six Days.

Shall we see small four-wheeled cycle cars in this year's A.C.U. Six Days?

Car Practice.

On page 164 of this issue we publish an article on a question of embodying car features in motor cycles.

A 2¾ h.p. A.J.S. for 1921.

We learn that it is the intention of Messrs. A. J. Stevens, Ltd., again to market a 2¾ h.p. A.J.S. The popularity of the pre-war machine of this type, and the successes attained with its predecessor, including winning last year's T.T., make this news particularly interesting to solo riders.

Reduction in Price.

Motor Transport, hitherto fourpence, will from February 21st be reduced to threepence per copy. This reduction should, if this is possible, increase even further the wide sphere of influence of this publication, which deals with the many phases of industrial transport—an important and ever-widening movement in these days.

Prejudiced Public Bodies.

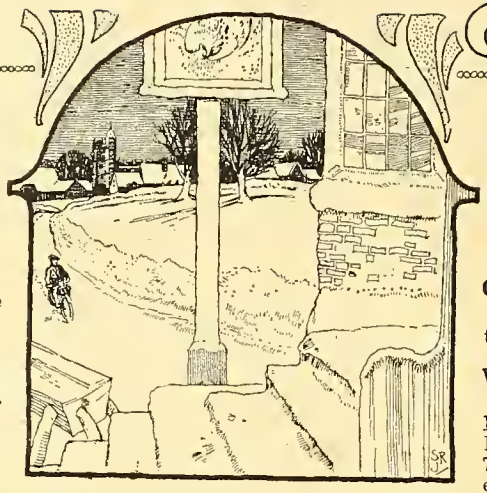
Various Corporation Bills affecting motoring interests have gained the attention of the Motor Legislation Committee as well as the A.A. An important point is made when it is stated that "public bodies owning tramways are unable to take an impartial view respecting the regulation of other forms of vehicular traffic."

Motor Cycling in Italy.

We have already referred to the progress of the sport and pastime in Italy. In an Italian paper we notice references to the Rex, Indian, Triumph, Excelsior, Ariel, Martinsyde, Wooler, Clyno, B.S.A., Matchless, Harley-Davidson, and Royal Ruby, in addition to motor cycles manufactured in Italy. This shows, therefore, that British and American machines are popular in that country.

Separate Organisation in the North.

Last Saturday's issue of *The Autocar* contains a report of the situation which has resulted in the severance of the North-Eastern Automobile Association from the R.A.C., to which it was affiliated. The Northern body, at a meeting in Newcastle-on-Tyne on January 29th, adopted a resolution to the effect that it should call upon its committee "to devise ways and means of serving its members as an independent organisation." How this resolution will affect the motor cycle section of the N.E.A.A., which is affiliated to the A.C.U., and to which some of the 1921 open competitions have been allotted, remains to be seen.



Good!

In the A.C.U. One Day Trial on April 27th, three and four-wheeled cycle cars will compete side by side.

The Tax on Auto Wheels.

There has been no little confusion regarding the taxation of tricycles fitted with Auto wheels. Some authorities have demanded £6, as for a car, and others have considered it to be a sidecar for taxation purposes. We are now informed by Major Watling, the manager of the Manufacturers' Union, that the Ministry of Transport has come to a decision on the matter, and that all local registration authorities have been advised that, whether fitted to a tricycle or a bicycle, the taxation is £1 10s.

Special Features.

THE SIDECAR ALTERNATIVE.
CAR PRACTICE OR SIMPLICITY.
THE DISC WHEEL VOGUE.

Cycle Cars of Long Ago.

On page 157 of this issue we illustrate two cycle cars on the market in 1900.

What is a Cycle Car?

At present, it is apparent that the R.A.C. and the A.C.U. are accepting the F.I.C.M. definition of the cycle car, *i.e.*, 772 lb. weight maximum and 1,100 c.c. engine limit.

The Paris-Madrid Trial.

We are informed that the Royal Spanish Motor Cycle Club has undertaken to help in the organisation of the above, after the Spanish frontier has been crossed, looking after the replenishing depots and supervising the trial throughout the remainder of the course. At the start, assistance will be given by the Sporting Club, aided by the Motor Cycle Club de Boulogne et de Billancourt, and the Motor Cycle Club de Montmartre. From Chartres the organisation will be carried on by the Western Automobile Club. At Poitiers the Union Vélocipédique de France will give its assistance, and at Bordeaux help will be given by the Bordeaux Motor Cycle Club.



SURPLUS GOVERNMENT ROADS!

The many ex-D.R.'s amongst our readers will, we are sure, feel quite home sick after looking at the photograph reproduced above. It was not taken in devastated France, however, but shows the present condition of the main roads in the New Forest just west of Southampton. This surface was produced during the building of two aerodromes

T.T. Aspirants.

Evidently a great many of our readers have T.T. aspirations, for we have received names for our T.T. register by every post since the publication of the original paragraph. Our long list now includes a number of riders with previous, and in some cases very successful, experience in past races in the I.O.M., and others whose names are almost by-words in the Brooklands and "hill-climb" side of the pastime.

High Averages.

It has long been a somewhat moot point as to which quality in a machine is the more favourable to a high average speed —acceleration or sheer maximum speed. However, there is a third essential to rapid transport even more important than these two, and it is a factor that some designers of "efficiency" mounts are inclined to give but very secondary consideration. We refer to brakes. Especially on a big machine it is an infallible rule that the better the braking system, the better the journey.

The Scottish Motor Cycle Show.

On Wednesday of last week, during the Scottish Show in Glasgow, a deputation representative of the motor cycle trade in Scotland waited on Mr. D. A. Fairley, secretary of the S.M.T.A., regarding the possibility of running a motor cycle show concurrently with the car show next year. The deputation was very favourably received by Mr. Fairley and several of the leading members of the Scottish M.T.A., many of whom appear to be very much in favour of the scheme, and we shall in all probability see a Scottish motor cycle show next year.

Courtesy.

We have received a letter from the secretary of the A.A. which includes the following paragraph: "When meeting other cars my head lights go 'off' in good time. This invariably brings an answering courtesy; if not, up they go again for a second, and that teaches yet another driver what should be done." We are urged to support the practice mentioned. Though we are always anxious to encourage courtesy on the road we take the liberty of reminding Mr. Stenson Cooke that owners of acetylene lamps (and there are many) are unable to dim their lights on the approach of other vehicles, and that if they are to be "punished" as suggested the chances of confusion are considerably increased. Surely it is up to us to be as courteous as possible and trust that others also will do the same. What do our readers say?

Death of Pioneer.

We regret to record the death of Mr. W. Hillman, one of the pioneers of the cycle and motor industries in Coventry. He was one of the founders of the Premier Company.

Prices.

Further to our recent paragraph referring to the policy of manufacturers and agents who are undertaking to indemnify purchasers of machines which before a certain date are reduced in price, we are able to state that other concerns are now giving a similar guarantee. Among these are the makers of the Royal Ruby and the Ariel, and the well-known Midland agent, Frank Whitworth.

Two-stroke Motor Cycles.

We learn from our publishers that the first edition of "Two-stroke Motor Cycles" is now ready, and copies may be obtained from Iliffe and Sons Ltd., 20, Tudor Street, London, E.C.4, price 3s. net, by post 3s. 3d. This book, which has been prepared by the staff of *The Motor Cycle*, deals fully with this fascinating type of machine, and should be found helpful to all owners of two-strokes as well as to prospective buyers.



TRADE NUMBERS.

In future policemen will have no difficulty in recognising trade numbers on a machine undergoing test. Here we have a little Triumph Junior bearing the new official plate, which, incidentally, may be used in official reliability trials. Placed a little higher over the handle-bar it might almost be used as a screen!

A.C.U. General Committee Meeting.

Possibly the most generally interesting subject for discussion at the forthcoming meeting of the A.C.U. General Committee is the proposed revision of the law as to the speed limit and driving licences. Several Centre byelaws and open competition rules are also down for consideration, with a view to possible detail amendment. This meeting will be held at the Clarendon Hotel, Shrewsbury, on the 12th February at 11 a.m.

Four-wheeled Cycle Cars.

At the meeting of the Committee of the R.A.C. held last week, it was agreed that temporarily, until the question of the line of demarcation between car and cycle is settled internationally, the R.A.C. will favourably consider applications for permits for small four-wheeled vehicles coming under the definition of the Fédération Internationale des Clubs Motorcyclistes to compete in Auto-Cycle Union Competitions in 1921.

Oil in Australia.

The Agent General for Western Australia has stated that the Anglo-Persian Oil Co., Ltd., is proposing to engage in oil mining in that State. The company is entirely British, and its aim is to develop oil fields within the Empire so as to make Great Britain independent of foreign supplies. The Anglo-Persian Oil Co. is already committed to the oil refining business in the Commonwealth, and it is proposed to establish a refinery in Victoria for the refining of imported crude oil until an internal supply of petroleum is available.

A Fallacy.

Although the figures given by the Rev. J. M. Philpott (page 167) in his endeavour to classify the performances in the last Six Days Trial are interesting, they cannot be taken as conclusive, since the formula used places undue value upon the speed figures at Brooklands. It must be remembered that the requirements demanded certain minimum speeds for each class, and no credit was implied in the regulations for speeds in excess of these. Obviously a cautious rider who was content merely to tour round the track at his qualifying speed is disadvantageously compared with the reckless rider who could not resist the track's "all out" invitation—hence the Rev. J. M. Philpott's formula as applied to the 1920 Six Days results is valueless, but would form a useful basis of comparison in future events run under suitably framed regulations.

CYCLE CARS IN A.C.U. TRIALS.

AT last the small four-wheeled cycle car is to be given a chance in open competitions. The R.A.C. has given permission to the A.C.U. to include this type of vehicle in the cycle car class in the Spring One Day Trial to be held on April 27th. It will be remembered that *The Motor Cycle* has urged such a course. Furthermore, we urged the institution of a weight limit.

This weight limit has been fixed at 350 kilos. (772 lb.). The present F.I.C.M. cycle car definition and classes for both solo and two-seater models are to be included.

Brooklands will play an important part in this trial, and, although we do not expect a freakish course, it should be an interesting event, if the regulations are any guide.

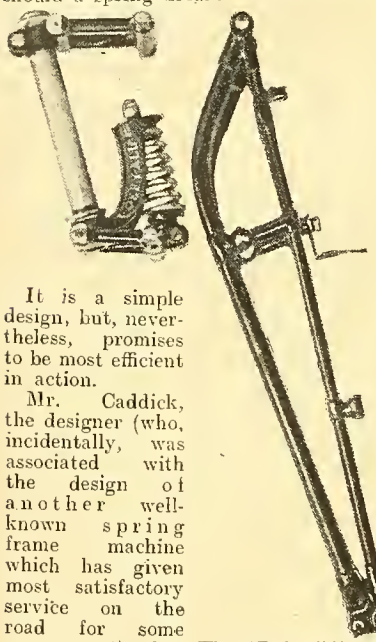
There is an impression that this is a trial for stock machines only. This is incorrect. Entries must conform to F.I.C.M. and A.C.U. open competition rules as regards equipment, and there is to be a special certificate of merit for all successful motor cycles that are really stock machines. These will be chosen from agents' stocks, but details as to this have yet to be arranged.

Manufacturers who wish to enter standard stock machines for this award must notify the Union before the 31st of March. Ordinary entries close on 9th April, and late entries may be received up to mid-day of 16th April.

Simple Front and Rear Springing.

The Defy-all Lightweight—the Product of a Well-known Designer.

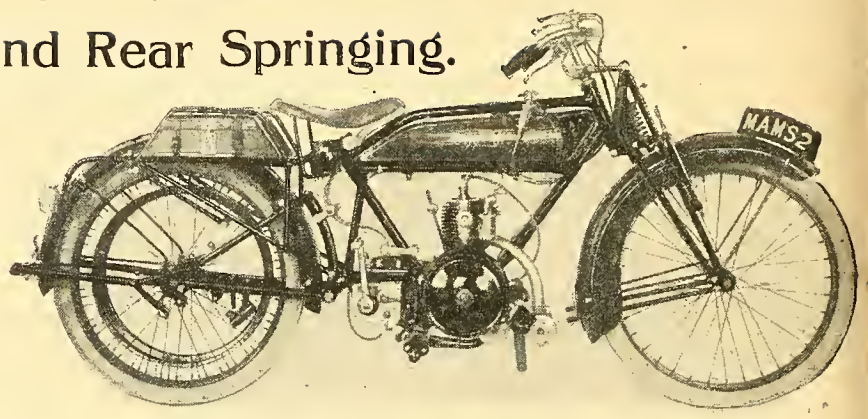
PERHAPS the most interesting point of the Defy-all spring frame, apart from the refreshing originality of its carrier design, is the fact that it may be locked up solidly as a rigid assembly should a spring break.



The "Defy-all" spring fork dismantled.

It is a simple design, but, nevertheless, promises to be most efficient in action.

Mr. Caddick, the designer (who, incidentally, was associated with the design of another well-known spring frame machine which has given most satisfactory service on the road for some years past), has followed the usual practice of pivoting the rear stays just behind the gear box. Another pair of stays and a curved vertical tube complete the rear wheel member. The curved tube is linked to a very much "humped" four-leaf spring, which, in turn, is housed at one end just behind the saddle-pillar, and at its lower extremity is linked to the saddle tube.



With the carrier part of the main frame, the Defy-all lightweight leaves only the rear wheel unsprung.

Insulating the Rear Lamp.

The carrier is an independent structure attached rigidly to the sprung portion of the frame, and so designed as to allow ample clearance for the moving wheel and mudguard. A special extension of the carrier is provided to carry the rear lamp—a commendable feature, as lamps attached to spring wheels usually receive much more vibration than is good for them.

In the illustration, the frame is shown in its "free" or springing form. It may be made rigid by attaching at one end the auxiliary struts on the lower carrier stays to bolts at the wheel spindle.

Also extremely simple, the front forks of this machine work on the parallel link principle. A special housing extending upwards from the base of the steering head holds the single coil spring in a very neat manner.

At present the Defy-all is only made as a lightweight, but we understand that mediumweight and heavyweight models are on the stocks.

On the existing machine, such well-known components as the 2½ h.p. Villiers engine, Amac carburetter, and Sturmey-Archer two-speed gear box, help to form a very taking little machine both in appearance and design. It is possible, however, that later editions of the lightweight will be fitted with 2¾ h.p. Blackburne engines.

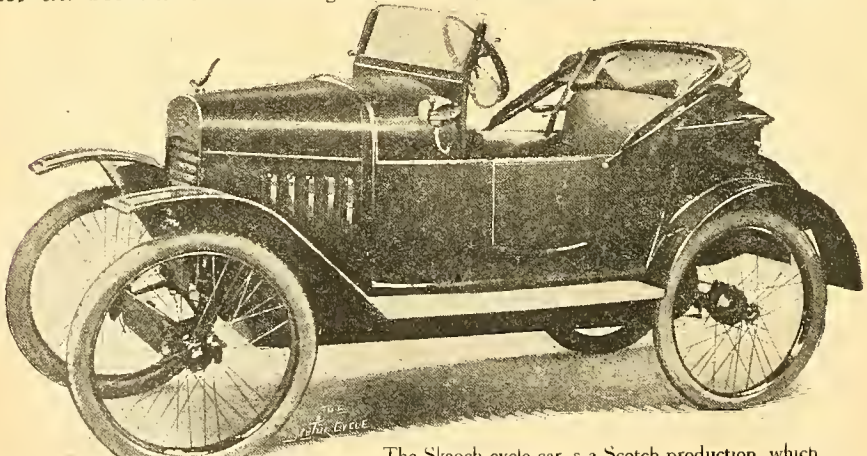
The makers are the Defy-all Cycle and Motor Cycle Co., Ltd., Chapel Street, Stalybridge, Cheshire.

A Scottish Light Four-wheeler.

The Two-seater Skeoch Cycle Car—a Newcomer at the Glasgow Show.

ITS success as the power-unit of many lightweight sidecar outfits has often in the past caused us to wonder why so few designers have considered the 350 c.c. Precision two-stroke engine for an ultra-simple cycle car. We may no more wonder: for another four-wheeled two-seater with this engine has appeared.

Glasgow Automobile Show saw its *début*; and, incidentally, Scotland is the land of its birth. The Skeoch, as it is called—only a Scotchman could pronounce it correctly!—sells, complete with hood and screen, at £180, and is not without interesting, even unique, features of design.



The Skeoch cycle car is a Scotch production, which has a 350 c.c. two-stroke engine.

Three Drives.

Two speeds are provided by a Burman gear box, while the final drive is by belt and then by chain to a solid rear axle. Four very slender-looking quarter-elliptic springs support a simple "chassis," with side members of ash, while the body-work, though plain, appears neither unsymmetrical nor comfortless.

Mudguarding, although simple, should be quite efficient.

Lever Engine Starter.

The Skeoch possesses a long lever engine starter and two external contracting band brakes on the rear wheels. At £180, or £165 less lamps, etc., it appears to be excellent value, although, of course, this is considerably more than a sidecarette with a similar engine. The makers are the Skeoch Utility Car Co., Dalbeattie, Scotland.

A.C.U. WESTERN CENTRE OPEN TWO DAYS TRIAL.

REGULATIONS and route of the A.C.U. Western Centre two-day trial have now been issued, and contain several novel points of quite general interest. Especially is this so of the checking system. Briefly, this method, which is well-known to competitors in Scottish trials, but has not previously appeared in an important English event, means that checks are independent of one another, and that time lost or gained on one check cannot be made up or lost again on the next. Additionally, any competitor who is more than one hour behind his schedule time at the end of the first day's run must automatically retire.

The route, with which we will deal more fully at a later date, is from Hereford to Aberystwyth and back; but, although "stunt" hills have been excluded, it is by no means a straightforward tour. There will be eight test hills, and, to qualify for a premier award, competitors must make clean ascents on all of them. An attempt is made in the regulations to emphasise the difference between "footslogging" and steadying, and riders are advised to avoid the latter to be free of suspicion of the former.

A.C.U. Centre Championship.

A most imposing award list has been drawn up. In addition to the usual gold, silver, and bronze medals, there are the following special awards: Club team prize, A.C.U. Centre team championship prize (the three riders constituting a centre team must be drawn from any three clubs in any recognised centre), the White challenge cup (for the most outstanding solo, sidecar, or three-wheeler performance), "four-wheeler" challenge trophy (cycle cars, light cars, or cars), Sunbeam gold medal (best motor cycle performance on hills), amateur prizes, lady's prize, and, finally, a club gold medal for best individual performance by a member of each club in the centre. These latter awards will be presented by the individual clubs themselves.

THE MOTOR CYCLE GRAND PRIX.

AS already mentioned in *The Motor Cycle*, the Motor Cycle Grand Prix will be run on a circuit near Le Mans on Saturday, July 23rd, the day before the car race, for a distance of about 300 kilometres for motor cycles of 350 c.c. and 500 c.c., and about 250 kilometres for motor cycles of 250 c.c. The cost of entry is fixed at 400 francs. The race is open to manufacturers and owners of motor cycles. These latter will have to produce a certificate from the manufacturers of their vehicles. Entries are unlimited, and may be received at single fees up to May 31st, six o'clock in the evening, by the secretary of the Union Motocycliste de France, 8, Place de la Concorde, Paris. After May 31st up to June 30th at six o'clock entries will be received at double fee.

If, after June 30th, the number of entries is considered to be too high, the Competitions Committee of the U.M.F. reserves to itself the right to reduce the number by elimination.

Important to Competitors.

Motor cyclists entering must conform to the International Regulations decided upon at the last F.I.C.M. meeting at Brussels. Competitors will only be allowed to take part in the Motor Cycle Grand Prix if, on the day the machines are weighed in, they are furnished with a certificate from a mining engineer (French) certifying that the vehicle entered complies with the conditions.

The Competitions Committee reserves the right to withdraw a competitor who is considered unsuitable, in the interests of the security of the public or of other competitors.

The course adopted for the race will be exceedingly fast. It is roughly triangular in shape, practically level, and having no railway crossings, and only three turns which really call for skill on the part of the rider.

The term "Grand Prix" is so commonly employed in France that the British motor cyclist may be excused for not completely understanding the respective values of the various events appropriating this title. There may be a dozen Grand Prix of the "Slocum-cum-Slocum" type, but there is only one Grand Prix of the Union Motocycliste (the national body), and it is this event which constitutes the blue riband of the motor cycle world.



INTERNATIONAL MOTOR CYCLIST DELEGATES AT THE F.N. WORKS on the occasion of the recent F.I.C.M. meeting at Brussels. (1) Mr. W. H. Wells, Motor Cycle and Allied Trades Association of America. (2) Mr. T. W. Loughborough, Secretary, F.I.C.M. (3) Mr. E. M. P. Boileau, Auto-Cycle Union. (4) M. M. Fagard, F.M.B. President. (5) M. N. Kindberg, Swedish Motor Cycle Club. (6) M. E. Host, Danish Motor Cycle Union. (7) Mr. A. V. Ebblewhite, A.C.U. Timekeeper. (8) M. Marcellis, Timekeeper of the F.M.B. (9) M. Thuilier, Manager of the *Journal de Liége*. (10) M Collignon, F.M.B. (11) M. Renson, Sporting Editor of *La Meue*. (12) M. Galopin, Managing Director of the F.N. (13) M. Joassart, General Secretary of the F.N. (14) M. Nepper, Assistant Manager of the F.N. (15) M. Meyhi of the F.N. (16) M. Kelecom of the F.N.

THE ONLY TWENTY-FOUR HOUR OPEN TRIAL.

EALING and District M.C.C. are organising the only twenty-four hour open trial of the year. The route has just been published, and will be dealt with in detail later; but it may be stated that with the exception of a short stretch between Llanidloes and Machynlleth no freak surfaces are encountered, and the whole run merely consists, from Hereford onward, of a long series of stiff climbs which will prove an excellent test of the efficiency of any type of machine.

Furthermore, every type of rider is catered for, and the rider who has never yet obtained an award in a trial is given a slight advantage.

Cups, prizes and a challenge shield are being presented for the best performances, being divided up as follows:—

Best individual performance.
Best performance by an amateur.
Best performance by a private owner.
Best performance by a trade team.
Best performance by a private team.

Many inquiries have been received regarding this trial and a very large entry is expected.

The start will take place from Cranford Bridge Hotel at midnight on April 15th.

B.M.C.R.C. ANNUAL GENERAL MEETING.

THE annual general meeting of the B.M.C.R.C., which was held at the end of last month, marked the conclusion of a very successful year. So far as the officers and committee are concerned, the following were elected: President, Brig.-Gen. Sir H. Capel-Holden; vice-president, Col. F. Lindsay Lloyd, C.M.G.; hon. secretary, Mr. T. W. Loughborough. The committee consists of the following members: Chairman, Mr. A. V. Ebblewhite, and Messrs. F. W. Barnes, S. F. Garrett, F. A. Hardy, W. A. Jacob, F. A. McNab, W. Pratt, A. G. Reynolds, W. H. Wells, and E. B. Ware.

At the meeting it was decided on the following classes of membership: Trade members, subscription five guineas; private members, three guineas; and members who are also of the Brooklands Automobile Racing Club, two guineas. Any candidate for private membership must sign a declaration as follows: "I hereby declare that I am not now either a manufacturer of, or agent for, or dealer in, motor cycles, or motor vehicles, or any articles allied to the motor industry, nor an employee of any firm or company engaged in such trade or trades, nor will I accept any financial assistance of any kind whatsoever from any person or persons interested in or associated with the motor or allied industries. I undertake if elected, and in the event of any amateur status thus defined being in any way modified during the club year ending 31st December next, forthwith to acquaint the secretary with the circumstances, and if required to pay the difference between the rates of subscription payable by trade and other member."

It was decided that any trade member under the above definition who does not intend to use the track for racing purposes shall be held to be a private member until such time in any year when he does so use the track.

CLUB NEWS. (Continued from page 168.)

Sutton Coldfield and North Birmingham A.C.

The above club will hold the Colmore Cup Trial on March 5th next. All information, entry forms, etc., may be obtained from the hon. secretary, Mr. Phil Mosedale, the Nook, Maney Hill Road, Sutton Coldfield.

Western M.C.C. (Glasgow).

Over £400 worth of prizes and medals, the awards for last season's competitions, are to be presented at the second annual dinner of the Western Motor Cycling Club, which will take place at the Grosvenor Hotel, Glasgow, on Saturday next, 12th inst.

Ilkley M.C. and L.C.C.

The Ilkley Motor Cycle and Light Car Club, one of the healthiest of the Yorkshire clubs, was shown to be in a very flourishing condition at the annual meeting held on January 31st. Not only had they paid their way during the year, but they had actually made the open trial—one of the best one-day open trials of the country—pay for itself. Capt. J. N. Longfield was re-elected president of the club with Mr. H. W. Sellers as hon. sec. and treasurer.

Birmingham M.C.C.

A good proportion of the 333 members of the Birmingham Motor Cycle Club attended the eighteenth annual general meeting, held at the Imperial Hotel, Birmingham, on Monday, January 31st.

The election of officers for the year resulted as follows: Captain, Mr. R. W. Duke; vice-captains, Messrs. W. H. Edwards and T. F. Watson; social secretaries, Messrs. C. Browne and E. Danks; trials secretaries, Messrs. L. Clarke, W. S. Banner, S. Haden, sen., and S. C. Toye; press secretary, Mr. G. R. Morgan; treasurer, Mr. E. W. Winckle; secretary, Mr. W. H. Egginton.

Stamford and District M.C.C.

A company of over forty attended the first annual dinner of the Stamford and District M.C.C., which took place at club headquarters, the Crown Hotel, Mr. D. L. Simpson presiding. During the evening the Stamford Challenge Cup was presented to Mr. Turnill, a representative of the winners, the Peterborough M.C.C.

Burnley and District M.C.C.

At the annual general meeting held at the Café Royal on February 2nd, the following were elected as officials for 1921: President, Alderman E. Whitehead, J.P.; vice-presidents, Messrs. W. Catlow and B. S. Cooper; secretary, Mr. J. R. Ashworth, 58, Colne Road, Burnley; assistant secretary, Mr. E. Pool; treasurer, Mr. W. Easton.

Lewes and District M.C.C.

The old Lewes Motor Cycle Club has been revived, and starts with a membership of over fifty. A whist drive held recently was a great success. Owners of light cars and cycle cars not exceeding 10 h.p. are invited to join. The programme will include social runs and competitions. Those wishing to join should communicate with Mr. G. E. Stacey, c/o White Hart Hotel, Lewes.

North-west London M.C.C.

When old companions meet after six years things usually go with a swing, and under these circumstances the informal supper at Golders Green was thoroughly enjoyed by forty members on Wednesday, the 2nd inst. The finish up at the Hippodrome, where seats had been reserved, was voted thoroughly enjoyable. Mr. O. Hill, 3, Old Bond Street, W., will be glad to hear at once of all members (other than those who have already notified) intending to attend the annual dinner on March 2nd.

Proposed Hertford and District M.C.C.

A meeting will take place at the Coffee Tavern Hall, Hoddesdon, on Tuesday, February 15th, at 7.30 p.m., to discuss formation, etc., and it is hoped that all motor cyclists in the district who are interested will put in an appearance.

The Brookdale Club (Motor Section).

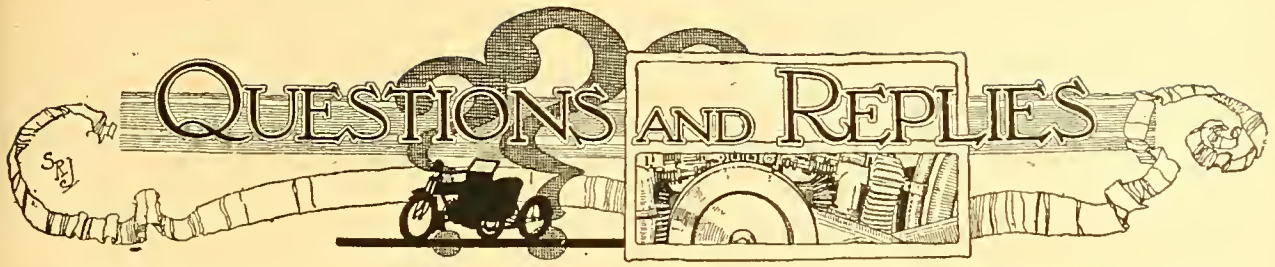
The above club, with its spacious headquarters at Brookdale Road, Catford, S.E. (rear of Town Hall), is holding a rally at Keston Lakes on the 13th inst., with a view to re-forming its motor section. Any motorist interested will be welcome to this rally, or to a meeting at headquarters on Wednesday evening, the 16th inst., at eight o'clock.

Essex M.C.

Intended to demonstrate the capabilities of modern vehicles under ordinary touring conditions, the one-day winter trial, to be held on February 19th, will not include freak hills or secret checks. It is open to motor cycles and sidecars of members only, but the cycle car and car classes (under 1,500 c.c.) are open to all. Acceleration, flexibility, and brake tests are included.

Cumberland County M.C.C.

At the annual dinner of the Cumberland County M.C.C., Mr. W. Theodore Carr, M.P., as president, took the chair. Others present included the Chief Constable (Mr. Eric H. Spence), Mr. T. Gigson (the retiring captain of the club), Mr. J. J. A. Dias (the new captain), Mr. H. A. P. Mawson (secretary), Mr. W. B. Anderson (treasurer), Mr. T. B. Westmorland, Dr. Doughty, Mr. H. C. Simpson, Mr. Thompson, Mr. C. G. Brooks, Mr. J. G. Bell, V.S., Mr. Alfred Sutton, and Mr. W. N. Simpson, and Mr. John Robinson, representing the Western Motor Cycling Club, Glasgow.



A selection of questions of general interest from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

A SIDECAR CONVERSION.

(I.) Could I fit a 1920 4 h.p. Douglas standard sidecar to a 1921 8 h.p. New Imperial (solo) without it being out of alignment? (2.) If so, should I need any extra sidecar arms or bolts?—J.R.J.

(1.) It is most unlikely that you would be able to fit a 1920 4 h.p. Douglas sidecar to a 1921 New Imperial machine, as the sidecar attachments are specially made to suit the Douglas motor cycle frame. (2.) A good mechanic might be able to effect the fitting, but it would not be done without considerable trouble and expense.

GENERATING FROM MAGNETO.

(I.) What voltage is given out by the low-tension coil of a magneto? (2.) Could the electricity be stored in an accumulator, and if so, what would its voltage have to be? (3.) Would a choke coil be required when using an accumulator?—J.M.

(1.) Probably about four to six volts, but no definite figures are available for all types; a test would have to be made. (2 and 3.) As the primary current of a magneto is alternating, it cannot be used for accumulator charging, unless special arrangements are made to include a commutator in the apparatus.

TYRE SIZES AND CLUTCH MANIPULATION.

(I.) Can I safely fit 28×3in. tyres on the 26×2¼in. rims of my 1914 3½ h.p. Sunbeam? (2.) Is it good driving to use the exhaust when cornering, slowing down, or coasting downhill? (3.) When kick starting from the near side of a well cambered road, why does my gear invariably jump from neutral into low before I touch the gear lever or raise the clutch?—SUNBEAM.

(1.) Provided there is sufficient clearance between the rim and the mudguards, you should be able to use 28×3in. tyres on your 26×2¼in. rims. At the same time the tyre makers do not recommend the fitting of this size of cover to such rims, but it is very frequently and successfully done. (2.) There is no objection to using the exhaust valve when coasting downhill, but in all other circumstances with a three-speed machine and handle-bar clutch such as yours, it is better to use the throttle or clutch according to circumstances. (3.) In all probability this is due to wear of the gear operating mechanism, and it may be necessary to replace the dogs and the selector fork in the gear box.

NO TAX ON MACHINE IN STORE.

I have a motor cycle which I do not intend to use again, as I am going to sell it in the spring. Shall I have to pay the new tax? I shall not use it on the roads, and as I intend to buy a new one before Whitsuntide I don't see the necessity of paying twice.—J.A.Y.

If you do not use the machine on the roads, you need not take out the tax, but you will understand, of course, that you will be unable to demonstrate the machine on the public roads to a prospective purchaser until the tax is paid.

Important Dates.

Feb 21st-28th—
Paris-Nice Trial.

March 28th—
Richmond Meet.

March 26th—
M.C.C London-Land's End Trial.

April 27th—
A.C.U. One-day Winter Trial for Stock Machines.

May 14th—
M.C.C. London-Edinburgh Run.

May 25th—
A.C.U. Silencer Trial—Brooklands.

June 14th-16th—
Tourist Trophy Races.

June 25th—
M.C.C. Inter-team Trial for "The Motor Cycle" Cup.

July 6th-7th—
Arbuthnot Trophy Trial for Naval Officers

July 23rd—
Grand Prix Race—Le Mans.

August 1st-6th—
International Six Days Trial—Geneva

August 28th to Sep. 3rd—
A.C.U. Six Days Trials.

Sep. 17th—
Grand Prix Race for Cycle Cars.

THE RESULT OF PRE-IGNITION.

I have a 2½ h.p. Villiers two-stroke which gave no trouble for three years until lately. Last week, owing to pre-ignition, the flywheel key sheared. After fitting a new key the engine knocked very badly. Immediately the release was lifted, however, everything seemed all right; the engine was retimed without result. On dismantling, very little play was found, and there was plenty of oil.—C.E.L. de S.

The details you give are not very clear, and it is rather difficult to tell you exactly what is the cause of the knocking. You might make quite sure that the keyway in the flywheel and shaft are undamaged. As a matter of fact the makers have now discontinued the fitting of flywheel keys, and it would be advisable to leave out the key when reassembling the engine. You do not say how far the engine was dismantled, but we are inclined to believe that the trouble which you now experience is due to the shafts being disturbed and out of line, as a result of the pre-ignition which loosened the flywheel. Perhaps it would be best to return the engine for overhaul if you find that the above explanation is correct, as it may be damaged considerably if you continue to run it with the shafts out of alignment.

REMOVING OVERHEAD INLET VALVE.

I have a 1916 Harley-Davidson, and am desirous of grinding in the valves. I have managed, after considerable difficulty to remove what I will call the "domes" of the inlet valves. Now I am confronted with the difficulty of knowing how to proceed. Can you please give me the method of procedure in getting the plate out, which, to me, seems determined to stay where it is?—R.T.

Remove the exhaust valve cotter, cup and spring, and then raise the valve itself until it presses against the inlet valve. Then place a distance piece between the valve stem and the tappet, taking care that the latter is in its lowest position. By gently rotating the engine, the rising of the exhaust valve tappet will press the inlet valve seating out of its place.

SLIPPING FRICTION CLUTCH.

I ride a 3 h.p. Royal Enfield, and the two-speed gear defies all my attempts to repair it. New actuating pegs have been fitted, and the cam is in No. 3 position. Low gear keeps in position, but the high gear will not remain in action unless the lever is held in with hand or knee. Then there is a lot of slipping in high, and whenever a hill is tackled the engine races without the machine increasing in speed, no matter what pressure is exerted on the lever. I think I have carried out all instructions given in the makers' handbook, but all to no avail.—F.S.

In all probability the slipping on high gear has nothing to do with the countershaft gear itself; it appears to be the high gear sprocket on the engine-shaft. If you study the handbook issued by the makers you will observe that this is arranged as a slipping device in order to eliminate shocks on high gear, and the pressure on the springs should be increased or new ones fitted.

NO SPARK AT FULL RETARD.

I have an old pattern twin magneto, which I am using for a single, after removing one carbon brush and one rocker arm opener. I get a good spark when the ignition lever is fully advanced, but a very weak spark when I retard the lever. My engine is an old 3½ h.p. P.F., and I cannot get it to run slowly. Of course, it has a fixed gear, so I thought if I got a good spark when fully retarded it would run more slowly.—W.R.

Probably the weak spark on full retard is due to a defect in the design of the magneto, and it is doubtful whether you could improve this. The fact that the engine will not run slowly is more likely to be due to defective carburation resulting from an air leak in the induction system than to the ignition. Make quite sure that there are no leaks at the induction pipe joints, or at the inlet valve stem where it passes through the guide.

LUBRICATION.

Having just taken delivery of a 2¾ h.p. British Excelsior two-speed model, with J.A.P. engine, I am lubricating with Vacuum oil B.B., and would like to know (1) the correct setting of drip feed lubricator until engine is run in? (2.) Correct setting of drip feed lubricator after engine is run in? (3.) Correct lubricant for Albion two-speed gear box? (4.) How often will the gear box need refilling with fresh lubricant?—G.D.W.

(1.) Setting of the drip feed lubricator depends altogether on circumstances—normal speed, nature of the load, quality of oil, and temperature, all having to be taken into account. Your average consumption of oil should be about 200 miles per quart, and you might set the drip regulator to deliver thirty drops per minute. If the engine smokes on this quantity you can cut it down slightly, or you may find that it needs a little more to get the best running. (2.) After the engine has done five or six hundred miles you should be able to get about 300 miles per quart oil consumption. (3.) Ordinary engine oil will suit the gear box. (4.) About every five hundred miles. The gear box should not be more than half filled.

TESTING PETROL LEVEL.

Will you kindly criticise the following suggestion for checking the petrol level of an ordinary carburetter, and also give me the information *re* gear? (1.) Assuming the correct level is $\frac{1}{16}$in. below the jet top, and that the float displaces the same amount of petrol, whatever its height, run the engine a few moments to ensure the needle valve seating, turn off the petrol and carefully remove the float; mark at what height the petrol stands in the float chamber. Next fit up carburetter and flood well, allow plenty of time for the excess petrol to escape, then again remove float and mark new level. If the difference between the marks is $\frac{1}{4}$in., then the level requires raising $\frac{3}{16}$in. (2.) What gear do you recommend for top, with a 4¼ h.p. B.S.A. sidecar outfit (weighing about 4 cwt.), in not very hilly country?—P.B.

(1.) Your suggested method of ascertaining the petrol level does not appear to be altogether reliable. The usual plan is to remove the float chamber and jet platform complete from the carburetter, and connect it up to the tank by means of the petrol pipe. When the fuel is turned on it is quite easy to notice whether the petrol reaches to within the required distance of $\frac{1}{16}$in. from the top of the jet. (2.) The most suitable top gear ratio is 4⅞ to 1 if the machine is to be used on ordinary undulating roads. In a very hilly district a 5 to 1, or 5¼ to 1 is more suitable.

READER'S REPLY.

REMOVING RUST.

I noticed in "Questions and Replies," a few weeks ago, an enquiry from a correspondent as to whether there is any known composition that will take the rust off nickel plating. Perhaps your correspondent may be interested to hear of a substance I obtained over a year ago from Messrs. A. W. Gamage. It is a blue powder called "Rustoff"; when mixed to a paste and applied, it will quickly remove any rust from nickel plating. I should say it is a very fine emery or Carborundum powder, but it does not scratch the plating in the least, and removes all dullness and tarnish. I cannot say whether the powder is still obtainable; but if your correspondent obtains any and makes use of it, I should most strongly advise him to apply one of the excellent transparent enamels now on the market, or grease the plating well after removing rust, or it will go rusty again all the more quickly.—A. H. NEWMAN.

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ASHBY-DE-LA-ZOUCH TO MARKET DRAYTON.—W.K.

Ashby-de-la-Zouch, Burton-on-Trent, Newborough, Abbotts Bromley, near Colewick, Weeping Cross, Stafford, Eccleshall, Market Drayton. Approximately 53 miles.

LEICESTER TO GREENOCK.—W.U.

Leicester, Loughborough, Nottingham, Mansfield, Worksop, Doncaster, Ferrybridge, Aberford, Wetherby, Boroughbridge, Leeming, Catterick, Scotch Corner, Barnard Castle, Middleton-in-Teesdale, Alston, Brampton, Longtown, Gretna Green, Lockerbie, Beattock, Abington, Lesmahagow, Hamilton, Glasgow, Dumbarton, Greenock.

STAFFORD TO FARNBOROUGH.—F.J.M.

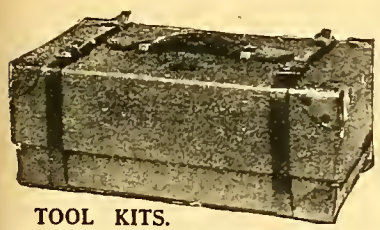
Stafford, Rugeley, Lichfield, Weeford, along Watling Street for a short distance, then through Nether Whittacre to Coventry, Southam, Banbury, Oxford, Shillingford, Benson, Nettlebed, Henley, Bracknell, Bagshot, Farnborough. Approximately 143 miles.

WALLSEND-ON-TYNE TO BRIXTON (LONDON).—W.R.S.

Wallsend, Newcastle, Chester-le-Street, Neville's Cross, Darlington, Northallerton, Boroughbridge, Wetherby, Aberford, Ferrybridge, Doncaster, Bawtry, Retford, Tuxford, Newark, Grantham, Stamford, Wansford, Alconbury Hill, Buckden, Eaton Socon, Biggleswade, Baldock, Stevenage, Welwyn, Hatfield, Barnet, Regent's Park, Portland Place, Regent Street, Waterloo Place, Trafalgar Square, Whitehall, Westminster Bridge, Westminster Bridge Road, Kennington, Brixton. Approximately 279 miles.



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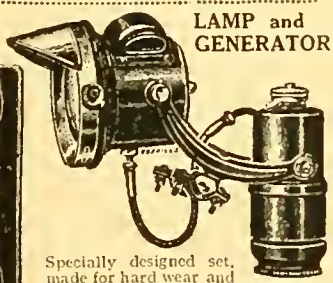
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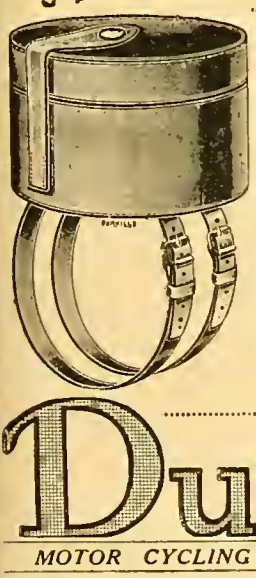
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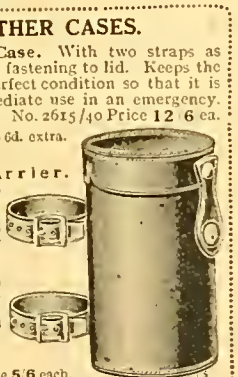
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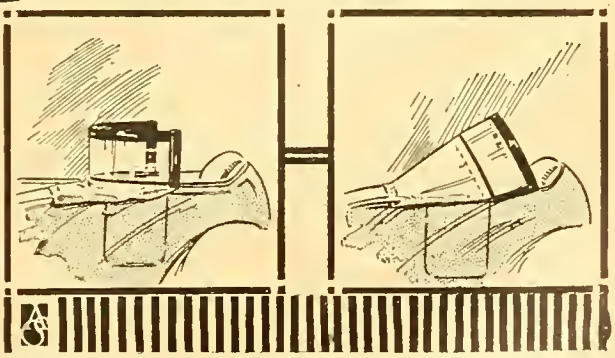
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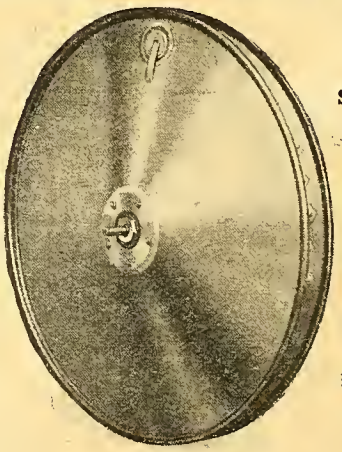
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of your Enamelled Parts with Crystal Polish; it will make a new Machine of it; just a rub with a duster and Crystal Polish. Price 4/6 per bottle (12 ozs.)

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MOTOR CYCLE & CAR HOUSES.

Portable Buildings of every description. List Post Free.



Bungalows
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JUCKES' Patent Countershaft **GEARS**

Lightweight (Clutch & K. Str.). 2, 3, & 4 speeds.
Heavyweight (do. do. do). 3 and 4 speeds
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PULLEYS for any motor

Adjustable, 5in. diameter, 15/6, Plated.
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Supplied in size 3in. to 9in. diameter.
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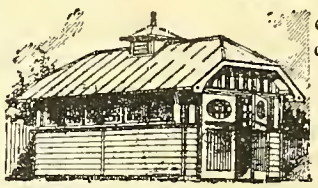
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Motor Car Houses AND **Portable Buildings**



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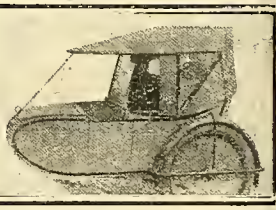
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MAUDES MOTOR MART
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Models for every make.
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Bargains like these don't occur every day

A.J.S. 1915 Comb. .. **£115**
6 h.p., speedometer, acetylene lighting, horn, spare cover, etc. Splendid condition.

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6 h.p. military model, spare wheel, screen, hood, electric and acetylene lighting, horn, tools, spares, etc. FOR CASH ONLY.

A.J.S. 1920 Comb. .. **£195**
6 h.p., Easting windscreen, electric lighting, Binks mechanical lubrication, Cowey speedometer and horn, as new.

A.J.S. 1920 Comb. .. **£185**
6 h.p., fully equipped, acetylene lighting, hood, horn, etc., in very fine order.

EXCELSIOR, Comb. .. **£175**
1920, 7/9 h.p., American model Elite sidecar to match, acetylene lighting, horn, etc., practically new, run only 300 miles.

B.S.A. 1914 Comb. .. **£85**
4½ h.p., with dynamo lighting, horn, screen, apron etc., perfect running order

B.S.A. 1919 and s.c. .. **£125**
4½ h.p., Gloria sidecar, Easting windscreen, acetylene lighting, horn, etc., scarcely used, as new.

RUDGE 1912 and s.c. **£45**
3½ h.p. with N.S.U. 2-speed gear and free engine, coach built side car, lamps, etc.

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Sole London and District Agents for

BRITISH EXCELSIOR

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A·J·S

CASH OR CREDIT

For the convenience of those wishing to purchase out of income we will supply any motor cycle or combination listed on this page (with three exceptions plainly marked) on the deferred payment system.

HERE IS AN EXAMPLE

Cash price of Combination ..	£100	0	0
Deposit	34	0	0
	£66	0	0
Interest at 7½%	4	19	0
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Payable in 12 monthly instalments of £5 18 3

CALTHORPE 1920 2½ h.p. **£50**
Two-stroke, Enfield 2-speed gear, lamps, horn, etc., very little used.

DOUGLAS 1920 2¾ h.p. **£85**
3-speed, clutch and k/s, acetylene lighting, horn, knee grips, tools, etc., as new.

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Dynamo lighting, speedometer, hood, spare wheel, horn, etc., complete and TAX PAID, in excellent condition.

LEA FRANCIS 1920 3¾ h.p. **£88**
3-speed, clutch and k/s, acetylene lighting, horn, etc., splendid condition. FOR CASH ONLY.

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2¾ h.p. J.A.P. engine, 2-speed, clutch and k/s, in very fine order.

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8 h.p., military model, 3-speed, clutch and k/s, acetylene lighting, horn, etc. FOR CASH ONLY.

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4 h.p., 1919, 3-speed, clutch and k/s, Henderson sidecar, acetylene lighting, horn, tools, etc., thoroughly overhauled.

ZENITH 1920 8 h.p. & s.c. **£145**
Henderson Elite sidecar, very fast, and very excellent condition, run only 700 miles, a real bargain.

NEW & SHOWROOM SOILED MACHINES

If the mount you require is not advertised here, write us, WE CAN SUPPLY.

A.J.S. 6 h.p. Comb. **£188 10**
NEW.
Immediate Delivery.

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Dynamo lighting. NEW.
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GRAHAME WHITE 1921 **CYCLE CAR** **£150**
3½ h.p., 2 speeds, electric lighting, hood, horn, etc. NEW.

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2-st. with countershaft 2-speed gear, new but slightly soiled. Makers' price **£67**

EXCELSIOR 1920 6 h.p. .. **£142 10**
J.A.P. engine, Sturmey-Archer 3-speed gear, clutch, detachable wheels, chain drive, new but slightly soiled. Makers' price **£154**

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8 h.p. clutch model with Watsonian sidecar to match, new but slightly soiled, Makers' price **£196 4**

H. TAYLOR & CO., LTD.,

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ALLEN-BENNETT MOTOR CO., LTD.

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All Guaranteed for Three Months from Date of Purchase.

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P. & M., 3½ h.p., 2-speed, clutch, and kick-starter ..... £82 ,, £105
TRIUMPH, 4 h.p., 3-speed, clutch, and kick-starter ..... £90 ,, £115
All the above have been thoroughly overhauled, re-enamelled, and plated makers 1920 colours.

A.J.S., 1920 model, Magdyno lighting, as new, run under 500 .. £220 0
ZENITH, 1920, 8 h.p., and Henderson Elite Sidecar, all lamps, horn, etc. £180 0
DIAMOND, 1920, 2¾ h.p. J.A.P., Enfield 2-speed, as new £67 10
WOOLER, 1920, 2¾ h.p., variable gear, as new £82 10
MORGAN, 1920, G.P., Mag., £25 worth of extras, new condition £215 0
MORGAN 1920 Sports, just been thoroughly overhauled, splendid condition £190 0
ROVER, 1915, 3½ h.p., T.T., Philipson pulley, splendid condition £55 0
DOUGLAS, 1917, 2¾ h.p., re-enamelled and plated, Harley colours, disc wheels, etc. £70 0
*HARLEY-DAVIDSON 1920 de luxe Combination; new August .. £220 0
*HARLEY-DAVIDSON, 1920, flat twin, and Swan sports Sidecar £175 0
*HARLEY-DAVIDSON 1919 de luxe Combination, electrically equipped £180 0
*HARLEY-DAVIDSON, 1918, solo, re-enamelled and plated, £120; or with new Sidecar £155 0
*ROVER, 1920, 3½ h.p., sports model, and Swan sporting Sidecar £160 0
*ROVER, 1920, 3½ h.p., T.T., Philipson pulley, unscratched £90 0
*ROVER 1919 3½ h.p. Combination, electrically equipped £130 0
*ROVER 1916 3½ h.p. Combination £100 0
*INDIAN 1919 Combination, electrically equipped, as new £155 0
INDIAN 1919 Combination, brand new Sidecar £150 0
INDIAN, 1919, 7-9 h.p., Powerplus, solo, semi-T.T. or touring bars £110 0
INDIAN 1916 Powerplus, T.T. model, 3-speed, re-enamelled and plated £95 0

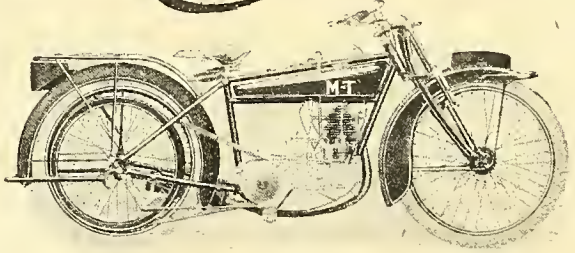
INDIAN, 1915, 7-9 h.p., 2-speed, clutch, and K.S., spring frame £75 0
*TRIUMPH, 1918, 4 h.p., 3-speed, clutch, and K.S., Henderson Sidecar £120 0
*TRIUMPH, 1918, 4 h.p., 3-speed, and Swan sports Sidecar; £25 worth of extras £130 0
TRIUMPH, 1914, 4 h.p., 3-speed, clutch, and K.S., splendid condition £65 0
*RUDGE, 1920, 3½ h.p., I.O.M., run under 10 miles £105 0
*RUDGE, 1919, 3½ h.p., I.O.M., touring or T.T. bars £90 0
*MATCHLESS 1920 Model H Combination, hood, etc. £185 0
†MATCHLESS 1919 Victory Model Combination £150 0
*ZENITH, 1920, 8 h.p., C.S. model, and Swan sports Sidecar £175 0
*ZENITH, 1916, 5-6 h.p., C.S. and K.S., and Swan sports Sidecar £125 0
*ZENITH, 1916, 5-6 h.p., C.S. and K.S., and Swan sports Sidecar £120 0
ENFIELD 1918 8 h.p. Combination, re-enamelled and plated, new Sidecar £125 0
*ENFIELD, 1919, 3 h.p. twin, 2-speed, clutch and K.S. £72 10
ENFIELD, 1916, 3 h.p. twin, 2-speed, clutch, and K.S. £67 10
*JAMES, 1920, 3½ h.p. twin, sports model, T.T. bars, long exhaust £110 0
*SCOTT, 1920, and Henderson Elite Sidecar; £20 worth of extras £170 0
*A.J.S. 1917 Combination, Lucas dynamo lighting £165 0
*NEW IMPERIAL 1919 Combination, 8 h.p., all-chain drive £125 0
*WOOLER, 1920, 2¾ h.p., all lamps, horn, speedometer, unscratched £90 0
Machines marked * are completely equipped, all accessories.

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'Phone—Croydon 2450. 'Grams—"Track Croydon."

2½ h.p. Metro-Tyler 1921



Two-speed, All-enclosed Type,
£80

Sidecar Combination,
100 Guineas.
Three-speed Box,
Approx. **5 Gns.** extra.

The only 2½ h.p. Machine to obtain a
GOLD MEDAL
LONDON-EXETER RELIABILITY TRIAL.

DON'T MISS SEEING THE 1 MILE RACE BETWEEN THE 2½ H.P. M-T. *V.* MR. A. R. EGLINGTON (ON ROLLER SKATES), THE WORLD'S CHAMPION, AT **HOLLAND PARK RINK, MARCH 9th, 9 p.m.**

Head Office and Works:
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Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed & Co. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, ½ %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

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SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

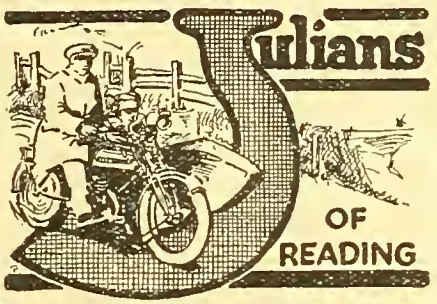
A.B.C.

NEW 1920 A.B.C. 4-speed; £140; in stock.—Randall, Andover. [0367

A.B.C. Motor Cycle, 1920 model, 4-speed, unused; £100.—W. H. Johnson and Sons, Ltd., King's Lynn. [9207

1920 A.B.C., just overhauled, mileage 4,000, accessories; £95; a bargain.—Evans's Garage, Newport Salop. [X6560

A.B.C. 1920 T.T., mileage 700, specially tuned for competitions, horn, tools, etc.; £115, or nearest.—Sawers, 2, Kemplay Rd., Hampstead. [8578



The Last of the Bargains

NEW IMPERIAL-J.A.P., 2-speed, never been ridden, slightly shop-soiled. **67 Gns.**

1920 **MARTINSYDE,** and Sidecar, Hood, Screen, Electric lamps, Horn etc., tyres unpunctured most magnificent condition. **137 Gns.**

8 h.p. **NEW IMPERIAL,** and Sidecar absolutely new, never been ridden, slightly shop soiled. **150 Gns.**

1921 **MORGAN DE LUXE,** water-cooled J.A.P. engine, Hood, Screen, Lamps, Horn. **£236.**

1920 **LEVIS,** Mileage about 800. **46 Gns.**

1921 **MATCHLESS,** Combination, Magdyno, Hood, Speedometer, Gold Medal winner, London-Exter. Mileage about 1,000. Beautiful outfit. **190 Gns.**

1920 G.P. **MORGAN,** water cooled M.A.G., Mileage under 1,000. Painted blue, and in really magnificent condition. Complete. **190 Gns.**

also the following 1921 models—Norton, A.J.S., Matchless, P. & M. Velocette, Levis, Martinsyde, New Imperial, Zenith, Triumph, O.K., Francis Barnett, Ariel, Royal Enfield, and New Hudson.

JULIAN,
84, Broad Street, READING.

'Phone: 1024.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, brand new, 4-speed; £110 cash.—Hallam, Rosedale, Dove Holes, Stockport. [X6593

A.B.C. 1920 3h.p., electric lighting, Cowey horn, Bonnikson, little used, first-rate condition; £130; Worcestershire.—Box 1,941, c/o *The Motor Cycle.* [9965

A.B.C. (Aug., 1920), 4 speeds, lamps, Klaxon, speedometer, tool kit, in excellent condition, ride reasonable distance to purchaser; £110.—Flint, Chemist, Newport. [9137

A.B.C. 1920 3h.p., 4-speed, not done 300 miles; this machine is in most exceptionally good condition, and is offered at the very low bargain price of 95 gns.; this machine is fully insured; great bargain.—Julian, 84, Broad St., Reading. 'Phone: 1024. [0489

Abingdon.

3½h.p. Abingdon, 2-speed, tax paid; £38.—S. Hale, Bourts, Lydbrook, Glos. [9324

ABINGDON Combination (less engine), 3-speed, kick; £37.—Shaw, Park St., Wellington, Salop. [X6583

1914 Abingdon King Dick 3½h.p., 3-speed, clutch, good condition.—Watts, 70, Huntingdon St., Barnsbury, N.1. [9554

ABINGDON King Dick 3½h.p., 1911, thorough order; bargain, £28, or nearest.—S. Davey, Bissoe, Perranwell Station, Cornwall. [9556

Acme.

ACME 8h.p., with coachbuilt sidecar, 1920 demonstration model, only run 200 miles, spare wheel and tyre; £195, complete.—Box 1,377, c/o *The Motor Cycle.* [0405

A.J.S.

JULIANS of Reading have 1921 A.J.S. in stock. [8300

A.J.S. Latest 1921 7h.p. Combination; in stock.—Marston, 31, Bridge St., Chester. [9594

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [7313

BRIGHTON, Hove, and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. Late 1919 6h.p. Combination, complete; bargain, £165.—Vista Cinema, Westbury, Wilts. [9314

1914 A.J.S. 6h.p., complete with Millford sidecar, lamps, etc.; 100 gns.—Cross, Agent, Rotherham. [X6550

MAGNIFICENT Unused 6h.p. A.J.S. Combination; great bargain, £185.—Box 1,937, c/o *The Motor Cycle.* [9501

A.J.S. Combination, splendid condition; £110, bargain.—Mosedale, 30, Canterbury Rd., Kilburn, N.W.6. [9702

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A. Parts. [7993

WAUCHOPE'S, 9, Shoe Lane, London.—7h.p. A.J.S. combination, latest 1921 model, standard model; £215. [1075

1920 A.J.S. Combination, as new, with hood, screen, spare wheel, etc.; £185.—Marston, 31, Bridge St., Chester. [9588

1920 Brand New 6h.p. A.J.S. Combination; best offer over £190.—A. E. Moore, 27, York Rd., Chatteris, Cambs. [9695

A.J.S. 1921 6h.p. Combination, new, £195; A.J.S. 1921 7h.p. models; early delivery; book now.—Taylor's Garage, Wednesbury. [5827

6h.p. A.J.S. Combination, delivery early 1920, dynamo lighting, sparo wheel, etc.; £175.—Gill, 61, Nassington Rd., Hampstead, N.W.3. [9568

1919 A.J.S. 6h.p. Combination, spare wheel, tyres and condition like new, tax paid; £158; appointment.—Motor, 174, Hanover St., Sheffield. [9634

1921 A.J.S.—Being authorised agents, we can give early deliveries. Write at once for full particulars.—Harrison and Bunkall, Chichester. [9155

A.J.S. Combination, 1919 model, guaranteed good condition, Lucas accessories, spare wheel, complete; £165.—Eveson, Wollescote, Stourbridge. [1103

A.J.S. 1921 Models, delivery guaranteed when required; deferred payments arranged.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4009

A.J.S. Combination, 1920, electric lighting, Cowey speedometer, spare wheel unused, guaranteed as new; £195, or offer.—Halliday, 74, Gore Rd., Hackney, E.9. [X6588

1915 A.J.S., 2¾h.p., kick start, hand clutch, perfect condition, lamps, horn, speedometer, etc.; £65, or near offer.—Blay, 192, Heath Rd., Twickenham. [9428

IMMEDIATE Deliveries 1921 A.J.S. Combinations, 7h.p., dynamo lighting models; also 2¾h.p. shortly.—The One Tree Motor Cycle Co., Huddersfield. 'Phone: 1920. [8405

MOTOR CYCLES FOR SALE.

A.J.S.

F.O.C.H. have a new A.J.S. combination (shop-soiled); £190.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9360

LATE 1920 A.J.S. Combination, Lucas Magdyno model, in perfect order, complete with hood, and including licence for 1921; 195 gns.; Midlands.—Box 163, c/o *The Motor Cycle*. [X6541

A.J.S. 1916 6h.p. 3-speed Combination, spare wheel, hood, screen, and lamps, splendid order; £125.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1034

1920 A.J.S. Combination, Lucas Magdyno, exceptionally fine engine, special draughtproof hood, perfect order and condition; £200 for quick sale.—Box 140, c/o *The Motor Cycle*. [X6081

1921 A.J.S. 7h.p. Combination, latest model, spare wheel, wind screen, for immediate delivery; easy payments.—Official agents, Homac's 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [9714

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

A.J.S. 1920 6h.p. Combination, dynamo, hood, screen, hood cover, side curtains, Klaxon, Tan-Sad, speedometer, indistinguishable from new; £225.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6502

1916 A.J.S. Combination, Triplex screen, hood, spare wheel, new Palmer, D.A. lighting, sidecar recently enamelled, engine rebushed makers November, very complete spares, tax paid; £130.—Major Gillespie, Melville Barracks, Chatham. [9631

1920 (Aug.) 6h.p. A.J.S. Combination, dynamo lighting, electric horn, Cowey horn, speedometer, lamps, leg shields, many spares, tyres unpunctured, perfect, sprung seat, Tan-Sad, tax paid; £235.—Lieut. Garnett, St. Mary's Barracks, Chatham. [9688

1919 A.J.S. (Nov.) 6h.p. Combination, hood, storm-proof apron, Tan-Sad, electric lamps, Lucas horn, speedometer, Ace discs to all 4 wheels, spare chains, etc., all tools; any trial; £220 or near offer; seen Saturday or Sunday by appointment.—Burch, Herne, Kent. [9215

A REAL Bargain, 1920 A.J.S. combination, practically new condition, spare wheel and tyre, hood, side curtains, screen, Cowey speedometer, mirror, storm apron, petrol tin carrier, Tan-Sad with back and foot rests, large size P. and H. head lamp, Klaxon horn, magnificent running order; price £175; London.—Box 1,916, c/o *The Motor Cycle*. [9292

EXCEPTIONAL Opportunity.—A.J.S. 6h.p. combination, with spare wheel complete, as makers' specification, and with guarantee, electric lighting (2 independent sets, not dynamo), tools, spares, Sterling leg shields, Watford mileage under 600, tax paid, insurance policy, carefully used by engineer owner; £210, or close offer, immediate sale; owner got new model.—53, Ruskin Walk, Herne Hill. 'Phone: 652 Brixton. [8925

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ALECTO, the first 2-stroke to break records, a model to suit each individual taste, the speed model for the sportsman, the touring for the potterer, the complete combination for the family man, immediate delivery ex stock all 1921 models; catalogues and full particulars on request.—11L, Kramer Mews, West Brompton, S.W.6. [9991

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ALLDAYS Allon, overhauled, insured, lamps, etc.—B. Mostyn, 10, Marlowe Rd., Cambridge. [9286

1918 Alldays, 2-speed, K.S., clutch, lamps, horn, pump, tools, tax; £56.—Avery, T.S. Cornwall, Purfleet. [9561

1919 Alldays Allon, all accessories, new condition, not done 300 miles; £60.—Blay, 192, Heath Rd., Twickenham. [9429

1915-16 Allon, 2-speed, countershaft, fully equipped, perfect throughout, genuine, tax paid; 45 gns.—5, Howard Rd., Bromley, Kent. [9897

1919 Allon 2¾h.p., excellent condition, 2-speed, lamps, horn, pump, new heavy Dunlops, spare belt, drive chain 30/- tax paid; £65.—Ivydene, Marazion, Cornwall. [9204

1916 Allon, 2-speed, hand clutch, lamps, horn, Tan-Sad, speedometer, spare belt, splendid condition; genuine bargain, £38.—7, Victoria Terrace, West Hartlepool. [9269

F.O.C.H. have a new Allon, shop-soiled; £73/5.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9387

JONES' Garage.—1921 Alldays Allons in stock, 2-speed, K.S., and clutch, one of the best 2-strokes; immediate delivery; £81.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [9013

1920 Alldays-Allon, 2-stroke, 2 speeds, clutch and kick starter, Lucas horn, etc., soiled only, under 500 miles; exchanges; £70.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [9724

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AMERICAN X. Combination, 1916, 3-speed, fully equipped, spares; offers; quick sale.—440, Fore St., Lower Edmonton. [9213

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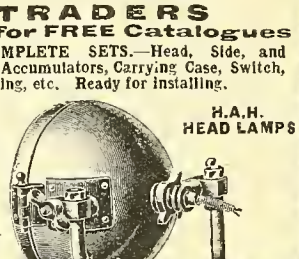
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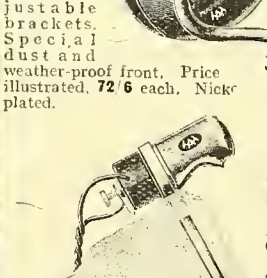


Fig. 347. **'Speedolite,' H.A.H.** Patent Speedometer Lamp, **7/6** each Clips direct on to Speedometer and has coloured bulb to prevent glare.

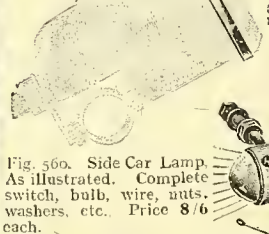
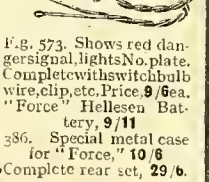


Fig. 560. Side Car Lamp. As illustrated. Complete switch, bulb, wire, nuts, washers, etc. Price **8/6** each.



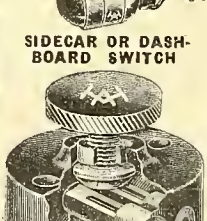


Fig. 573. Shows red dangersignal, lights No. plate. Complete with switch bulb wire, clip, etc. Price **9/6** ea. "Force" Hellesen Battery, **9/11**

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Fig. 429. Very neat, entirely new model, 1-way Switch. Screw action. Cannot shake on or off. Price **3/6** each.

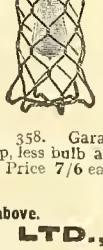


Fig. 358. Garage Lamp, less bulb and wire. Price **7/6** each

Fig. 428. Ditto with 1" or 1¼" Clip for motor cycle handle-bar or tube. Price **3/6** each.

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AMERICAN Excelsior Combination, 7-9h.p., accessories, very fast, as new; £178.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 726 [04

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1920 3½h.p. Ariel, 3-speed, mileage 500; £85.—29 Birley St., Blackpool. [997

3½h.p. Ariel, clutch, C.A.V., Amac; date not known £30, offers.—Copthorne, Chase Rd., Epsom. [986

1921 Ariels for Immediate Delivery.—E. Brown, Ariel Expert, 3 and 7h.p., Parker Lane, Burnley. Tel. 1032. [X609

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BAT 1914, 6h.p. J.A.P., 3 speeds, clutch, new tyres, lamps; 45 gns.—Tiffen, Irishgate, Carlisle. [920

BAT 1920, shop-soiled only, list price £160; our price £132.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [043

BRAND New Bat 8h.p. Combination; £165.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [781

WAUCHOPE'S, 9, Shoe Lane, London.—6h.p. Bat combination, new 1920 model, all-chain drive, 3-speed countershaft, kick start and clutch; £175. [108

BAT-J.A.P. 3½h.p., 2-speed, F.E. clutch, fine order, sell, or with little cash and twin new T. and B. magneto for countershaft Triumph.—10, Embden Grove, Manchester. [X655

BAT Brand New 8h.p. Model, 3-speed, chain drive, spring frame, and new Henderson Elite sidecar, a bargain that cannot be repeated, £165.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [006

6h.p. Bat-Jap Coach Combination, 2-speed, kick start, fully equipped, in sound going order; £85. This machine won gold medal London-Edinburgh Trial 1919; seen after 6 p.m.—31, Avondale Rd., Palmer's Green, N.13. [974

Blackburne.

1920 4h.p. Blackburne, demonstration machine, accessories; £110.—Evans's Garage, Newport, Salop. [X656

BLACKBURNE Agents.—Official Blackburne engine repairers in any make.—Bulloughs Motors, Ltd., Waterloo St., Oldham. [109

GENUINE Bargain.—Blackburne 4h.p., 1920, new; £120.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [032

BLACKBURNE new 1920 4h.p., list price £135, our price £120.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [043

BLACKBURNE 4h.p., 1920, brand new; list price £135, £120.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [042

BLACKBURNE 4h.p., 1920 model, Sturmey-Archer 3-speed gear, unused, shop-soiled only; £115.—P. J. Evans, 81-91, John Bright St., Birmingham. [940

1920 8h.p. Blackburne, Magdyno, 2-seater sidecar, spare wheel, new 1921 engine, unscratched; £165.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [903

BLACKBURNE 1920 8h.p. Combination, spare wheel, hood, screen, speedometer, lamps, leg shields, Klaxon, tools, etc., splendid condition; £175; can be seen at Ballards Motors, 92, Gloucester Rd., South Kensington, S.W.7, or write Elliot, 25, Whitmore Rd., Beckenham. [034

Blumfield.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—3½h.p. Blumfield and sidecar, 1914, 3-speed gear; £50. [107

Bown.

F.O.C.H. have a Bown-Villiers, good running order; £25.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9381

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FOR Sale, 1920 6h.p. Bradbury combination, mileage 500; sale, exchange.—29a, Birley St., Blackpool. [9973

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MOND 2-stroke, 1919, not driven 500 miles, unranteed; £42/10; approval.—Gibb, Gloucester. : 852. [0440

MOND-VILLIERS, 1920, single geared, lamps, bols, tyres unpunctured, perfect condition, tax £48; offers.—26, Arundel Sq., Barnesbury, N.7. [9845

EDIATE Delivery of any Diamond Model; cash or ferred payments; book your order now, and disappointment later.—Burlington Motors, Ltd., Side, Clapham Common, S.W.4. 'Phone: Brix-917. [1006

MOND, 2 new 1920 models, with and without kick starter; £79 and £55; much below makers' terms quarter down and 11 payments.—Lamb's, igh Rd., Wood Green, 151, High St., Waltham-and 387, Euston Rd., N.W. [1014

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'GLAS. Douglas. Douglas.

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GLAS, 1921 Models.—George Smith, Clapham Junction, S.W. [9425

GLAS 4h.p., splendid condition, as new; cheap. —33, Penoard Rd., W. [9870

6 2¾h.p. Douglas, not W.D., perfect condition: £42.—Below.

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.p. Douglas, splendid order; £28.—Seen at 602, King's Rd., Fulham, S.W.6. [9557

GLAS 4h.p., 1916, in sound condition; £60.— 141, Merton Rd., Wimbledon. [9993

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5 Douglas, W.D., mechanically in good condition, very fast; £35.—Talbot, Ware. [9193

6 2¾h.p. Douglas laid up during war, complete; £60.—J. Pickford, Putney, Wilts. [9255

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LLIAMS' Garage, Cheltenham, can give immediate delivery of any model Douglas. [X6446

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7 Douglas Combination; £85, or exchange.—Motor, 39, Essex Rd., Islington, N.1. [1047

6 Douglas 2¾h.p., 2-speed, B.S., splendid condition; £42.—41, Anerley Park, S.E.20. [9766

GLAS 1915 2¾h.p., splendid condition; £44.— 30, Crystal Palace Park Rd., Sydenham. [9816

GLAS 1915 2-speed, as new; sacrifice £50; must sell.—Box 1,917, c/o *The Motor Cycle*. [9293

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GHTON, Hove, and District Douglas Agents, Turpin's, 22 and 29, Preston Rd., Brighton. [0201

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GLAS 2¾h.p., 1915, perfect, lamps, etc.; £45. —Fowler and Brigden, 130, Euston Rd., N.W.1. [9367

GLAS, single-speed model, perfect running order; £25.—Marston, 31, Bridge St., Chester. [9592

GLAS 2¾h.p., 1918, fully equipped, perfect; £65, or offer.—Pacey, Quadring, Spalding. [X6586

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1916 2¾h.p. 2-speed Douglas, perfect running order, lamps, horn, etc.; £46.—14, Kildoran Rd., Brixton. [9694

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DOUGLAS 1920 2¾h.p., 3-speed, clutch; this is as new; £85.—Central Garage, 302, London Rd., Croydon. [9671

GIBB, Gloucester, can give immediate delivery Douglas 1921 models and spare parts from stock.—'Phone: 852. [6340

2¾h.p. Douglas, 2 speeds, lamps, etc.; any trial; splendid condition.—29, Wimbledon Park Rd., Wandsworth, S.W.1. [9223

1919 4h.p. Douglas, all accessories, everything as new; £87, no offers.—Huggett, 1, Folkestone Rd., Dover. [9280

DOUGLAS 1920 4h.p. Combination, brand new; £140. —Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [9363

1919, factory Sept., 2¾h.p. Douglas, as new, accessories, spares; nearest offer £58.—318, Barking Rd., East Ham. [9528

1920 Douglas, 2¾h.p. 3-speed, kick start, and clutch, slightly soiled; £85. — Marston, 31, Bridge St., Chester. [9589

1920 4h.p. Douglas Combination; £130, or offer; splendid condition.—French, 43, Old Park Rd., Palmer's Green, N.13. [9355

DOUGLAS 1920 4h.p. Scott Combination, perfect order; accept £125, or near offer.—Jones, 330, Euston Rd., London. [X6515

DOUGLAS 2¾h.p., 1915, lamps, new tyres, in splendid condition; £47, or near offer.—34, Pembury Grove, Hackney, E.9. [X6590

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1920 4h.p. Douglas Combination, condition and running perfect; £135.—Chatterton, 26, Upper Belmont Rd., Bishopston, Bristol. [9287

1921 Douglas Models, immediate delivery. Write us your requirements. Trade supplied.—Moffat, Douglas Agent, Yeovil. Tel.: 50. [5043

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DOUGLAS 2¾h.p., 1916, excellent condition, fully equipped, compulsory sale; £55.—4, St. Mary Abbott's Place, High St., Kensington. [9115

DOUGLAS.—Four 1920 2¾h.p. 3-speed machines and accessories, very little used; £90 each.—Bounds, 223, High Rd., Kilburn, N.W. [9913

1920 (June) 4h.p. Douglas Combination, 3 lamps, Klaxon, 2 new tyres, full tax paid, splendid condition; £135.—Kendrick, Westbury, Wilts. [9582

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DOUGLAS 1914-15 2¾h.p., 2-speed, T.T. model, fully equipped, Klaxon, not W.D.; £40; exchanges.—1, Albert Cottages, Marlborough Rd., S.E.1. [9780

1915 Genuine T.T. Douglas, new Amac, long copper exhausts, condition perfect; £48/10; exchanges.—17, Birchington Rd., High Rd., Kilburn. [9328

DOUGLAS 2¾h.p., 1915, not W.D., completely equipped, Tan-Sad, good tyres, good running order; £48.—The Garage, Seabrook, Kent. [9822

DOUGLAS, 1921, solo, £85, £100, £105; combination, £170; cash, exchange, or extended payments.—Motories, 25, Horton St., Halifax. [9469

£48.—2¾h.p. Douglas, 1916, 2-speed, enamel and plating like new, engine, tyres, etc., perfect.—Milliner, 6, Cavendish Parade, Clapham, S.W. [9797

1917 Douglas, 4h.p., absolutely unscratched, appearance as new, splendid running order; £68; exchanges.—Dawson, 34, Ampthill Rd., Bedford. [9529

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DOUGLAS, 1915 (late), 2¾h.p. T.T. model, complete with lamps and horn, fully licensed till December; bargain, £50.—R. D. Varty, Thundersley, Essex. [9901

1918 Douglas 2¾h.p., S.E., Millers lamps, footboards; £57, including tax.—Fire Station, South Parade, Church St., Fulham Rd., Chelsea, S.W. [9678

1919 4h.p. Douglas Combination and accessories, in good condition; £135; solo machine taken in part payment.—Bounds, 223, High Rd., Kilburn, N.W. [9915

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DOUGLAS 2¾h.p., reconditioned, done 1,200, Palmer cords, all accessories, mudshield, good condition; £50.—Stevenson, Northmead Wing, Farnham Common, Bucks. [9609

19 18 2¾h.p. Douglas, 2-speed, makers' colours, new P. and H. head lamp, Thomson-Bennett, Amac, plating and enamel unscratched; £55.—63, Solon Rd., Brixton. [9840

4 h.p. Douglas Combination, 1917, tax paid, absolutely as new, saxe blue sidecar, any trial, or deliver 60 miles radius; £82/10.—91, Mapledene Rd., Dalston. [9745

19 20 4h.p. Douglas Combination, electric lighting, mileage under 1,000, sidecar never used, owner in Ireland.—Apply to Belgrave Motor Co., 12, Carey St., London. [9106

DOUGLAS 1917 4h.p. Sporting Combination, fully equipped, condition as new; £70, or offer; seen London.—Leters to Lt. Holmes-Tarn, R.A. Mess, Deepcut, Hants. [9419

19 19 4h.p. Douglas Combination, good condition, lamps, accessories, insurance, tax paid; £90; owner nervous.—50, Ivanhoe Rd., Dog Kennel Hill, Camberwell. [9132

DOUGLAS 2¾h.p., 1915-16 model, reconditioned, perfect ord r throughout, complete with all accessories; £45.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [9911

DOUGLAS, 1911, 2¾h.p., very good running order, nearly new tyres, just overhauled; £20.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9952

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ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

4 h.p. Douglas Combination, 1917-18, nearly new coachbuilt sidecar, Cameo screen, tyres good (1 new), just overhauled; £115, or near offer.—Routh, Trinity College, Oxford. (D) [9918

TAX Paid.—1915 Douglas 2¾h.p., 2-speed, fully equipped, guaranteed good mechanical order and very fast; £38, bargain.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [9638

4 h.p. Douglas Combination, July, 1919, all accessories, discs, mudshields, etc.; makers' test card; tax paid; £140.—44, Howard Rd., South Norwood. After 6 p.m. or Saturdays. [9417

DOUGLAS 1912 2¾h.p., 2-speed, acetylene lighting, all accessories, excellent running order, tyres sound; what offers?—R. Pack, Hope House, Sunningdale, Berks. 'Phone: Ascot 165. [9229

19 20 Douglas 2¾h.p., 3-speed, h.b.c. clutch, kick starter, perfect condition, very little used, complete with lamps, horn, knee-grips, footboards, undershield; £100.—Jones, Poplars Clehonger, Hereford. [9214

DOUGLAS Combination, Sept., 1916, 4h.p., 3 speeds, kick start, 3 lamps, 5 generators, mechanical horn, Cowey speedometer, good running order and appearance, 72 m.p.g.: £78.—16, Inman Rd., Harlesden, N.W.10. [9783

4 h.p. Douglas, incomplete, less mag. and carburetter, with sidecar chassis and wheel, £30; Thomson-Bennett new magnetos, 180°, for same, £3/15.—Banister and Botten, 341, Upper St., London, N.1. [9433

F.O.C.H. have a 1920 Douglas combination, almost new, completely equipped, tax paid; £135.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9378

DOUGLAS 4h.p. Combination, 1920, equipment includes Cowey speedometer, mechanical horn, pillion seat, guaranteed perfect condition; £140.—Vivian Hardie and Lane Ltd., 24, Woodstock St., Bond St., W.1. [0416

DOUGLAS 4h.p. Combination, Nov. (1919), 1920, clutch, disc wheels, Easting wind screen, speedometer, Lucas lighting, mechanical horn, good condition; £140, or near offer.—Baldwin, Sand Ground, Haigh-worth, Wilts. [9793

IMMEDIATE Delivery of any Douglas Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [1004

19 20 Douglas, 2¾h.p., latest model, 3-speed and clutch, guaranteed new condition, run only 250 miles; reasonable offer.—Boon and Porter, Ltd., 161, Castelnau, S.W.13. (Close Hammersmith Broadway.) [9190

DOUGLAS 4h.p. Combination, 1915, engine 2212, D.A. lighting, Klaxon, Easting, luggage carrier, Jones speed max. and trip, muffs, 2 spare covers, extra large body, 63 m.p.g., absolutely reliable; trial given; tax paid, £95.—Winton, Victoria Rd., N.W.7. [9508

WAUCHOPE'S, 9, Shoe Lane, London.—New 1921 2¾h.p. Douglas, 3-speed, clutch and kick start model, £105; new 1921 4h.p. combination, £170; solo 4h.p., £130; new 1921 improved W.D. pattern, 2 speeds, £85; easy payment or exchanges arranged.—'Phone: 5777 Holborn. [1072

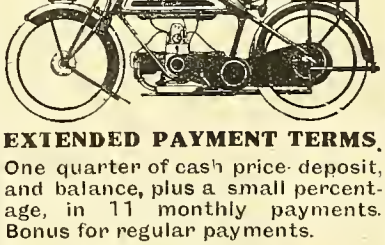
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19 18 Edmund, spring frame, Enfield 2-speed, did condition, all accessories; £55.—24, Eg St., Chester.

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NEW 1920 Enfield, 2-stroke, 2-speed; £65; in st Randal, Andover.

ENFIELD, 3h.p., 1917-18, little used; £50.—Lyo 85, New Oxford St., W.C.

BRAND New Late 1920 8h.p. Enfield Combina unsoiled; £155.—Rose's Garage, Uxbridge.

ENFIELD Combination, brand new, 8h.p. 1921 m £160; immediate delivery.—Moss, Wem. [N

ENFIELD 2-stroke, 1918, lamps, horn, perfect; —49, Webbs Rd., Clapham Common.

£60.—Brand new Enfield, 1920, 2-stroke, 2-sp Walbro, Ely, Cambs. 'Phone: 48 Ely.

19 14 3h.p. Enfield, recently overhauled, series; £45.—Evans's Garage, Newport, [N

NEW Enfield Combination, 8h.p., dynamo ligh £182.—Bounds, 223, High Rd., Kilburn, N.

WILLIAMS' Garage, Cheltenham, can give diate delivery of any model Royal Enfield [N

ENFIELD 1921, all models for immediate del —Ratcliffe Bros., 200, Gt. Portland St., W. lair 5042.

ENFIELD Combination, 1917, 6h.p. Lucas dy lighting, as new; £125.—40, Hertford Coventry. [N

19 16 Enfield Combination, 6h.p., grand £85.—29, St. Leonard's St., Bromley-by East 4708. [

£48; 1919 Enfield 2-stroke, 2 speeds, equipped, like new.—143, Ravensbury Rd., field, S.W.

ROYAL ENFIELD 1921 Models.—London A Fowler and Brigden, 130, Euston Rd., Museum 4827.

19 20 8h.p. Enfield Combination, lamps, horn wind screen, little used; £140.—Evans's G Newport, Salop. [N

ENFIELD Combination, 1914, 6h.p., coach lamps, etc., any trial; bargain, £82/10. Hornsey Rd., N.7. [

£55.—Enfield 2¼h.p., 2-speed, 1920, usual acces new condition, tax 30/-, insurance 1921.—B Amersham Brewery.

19 19 Enfield 6h.p. Combination, 700×80 tyres, horn, Tan-Sad, hood; £110, bargain.—25, gar Av., Ealing, W.13.

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BRAND New Enfield Lightweight; £60.—C Wilson, 70, Royal Hospital Rd., Chelsea, S Tel.: Kensington 7115.

19 20 8h.p. Enfield Combination, brand new; —Edwards, 50, Harrington Rd., South Ke ton. 'Phone: Kensington 3709.

ENFIELD Combination, 1919, lamps, hood, etc. little mileage, splendid condition; cheap, £ 44, Morning Lane, Hackney, E.9.

ENFIELD 1920 2¼h.p., fully equipped, indistin able from new; £60.—Parker's, Bradsha Bolton, and 245, Deansgate, Manchester.

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Enfield.

NFIELD 1915 3h.p. Twin, 2-speed, kick start, lamps, speedometer, new tyres, new chains, excellent condition; £48.—43, Westmount Rd., Eltham, S.E. [9633

NFIELD Combination, 6h.p., 1914, lamps, horn, speedometer, hood, screen, overhauled, perfect dition; £80.—J., 64, Braemar Rd., South Tottena. [9526

921 Enfield Combination, dynamo lighting, with or without dynamo; in stock, immediate delivery; price.—J. Smith and Co., 52-54, Hampstead Rd., W.1. [0352

920 Royal Enfield Combination, dynamo lighting, screen, etc., guaranteed perfect; £150; exchanges. lomac's, 243, Lower Clapton Rd., N. 'Phone: lston 2408. [9729

NFIELD, 6h.p., 2-speed, handle start, coachbuilt sidecar, Easting, accessories; £75.—Newnbam tor Co., 223, Hammersmith Rd., W.6. 'Phone: mmersmith 30. [1038

NFIELD Combination, late 1919, lamps, horn, speedometer, hood and screen, Tan-Sad, perfect dition, mileage 2,700; offers.—Nunn, Windows dge, Thames Ditton. [9668

919 Enfield Combination, very little used, electric lighting, speedometer, wind screen, watch, scot, and all accessories, tax paid; £136.—Bounds, 5, High Rd., Kilburn, N.W. [9916

NFIELD, 1916-17, 3h.p. twin M.A.G. engine, kick start, 2-speed, fast and reliable, smart appearce, tyres nearly new; 40 gns.—Pearce, Bramley tage, Handsworth, Sheffield. [9550

h.p. 1916 Enfield Twin, 2-speed, mechanical lubrication, clutch, kick start, lamps, horn, tools, splencondition, a real sporty bike; quick sale £68.—160, gh St., Teddington, Middlesex. [9330

NFIELD 8h.p. Combination, 1921 model, Magdyno lighting, Lucas horn, Vickers engine, just orrived m works; immediate delivery at makers' price, £182. Filkins, Simpson, opposite Olympia, London. [9358

921 Royal Enfield Combination, 8h.p., latest model, in stock for immediate delivery, £160; latest roke model, £65; easy payments accepted.—Homac's, 5, Lower Clapton Rd., N. 'Phone: Dalston 2408. [9715

NFIELD 1921 Models in Stock: 8h.p. combination £160, Lucas Magdyno lighting set and horn 82; lightweight model; £65; extended terms.—c and Co., 15-16, Bishopsgate Av., Camomile St., .3. [0073

917 8h.p. Enfield Combination, 2-seater sidecar, Lucas electric lamps, Lucas horn, speedometer, d screen, hood, 700×80 car tyres, tubes unpunced, whole combination is in excellent order; a barn, £110.—Walbro, Ely, Cambs. 'Phone: 48 Ely. [9236

NFIELDS.—The cheapest twin combination on the road. We are North London agents, and can give mediate delivery of the standard model, £160; elec model, £180; trade supplied. All spares in stock ones' Garage, Muswell Hill, N.10, and at Woodside ade, North Finchley. [0380

AUCHOPE'S, 9, Shoe Lane, London.—Enfield 1921 combination, with dynamo lighting set, 2; standard model, £160; 2-stroke solo, £65; also 9 3h.p. Enfield twin, £55; and 2½h.p. Enfield, 1920, /10; easy terms arranged, one-fifth down and the ainder in 12 monthly payments. [1073

NFIELD 8h.p. 1920 Combination, quite new, £152/10, much below original prices; also 1916 bination, £89/10; 1915 dynamo combination, £125; lightweight, £52/10; terms quarter down and 11 ments.—387, Euston Rd., N.W., 151, High St., lthamstow, and 50 High Rd., Wood Green, N. [1015

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h.p. Coventry Excelsior, 2-speed, free engine, chain 2 and belt drive; £25.—12, New Rd., Gaywood, g's Lynn. [9690

920 Excelsior-Jap, 2¾h.p., Sturmey-Archer 2 speeds, clutch and kick starter, Cowey horn, absolutely ew, guaranteed.—Homac's, 243, Lower Clapton Rd., 'Phone: Dalston 2408. [9716

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25.—2½h.p. F.N., 2-speed, hand clutch, fine condition throughout.—King, Egrove, Oxford. [X6607

CYL. F.N. Combinations and Solo Singles actually in stock.—Grimes and Co., 18, Bruton Place, New d St., W. [9443

N., 5h.p., 4-cyl., Bosch, B. and B., sloped rank, running order; £28.—Overton, Church Lane, sley, Derbyshire. [9875

920 7h.p. F.N., 4 cyls., as new, very little used; list price £160, bargain, £125.—Alsford, 43, Pulston Rd., Boscombe. [9184

920 (April) F.N., 2½h.p., 2 speeds, splendid condition, only done 950; cost £91; what offers; ner power considered.—Lord, Mountfield, Prestwich. [X6571

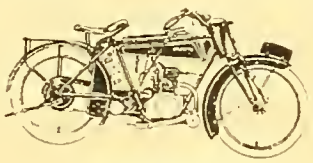
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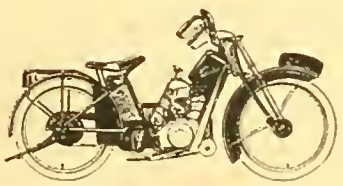
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JULIANS of Reading have 1921 Francis-Barnett in stock. [8303

Harley-Davidson.

1920 Flat Twin Harley, mileage 500; sale, exchange.—29a, Birley St., Blackpool. [9375

HARLEY Combination, 1915, mag., C.A.V. lighting; £115.—13, Grove Park Rd., Chiswick. [9128

1919 7-9h.p. Harley, like new; £85.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [9641

HARLEY Combination, 1918, perfect; £95.—45, Burton Rd., Brixton. [9348

HARLEY Combination, 1919, fully equipped, perfect condition; £125.—3, West Gardens, Robinson Rd., Tooting. [9848

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross, 86, High Rd., Lee. [5669

HARLEY-DAVIDSON.—All models in stock; 15% (3/- in the £) discount for cash.—Marston, 31, Bridge St., Chester. [9599

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole agents, Bambers', Southport, Lancashire. Tel.: 607. [5009

1918 7-9h.p. Harley-Davidson, 3-speed, K.S., with new Canoelet sidecar; £100, bargain.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [9967

HARLEY-DAVIDSON Combination, 1917, electric model, exceptionally smart outfit, perfect condition, all accessories; seen after 7.—14, Penn Rd., Holloway. [9126

HARLEY-DAVIDSON 7-9h.p. Combination, 1918, lamps, horn, tools, perfect order, tax paid; £112.—Post Office, Whitehouse Rd., Croydon. 'Phone: 660. [9927

LATE 1919 Harley-Davidson, 3-speed, Bosch mag., mileage under 2,000, equal to new, lamps, Klaxon, etc.; £130; must realise.—365, King St., Hammersmith, W.6. [9710

1920 4h.p. Harley, electric lighting, horn, Tan-Sad, mileage 300, as new, tax paid; £105.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [1049

1920 Harley-Davidson 7-9h.p., magneto model, perfect condition, electric head and tail lamp, electric horn, tax paid; price £155.—75, Cleave Rd., Gillingham, Kent. [8337

HARLEY-DAVIDSON 1920 4h.p., Swan sporting sidecar, F.R.S. electric lighting, indistinguishable from new; £180.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6505

HARLEY-DAVIDSON 7-9h.p., with sidecar, seat 2, perfect condition; £145, or offer; trial run given Saturday or Sunday by appointment.—Write, Matthews, Kitchener's Meads, St. Albans. [9353

7-9h.p. Harley-Davidson Combination, 1916, repainted throughout, excellent tyres, chains, etc., mechanically perfect, lamps, horn, etc.; £125.—Smith, Medowbrook, Hildenborough, near Tonbridge. [8785

1917 Harley-Davidson Model L. 7-9h.p., 3-speed, right hand kick starter, fitted with new 40 gn. Model de Luxe Millford sidecar, accessories; special clearance price £130.—The Premier Motor Co., Aston Rd., Birmingham. [9374

7-9h.p. Harley-Davidson Combination, 1915-1916, electric model, in the pink of condition, beautiful sidecar, with luggage grid, screen, apron, electric light, etc.; offers.—Buckingham, Glen Cottage, Underriver, Sevenoaks. 'Phone: 2X3 Tonbridge. [9784

1919 (June) Harley-Davidson Electrical Model, fully equipped, extra large Harley sidecar, with specially strengthened chassis and springing, 3 lockers, hood, side curtains, triple screen, Barkers auxiliary mudguards, tyres perfect, been well tended, mechanically perfect, not used last 6 months; £190.—Seen at Eyres Motors, Cavendish St., Chesterfield. [8353

HARLEY-DAVIDSON New 1920 4h.p. Twin, £115; 1920 combination, as new, £220; 1919 combination, £140; 1918 combination, £130; 1916 combination, £115; 1915 Dyno combination, £105; all real bargains; terms quarter down, 11 payments.—Lamb's, 151, High St., Walthamstow, 387, Euston Rd., N.W., and 50, High Rd., Wood Green, N. [1016

Hazlewood.

NEW 5-6h.p. Hazlewood Combination, 3-speed, clutch, and kick starter, a thoroughly reliable outfit. Harrods have a large stock of these slightly shop-soiled at £170 each (much below list price); deferred payments for a small extra charge; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [9936

Henderson.

HENDERSONS, 1921; immediate delivery.—Barker's Motors, 194, Balham High Rd., S.W.12. 'Phone: Latchmere 444. [7384

HENDERSON, Model A, recently purchased, condition perfect, fully equipped; best offer.—65, Jeffcock Rd., Wolverhampton. [9627

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Henderson.

1920 Model Z2 10h.p. 3-speed Henderson, fitted with bulbous back Canoelet MM4 sidecar, W. and G. lighting set. This combination has only been used for demonstration. Appearance and mechanical condition as new; special clearance price £180.—The Premier Motor Co., Astou Rd., Birmingham. [9375

HENDERSON 4-cyl., 10h.p., believed 1915-16 model, 2-speed hub gear (dogs, not old S.A. type), countershaft clutch, hand and full control, hand pump and mechanical lubrication, mag., Schebler carburetter, new tyres, navy blue enamel like new, with most plating the same, carefully ridden, make first-class fast solo or combination machine, tax £3/3; accept £100, subject inspection, or consider old Scott part.—Stanley R Sizer, Ings Rd., Hull. [8360

Hobart.

2¾h.p. Hobart-Villiers, 2-speed, fine order; £32/15.
2 4 —Shaw, Park St., Wellington, Salop. [X6580

HOBART-VILLIERS, 1920, splendid condition, good hill-climber, ridden few miles only; £44.—Chapman, Penny Pot, Chobham, nr. Woking, Surrey. [9165

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ONE Superb Brand New Hockley 2¾h.p. 2-stroke, fitted with Albion 2-speed gear, 26in. wheels, Dunlop tyres, Saxon forks, pan saddle, aluminium footboards, C.A.V. mag., B. and B. carburetter; a handsome machine; take sidecar anywhere; list £65, our price £55; don't miss your chance. — Hockley Motor Co., 38a, Cecil St., Birmingham. [9495

Humber.

HUMBER 2-stroke Combination; £65.—Personally, Oolson, 98, Herbert St., London, N.1. [9267

3½h.p. Humber, 1914 (?), 2-speed, in good condition; **3 2** £35.—Brooke, Royal St., Sandown, I.W. [9344

1921 All-black Humber Twin, 4½h.p., in stock, £140; sidecar to suit, £30.—Cross, Agent, Rotherham. [X6551

1920 4½h.p. Flat Twin Humber Combination, unused; first £160.—Gray's Garage, Watford. [9866

3½h.p. Humber, 2-speed; £27; Douglas 2¾h.p., £29; **3 2** seen 7 p.m.—Vanderbeeck, Turpington, Bickley, Kent. [9791

1913 3½h.p. Humber, 2-speed, lamps, tools, etc., with chassis; £43.—17, Redfern Rd., Harlesden, N.W.10. [9923

HUMBER 4½h.p. Flat Twin, 1920 model, unused, shop-soiled only; £125.—P. J. Evans, 81-91, John Bright St., Birmingham. [9405

HUMBER 3½h.p., 2-speed, Bosch, B.B., running order, engine recently tuned; £28, or nearest.—E. Barter, Bishopstone, Salisbury. [9303

HUMBER 2¾h.p. 1914 V Twin, 3-speed, clutch, just overhauled, new pistons and rings fitted, first-class running order; £34.—Taplin, 159, Hornsey Rd., London, N.7. [X6568

HUMBER 4½h.p. 1921 Flat Twin, with Dunhill sidecar, ridden 70 miles only, perfect throughout; £157/10.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9951

HUMBER, 4h.p., 1914, 3-speed, clutch, kick start, Bosch, B. and B., coachbuilt sidecar, lamps, horn, etc., in good running order; bargain, £45 to clear.—Hill, 3, Bedford Rd., West Ealing, W.13. [9500

HUMBER 6h.p. Twin-cyl. Water-cooled Combination, licensed, purchased 1917, engine and gears just examined and certified perfect, with hooter, speedometer, 3 acetylene lamps, Easting wind screen, Tan-Sad, tools and spares, mileage under 3,000, splendid hill-climber; price £140.—Redleafe, Reigate. [9146

Indian.

HORSMAN for Indians.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0470

POWERPLUS Indian Combination; £85; see Exchange.—Yellow Garage, Surbiton. 'Phone: 1873. [9174

INDIAN Late 1915 7-9h.p. Road Racer; 57 gns.—Huntriss, Ashmeade Lodge, Leckhampton, Glos. [9333

1920 Powerplus Indian Combination, mileage 400; sale, exchange.—29a, Birley St., Blackpool. [9974

INDIAN 5-6h.p. Sporting Combination, 3-speed, kick start; £75.—Mosedale, 50, Canterbury Rd., Kilburn, N.W.6. [9701

1920 Indian Electric Combination, 89 M 378, speedometer; best offer.—Gilbart, 6, Greenside Rd., Croydon, Surrey. [9814

1921 Indians.—Immediate delivery from stock.—E. Brown, Indian Specialist, 3 and 7a, Parker Lane, Burnley. Tel.: 1032. [X6090a

INDIAN Combination, 1914, 6h.p., 2 speeds, Easting, all accessories, spares; sacrifice, £60.—5, Bedwardine Rd., Upper Norwood. [9151

INDIAN 7-9h.p., torpedo sidecar, just overhauled; sell reasonable offer, or exchange countershaft Triumph.—Godsell, Alresford, Hants. [9446

1919 7-9h.p. Indian and 1920 bulbous back sidecar, almost new; any trial; £135.—Conner, 86 Victoria Rd., Stroud Green, N.4. [9735

1917 5-6h.p. Indian, 3-speed, kick start, clutch, electric lamps, Tan-Sad, smart machine; £75.—Satis Cottage, Esplanade, Rochester. [9178

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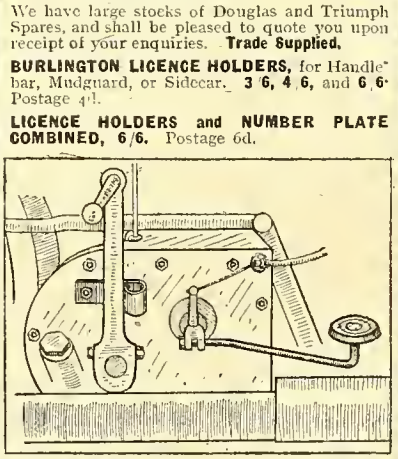
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MOTOR CYCLES FOR SALE.

Indian.

1918 Indian, 5-6h.p., splendid condition, 3-sp clutch and kick starter, all accessories; £65. Nugent Ter., St. John's Wood, N.W.8. [9

7-9h.p. Indian Roadster, clutch model, good runn order; owner going abroad; £38, or nearest, n be sold.—63, Hastings Rd., Maidstone. [9

INDIAN 1915 7-9h.p., 3 speeds, clutch, kick st good condition; £65.—Parker's, Bradshaw Bolton, and 245, Deansgate, Manchester. [X6

INDIAN 1920 7-9h.p. Powerplus, electrically equip low mileage, equal to new; £160.—Parker's, B shawgate, Bolton, and 245, Deansgate, Manchester [X6

1920 Indian Powerplus Combination, absolutely fect condition, 3,000 miles, owner going abro £170, or near offer.—Elton Morris, The Gaer, H ford. [6

INDIANS.—1919 Powerplus, 7-9h.p., 3-speed, cl 10, reconditioned; replated, re-enamelled, e new; £80.—7, Batoum Gardens, Hammersmith, don, W. [9

1920 Indian Combination, dynamo lighting, plete equipment, excellent condition, stored September; 150 gns.—Sherrard, St. John's Coll Cambridge. [9

£65 secures 7-9h.p. Indian combination, in excel condition; several others to choose from; p light.—Halt Motor Co., Ltd., Kilburn Lane, W Tel.: Willesden 1341. [7

1921 Indian Powerplus, 7h.p., with de luxe side electrically equipped throughout, just deliv from makers; £226, for quick sale; delivered.—Le 63, Field St., Kettering. [9

1920 Big Valve Indian Powerplus Combination, gage grid, Easting, triple sidecar springs, o hauled makers, insured, licensed; £195.—Hogg, 4, B enhall Mansions, Baker St., W. [9

1920 Indian Combination, 7-9h.p., as new, dyna lighting, electric horn, speedometer, unpuncture Easting screen, tools, spares; £175, tax paid.—Teu 34, Huddleston Rd., Tufnell Park, N.7. [9

INDIAN (1914) 7-9h.p., clutch, engine 87F009, thoroughly overhauled, new tyres, accessories; £45.—Brosse, 120, Cranley Gardens, M well Hill, N.10. 'Phone: Hornsey 2314. [9

1915-16 Indian 5-6h.p., 3 speeds, clutch and k starter, all lamps, Bonniksen speedometer, t perfect, very fast, guaranteed, perfect; £80.—Hond 243, Lower Clapton Rd., N. 'Phone: Dalston 240 [9

INDIAN 1920 7-9h.p. Powerplus Combination, m age 3,000, hand and foot clutch,, special side electrically equipped, full set of tools and spa £180.—Hewin's Garages, Ltd., the real service fi Taunton. [8

INDIAN Powerplus 7-9h.p. Combination, Millfi 3 speeds, dual clutch, spring frame, lamps, spee meter, sprung pillion, Easting, little used, apepara and condition new; reasonable offer.—Robert Bremn 8, Hillside St., Edinburgh. [9

INDIAN Scout, 1920 model, lamp set and mechani horn, low mileage, carefuly used,, first-cl mechanical condition and appearance, fast macbi £125.—Herbert Robinson, Ltd., 32-35, Green St., C bridge. Tel.: 995. T.A.: Bicycles. [9

1916-17 Indian 7-9h.p., 3-speed, spring frame, clut kick start, in splendid condition; any expert mination; electric lighting set complete, and horn, bulbous sidecar, upholstered, and accessories; £11 Fitch, Hartley Wintney, Winchfield, near Basingst Hampshire. [9

INDIAN, 1916, 7-9h.p., with Swan sporting sidec wind screen, 3 speeds, clutch, kick starter, ac mulator lighting, spare petrol can carrier, too spares, etc., excellent condition; 105 gns., or offe trial Saturday afternoons by appointment.—Belmo Chinbrook Rd., Grove Park, S.E. [9

Ivy.

IVY 2-stroke, 1919; £45.—Write Harling, 8, Pearl St., Waterloo Rd., S.E. [10

1920 Ivy, 2¾h.p., footboards, legshields, soile £55.—Marston, 31, Bridge St., Chester. [9

IVY 1921 Models.—Sole district agents, Wes Motors, Ltd., 60, Catherine St., Salisbury. 'Phon 72. [5

IVY Cycles.—1921 models in stock.—Rothwell Milbourne, Cowleigh Garage, Malvern. [1

IVY, the aristocrat of its type; delivery of all mod from stock; prices and catalogue post free.—S District Agents, The Walsall Garage, Walsall. Te 444. [4

IMMEDIATE Delivery of all Ivy models, the ackn ledged finest lightweight.—Full particulars, H. Henly and Co., London and District Agents, 91, Portland St., W 1. Maylair 4084. [0

10h.p. 90 Bore o.h.v. Ivy-Jap, aluminium dics, b finish, straight through 1½in. copper exhau 80 m.p.h. exceeded at Brooklands, every accessory, fi racing machine in Midlands; £95, or offer; seen appointment.—54, Barwick St., Birmingham. [9

Ixion.

IXION 2¾h.p., Villiers, 3 speeds, with lamps; £3 S. Hale, Bourts, Lydbrook, Glos. [9

MOTOR CYCLES FOR SALE.

Ixion.

IXION-VILLIERS 2¾h.p., perfect condition; £35.—Fuller, 16, Trafalgar Studios, Manresa Rd., Chelsea, S.W.3. [9559

James

1919 James 5-6h.p. Combination, complete with lamps, etc.; 100 gns.—Talbot, Ware. [9192

1920 5-6h.p. James Combination, makers' price £190; what offers.—Shepherd, Enfield Highway. Tel.: Waltham X 31. [0340

JAMES New Combination, all models for immediate delivery from stock.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4012

JAMES 5-6h.p. Combination, 1920, used only for annual runs, fully equipped; £170.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0423

JAMES 5-6h.p. 1920 Model Combination, absolutely unused, complete with lamps, horn, etc.; £150.—J. Evans, 81-91, John Bright St., Birmingham. [9412

1919 James Coachbuilt Combination, 5-6h.p., 3 speeds, excellent condition throughout; £95.—Wiksale Private Motor Registry, 35, Long Acre, W.C. [0476

JAMES New 5-6h.p. Twin, Model de Luxe sidecar, £170, list £190; also new 3½h.p. twin solo, £120, list £135.—Stevens, 248, Grosch St., Birmingham. [X6602

1920 4¼h.p. James Combination, new July, only ridden few hundred miles, perfect condition throughout; £130.—P. J. Evans, 81-91, John Bright St., Birmingham. [9401

JAMES, 4¼h.p., 3-speed, all-chain, with James Canoelet sidecar, accessories; very cheap, £75.—Twynham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1037

1920 5-6h.p. James Combination, electric light, 1921 engine, run 400 miles, any trial, going road; £180; carriage paid.—Albert Walker, 10, Hazel Grove, Southport, Lancashire. [9259

NEW 6h.p. Twin James Combination, Model de Luxe, bulbous back sidecar, one only, slightly shop-soiled, great reduction. Write for special bargain list.—The Premier Motor Co., Aston Rd., Birmingham. [9997

M.O.C.H. have a 1919 James 4¼h.p. combination, as new, completely equipped, electric set; £120.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9379

IMMEDIATE Delivery of any James Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [1002

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J.A.P., 4h.p., T.T., single gear, just overhauled, following new parts fitted: tank, carburetter, handle-bars, mudguards, saddle, rear wheel, and Palmer Cord tyres, engine overhauled by makers, new B. and B., and re-enamelled, very fast, guaranteed; £40; first cash secures.—Hill, 3, Bedford Rd., West Ealing, W.13. [9499

J.E.S.

J.E.S. 1921 Models from stock.—Gibb, Gloucester. 'Phone: 852. [0441

J.E.S., £17/10; guaranteed all reliable, new tyres, accessories.—Claydon, Eastry, Kent. [9450

J.E.S. Cyclette, splendid condition; 22 gns., or nearest.—Withers, Old Park Terrace, Wednesbury. [9912

Kingsbury.

2¾h.p. Kingsbury 2-speed 2-stroke Motor Cycle, new Sept., 1920, unpunctured, mileage 600, Miller lamps, horn, tools, tax paid; £61/10.—63, Silver Hill Rd., Derby. [9920

Lea-Francis.

1919 Lea-Francis, practically new condition, and complete with accessories and speedometer, etc.; genuine bargain.—69, Church Rd., Hendon, N.W.4. [9294

LEA-FRANCIS 1920, shop-soiled only, list price £130; our price £115; orders now accepted for 1921 models.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0431

NEW Lea-Francis, 2-speed, clutch, and kick starter. M.A.G. engine at list price, £130; or on deferred payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [9937

LEA-FRANCIS, brand new 3½h.p. twin, 2-speed, clutch, kick starter, all enclosed chain drive, slightly shop-soiled, makers' guarantee; exceptional bargain, £112.—City agents: Place and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0070

LEA-FRANCIS 3½h.p. M.A.G. engine, Millford sidecar, August, 1920, mileage under 400, detachable wheels, spare wheel and tyre, speedometer, D.A. lighting with spare cylinder, etc., condition as new; £135.—Lewin's Garages, Ltd., The Real Service Firm, Taunton. [9456

Levis

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GENTLEMAN'S Popular Model, £60; lady's Popular Model, £60; immediate delivery. Levis specialists and sole distributors for London and district. Spare parts stocked, repairs undertaken.—Vivian Hardie and Crane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., W.1. [0384

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4 h.p. TRIUMPH	127	10
8 h.p. IMPERIAL	186	0
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50, HIGH ROAD, WOOD GREEN, N.
'Phone: Hornsey 1956.

MOTOR CYCLES FOR SALE.

Levis.

JULIANS, of Reading, have 1921 Levis in stock. [0483

GIBB, Gloucester.—1921 Levis from stock.—'Phone: 852. [0442

1920 Levis, perfect condition; 43 gns.—Write Barber, 4, Palliser Court, W.14. [9210

1920 Levis, as new, mileage under 400; genuine bargain, £45.—Wanstead 386. [9794

£35.—Levis about 1915), 2-speed, good tyres, lamps, just overhauled.—King, Egrove, Oxford. [X6607

LEVIS 2¾h.p., 1919, Edmonds spring frame, 2-speed, chain drive; £48.—115, Tham Rd., Plumstead. [9782

LEVIS, splendid condition, recently overhauled, ridden by lady only.—W., 47, Broadesbury Villas, Kilburn. [9878

LEVIS Popular, 1916, lamps, horn, little used, splendid condition; £35.—23, Graemesdyke Av., Mortlake. [9658

1920 Levis, very little used, practically equal to new; 48 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [9143

1916 Levis, everything excellent condition, accessories; 30 gns.—Fersfield, Westbury Rd., New Malden, Surrey. [9656

1921 Levis 2¼h.p.; the leader of its class.—Immediate delivery from authorised agents, Harrison and Bunkall, Chichester. [9156

£39; tax paid; 2¼h.p. Levis, 1916, new condition, accessories.—Kinsey, 352, Lower Addiscombe Rd., Croydon. 'Phone: 1129. [9806

LEVIS, the finest 2-stroke in the world; delivery from stock; £60.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4013

LEVIS 2¼h.p., 1917, chain drive, 2-speed, lamps, horn, and tools, in good order; £50, or near offer; private owner.—Kerridges Garage, Alton, Hants. [9825

1920 Levis, excellent appearance, mechanically as new, fully equipped, electric lighting, good tyres; bargain, £47; approval.—Sutton Valence, 199, Unthank Rd., Norwich. [9956

IN Stock, 1921 Levis, £60. Good wine needs no bush. Nuff said!—Sole agents, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [8298

1921 Levis Popular, 2-stroke, latest model, for immediate delivery; £60; easy payments accepted; exchanges. Official agents, Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [9718

Martinsyde

JULIANS, of Reading have 1921 Martinsyde in stock. [0484

1920 Martinsyde and Sidecar, with hood, screen, electric lamps, horn, tyres unpunctured, magnificent condition; 137 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [9142

MARTINSYDE Combination (July, 1920), stored winter, hood, screen, leg shields, Magdyno lighting, horn, speedometer, nearly new; £185.—Collins, 6, Foster Hill Rd., Bedford. [9163

Matchless.

MATCHLESS.

1921 Models now ready; all the latest improvements. You can have one now, or book delivery for any forward date. Every combination personally tested by the Matchless specialist. Spares of all dates in stock.—J. Tussell, 1a, Bloomfield Rd., Plumstead. [6881

JULIANS of Reading have 1921 Matchless in stock. [8302

1921 Matchless, standard, lamps, mileage 70; £182—Below.

1921 Matchless, Magdyno, mileage 100, absolutely unscratched; £197.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [9040

1921 Matchless Outfit in stock, Lucas lamps; £215.—Cross, Agent, Rotherham. [X6549

GIBB, Gloucester, can deliver 1921 Matchless models from stock.—'Phone: 852. [0443

1921 Matchless Magdyno Combination, brand new; £198.—After 6, 41, Madrid Rd., Barnes. [8166

MATCHLESS C.B. Combination; £60.—59, Palfrey Place, Dorset Rd., Clapham Rd. S.W.8. [9755

MATCHLESS, 1921, just delivered; will drop £10.—Boyd, 9, West Heath Av., Golders Green, N.W. [1025

1920 Matchless Combination, August, M.A.G., £30 extras; £175; exchanges.—17, Birchington Rd., High Rd., Kilburn. [9327

1921 Matchless Combination, immediate delivery; easy terms.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [9719

MATCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0424

1920 Matchless Combination, 8h.p. J.A.P., new condition, fitted everything; low price; particulars.—Weaver, Arcade, Okehampton. [9274

MOTOR CYCLES FOR SALE.

Matchless.

7-9h.p. M.A.G. Matchless Combination, Matchless S.C., new 1921, accessories, speedometer, spares; 85 gns. —19, Streatley Rd., Kilburn. [9770

MATCHLESS 1921 Models.—Liberal exchange allowances.—Authorised agents, R. B. Clark and Co., 7 ,Exhibition Rd., South Kensington. [1022

1921 Matchless Combination, 3-speed, dynamo lighting, very little used, better than new; 195 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [9141

MATCHLESS 1921 Models in Stock; cash, exchange, or extended terms.—City agents: Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0072

MATCHLESS 1920, Magdyno lighting, combination, hood, screen, speedometer; £180, or offer; exchange Enfield combination.—Spurling, 8, Courthope Rd., Hampstead, N.W. [9304

1920 Matchless Combination, M.A.G. engine, screen, spare wheel, lamps, horn, rear drive speedometer, slightly soiled; £185.—Marston, 31, Bridge St., Chester. [9590

MATCHLESS 8h.p. 1920-21 Combination, dynamo lighting, only driven 60 miles; cost £245, accept £220.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1 [0417

MATCHLESS 1920 Combination, 8h.p. J.A.P., hood, screen, spare wheel, lamps, done 2,500 miles, almost new condition; price £175.—Humphries, Baker, 59, High St., Egham. [9650

MATCHLESS 8h.p. Combination, 1920, dynamo lighting, practically as new, guaranteed perfect; £185 genuine bargain.—Vivian Hardie and Lane, Ltd., 24 Woodstock St., Bond St., W.1. [0418

1919 Matchless Combination, Lucas lamps and horn, Watford speedometer, spare wheel, etc., whole combination is like new; first cheque £150.—Walbro, Ely, Cambs. 'Phone: 48 Ely. [9237

MATCHLESS Service Depot. 'Phone: Greenwich 751.—All 1921 new models. Secure one now. Demonstration ride with pleasure at S. E. Clapham (Motors), Stockwell St., Greenwich, S.E.10. [1030

MATCHLESS 1920 Model H Combination, dynamo lighting, spare wheel, hood, screen, Capac carburetter; £160.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1035

MATCHLESS-M.A.G. 8h.p. 1917 Combination, hood and screen, electric lighting, spare wheel and 4 sound tyres, speedometer, licence, insurance to April; £105.—The Ley, Northwich, Cheshire. [9416

MATCHLESS 8h.p. Combination, 1921 model, M.A.G. engine, Magdyno lighting, just arrived from works; immediate delivery at makers' price, £230. —Wilkins, Simpson, opposite Olympia, London. [9359

MATCHLESS 1919 8h.p. Combination, Victory Model, detachable wheels and spare, Lucas accessories hood, screen; exceptional bargain, £115. —Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3 [0066

MATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [5668

MATCHLESS, 1921 Models, from £205; demonstrations daily.—Agent (wholesale and retail), for S.W. London: George Smith, 268, Lavender Hill (opp. Arding and Hobbs), Clapham Junction. 'Phone: Battersea 1271. [9423

MATCHLESS-J.A.P. 1920 8h.p. Combination, hood, curtains, wind screen, leg shields, all lamps (new), spare wheel, tools and spares, tax paid, splendid condition; best reasonable offer accepted.—40, Queen's Rd., East Grinstead. [9298

1921 Matchless in stock; also soiled (2) 1920, £190-£215 each; terms quarter down, 11 payments; much below makers' price.—Lamb's, 387, Euston Rd., N.W., 50, High Rd., Wood Green, 151, High St., Walthamstow. [1012

MATCHLESS Model H. Combination, to makers' specification, £205; dynamo lighting model, £231/7/6; or on Harrods unique easy payment system for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [9933

8h.p. Second-hand Matchless Combination, with detachable wheels and spare with tyre, lamps, horn, hood and screen, luggage grid, etc., in very nice order and condition; £135; easy payments for small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [9934

1920 Matchless Model H Combination, rear drive, speedometer, Lucas horn and lamps, D.A. lighting, sidecar step, and extra storm apron, spare rear chain unused, tax paid; seen after 6; £175.—Marshall, 51, Holmewood Gardens, Brixton Hill, S.W. [9491

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock; for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0381

Metro.

1919 Metro-Tyler, lamps, discs, tax paid; £39.—29a, Birley St., Blackpool. [9977

2½h.p. Metro-Tyler, S. type, 1920, 2 speeds, like new, fully equipped; any trial; £72.—26, Newland Rd., Worthing. [9341

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METRO-TYLER 1920 2½h.p., fixed gear, absolut as new; £60.—Parker's, Bradshawgate, Bolt and 245, Deansgate, Manchester. [X65

METRO-TYLER, 1920 model, Type S, 2-speed, used, shop-soiled only; list price £96; acce £70.—P. J. Evans, 81-91, John Bright St., Birmi ham. [94

METRO-TYLER, brand new, latest S Type 2-spe 2-stroke, fully guaranteed; offered at greatly reduced price of £70.—Elce and Co., 15- Bishopsgate Av., Camomile St., E.C.3. [00

Minerva.

MINERVA, C.A.V., Druids, lamp, horn, just ov hauled; £19, offer; ride away.—141, Framfi Rd., Hanwell. [95

3½h.p. Minerva, condition good, except for sligh cracked cylinder, side valves, Bosch, and and B.; £15.—Taylor, 7, Victoria St., Clayton We Huddersfield. [97

Moto-Reve.

MOTO-REVE 2¾h.p. Twin, believed 1913, good co dition, running order; nearest £25.—Beckwi High Langley, Burnhope, Durham. [92

LIGHTWEIGHT Moto-Reve 2¾h.p., V twin, mag clutch, in good running order, new Dunlop, bar and carburetter, a bit shabby, but no repairs neede bargain for £19 only, lowest.—Keen, Leominster. [98

Motosacoche.

MOTOSACOCHE, good order, less battery; offers. C. Johnson, Skelton, nr. York. [X64

MOTOSACOCHE, splendid order; £20; take pu cycle part.—57, Kenbury St., Camberwell, Londo [97

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1920 New Hudson Lightweight, soiled; £60 to clea —Marston, 31, Bridge St., Chester. [95

NEW HUDSON 3½h.p., 2 speeds, fine condition £24.—17, Heaton Rd., N. Mitcham. [98

4h.p. New Hudson-Jap, 3-speed, smart, good condition £32.—12, Garfield St., Leicester. [X64

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Londo E.C.4.—New Hudson 2¼h.p., 1920; £52/10. [10

NEW HUDSON 4h.p., 3 speeds, clutch, K.S., sum perfect order; £55.—67, Wantage Rd., Reading. [X65

1920 New Hudson 2¼h.p., brand new; £63.- Edwards, 50, Harrington Rd., South Kensin ton, S.W.7. Phone: Kensington 3709. [63

NEW HUDSON Combination, 4h.p., 1919, acce sories, little used; a bargain, £95.—Taylors, Ltd 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [04

1913-14 3½h.p. New Hudson Combination, 3-spee clutch, electric lamps, horn, mirror, in excelle condition; a bargain, £45.—Bambers', Eastbank S Southport. [99

NEW HUDSON 2-stroke, 1920, new October, all a cessories, owner no longer requires; reasonab offer accepted.—Capt. Dickson, R.A.M.C. Mess, Mil bank, S.W. [92

NEW HUDSON 1921 Ace Model in Stock, 75 gns also de luxe, 65 gns.; also a 1920, only soile £60; much below makers' price; terms quarter dow 11 payments.—Lamb's, 387, Euston Rd., N.W., 50 High Rd., Wood Green, 151, High St., Walthamsto [101

New Imperial.

JULIANS, of Reading, have 1921 New Imperial stock. [048

£35; New Imperial, 2¾h.p. J.A.P., 2 speeds, lamp horn, good condition.—143, Ravensbury Rd Earlsfield, S.W. [102

4h.p. New Imperial-Jap, 3-speed, clutch, splendi condition; £45.—29, Wimbledon Park Rd Wandsworth, S.W. [916

NEW IMPERIAL-J.A.P., absolutely new, slight shop-soiled, 2-speed; 67 gns.—Julian, 84, Broa St., Reading. 'Phone: 1024. [914

1921 New Imperial 2¾h.p. solo and 8h.p. combin tions.—Prompt deliveries from authorised agent Harrison and Bunkall, Chichester. [915

NEW IMPERIAL Combination, 8h.p., absolutel new, slightly shop-soiled; 160 gns.—Julian, 8 Broad St., Reading. 'Phone: 1024. [914

NEW IMPERIAL, 2¾h.p. J.A.P., clutch, and kic starter, 1920; £65.—Taylor, Ltd., 52, Susse Place, S.W.7. 'Phone: Kensington 7260. [04

NEW IMPERIAL 1919 8h.p. with Sunbeam Sideca fully equipped. Easting; £145.—Parker's, Bra shawgate, Bolton, and 245, Deansgate, Manchester. [X65

BARGAIN.—Practically new 2¾h.p. New Imperia Jap, 2-speed, clutch, kick start; £65, includin new licence.—40, Wellington Rd., St. John's Woo N.W.8. [93

NEW IMPERIAL-J.A.P., 1921 model, 2¾h.p., speed, kick starter, hand clutch, brand new, u used; immediate delivery; 85 gns.—Central Garag Henley-on-Thames. [107

MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL J.A.P. 2¾h.p., 2-speed model, brand new, shop-soiled only; bargain, £70.—P. J. Evans, 81-91, John Bright St., Birmingham. [9402

O.C.H. have a New Imperial, 2¾h.p., kick starter, shop-soiled; £78.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9382

2h.p. 1919 New Imperial, J.A.P., as new, lamps, speedometer, and accessories, Canoelet sidecar, basket at back, luggage carrier, all finished black and gold; what offers?—Britannia, 27, Fulham Palace Rd., Hammersmith. [9737

IMMEDIATE Delivery of any New Imperial Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [1005

1917 New Imperial Combination, 8h.p., 3-speed countershaft, 3 lamp sets, Lucas horn, 3 new Dunlop tyres, and tools, in absolutely perfect condition, only used 4,000 miles; £105.—Wallis, 23, Hartington Grove, Cambridge. [9396

NEW IMPERIAL Motor Cycles and Combinations supplied at manufacturers' list prices for cash or Harrods unique easy payment system for a small extra charge; full particulars on application.—Harrods' Ltd., 118, Brompton Rd., London. [9932

2h.p. New Imperial Combination, chain drive, complete with lamps and horn, bought new Aug. last and used very little used, in excellent condition throughout; cash £145; easy payments for a small extra charge.—Harrods, Ltd., 1188, Brompton Rd., London. [9935

1921 New Imperial Combination, latest model in stock for immediate delivery, £186/18; lightweight Model 1 £80/17, Model 2 £89/5; easy payments accepted; exchanges.—Official agents, Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [9720

NEW IMPERIAL, 1921, 2¾h.p., 2-speed, clutch, and kick starter, 85 gns.; 8h.p. combination, 98 gns.; extended terms, one quarter cash deposit and 12 monthly instalments.—City Agents: Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0074

New Scale

NEW SCALE 3½h.p., 1920 model, as new; £80.—George Eastwood, Wholesale Market, Huddersfield. [8320

NEW SCALE-PRECISION Combination, 1920, 3½ h.p., 2-speed, kick start, good sound outfit; £100; accept half down.—Bunting's Motors, Wealdstone. Closed Sundays. [9674

Norton

NIBB, Gloucester, can deliver 1921 Nortons from stock.—'Phone: 852. [0444

NORSMAN for Nortons.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0471

NEW T.T. Norton, just delivered; £98; in stock.—Holland Bros., Ltd., Boston, Lincs. [7379

WILLIAMS' Garage, Cheltenham, can give immediate delivery of any model Norton. [X6444

NORTON 1921 Models from stock.—The Premier Motor Co., Aston Rd., Birmingham. [9994

NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin [612t

NORTON'S for immediate delivery, each machine specially tuned.—Evans's Garage, Newport, Salop. [X6557

SEPT., 1920, T.T. Norton, fully equipped, mileage £1,500; £92.—41, Tavistock Drive, Nottingham. [9523

1919 3½h.p. T.T. Norton, Philipson, all accessories; £85.—68, High Lane, Chorlton-cum-Hardy, Manchester. [9248

NORTON 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5005

1915 3½h.p. T.T. Norton, in good condition, very fast; £58, near offer.—70, Camden Mews, Camden Rd., N.W. [9802

NORTON Combination, Big Four (3-speed), splendid order; £78; take solo part.—57, Kenbury St., Camberwell, London. [9775

NORTON 1919 3½h.p., B.R.S., very fast, Philipson, discs, all accessories, any trial, as new, tax paid; £100.—39, Mosack Rd., Balham, S.W. [9515

BROOKLANDS Racing Special Norton, about 1917 or 1918, very fast, brand new heavy tyres; £74, offers.—9, Red Hill, Bassett, Southampton. [9894

WAUCHOPE'S, 9, Shoe Lane, London.—Norton combination, Big Four, fitted with De Luxe sidecar, new 1921, just delivered from works; £177. [1082

1921 Norton 4, 3-speeds, with Montgomery purple sidecar, brand new turnout, unused; £170, or exchange modern solo.—Shaw, Durkar, Wakefield. [9245

DISTRICT Agent for Derbyshire for the Norton motor cycle; can deliver anywhere; all models in stock; immediate delivery.—H. Palin, Ltd., Bourne End, Derby. [8905

B.R.S. Norton 3½h.p., 1919, Philipson, spare everything very nearly, very fast, of course; good condition throughout; £85.—T. Twentyman, Pickering, Yorks. (D) [8633

1921 Norton Models, Big Four, B.R.S. (Philipson), and 3½h.p. T.T. countershaft, immediate delivery.—Spa Motor and Engineering Co., South Cliff, Scarborough [7626

CRABTREE & SON, Ltd.,

Motor Engineers,

WISBECH.

REBUILT GOVERNMENT MOTOR CYCLES,

overhauled in our own workshops, stove-enamelled, replated, tanks in makers' colours, new tyres, guaranteed, complete with tool bags, kit and pump

Douglas 2¾ h.p. - - £65

Douglas 4 h.p. - - £85

Douglas Combination, with new body in Douglas colours - £105

Triumph 4 h.p - - £95

REBUILT GOVERNMENT MOTOR CYCLES

overhauled, but not re-enamelled, good tyres.

P. & M., 3½ h.p. - - £65

P. & M. and sidecar - £75

Clyno, 5-6 h.p. - - £70

New 1921 Douglas –

2-speed gear - - £85

3-speed gear - - £100

Douglas, 2¾ h.p., clutch, kick-start, ridden 500 miles, complete equipment - - - - £85.

Crabtree & Son, Ltd.,
Motor Engineers, Wisbech.

MOTOR CYCLES FOR SALE.

Norton

BIG Four Norton, 1919, countershaft, T.T. handlebars, Lucas lamps and horn, new tank, mechanically perfect; £110, or near.—Apply by letter, Sykes, University Club, Edgbaston. [X6544

1921 Big Four Norton, with family sidecar, child's seat, wind screen; delivered by makers this week; £184/10; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [9995

1920 Norton Big Four, with lamps, horn, and kneegrips, soiled, £125 to clear; latest 1921 Big Four, £135; and 3½h.p. T.T., 3-speed, £132; in stock.—Marston, 31, Bridge St., Chester. [9593

NORTON Motor Cycles.—Immediate delivery of all models; combination £177. Big Four solo £135, 3½h.p. sports £132, 3½h.p. T.T. £98, sporting sidecar £35.—P. J. Evans, 81-91, John Bright St., Birmingham. [9415

N.U.T.

N.U.T., 1921, brand new, dynamo model; £125.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [1090

N.U.T.—Delivery from stock of all models. Sole wholesale and retail agents for Staffordshire; the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [4014

N.U.T. 1920 3½h.p., Magdyno lighting, run 100 miles, indistinguishable from new; £125.—Parkers', Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6501

N.U.T. Brand New 3½h.p. Twin, 3-speed, Lucas Magdyno lighting set, just received from works, £125; also one without lighting set, £100.—City Agents: Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0065

N.U.T.—A few latest 3½h.p. N.U.T. machines, standard specification, list price 145 gns., clearance price £125; similar, minus dynamo lighting, £110, brand new.—Maudes', 100, Gt. Portland St., W.1, and 100, Paris St., Exeter. [9478

O.K.

JULIANS of Reading have 1921 O.K. in stock [8301

O.K. Junior, new, unused; £45. — Marston, 31, Bridge St., Chester [9597

O.K., Union brand, new, shop-soiled; £43.—Evans's Garage, Newport, Salop. [X6559

£28.—O.K. Junior 4-stroke, 2-speed, good tyres, splendid running order.—King, Egrove, Oxford. [X6608

1921 O.K., absolutely new, very good value; 48 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [9145

O.K., 2¾h.p. J.A.P., 1917, countershaft, equipped Cowey, lamps, spares; £42.—4, Cedars Rd., Tottenham. [9513

£45.—Brand new O.K.-Union, 1920, also brand new O.K.-Villiers, same price.—Walbro, Ely, Cambs. 'Phone: 48 Ely. [9238

O.C.H. have a new O.K., 2-speed, shop-soiled; £59.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9383

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall, Andover. [0368

OMEGA.—Immediate delivery of all models.—The Rochester Auto Supply Co., Corporation St., Rochester. [0465

1921 Omega, single speed, 2-stroke, delivery from stock, £50; 2-speed model, £58; other models in a few days.—Gray and Raynes, 8, Low Rd., Balby, Doncaster. [8457

O.C.H. have a new Omega, 2¾h.p., kick starter, shop-soiled; £73/10.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9385

P. and M

JULIANS, of Reading, have 1921 P. and M. in stock. [0488

1917-18 P. and M., minus mag and small parts; £35.—1, Othello St., Liverpool. [9441

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—3½h.p. P. and M. 1917 model, £57/10. [1071

P. and M. Combination, 1919, good condition; £95.—Snelling, 2, Morley Rd., Twickenham. [9676

1920 (late) P. and M. absolutely new condition; £92.—Clark, 7, Exhibition Rd., South Kensington [8956

1920 P. and M., R.A.F. model, £60, in good condition.—P. A. Westwood, 421, Harborne Rd., Edgbaston, Birmingham. [X6489

1918 P. and M. Combination, storm apron, screen, lamp, tools, new tyres, condition new; bargain, £90.—Ferguson, Church Rd., Crowborough. [9437

FOR Sale, P. and M. combination, in good running order, with lamps and tools; £60.—Apply, J. Walker, The Gables, Woodchester, Glos. [8441

P. and M. 1919 Combination, lamps, spares, horn, etc., 1920 colours, in absolutely new condition, any trial given; 78 gns.—A. Southern, 12, Thrale Rd., Streatham, S.W. [9842

MOTOR CYCLES FOR SALE.

P. and M.

P. and M., 1918, W.D., Millford sidecar, fully equipped, lamps, speedometer, screen, etc., engine practically new, small mileage, insured, licensed; £80; appointment.—Macintosh, Dawlish, Chatsworth Rd., N.W.2. [9786

P. and M. Motor Cycle Combination for sale, 3½h.p., 2-speed, kick starter, mechanically perfect, late 1919, complete accessories, tyres and new, in perfect condition; offers wanted.—Rich, 100, High St., Harlesden, N.W.10. [8903

PHELON and Moore ex-W.D. Models, thoroughly overhauled and guaranteed, tanks re-enamelled, front brakes, chain cases; £78. Similar models overhauled and guaranteed by makers, £95; with sidecar, £100 and £110; easy payments 7½% extra.—Maudes', 100, Gt. Portland St., W.1, and Paris St., Exeter. [9479

P. and S.

PEARSON-SOPWITH 1920 3h.p. 2-stroke, 2-speed, clutch, K.S., lamps, horn, registered, new condition; £70.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1040

Paragon.

1920 3hp. Paragon; £45.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [9754

Peugeot.

5-6h.p. Peugeot C.B. Combination, 2 speeds, F.E., H.S., Bosch, Amac; ride away; bargain, £35.—51, Claremont Rd., Tooting. [9493

Precision.

PRECISION 3½h.p., 2-speed, excellent order; £25.—17, Heaton Rd., N. Mitcham. [9847

Premier.

1915 7-9h.p. Premier Combination, countershaft gears, good order; £55.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [9640

PREMIER 7-9h.p. Combination, 1915 (August), 3 speeds, excellent condition, exceedingly good machine; £110.—Sumner, 19, Moss Lane, Southport. [9322

BARGAIN.—10h.p. countershaft Premier combination, just overhauled, renpholstered, accessories: trial; £90, offers.—105, Balham Park Rd., S.W.12. [9289

3½h.p. Premier, Bosch, B. and B., new cylinder, valves, back tyre, newly overhauled; £36; exchange considered.—1, Carey's Yard, Fleming Sq., Maryport. [9603

PREMIER 7-9h.p., electric gas lighting, speedometer, hood, screen, 2-seater sidecar, and coachbuilt pillion seat, real family turnout, just overhauled; £120.—28, Beresford Rd., Kingston-on-Thames. [9628

WAUCHOPE'S, 9, Shoe Lane, London E.C.4.—New 1921 8h.p. Coventry Premier, spare wheel, detachable wheels, dynamo lighting; price 275 gns. easy terms one-fifth down and the remainder in 12 monthly payments. [1069

PREMIER 7-9h.p. Combination, 1914, double-seater sidecar, perfect condition, 3-fold wind screen, just home from overhaul, ready to ride away, 3-speed clutch, kick start, lamps, nearly new tyres, tax paid; £110; photo.—Gillatt, 2, Mascotte Rd., Putney, London, S.W.15. [9697

P.V.

1914 P.V. spring frame 5-6h.p. J.A.P. C.B. Combination, splendid running order, Armstrong 3-speed gear, all accessories and spares, stored 3 years; £55, or near offer; must sell.—1, Christchurch Av., Teddington. [9520

Quadrant

HORSMAN for Quadrants.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0472

QUADRANT 4h.p., clutch model, Simms, B. and B., perfect; £28; tax paid; exchange 2-stroke.—15, Elthorne Rd., N.19. [9262

QUADRANT 4½h.p. Combination, B.S.A. 3-speed, all-chain drive, kick starter, condition new; £100.—3, London Rd., Gloucester. [9107

1920 4½h.p. Quadrant Combination; makers' price, £145; what offers?—Shepherd, Enfield Highway. Tel.: Waltham X 31. [0341

QUADRANT Combination, 1920, 4½h.p., Sturmey-Archer countershaft, hand clutch, all-chain drive, speedometer, 3 electric lights, 3 new Dunlop tyres, aluminium footboards; £78.—23, Leathwaite Rd., Clapham Common. [9804

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4½h.p. 1921 Quadrant combination, with wind screen, £147/15; also 4½h.p. 1920 Quadrant combination, excellent condition, £120; easy terms of one-fifth down and the remainder in 12 monthly payments. [1065

CLIFFORD WILSON Mfg. Co., 70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: Kensington 7113 Quadrant sole agents and wholesale distributers for London, Southern and Eastern Counties. Immediate delivery from stock of new 4½h.p. and 5h.p. models; all spares. Single and 2-seater sidecars ready for immediate fitting Deferred payments arranged. [5458

Radco.

RADCO 2½h.p., in good condition; £29.—H. Grindle, Cannop, near Coleford, Glos. [9326

RADCO 2-speed, lamps, Klaxon, just overhauled by makers, costing £13; nearest 40 gns.—26, Barrington Rd., Brixton, S.W.9. [9114

THE HALIFAX MOTOR EXCHANGE

New Address—
25, HORTON STREET,
HALIFAX.
EXCHANGES WANTED.

1921 NEW MODELS.

LAGONDA, 11.9 h.p., coupé, dickey; full equipment; reduced price	£465 0
CALTHORPE, 2-seater, standard model	475 gns.
CALTHORPE, 4-seater, full equipment	495 gns.
COVENTRY PREMIER, 3-wheeler	£288 15
L.S.D., 8 h.p., 3-wheeler	£245 0
REX-BLACKBURNE Model 55 8 h.p. Combination, 28×3, spare wheel ..	£218 18
***DOUGLAS,** 2¾ h.p., 3-speed, solo	£100 0
***SCOTT,** 3¼ h.p., 2-speed	£130 0
***ROYAL RUBY,** 3 h.p., spring frame ..	£120 0
***TRIUMPH,** 4 h.p., and Sidecar	£161 0
NEW IMPERIAL, 8 h.p., and Sidecar	£186 18
NEW IMPERIAL, 2½ h.p., 2-speed ...	£80 17
B.S.A. 4¼ h.p. 3-speed all-chain Combination, hood, screen, and carrier	£161 15
***SCOTT** Combination, 3in. Palmers	£183 10
BRADBURY, 6 h.p., and Sidecar	£187 10
ENFIELD, 2¾ h.p., 2-speed, lightweight	£65 0
TRIUMPH, countershaft, and Sidecar.	£161 0
B.S.A. twin Combination, Lucas dyno, spare wheel, etc.	£235 9

*1920 models. Cash offers wanted.

1921 DOUGLASES.

2¾ h.p., 2-speed	£85 0
2¾ h.p., 3-speed, no clutch	£100 0
2¾ h.p., 3-speed, kick-start, clutch ...	£105 0
4 h.p., 3-speed, clutch	£130 0
4 h.p. 3-speed Combination	£170 0

Prices plus transit. Liberal exchanges.

AGENTS FOR
ACME-J.A.P., BRADBURY, DOUGLAS, ENFIELD, NEW IMPERIAL, NORTON, REX, SUNBEAM, SCOTT, and TRIUMPH Motor Cycles; L.S.D. and COVENTRY PREMIER 3-wheelers; AIREDALE, DOUGLAS, CALTHORPE, and LAGONDA Light Cars; MILLS-FULFORD and SWAN Sidecars.
Exchange enquiries solicited.

SECOND-HAND MACHINES.
Guaranteed in Running Order.
Solo Machines.

A.B.C., 1920, Magdyno lighting, speedometer, electric horn, 700 miles	£132 10
EDMUND, 2¾ h.p., 1920, as new	£75 0
ARIEL 3½ h.p., 3-speed countershaft..	£105 0
PREMIER, 3½ h.p., new tank	£25 0
METRO-TYLER, 2-speed, red	£62 10
DOUGLAS, 1920, 2¾ h.p., 3-sp., accessories	£87 10
HOBART, 1920, 2½ h.p., 2-speed as new	£62 10
TRIUMPH, 4 h.p., 3 sp., countershaft	£87 10
BRADBURY, 3½ h.p., 3-speed	£47 10

Passenger Machines.

LAGONDA, 1920 11 h.p., coupé	£395 0
RICHARDSON, 1920, 2-seater.....	£195 0
MORGAN, ..., Grand Prix	£165 0
MORGAN, 8 h.p., Sporting.....	£145 0
BUCKINGHAM, 8 h.p., 2-seater	£85 0
PREMIER, 3½ h.p., 3-speed, and Sidecar	£75 0
BRADBURY, 6 h.p., Grindlay Sidecar, lamps, etc., 1920 Combination	£162 10
B.S.A. TWIN, 8 h.p., New Sidecar	£145 0
ARIEL 3½ h.p. 1920 3-sp. Combination	£125 0
HARLEY, 7-9 h.p., 1920, and new latest type bulbous back Sidecar..	£198 10
HARLEY 1919 Combination, electric ..	£175 0
INDIAN 1920 7-9 h.p. spring frame Comb., dyn. lighting, Cost £245 ...	£190 0
DOUGLAS 1919 4 h.p. Combination ..	£125 0
DOUGLAS 1920 4 h.p. Combination ..	£145 10
CHATER-LEA, 8 h.p., 3-sp., Comb. ...	£85 0
BRADBURY, 3½ h.p., 3-sp., Sidecar...	£75 0

Easy Payments Arranged.

NEW ACCESSORIES.

Easting Windscreen, standard	£4 10 0
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Thomson-Bennett Magnetos, from ..	£7 17 6
Cowey Horns, 50/-; Klaxons	£1 16 0
Capac 1920 Carburetter, nearly new..	£2 12 6
Cowey Speedometers	£6 0 0
Bonniksen, trip	£6 16 6
Smith, trip	£5 15 0
Binks Carburetters, post free	£4 16 10
Capac Carburetters, post free	£4 6 0
New Army Knapsacks, 13½×11"	5 6
Plated T.T. Bars, for Triumphs	£1 5 0

Carriage extra.

MOTOR CYCLES FOR SALE.

Radco.

1921 Radco, 2½h.p., 2-speed, just delivered, price, also 1920 Radco, 2½h.p., new, slight shop-soiled, sell at greatly reduced price.—Blay, 1 Heath Rd., Twickenham. [9

Raleigh.

1921 Raleigh, flat twin, just delivered.—Welfo St. James's St., Brighton. [1

RALEIGH 1921 Combination, brand new, for immediate delivery at list price.—Philpot, Mot Canterbury. [9

RALEIGH Combination ready for delivery in Mar particulars on request.—Quadrant Garage, Win more Hill, N.21. [7

RALEIGH New Flat Twin in stock, ready for delive —The Wimbledon Park Engineering Works, L Telephone 511 Wimbledon. [9

RALEIGH 1921 Model; orders now accepted for machine, solo or combination.—Ratcliffe Br 200, Gt. Portland St., W. Mayfair 5042 [0

1921 Raleigh 5-6h.p. Flat Twin, all-chain dri spring frame; now on view; orders booking early delivery.—Sole Birmingham Agents, The Prem Motor Co., Aston Rd., Birmingham. [9

Regent.

£28.—Regent 1920 motor cycle, less engine and g box, Coventry Victor and S.A. gear box fits, £2 offers or exchange; also Regent frame with carrier stand, £4/10.—257, Cavendish Rd., Balham, S.W.12 [9

Rex

6h.p. Rex Combination, 2-speed; £55.—5, Addi Av., Holland Park, W.11. [1

5-6h.p. Twin Rex Motor Cycle, H.T. Bosch, e clear, £22/19/6, great bargain.—Madison, Lit over, Derby. [X65

1910 Rex 3½h.p., Bosch, new belt, new tyre, 2 n tubes, good condition; £25.—Johnstone, Scort Garstang, Lancs. [92

1914 Rover 3½h.p. Coachbuilt Combination, Sturm hub, lamps, horn, tax paid; £42/10.—Writ 163, Lower Kennington Lane, S.E. [95

REX 5-6h.p. Combination, Bosch, B. and B., ov hauled, re-enamelled, good tyres; £65, or neare —32, Arthur Rd., Brixton, S.W.9. [96

3½h.p. Rex, mag., recently thoroughly overhaul good running order, ready for use; £16.—Holla 25, Victoria Rd., Harborne, Birmingham. [93

£35, bargain.—6h.p. twin Rex, 2 speeds, coach si car, tank black and gold lined, excellent con tion and running order.—19, Stockwell Park Cresce S.W.9. [95

3½h.p. Rex, mechanical valves, T.T. bars, dropp frame, wants mag., saddle, and silencer; £14, offer.—Middleton, 35, Millais St., Albany Rd., Camb well, S.E. [99

Rex-Jap.

REX-J.A.P. De Luxe Combination, 8h.p., first-cla condition, including tyres, accessories; £80, ba gain.—1, Chatham St., Colne, Lancs. [96

Rover.

ROVER 5-6h.p., never ridden, standard mod £145.—Eveson, Wollescote, Stourbridge. [11

3½h.p. Rover 1914 3-speed Combination, equippe £56.—Shaw, Park St., Wellington, Salop. [X65

1920 T.T. Rover, Philipson pulley, lamps and ho spare belt, equal new; £85.—F. Wildersp Chatteris, Cambs. [96

1918 T.T. Rover, hand controlled Philipson, fu equipped, perfect; £72.—20, Queen St., Hamm smith Broadway. [98

1919 3½h.p. T.T. Rover, Phillipson pulley, ju overhauled, accessories; £77/10.—Evans's G age, Newport, Salop. [X65

ROVER 3½h.p. Combination, 3-speed, new tyre first £48/10 secures.—Mosedale, 30, Canterbu Rd., Kilburn, N.W.6. [97

ROVER 1920 3½h.p., shop-soiled; list price £13 our price £125.—Ratcliffe Bros., 200, Gt. Po land St., W. Mayfair 5042. [04

ROVER 3½h.p., 1920 model, complete with Ro sidecar, unused shop-soiled only; £155.—P Evans, 81-91, John Bright St., Birmingham. [94

ROVER 3½h.p. T.T., 1920, Philipson pulley, Cow horn, brand new, only used 400 miles; £85; i a gift.—Wallis, 23, Hartington Grove, Cambridge. [93

ROVER 3½h.p., 1914, C.B. sidecar, 3-speed clut good tyres, lamps, speedometer, Service belt, all thorough good order; £55.—Joyce, 73, Staines Rd., Sh bury. [94

ROVER Motor Cycles.—Place your order with official agent, the man who rides a Rover; i mediate delivery; hire purchase if desired.—Colla Cook's Garage, Shifnal. [26

IMPERIAL Rover Combination de Luxe, 5-7h J.A.P. engine, twin, 3-speed, chain drive, lam screen and accessories, as new (July, 1920), unc 300 miles; £175.—33, Old Rd. West, Gravesend. [91

MOTOR CYCLES FOR SALE.

Rover.

.D. Rover Comination, 5-6h.p. J.A.P., 3 speeds, clutch, kick-starter, new lamps, horn, new ing screen, guaranteed perfect; exchanges.—ac's, 243, Lower Clapton Rd., N. 'Phone: Dalston [9726

OVER Brand New 6h.p. Twin Combination, 3-speed, chain drive, bulbous back Rover sidecar, age carrier; a bargain that cannot be repeated, 5.—Elce and Co., 15-16, Bishopsgate Av., Cannomile E.C.3 [0068

OVER 3½h.p., T.T., 3-speed, quite new, in stock, only shop-soiled, £125; much below original price; payments, quarter down, 11 instalments.—Lamb's, High St., Walthamstow, 50, High Rd., Wood n, and 387, Euston Rd., N.W. [1019

EW 3½h.p. Rover Motor Cycle, fitted with 3-speed, clutch and kick starter, and with smart coachbuilt ar; £180, or on deferred payments 5% extra; one-ter deposit, balance by 12 monthly instalments.—rods, Ltd., 118, Brompton Rd., London. [9939

Royal Ruby.

17 Royal Ruby 2-stroke; £22.—66, Church St., Edgware Rd., W. [9511

OYAL RUBY 1920 3h.p., spring frame, brand new; £90.—Fowler and Brigden, 130, Euston Rd., .1. [9365

21 Royal Ruby Sports Model, 2¾h.p., 2-speed, kick start; list price 85 gns.—North, Bridgefoot, Peterough. [9393

OYAL RUBY, Villiers 1919, Tan-sad, Klaxon, mechanically perfect; £25.—Welford, St. James's Brighton. [1092

OYAL RUBY 1921 Models.—London Agents: Fowler and Brigden, 130, Euston Rd., N.W.1. eum 4827. [9369

20 Royal Ruby 3h.p., spring frame, ridden 200 miles, new condition; £105.—North, Bridgefoot, erborough. [9392

18 4h.p. Royal Ruby, 3-speed, countershaft, Millford sidecar, fully equipped; £70.—37, Arlington Rd., Surbiton. [9659

OYAL RUBY New 3h.p., spring frame; list price £120, our price £99.—Ratcliffe Bros., 200, Gt. land St., W. Mayfair 5042. [0427

.p. Royal Ruby, spring frame, 2-speed, clutch, and kick starter, equipped with Tan-Sad pillion seat, ps, mechanical horn, etc., very little used, and con-on as new; a bargain, £100; may be obtained on rods deferred payment system.—Harrods, Ltd., 118, mpton Rd., London. [9938

Rudge.

UDGE Multi 3½h.p., in good condition; £50.—70, Baring Rd., Lee, Kent. [9483

15 5-6h.p. Rudge-Multi C.B. Combination, tax paid; £65.—10, Clarendon Rd., W.11. [9179

ATE 1920 Rudge Multi; £90.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [9753

19 Rudge Multi, T.T.; £65.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [9756

UDGE, 3½h.p., clutch model, complete; £35; or exchange.—350, Brixton Rd., S.W. [9148

20 3½h.p. I.O.M. Rudge Multi, list £110/5, unused; £100.—Gray's Garage, Watford. [9867

14 Rudge Clutch Model, fine goer; £36.—Harrison, Abertord Terrace, Stanley, Wakefield. [9564

1h.p. Rudge, 1920, I.O.M., mileage 800, perfect 2 condition; £85.—Blaxland, Oriel, Oxford. [8336

UDGE 1914 3½h.p., excellent condition, solo; £70, or near offer.—Birdwood, 19, Corlton Rd., Ealing. [8420

PECIAL Model T.T. I.O.M. Rudge, only had few months use; £65.—Avery, Littlemore, Oxford. [9884

UDGE Multi T.T. Touring, 1920, brand new; £92. —Fowler and Brigden, 130, Euston Rd., N.W.1. [9366

UDGE 1921 Models.—London Agents: Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [9372

19 Rudge Multi 3½h.p., touring model, good condition, lamps, horn; £80.—Turnill, Little Casterd, Stamford. [9395

1h.p. Rudge, free engine, re-enamelled and over-2 hauled, as new, all accessories; bargain, £37.—M., Arlington Rd., N.W.1. [9228

20 3½h.p. Rudge Multi, only ridden few hundred miles, lighting set and horn, etc.; £100, or near r.—Semne, Chapel Rd., Worthing. [8359

20½ I.O.M. Rudge Multi, tax paid, insured, as new, Binks carburetter, accessories; any test; £80. ower, Castle Bromwich, Birmingham. [9318

20 I.O.M. Rudge, T.T., Miller lamps, horn, etc., guaranteed perfect; £85/10; exchanges.—Homac's, 5, Lower Clapton Rd., N. 'Phone: Dalston 2408. [9721

UDGE 1919 3½h.p. Isle of Man model, full T.T. bars, long exhaust pipe, very fast; £75.—Parker's, ndshawgate, Bolton, and 245, Deansgate, Manchester. [X6508

1h.p. Rudge Multi, touring model, mileage 50, 2 unscratched; £90; lightweight part.—Spink, Brodrick Rd., Wandsworth Common, S.W.17. [9919

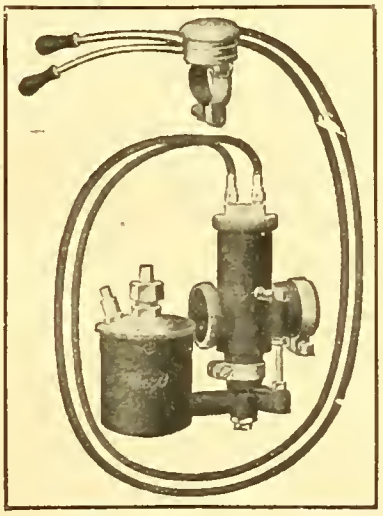
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MOTOR CYCLES FOR SALE.

Rudge.

SEPT., 1920, I.O.M. Rudge Multi, like new mechanically and externally, equipped and tax paid (including sidecar tax); accept £85.—Laver, Unthank, Norwich. [9958

RUDGE 1920 5-6h.p. Big Single Combination, fully equipped, indistinguishable from new; £145.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6509

RUDGE Multi Coachbuilt Combination, 3½h.p., 1912, lamps, insurance, splendid condition, good running order; £60, or near offer.—Sims, 60, Bromar Rd., Camberwell. [9490

1920 (June) 3½h.p. Rudge, I.O.M., small mileage, fully equipped, speedometer, tax paid, condition new; exchange; too fast for owner; £89.—Green, In, Arundel Rd., Brighton. [9813

RUDGE-WHITWORTH, coachbuilt sidecar, 1912, 3½h.p., 2-speed gear, accessories, good mechanical order; £45.—Taylors, Ltd., 52, Sussex Place, S.W.7. Phone: Kensington 7260. [0460

1920 Tourist Trophy Rudge, overlap cam, Brooklands bars, lamps, various spares, spotless condition, fast machine; best offer over £83.—Barratt, Edgmont, Derby Rd., Nottingham. [9421

1920 Rudge, I.O.M. T.T., as new, mileage 3,290, dry cell electric lighting, Klaxon, Bonniksen speedometer, just overhauled, very fast, licensed; £95, or offers.—Catesby, 211, West Princes St., Glasgow. [9492

1920 7-9h.p. Rudge, F.R.S. electric lighting, large Grindlay sidecar, screen, etc., in splendid order; very fast; guaranteed; exchanges; £140.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [9722

1920 5-6h.p. Rudge Multi Combination, like new, done about 500 miles, complete with new lamps, Tan-Sad with back and footrests, luggage grid and motor suit, etc.; £140.—Spufford, Internos, Farnham Common, Bucks. [9202

RUDGE I.O.M. 1920 Models, with and without sidecars; £100; real bargains; terms quarter down, 11 payments.—Lamb's, 50, High Rd., Wood Green, 151, High St., Walthamstow, and 387, Euston Rd., N.W. [1020

1920 (April) T.T. Rudge, specially picked high compressioned engine, expert tuned, mileage 1,500, Klaxon, lamp sets, kneegrips, spare belt, tools, licence paid, mechanical condition and appearance perfect; expert examination invited.—Seen, Parkin's Garage, Kirkby Stephen. [9890

TAX Free, insurance free, delivery free, and the bike's nearly free.—A 1920 3½h.p. I.O.M. model Rudge Multi motor cycle, as new, complete equipment, lamps, discs, etc., new in Sept., mileage 500, tyres unpunctured; a private owner's 'bus that's been looked after; another 7 months insurance, and will deliver within a hundred miles free; note slump price, 85 gns.; owner wants a countershaft Triumph, value not exceeding £95; exchange considered.—Reply, 1, Bartholomew St., Newbury. [9924

Sarolea.

£22/10.—4-5h.p. Sarolea T.T. Twin, splendid condition, guaranteed, overhead inlets, Saxon forks; bargain.—89, East Hill, Wandsworth, S.W.18. [9624

Scott.

SCOTT Squirrell in stock.—Welford, St. James's St., Brighton. [1025

GIBB, Gloucester, can deliver 1921 Scotts from stock. —'Phone; 852. [0445

1914 Scott, new tyres, tax paid, gift; £49.—29a, Birley St., Blackpool. [9976

SCOTT Magdyno Combination in stock.—Welford, St. James's St., Brighton. [1096

IMMEDIATE Delivery 1921 Scott motor cycle and combination, in stock.—Millards, Chesterfield. [4003

SCOTT 3¾h.p. Combination, Scott sidecar, 1915, 2-speed, overhauled; £75.—North, Bridgefoot, Peterborough. [9391

1915 Scott Combination, very little used, in splendid condition; what offers?—Gurney, Clarmont, Burnham-on-Sea [9188

QUICK Sale, semi-T.T. Scott, Bosch, double pole plugs; stamp, full particulars.—Gothic Cottage, Milford, Surrey. [9222

SCOTT, 3¾h.p., 1912, Bosch, Senspray, tyres good, 2-speed, wants overhauling; £32.—Sargeant, High St., Kington, Herefordshire. [9309

1920 Scott, absolutely as new, done very little mileage; £110.—Seen at Enterprise Cycle Co., Queen's Rd., Nuneaton. [6110

SCOTT 1920 Motor Cycle, in very good condition, small mileage; cash offer invited to clear.—Main, 36, Parade, Leamington. [8874

SCOTT 3¾h.p., tax paid, accessories; cost £137 four weeks ago; owner going abroad; accept £115.—Alsford, 43, Palmerston Rd., Boscombe. [9185

1920 Scott Combination, run 125 miles only, Lucas lamp, horn, speedometer, 3in. Palmer; £130.—Clark, 7, Exhibition Rd., South Kensington. [1021

SCOTT Combination, complete with lamps and spares, good tyres, perfect condition; bargain, £54.—31, Luff, Glebe Cottages, Fairfield Rd., Leatherhead. [9819

MOTOR CYCLES FOR SALE.

Scott.

SCOTT, 1919-20 model, semi-T.T. bars, footrests, 3in. tyre, Binks carburetter, in fine condition; offers invited.—D. Smith, c/o *The Motor Cycle*, Coventry. [X6577

JUST Arrived, brand new 1921 Scott and sidecar. Advertiser will sacrifice deposit, viz., £20, as must realise; would separate.—Box 161, c/o *The Motor Cycle*. [X6513

SCOTT, 1920 model, perfect order, £95; 1920 special competition model, £105; 1921 squirrel and sports models in stock, £130.—Marston, 31, Bridge St., Chester. [9596

1919 Scott, Sept., standard, speedometer, electric equipment, Tan-Sad, new rear tyre, licensed, Dunn's motor helmet, gloves; £100.—12, Darley Av., Farnworth, Bolton. [X6473

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [1009

SCOTT 1915 Combination, completely overhauled, re-enamelled, and plated, new tyres, chains, sprockets, etc.; a genuine bargain, £90.—Nylam, 197, London Rd., Croydon. Phone: 2379. [9906

1920 Scott, full equipment of tools, spares, accessories, T.T. and touring bars, Cowey speedometer, just overhauled, perfect internally and externally; £105; part exchange entertained.—Batten, Killin, Perthshire. [X6443

SPORTING Scott, £45 just spent on completely overhauling, repainting red and replating as new, electric lighting, Bosch, long exhaust, Palmer cords; £89, or offer; must sell, going abroad; after 7 p.m.—15, Copley Park, Streatham. [X6520

SCOTT 1920, T.T. type, hardly ridden, enamel, plating like new, Lucas lamps, Cowey mechanical horn, spare links, plug, etc., tyres unscratched, machine perfect, better than new; price £115.—Moore, Ivy House, Weaverham, Cheshire. [X6567

1920 Scott Combination, electric lighting, Cowey speedometer, Lucas horn, Festing screen, mileage 1,000, tax paid, cost £209 last Aug.; price £160; absolutely as new, guaranteed; exchanges.—Scott agents, Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [9725

Singer.

2¾h.p. Singer, clutch model, 1913, good tyres, 1920 Amac; £25, or offers; call, trial, or write.—Goodbody, Benson, Oxon. [9606

3½h.p. Singer, B. and B., Bosch, lamps and generator, horn, brakes, good condition; price £30.—Worsley, Catherine, Strangeways, Manchester. [X6517

1914 3½h.p. Singer, 2-speed clutch, countershaft, good condition; £30.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [1050

SINGER 4½h.p. Combination, 2-speed countershaft, clutch, 1919 C.B. sidecar, Bosch, B. and B.; £60, or near offer.—H.B., 13, Barnes Court Rd., W.14. [9571

1914 Singer 3½h.p., weight only 170 lbs., 100 m.p.g., topping condition throughout; approval anywhere; 26 gns. only.—15, The Mansions, Mill Lane, West Hampstead. [9769

1916 10h.p. Singer 2-seater, dickey back, Rotax dynamo lighting, spare wheel, like new, better than 1920 model; exchange Model H. Matchless combination and cash, or sell £325.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [9637

Sparkbrook.

1920 2½h.p. Sparkbrook-Villiers 2-stroke, 2-speed, unused; list £75, accept £65.—Gray's Garage, Watford [9868

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—Sparkbrook 2½h.p., 1920, excellent condition: £42/10. [1077

1920 2½h.p. Sparkbrook, 2-speed, accessories, leg shields, as new; £60.—Evans's Garage, Newport, Salop. [X6566

NEW 2½h.p. Sparkbrook, Villiers engine, single speed £69, 2-speed £75, or on Harrods unique easy payment system, 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [9940

FOR Sale, 2¾h.p. Sparkbrook, 2-stroke, late 1920 model, complete with lamps and horn and transferable insurance policy to Sept. 1921, excellent running order, covered 700 miles only; offers and inspection.—Banyard, c/o Shanks, Contractor, Chatteris, Cambs. [9150

Sun.

1917 Sun-Villiers, 2-speed, new rings, bearings, tyres, good condition, lamps; £33; consider push bike exchange.—A. Harrison, Hayle, Cornwall. [9852

SUN-VILLIERS 2¾h.p., believed 1916, just overhauled, new tyres, fully licensed, take two; £35, lowest.—R. Green, Elmswell, Suffolk. [9129

SUN-VILLIERS 2-stroke, Thomson-Bennett mag., Amac carburetter, lamps, horn, spare belt, in good running order; £26.—Wells, 90, Edward St., Nuneaton, Warwickshire [9880

NEW 2½h.p. Sun-Vitesse, 2-stroke engine, single speed £52/10, ditto with clutch and kick starter, £70; lady's model ditto, £73; or on Harrods' unique easy payment system 4% extra.—Harrods, Ltd., 118 Brompton Rd., London. [9942



MOTOR CYCLES FOR SALE.

Sunbeam

NEW 1920 Sunbeam 3½h.p. Solo; £155/3; in stock.—Randall, Andover. [03

WILLIAMS' Garage, Cheltenham, can give immediate delivery of any model Sunbeam. [X64

SUNBEAM (new) 3½h.p., 3-speed, latest; 135 gns. cash.—Hallam, Rosedale, Dove Holes, Stockport. [X65

1921 Sunbeam, delivery this month; £10 under list price.—Goodman, Ellesmere, Northampton. [98

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. Sunbeam, new 1921 model, just delivered, £155/8. [10

NEW 1921 3½h.p. Sunbeam; good solo taken in part payment; £155/8.—Bounds, 223, High Rd., Kilburn, N.W. [99

SUNBEAM 1920 3½h.p., not done 100 miles, fully equipped, £4 licence paid; £150.—23, Moat Rd., Langley, Birmingham. [X65

£85.—Sunbeam 3½h.p., late 1915, stored during war; Lucas accessories, new tyres; snip.—Wheatley, 3, Royland Rd., Loughborough. [X66

SUNBEAM Brand New 3½h.p., solo model, complete with Lucas lamps and horn; £157/10.—The Walsall Garage, Walsall. Tel.: 444. [40

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [03

3½h.p. Sunbeam, sporting model, delivered Oct., 1920, Bonnikšen, Lucas lamps, Cowey horn, leg shields, all tools (unused), in perfect tune; £155.—See below.

3½h.p. Combination, delivered April, 1920, Lucas lamps and horn, tools, etc., unused since April; mileage 400-500; £170.—Chirney's Garage, Harpenden. [10

SUNBEAM 1920 3½h.p. Model, fully equipped in distinguishale from new; £150.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X65

SUNBEAM 3½h.p., 1920, for sale; £125; or exchange 4h.p. Douglas combination, or Triumph combination.—Write, Harling, 8, Peartree St., Waterloo Rd., S.E. [105

SUNBEAM 3½h.p. (Aug., 1920), tyres perfect, speedometer, horn, tax aid, excellent mechanical condition throughout; £160.—The Gables, Foxgrove Rd., Beckenham. [950

1920 3½h.p. Sunbeam Combination, electric lighting, speedometer, horn, etc., mileage negligible, cost new £225, accept £185.—Ratcliffe Bros., 200, G Portland St., W. Mayfair 5042. [043

1915 6h.p. Sunbeam Combination, electric lighting, Easting wind screen, Cowey speedometer, excellent condition, mechanically perfect; nearest offer £185.—H. W. Hadfield, Chinley, nr. Stockport. [981

1920 3½h.p. Sporting Sunbeam, hardly used, cost £160/10 in August, new Binks, leg-shields, interchangeable wheels, semi-T.T. bars, as brand new, unscratched; sacrifice £140.—14, Estcourt St., Devizes. [931

SUNBEAM.—We are Wolverhampton agents. Spare parts in stock. Repairs and overhauls. Estimates upon request for re-enamelling and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel. 1160. [345

1920 Late 8h.p. Sunbeam and Sidecar, leaf spring forks, Magdyno lighting, speedometer, spare, exceptional luggage accommodation, perfect condition, tax paid; £245.—Bowers, Sandy Lane, Charlton King, Cheltenham. [917

8h.p. Sunbeam Combination, 1919, spare wheel (new Dunlop), 3 Lucas lamps, 2 spare tubes and other accessories; owner buying car; £180, tax free, or nearest offer.—Apply (letter), Read, Wyrelinghoime, Wilbury, Rd., Letchworth, Herts. [913

SUNBEAM 3½h.p., 3-speed, K.S., not W.D. model, excellent order, F.R.S. head lamp, all accessories, £90, or with Sunbeam black and gold sidecar, hood and screen, £105.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [991

SUNBEAM Combination, 3½h.p., 1920, complete Lucas accessories, guaranteed, £165; brand new 3½h.p. T.T. Sunbeam, 1920, £145; touring model 3½h.p., brand new, Lucas accessories, £149.—Evesons, Wollescote, Stourbridge. [110

1920 Sunbeam, 3½h.p., fitted Grindlay sidecar to match, Lucas lamps, horn, Cameo screen, many spares, tax paid, guaranteed perfect; £165; exchanges.—Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [973

1920 Demonstration 3½h.p. Sunbeam, speedometer, Sunbeam mudshields, knee grips, largest Lucas lamp, horn, rear lamp, separate generator, spare tyre, valve, tools, beautiful condition; £159/10.—Darlington, Brocton, Stafford. [X655

1920 8h.p. Sunbeam Combination, fully equipped with spare wheel, luggage carrier, Lucas dynamo lighting, electric and mechanical horns, speedometer, etc., small mileage; cost over £290 last Aug.; accept £225 for quick sale.—Philpot, Motors, Canterbury. [968

SPECIAL Sporting 3½h.p. Sunbeam, July, 1920, lightened piston, high compression, heat treated cyl., long exhaust pipe, develops 12h.p. on bench and exceeds 60 m.p.h. on sidecar gears, medallist in hill-climb, has only done 1,450 miles, fitted with Lucas lamps, horn, speedometer, etc., licence paid; £165.—Partridge, 33, Oaklands Rd., Wolverhampton. [925

MOTOR CYCLES FOR SALE.

T.D.C.

19 T.D.C. 2-stroke, fully equipped, as new; £30.—29, St. Leonard's St., Bromley-by-Bow. t 4708. [9639

NE New T.D.C. De Luxe Motor Cycle, fitted with Albion 2-speed gear, 26in. wheels, Dunlop tyres, saddle, aluminium footboards, C.A.V. mag., ap, 48 gns.; one ditto, single-speed, 24in. wheels, ncher De Luxe non-skid tyres, aluminium foot-s, C.A.V. mag., bargain, £44; all parts by lead-makers.—Hockley Motor Co., 38a, Cecil St., Bir-gham. [9494

Triumph.

ULIANS, of Reading, have 1921 Triumph in stock. [0487

RIUMPH, 1921 Models.—George Smith, Clapham Junction, S.W. [9424

EW 1921 Triumph S.D. Solo; £140; in stock.—Randall, Andover. [0365

EW 1921 Triumph S.D. Combination; £195; in stock.—Randall, Andover. [0364

921 Triumph Junior, in stock, at makers' list price. —Rose's Garage, Uxbridge. [9863

35.—3½h.p. Triumph, 1911, fast, tax paid.—20, Minto Cottages, Cardenden, Fife. [9892

RIUMPH C.B. Combination; £50. 59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [9752

RIUMPH Junior, late 1919, perfect condition; £52.—Woodruff, 17, Maison Dieu Rd., Dover. [9133

RIUMPH 1918 4h.p., overhauled, excellent condition; £89.—Levett, 93, High St., Uckfield, Sussex. [9251

RIUMPH, Type D, late 1920, condition perfect; offers—Rudd, Stapenhill Rd., Burton-on-Trent. [9898

RIUMPH (new), latest all-chain, 3-speed; 120 gns. cash.—Hallam, Rosedale, Dove Holes, Stockport. [X6594

RIUMPH, 4h.p., countershaft, renovated 1919, all accessories, T.T. bars, 4, Green St., Cambridge. [9885

½h.p. Triumph, clutch model, tax paid, ride away; £33.—Froggatt, 2, John St., Scunthorpe, Lincs. [9820

RIUMPH Combination, all accessories, wind screen, etc.; £90.—Grimes, 18, Bruton Place, Bond St., [9983

RIUMPH, 1915, perfect condition, as new, all accessories; £60.—Garaged at 537, Holloway Rd., don, N. [9127

RIUMPH 4h.p., countershaft 3-speed, brand new; 110 gns., cash.—Hallam, Rosedale, Dove Holes, kport. [X6595

T. Triumph, 3-speed countershaft, K.S., won several gold medals; sacrifice £69.—11, Leicester St., thport. [9273

921 Chain-driven Triumph, £140; Model H., 1921, £127 10; Junior Triumph, £75.—Cross, Agent, herham. [X6548

ATE 1919 Countershaft Triumph, every accessory, perfect condition; £100.—White Barber, 4, Pulliser rt, W.14. [9211

RIUMPH 1920 Combination, brand new; £160. —Fowler and Brigden, 130, Euston Rd., N.W.1. seum 4827. [9364

RIUMPH, 1919, guaranteed, 4h.p., 3-speed; £85; all 1921 models in stock.—Marston, 31, Bridge Chester. [9595

½h.p. Triumph, overhauled, renovated, new lamps, 2 tyres, etc.; bargain, £40.—10, Acton Lane, Sud-y, Suffolk. [9431

½h.p. Triumph Combination, 2-speed, F.E., Binks 2 sporting C.B. sidecar; £50.—Shailston, Kings-, Woking. [9566

RIUMPHS.—A fine selection of Triumphs in stock, fully guaranteed; inspection invited.—Ross, 86, h Rd., Lee. [5671

RIUMPH 4h.p., 1921, chain drive, only ridden 100 miles, as new; £130.—Jones, 23, Malden Rd., Ken-ton, Liverpool. [9230

914 Triumph 4h.p., thoroughly overhauled, new piston, cylinder; Midlands; £50.—Box 1,935, c/o *Motor Cycle.* [9463

RIUMPH 3½h.p., Grado Gear, kick start, all accessories, little used; cheap.—W., 47, Brondes-y Villas, Kilburn. [9877

RIUMPH, N.S.U., about 1913, condition and tyres very good, accessories; £37, or near offer.—58, ale Rd., Streatham. [9826

921 4h.p. Triumph, countershaft model, in stock for immediate delivery.—J. Smith and Co., 94, Hampstead Rd., N.W.1. [0354

918 Triumph, countershaft, excellent condition; £65.—Edwards, 50, Harrington Rd., South Ken-ton. 'Phone: Kens. 3709. [1051

RIUMPH 4h.p. Combination, late 1914, Canoelet sidecar, splendid engine; offers; £65-£70.—Griffiths, k, Llanllechid, Oswestry. [9310

RIUMPH 3½h.p. Clutch Model, late spring forks, good running order; £26.—Syd Pearson, Gate se, Cheylesmore, Coventry. [X6635

RIUMPH 1918, C.B. sidecar, electric lighting, trip speedometer; genuine bargain, £95; tax paid.—8, lles Rd., Highgate Archway. [9768

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,,	Beldam Extra Heavy	39 6	64/-
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,,	Clincher de luxe Ex. Hy....	37 6	62/6
,,	Hutchinson T.T.	37 6	59/-
,,	S. Maulton Extra Heavy...	34 -	59/-
,,	Englebert Wired-on Rib...	30 -	60/-
,,	Clincher de Luxe Ex. Hy..	39 -	68/6
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TRIUMPH Combination, perfectly reliable, take 3 anywhere, all extras; £65, honestly worth £85.—Miss E. Holland, Eastry, Kent. [9448

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TRIUMPH (Oct., 1919) Model H Combination, all accessories, tax paid 1921, excellent condition; £105.—Dalebrook, Burton-on-Trent. [9278

TRIUMPH Gloria Combination, 1919, perfect condition, only 1,800 miles; £125, complete.—Spencer, 34, Sneath Av., Golder's Green, N.W. [9506

TRIUMPH, Baby, 1920 (Oct.), only run 20 miles, in splendid condition; £70, or nearest.—Rev. H. S. Barber, Denstone College, Rocester, Staffs. [9258

1919 Triumph, countershaft, engine No. 61763, new lamps, etc., date guaranteed; £87.—2, Barrossa Terrace, Church St., Chelsea, London. [9560

TRIUMPH 3½h.p., with clutch, guaranteed perfect mechanical condition, enamel, etc., unscratched; £28.—Wallis, 23, Hartington Grove, Cambridge. [9398

1914 Triumph 3½h.p., 3-speed hub, clutch, lamps, horn, tyres almost new, mechanically perfect; £57/10.—Arthur, Cecil Villa, Llandrindod Wells. [9836

1920 4h.p. Triumph and Gloria, Sturmey-Archer 3-speed gear box, lamps, and all accessories, spleadid condition; £100.—Box 1,932, c/o *The Motor Cycle.* (D) [9460

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1921 Triumph Junior, all models, now arriving; also every leading make of motor cycle.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [1029

1918 Countershaft Triumph, C.B. sidecar, Easting, new tyres, just overhauled, condition perfect, spares; £100, or offer.—Smith, 242, High St., Uckfield [9687

TRIUMPH, about 1918, countershaft, aluminium discs, new Dunlops, large lamp set, horn, etc.; must realise; £74 10.—365, King St., Hammersmith, W.6. [9711

1920 4h.p. Triumph, Gloria sidecar, hood, screen, Tan-Sad, Cowey horn, all lamps, spares, tools, splendid condition; £160.—134, Commercial St., Shoreditch. [X5995

1921 Triumph, renovated by makers, 3-speed, new Montgomery sidecar, fully guaranteed; cash wanted; snip, £125.—353, King St., Hammersmith, W.6. [9712

1917 Triumph, countershaft, Lucas lighting set, complete, new Dunlop extra heavy covers, A.K. knee-grips, condition as new; £85.—Cain, 38, Briton St., Leicester. [9164

3½h.p. Triumph, adjustable pulley, aluminium footboards, Bosch, Lucas lighting, good running order; £30.—Angus, Sunnyside, Kensington Rd., Chorlton-cum-Hardy, Manchester. [9319

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TRIUMPH 1920 4h.p. Combination, Lucas accessories, Cowey, hood and screen, indistinguishable from new; £170.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6504

TRIUMPH, 4h.p., countershaft, 1919, all accessories, all as new; £90; exchange for late Douglas and cash.—Ayers, Old Barracks, Kensington Palace, W.8. 'Phone: Park 86. [9533

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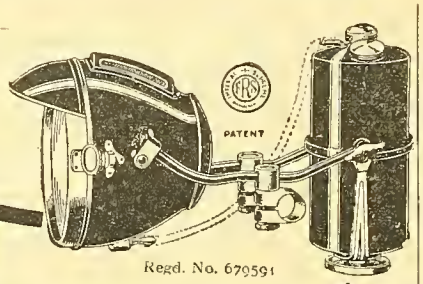
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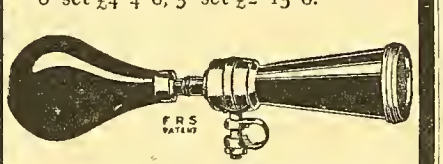
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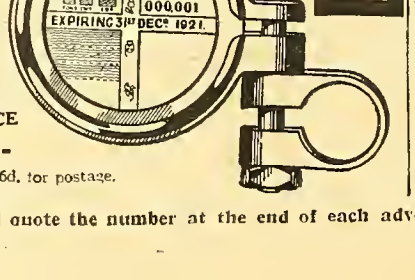
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JONES' Garage.—1914 Indian 7-9h.p., 2-speed, overhauled, as new; £65.

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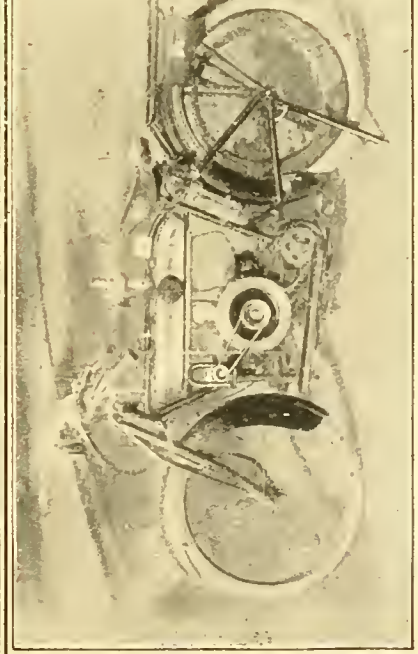
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SIDECAR, coachbuilt, £10; another, £22; sidecar chassie. £4/10; N.S.U. gear, £6/10; Cameo screen, £2/10, as new; lamp sets, £1, £1/10, £2/10; speedometer, £1/10.—57, Kenbury St., Camberwell, London. [9776

SIDECARS to suit 4h.p. Douglas, with coachbuilt sidecar body, coverall apron, heavy 26×2¾ Dunlop rubber-studded cover, new; carriage paid, £28; worth £40.—The Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [9496

SIDECAR.—Have a Hopley folding sidecar. Saves garage. Attached to motor, will go through passage 27in. Tandem and single bodies fitted. Tested 7 years on motors up to 9h.p.—Hopley, Upper Highgate St., Birmingham. [0152

CANOELET, MM4's, touring models, bulbous backs, 28×3in. wheels with heavy Dunlop tyres, coverall aprons, new, £23 each: special connections for Harley-Davidsons.—Holliday Bros., 20, Queen St., Hammersmith Broadway, W.6. [9855

SIDECAR Covers and Aprons. Send old cover or paper pattern. We will send patterns and price by return. Douglas covers always in stock, with fittings £1. Hoods re-covered from £1.—Service Manufacturing Co. 67, Dalberg Rd., Brixton, S.W. [1087

PARAGON (patent) Folding Sidecar saves storage, has 7 years to its credit, and has proved itself absolutely reliable. Fits any make of motor cycle, and when folded combination will pass through a 30in. doorway. Call and see it demonstrated.—Wincycle Co., Ltd., 236, High Holborn, W.C.1. [0388

RIDEEZI Sidecars.—Special offer of brand new chassis and bodies, various models, 50 only left, final reductions, fittings accurately machined, guaranteed, suit any make; these are not clearance, but new goods; perfect; cannot repeat these special prices; write for list.—Sidecar Co., 25, Upper Clapton Rd., E.5. 'Phone: Dalston 3110. [9458

RUNABOUTS AND CYCLE CARS.

CARDEN, 5-6h.p. J.A.P. twin, very fast; 50 gns. —77, Acre Lane, S.W.2. [9682

A.V. Monocar, 1919,; £75, bargain.—Ratcliffe Bros., 200, Gt. Portland St., W. [9905

CALTHORPE 1921 Light Cars; exchanges wanted.—Motories, 25, Horton St., Halifax. [9474

MORGAN, new 1921 models; immediate delivery.—Olarke and Co., Queen St., Louth. [9693

G.N., list price; extended payments.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9662

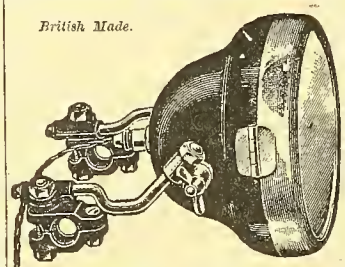
1919 Grand Prix Morgan, £195; exchange.—Miss Treasure, 8, Maybell Av., Blackpool. [9981

RUNABOUT, 2-seater, cheap; wants engine and mag.—Wickes, East Lodge, Richiugs Park, Colnbrook. [9342

"VOLEX" DRY BATTERY LIGHTING OUTFITS

Motor Cycle and Sidecar

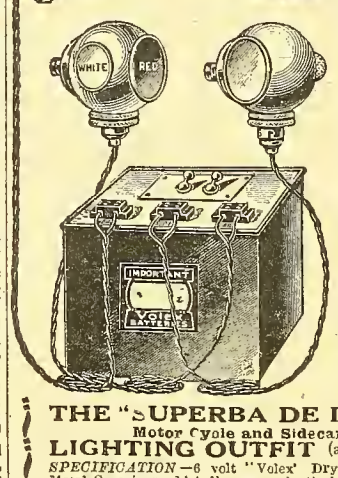
British Made.



THESE SETS have been sold in immense quantities during recent years and have achieved an unparalleled success for this service. In consequence of their dependency over Accumulators and Dynamo Outfits the demand is constantly increasing

Dynamo Lighting Sets with accumulator require careful attention, and owing to complications have a tendency to go out of order. Accumulators if not regularly charged, sulphate and become useless

The "Volex" Dry Batteries require no attention, and with ordinary care will last from 14 to 18 months without renewal and new Batteries can be fitted in a few moments at but little cost.



THE "SUPERBA DE LUXE" LIGHTING OUTFIT (as illustrated)

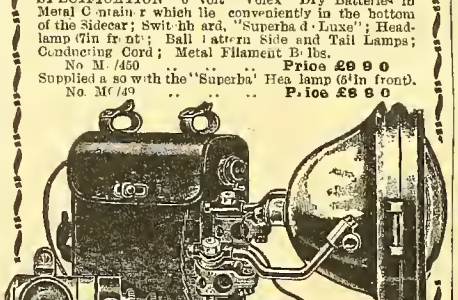
Motor Cycle and Sidecar

SPECIFICATION—6 volt "Volex" Dry Batteries in Metal Container which lie conveniently in the bottom of the Sidecar; Switchboard, "Superba de Luxe"; Headlamp (7in front); Ball Pattern Side and Tail Lamps; Connecting Cord; Metal Filament Bulbs.

No. M./450 .. .. .. **Price £9 9 0**

Supplied also with the "Superba" Head lamp (6½in front).

No. MC/49 .. .. .. **Price £8 8 0**



THE "SUPERBA" LIGHTING OUTFIT,

Motor Cycle Head and Rear

comprising "Superba" (6½in front) Motor Cycle Headlamp, "Jewel" illuminated Rear Lamp, Set of Bulbs, Conducting Wires, Switch, and "Volex" 6 volt "Aero" Dry Battery in Strong Leather Satchel Container.

No. M10/10 .. .. .. **Price £5 1 0**

Motor Cycle Head Set as above without Rearlight.

No. M10/7. .. .. .. **Price £4 15 0**

"VOLEX" DRY BATTERIES

British made



The most powerful Dry Batteries on the market. Unsurpassed for Ignition, Lighting Operating Electric Horns, etc.

Type	Volts	Size	Price
Flat	4	6½×8×3	10 6
"	6	6½×8×3	15 0
Aero	4	6½×5×2½	15 0
"	6	6½×6½×2½	21 0
Emperal	4	6½×7½×2½	25 0
"	6	6½×6½×5	30 0

Full particulars of the "Volex" Dry Batteries on request.

Sectional List M292 on request

Ward & Goldstone SALFORD MANCHESTER Ltd

RUNABOUTS AND CYCLE CARS.

MORGAN 1921 de Luxe Model, 10h.p., air-cooled M.A.G. engine; £220; delivery this month. Below.

MORGAN 1921 Models.—To ensure delivery when required, order now from the leading London agents; we are official contracting agents, all spares in stock.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0077

COVENTRY Premier 1921 3-wheeler; 275 gns. cash or exchange.—Motories, 25, Horton St., Halifax [9477

1920 Morgan de Luxe, M.A.G. engine, 10h.p., 500 miles only, as new; £185.—Welford, St. James St., Brighton. [1092

CASTLE Three in stock for immediate delivery, with dynamo lighting; £295.—Mason's Garage, Letchworth, Herts. [9811

G.N. Cycle Cars; latest models always in stock.—Best deliveries from Drake and Mount, Ltd., Motor Agents, Bracknell. [3937

GIBBONS Cycle Car (almost finished), dynamo lighting; £65, or offer; must sell.—Young, 121, St. Albans Av., Chiswick. [9287

MORGAN New 1920 de Luxe, W.C., complete with hood, screen, lamps, horn, etc.; £225.—Gibb, Gloucester. 'Phone: 852. [0447

G.N. Cycle Cars, latest models, in stock, £271/17/6 dynamo lighting model, £241/17/6.—Taylor's Garage, Wednesbury. [5827

MORGAN de Luxe, late 1916, Precision engine, in perfect order, lamps, hood, screen; £165.—Hearn, Liverpool Rd., Burscough. [9107

ROVER Light Car, 1921 model, 8h.p., in stock for immediate delivery; £300.—Godfrey's, Ltd., 208, Gt. Portland St., London, W.1. [0357

MORGAN 1915, a.c., completely renovated and licensed; £140 cash, or lightweight taken part payment.—Dale, Little Haven, Pemb. [9887

CYCLE Car, described "The Motor Cycle," Jan. 20th; offers.—Phone: East 662.—Burney, London Bottle Co., Pacific Rd., Canning Town. [9837

MORGAN Grand Prix, M.A.G., lamps and full equipment; list price; extended payments.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9100

MORGAN De Luxe, 1918-19, M.A.G., air-cooled, full equipment, splendid condition; £165.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9664

MORGAN de Luxe, 1918-19, M.A.G., air-cooled, full equipment, splendid condition; £165.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9101

MORGAN 1920 Model de Luxe, hardly been used better than new, electric light, disc wheels; £215. —'Phone: 1873.—Yellow Garage, Snrhiton. [9177

MORGAN Grand Prix, M.A.G., lamps, and full equipment; list price; extended payments.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9663

MORGAN 1915, complete, a.c. J.A.P. engine, in excellent condition, tyres good; lowest £114.—Apply, F. Southall, Selborne Rd., Worcester. [8287

ARDEN 2-seater, 1914-15, 8h.p. J.A.P., 3 speeds reverse, differential, hood, screen; £100.—Simpson, 77, Netherwood Rd., Shepherd's Bush, W.14. [9437

TAMPLIN Tandem, 1920, accessories, hood, makers specification, condition guaranteed; £135, or offer trial by appointment.—72, Scotts' Lane, Bromley, Kent [9667

SEPTEMBER (1919) A.V. Monocar, in splendid condition, winner of gold medal in hill-climb, good lamp set; £85, offers.—Clark, Brook House, Basingstoke, Hants. [9654

G.N., Morgan, and Premier super runabouts for immediate or future delivery; extended payments exchanges.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9098

G.N. 1921 Models in Stock; standard, touring and Legere; extended terms can be arranged if desired. —Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0077

BUCKINGHAM, water-cooled, lamps, hood, wind screen, discs; £118; exchange motor cycle, Norton preferred; adjustment.—Olton Hall, Solihull, Warwickshire. [9546

G.N., Morgan, and Premier super runaboute for immediate or future delivery; extended payments exchanges.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9661

G.N.—Immediate delivery of latest models, with or without dynamo lighting, from the main Kent agents, The Rochester Auto Supply Co., Corporation St., Rochester. [0466

COVENTRY Premier Runabout, 3 speeds and reverse, dynamo lighting; 275 gns.—Special agents: Ratcliffe Bros., 200, Gt. Portland St., W.1. 'Phone: Mayfair 5042. [0385

TAMPLIN Tandem, perfect, mileage under 800 electric lights, will deliver by road, radius 100; £140; tax paid; exchanges entertained.—57, Gt. George St., Liverpool. 'Phone: 1092 Royal. [8770

MORGAN de Luxe, 1920, A.C. J.A.P., new condition throughout, fully equipped, disc wheels; insurance; £210; allow £50 for Douglas or other solo.—Underwood, 20, Regent St., Wrexham. [9383

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

EDITORIAL OFFICES: Hertford St., Coventry.
Telegrams: "Motorcycle, Coventry."
Telephone: 10, Coventry (5 lines).

ADVERTISING AND PUBLISHING OFFICES: 20, Tudor St., London, E.C.4.
Telegrams: "Cyclist, Fleet, London."
Telephone: 2848 City (13 lines).

Northern Offices: 199, Deansgate, Manchester.
Telegrams: "Iliffe, Manchester."
Telephone: 8970 and 8971 City.

Midland Branch Offices: Guildhall Buildings, Navigation Street, Birmingham.
Telegrams: "Autopress, Birmingham."
Telephone: 2970 and 2971 Midland.

Subscription Rates: Home, 23s. 10d.; Canada, 23s. 10d.; other countries abroad, 28s. 2d. per annum.

When will Prices Fall?

IT is plainly apparent that a considerable section of the buying public are withholding orders till prices fall. The question uppermost in their minds is, when will this longed for event take place? To this same question we have given it as our opinion that the fall so keenly awaited is actually being delayed by the withholding of orders.

Elsewhere in this issue, we publish some notes on the trade outlook from the pen of a writer well acquainted with the manufacturer's point of view and the special difficulties with which he is having to contend at the moment. The statement forms interesting reading at this juncture, and bears out the editorial remarks in our issue of January 27th.

The greatest difficulty lies in the fact that on account of the enormous demand for motor cycles during the early part of 1920, manufacturers were compelled to purchase stocks of material at about "300% over pre-war prices." Some of that stock still exists, and until this material has been absorbed, there would appear to be only two alternatives: (1) to lower the price by providing second-class equipment; or (2) to cut losses and liquidate the stock by selling at the best prices obtainable. The first of these alternatives is not likely to appeal to the general public, nor is it calculated to improve or sustain the excellent reputation of British goods abroad. The second alternative is entirely out of the question so far as a large number of firms are concerned, since their present financial status would not enable them to withstand the loss. The matter is further complicated by the fact that many of our overseas markets are at present closed to us, and consequently, since the rate of production is reduced, prices tend to remain high.

Thus, it will be realised that a reduction in the market price of certain materials and equipment cannot have any immediate effect upon prices of the finished article, since the crux of the matter is the absorption of existing stocks.

The Weight Question.

ALTHOUGH little has been definitely settled regarding the regulations for the Six Days Trials, there appears to be signs that at last weight will be a deciding factor. For long we have urged that encouragement should be given to the light machine, and we have frequently drawn attention to the fact that, while trials organisers have insisted upon minimum weights as a factor of safety, maximum weight has been more or less ignored.

Now that the taxation schedule automatically divides solo motor cycles into two classes, *i.e.*, those not exceeding and those exceeding 200 lb. in weight unladen, and as one class is subject to double the taxation of the other, it behoves every manufacturer to consider weight reduction seriously.

There are several suggestions appertaining to the regulations of this year's Six Days Trials which revolve around the 200 lb. line of demarcation. In the preliminary regulations it was proposed that all machines with engines exceeding 350 c.c. should propel sidecars. We did not agree with this, and we were not surprised to know that it had been unanimously opposed by the Advisory Committee to the A.C.U. Competitions Committee, and as the trade is represented on the former, the suggestions of the one and the recommendations of the other may almost be regarded as negotiations to arrive at regulations which will be satisfactory both to the A.C.U. and the trade. The A.C.U. evidently desired that all machines over 350 c.c. should propel sidecars: the alternative suggestion is that special team prizes be offered for solo machines of under 350 c.c., under 500 c.c., and for two classes of sidecars. As an outcome of these negotiations it may be agreed that, instead of 350 c.c. being the deciding factor as to what is and what is not a solo machine, a 200 lb. limit be placed on the solo machines which may be of any engine capacity. Such a regulation undoubtedly would encourage a more serious consideration of this important question.

An Index to the advertisements in this issue will be found on the page facing the back cover.



OCCASIONAL COMMENTS

BY IXION

How Many Tubes?

VARIOUS Olympian critics—jaundiced, doubtless, by their financial interests in sidecar or cycle car factories—opined that the Scott Sociable comprised more tubes than any chassis ever offered to the public, and compared it to the jousts set for a game of spillikins. In actual fact many twin-cylinder sidecar outfits are constructed from more tubes than the Scott Sociable. A well-known single-cylinder outfit comprises, I believe, some three dozen tubes, divided by differences of gauge, length, and shape into *twenty-six different types*. A Scott Sociable chassis is built up of forty-three tubes, divided into *no more than four* different types, even if we count the steering column as a "type." In other words, this chassis is, comparatively speaking, an excellent production job. But what a comfort its jagged triangles would have been to the lighthouse man in Kipling's yarn, who went mad because all the currents in the Straits ran the same way!

Designer Forward, Please!

THE above paragraph reminds me of a recent visit to a baby two-stroke factory (read the last three words either way, as you prefer). The production expert had just got down to counting the number of bits which assembled into one complete machine. He found they totted up to 563. "Not so dusty," he remarked. "Now let's see how many bits go to each component, and perhaps we can pare a few off." When the factory statistician reported that seventy-one of the 563 bits were accounted for by the brakes, the air was soon full of steel filings, as the P.E. did his war-dance. "What the megohm is the use of concentrating on an engine with only one and a half moving parts if your vermilion brake . . . ." etc., etc. The drawing office is now *very* busy.

Weight and Handiness.

MR. D. S. Heather has routed me horse, foot, and artillery on the question of the weights of the various machines which I rode in 1920. I put none of these machines on the scales, and, in my review of their several performances, I implied that the 4¼ h.p. B.S.A. was the heaviest of the bunch, and perceptibly weightier than the Norton, Scott, and A.B.C., whereas in the Six Days the lightest B.S.A. and Scott were 7 lb. lighter than the lightest Norton and A.B.C. These hard facts are clean contrary to my personal impressions; for in the absence of a weighbridge I should have bet heavy money that the Scott was easily the lightest of the quartette, with the Norton second, and the B.S.A. bad fourth, close behind the A.B.C.'s bad third. This contrast raises an interesting point. It may be that my personal impressions are hopelessly at sea, my memory unreliable, my judgment influenced by little accidents of difficult starting, stupid attempts to push into garage against a slope, etc., etc. Or, contrariwise, as "Tweedledum" hath it, it may be that actual weight on the scales is a minor matter compared with certain obscure factors which make for handiness or the want of handiness. For example, a machine with a heavy tail will feel less handy than a machine which has its weight evenly distributed between the two wheels, when it comes to lifting the 'bus on to the stand; and stand design will again affect these impressions. Again, a machine in which the relative positions of the saddle and handlebar do not quite fit the rider's arm reach may seem less handy than a heavier machine which fits his reach, and so on. I am naturally unwilling to admit that my impressions are groundless, while I gracefully bow to the B.S.A. and ask its pardon for considering it heavier than it is.

Yet Another Exhaust Valve!

STAINLESS steel valves are proving highly satisfactory in some engines. In others it is found that this very hard steel may develop too much of a "Mary Ann" punch for valve seats cast in certain grades of cylinder iron. So one firm of engine makers are experimenting with cast iron valve heads and steel valve stems. Readers will remember that such a composite valve was at one period used in the Triumph engine. In that case, unless memory betrays me, the valve head was screwed on to a threaded valve stem. The valve to which I am now referring has its head cast on to a ribbed valve stem, the temperature being such that the two metals are practically fused into each other.

Gradient Meters.

IN frankly stating that the Tapley gradometer is not proof against the effects of acceleration and retardation I cast no slur upon it; I do not think it possible to design a gradometer which shall be "dead beat" under all conditions, and the Tapley is quite astoundingly steady when the machine is driven at a uniform speed, even over bad surfaces. It is separated in this respect by a perfect chasm from the arched spirit level type of gradometer, in which the bubble is never still; and those who by experience of the latter type have come to despair of the gradometer for motor cycling purposes should make a point of testing the special motor cycling model which Mr. Tapley has in preparation. I think they will like it.

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

How it is Done.

I RECENTLY commented on the fact that full electric equipment is only a £3 extra on the Harley-Davidson, whereas it is often a £20 extra on British 'buses. The H.D. advertisement manager at Milwaukee informs me that since April, 1920, the entire ignition and generator unit has been manufactured in the Harley-Davidson works, even the armatures being wound in their own works. It is, of course, doubtful whether our comparatively small outputs would permit of a similar policy being adopted over here.

A Very Hot Spot.

WHO was the merchant who heard that you could increase the speed of any baby two-stroke 10 m.p.h. by the mere adoption of an aluminium piston? Is it true that when he verified the allegation on Brooklands he melted a neat little crater right through the centre of the piston crown? In the sequel, did he fit a more thick-headed piston and beat 60 m.p.h.?

Be the above true or untrue, the baby two-stroke seems to be on the boom. I already hear of baby two-strokes which *never* dry up, which *never* jam their piston rings in the grooves, and which *never* develop two-stroke rattle.

There are also yarns of several interesting new engines in this class—to particularise, one which has exhaust ports approximating to an arc of 360°, and another (with a water-cooled head) to sell in 1922 with a guarantee of at least 55 m.p.h.

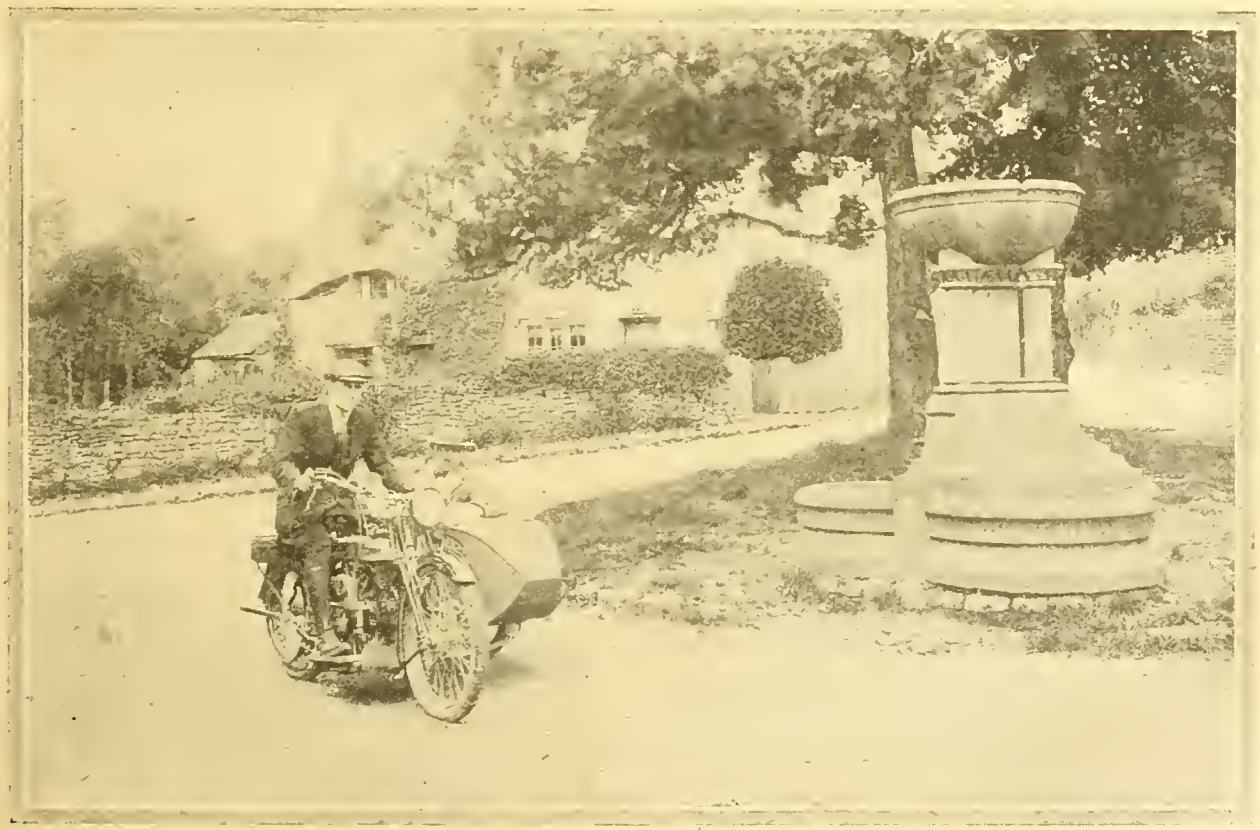
Petrol Supply in U.S.A.

A BRISTOL agent, who has just returned from the United States, tells me that the American dealer buys his petrol in barrels by weight, allowance being made for the tare of the barrel. With temperatures ranging from 100° in the shade to 40° below zero some such method is obviously desirable. The man who buys from a standpipe gets his full gallon, and the dealers consider that they make rather than lose by the system. And do not our garage men continually complain that one and one do *not* make two—in gallons of motor spirit?

Utility or Swank?

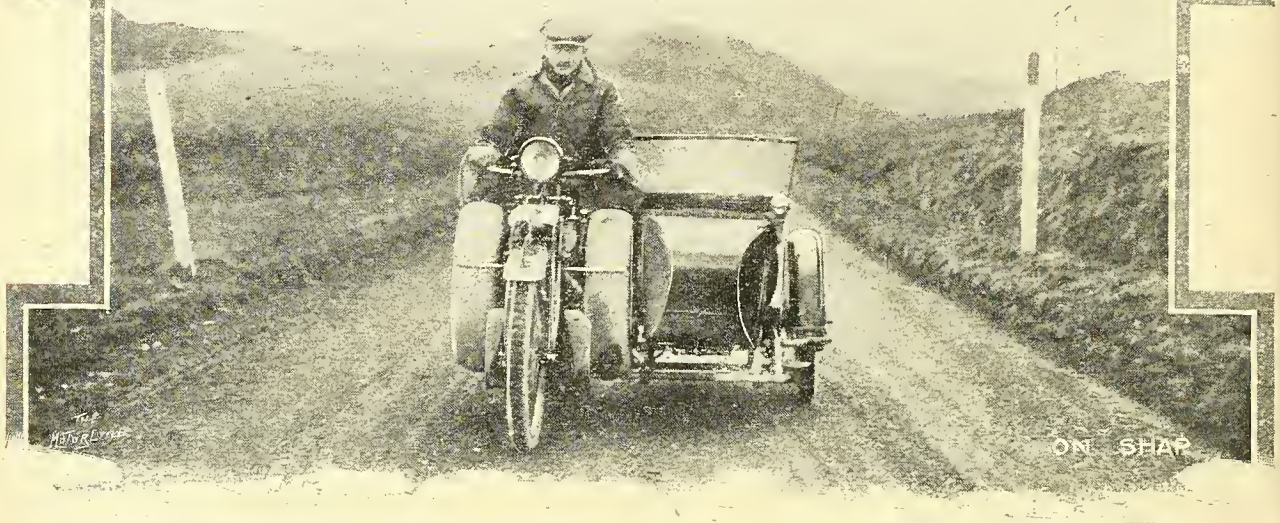
OUR American contemporary has been throwing cold water on the popular dream of a simple, cheap Ford type of motor cycle. Its notion is that, if a man can afford a motor cycle at all, he will chuck caution to the winds, and order the best that money can buy. If this be true, it follows that the sales of a rock-bottom, mass-produced proposition would be far less than many people suppose, and that it would be a risky business for a factory to stake its future on the idea.

Ford is credited with saying that an output of about 10,000 machines is the most economical figure. There is not the slightest doubt that there is an annual sale in this country for 10,000 Ford type motor bicycles (probably many more), provided, of course, that they compare as favourably with more expensive machines as the Ford car compares with conventional cars.



OFF THE BEATEN TRACK. Newton St. Loe, better known to Bristol and Bath motor cyclists than to those who pass through Somerset *en route* to Devon and Cornwall.

RIDING TO WIN.



From Aintree to Edinburgh and Back on an 8 h.p. Royal Ruby Sidecar in the Liverpool M.C. Winter Trial.

ABOUT the time of the last Olympia Show it was suggested to us that we should occupy the sidecar of one of the new 8 h.p. Royal Ruby spring frame outfits during a one-day demonstration run amongst either the hills of Yorkshire or the Lake Country, and it was arranged that this trial should take place during the early months of the present year.

While awaiting a favourable opportunity for this test, however, we learned that Mr. Hugh Gibson, the well-known trials rider (who joined the Royal Ruby Co. late in 1920), was about to make his first competition appearance as a driver of this make in the Liverpool M.C. Two-day Winter Trial to Edinburgh and back, and we gladly fell in with the suggestion that we should join him on this run. Accordingly, on January 22nd. we were at the starting place (the Old Roan Hotel, Aintree, near Liverpool) all prepared for the long journey.

Comfort for the Passenger.

The morning was a dismal one, a bitter north-westerly breeze was blowing from the Irish Sea, and a good deal of rain was falling, but an inspection of the luxurious sidecar on the Royal Ruby machine convinced us that the driver alone would suffer from the elements. After having our watch sealed, we were given the word to go at 8.30 a.m., and as the outfit carried "Number 1," we did not see much of the other competitors until our first stop was made in Garstang. Here we paused awhile in order to photograph some of the others as they came along, and our wait was surprisingly long, for apparently the machine had travelled at well above schedule speed owing to the small amount of traffic on the roads.

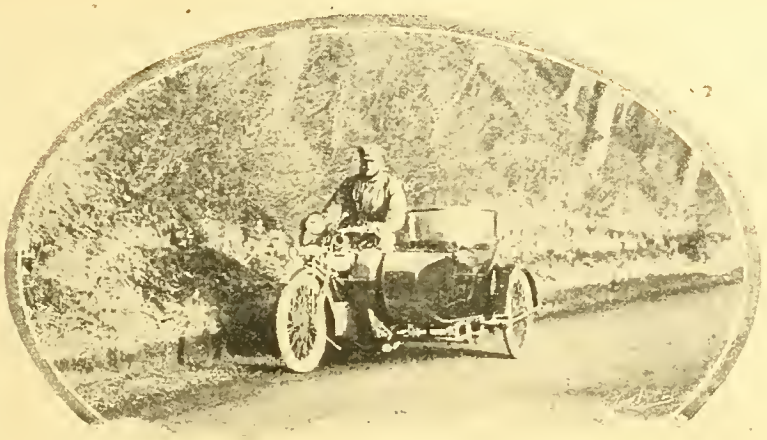
The first time check was in Kendal, about seventy miles from the start, and arriving on the outskirts of the town it was found that there was almost half an hour to spare before checking in, and consequently we drew into the roadside and waited for the other competitors to appear. The roads had been very wet and heavy in places, but despite this, the machine was remarkably clean, thanks to the efficient mudguards and legshields which were fitted. The sidecar had proved to be very comfortable, and its great depth in conjunction with the Easting windscreen provided every protection for the passenger.

Over Shap Fells.

After checking in (in the main street) we made directly for Shap, since it was our intention to stop for lunch in Penrith. Although the gradient of Shap Fell is not abnormal, the long climb and the poor surface of the road are quite a good test for any machine, and as a strong wind was blowing in uneven gusts from the direction of the Lakeland hills, it was not to be wondered that the 8 h.p. J.A.P. engine of the Royal Ruby was unable to take the outfit to the summit on top gear. A change down into second gear had to be made after about threequarters of the ascent had been covered, and in view of the fact that the outfit with driver, passenger, and luggage must have totalled at least 8 cwt., the performance was remarkably good. On the smoother descent into Shap village and along the main road to Penrith surprisingly high speed was made, and a welcome meal was taken when the latter town was reached.

Onwards from Penrith through Carlisle, Langholm, and Hawick to Edinburgh the run was uneventful;

Riding to Win.—



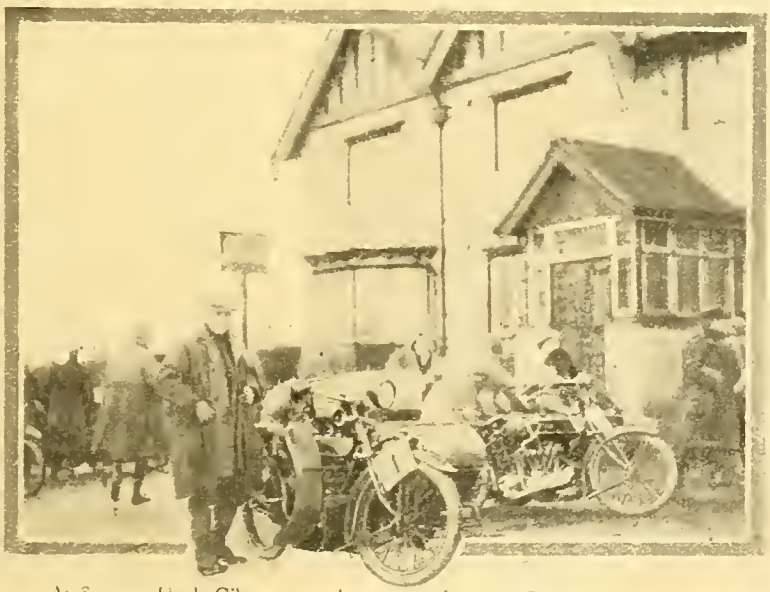
In the early morning sunlight. The 8 h.p. Royal Ruby near Selkirk on the return journey.

few of the other sidecar competitors were seen, but several of the soloists, having apparently carried on without lunch, were hurrying towards the Scottish capital in order to reach the finishing point before darkness set in. This was perhaps a wise move on their part, as the roads around Hawick and Selkirk were in an appalling condition, and even our big sidecar outfit showed a slight tendency to skid in places. On a normal stretch of road, however, it was quite possible for the driver to release the handle-bars for at least 200 yards, and the outfit continued in a straight course; for a heavy spring frame machine this is indeed remarkable, and we have seldom seen a machine which would steer in the same easy way.

Arriving in the vicinity of Edinburgh two hours before we were due to check in (having had an absolutely no-trouble run), we were able to book rooms, have a meal, and rid ourselves of all traces of the journey before running into the control, and thus we were able to leave the machine at once and look around the sights of Edinburgh, not forgetting the Edinburgh M.C.C. headquarters at Castle Terrace.

Back to England.

A beautifully clear sunrise greeted us next day, and the Castle, from Princes Street, looked at its best, silhouetted against the morning sky, but we had no time to spare in admiring the architectural beauties of the city, as we were scheduled to leave at 8 a.m. The promise of the morning was not borne out, for by the time we were amongst the hills on Teviot Head rain was falling heavily, and the comfort and protection of the sidecar were appreciated to the full. No time check was included in this day's run before the summit of Kirkstone Pass, and as this was to be the deciding check, it was a matter of some difficulty to estimate the speed which should be maintained. After some little discussion during a stop in Langholm to clear a choked jet, we decided on our plan of action as follows: A good average was to be maintained until we reached Penrith; here we would stop for lunch, and also change the back wheel for one fitted with a steel-studded tyre, in order to make a certain climb of the Pass, no matter what the condition of its surface. From Penrith to the non-stop section (Patterdale Hotel) was eighteen miles, and we decided that an hour and twenty minutes should be allowed for this; then, before entering the non-stop, we would wait until a bare twenty minutes was left for covering the four and a third miles to the check. This plan of action was carried out so far as changing the back wheel and starting out for Patterdale was concerned; but within sight of the latter place, and after wasting most of our time by touring gently along the shores of Ullswater, it was noticed that the new steel-studded rear tyre was going down, and we were just able to stop before entering upon the non-stop section. Time was now precious, but thanks to the quickly detachable wheels of the outfit, we were able to replace the original back wheel with its plain rubber cover and get on our way without falling behind our programme. Although it was fine at the lakeside, there was a heavy driving rain and a powerful head wind blowing down the Pass as we commenced the climb. There was also some uncertainty as to the exact location of the check, but our calculations proved correct, and when we rounded the final bend the check came into view, and we were able to regulate our speed against the watch in order that we might reach the timekeeper dead on schedule.



At 6 a.m. Hugh Gibson preparing to start from the Old Roan Hotel, Aintree, in the Liverpool M.C. trial to Edinburgh and back. This was his first competition on the Royal Ruby outfit.

This is one of the great advantages of a machine such as the Royal Ruby, which has ample power under all circumstances.

Riding to Win.—

for we were able to lose speed by crawling on low gear and then accelerate up to the timekeeper, just as the hand of the watch was a few seconds off the required time, whereas a machine with a smaller reserve of power would have been compelled to keep up its speed in order to accomplish the climb, and so would have checked in early.

Rain, Wind, and Darkness.

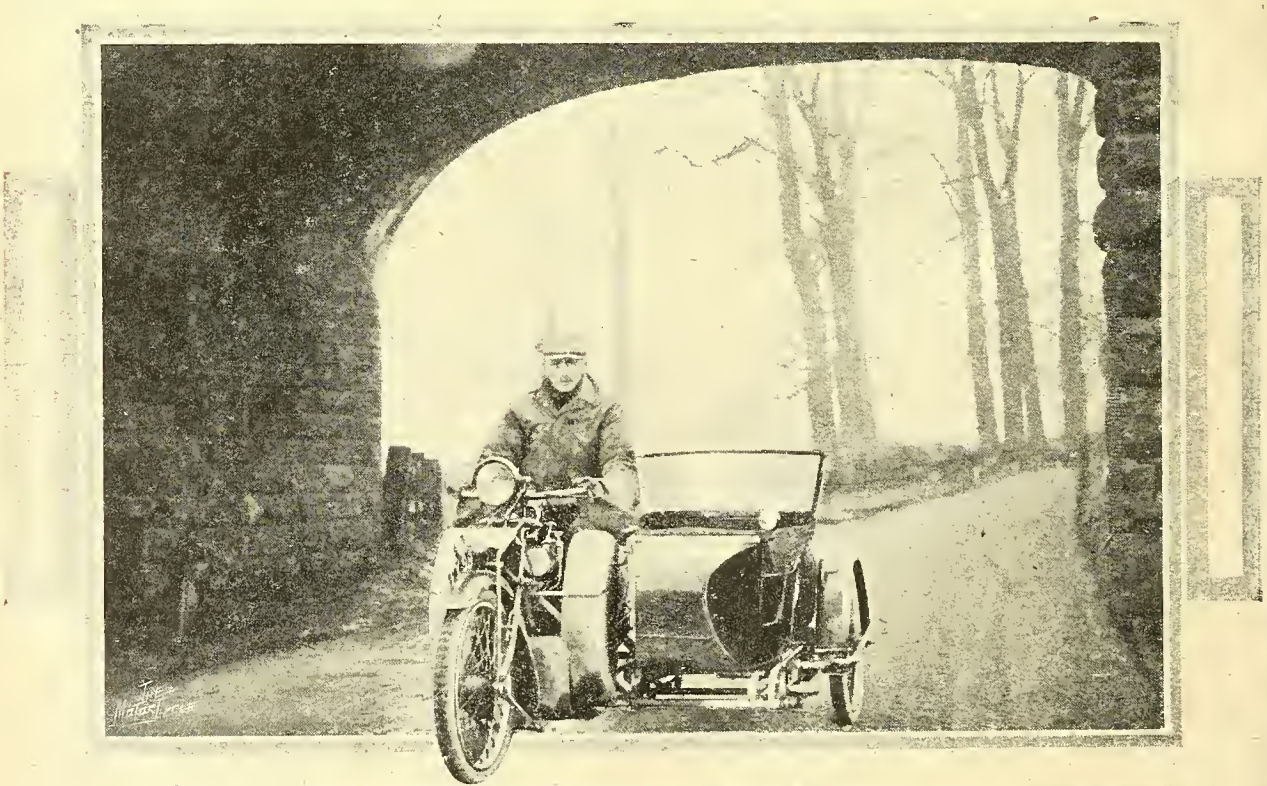
The descent from the top of Kirkstone into Windermere was made in haste against a blinding rainstorm. Darkness was rapidly approaching, and there were some seventy miles of twisting roads to be covered before the finish was reached. It was therefore decided (in order to have time in hand should trouble arise) that the best possible speed should be maintained so long as daylight lasted; and when an expert like Hugh Gibson decides that speed is to be kept up, and the machine itself is capable of doing a little over 50 m.p.h., there is nothing for the passenger to do but to sit tight and to put his trust in the skill of the driver and his "lucky star." Perhaps it was fortunate that this speed burst was indulged in, because after passing through Lancaster, where the lights were first switched on, the head lamp bulb gave out, and we were compelled to ride some distance in the lights of a large car which was travelling in the same direction. The spare bulb had also given up the ghost on the outward journey, and it was apparently impossible to obtain a Lucas bulb either in Edinburgh or in any of the other places *en route*. However, after ten miles of riding in semi-darkness, with only the dim filament of the head lamp glowing, the full power of the light mysteriously reappeared, and it gave no more trouble until the end of the journey was reached.

Thanks to an intimate knowledge of the roads across Lancashire, almost an hour was saved on our schedule for the last seventy miles, and we were thus able to waste this time in the vicinity of the final control and crawl in, as at all the other checks, with the minute hand of the watch dead on the time indicated on our route card.

Thus ended our 400 mile two-day journey. In this retrospect it may appear to have been a most uninteresting ride; indeed, it was so, if by "interest" we refer to troublesome incidents connected with the machine. Altogether the outfit proved itself capable of accomplishing the journey to time with the speed and reliability of a train.

Advantage of Frame Springing.

The Royal Ruby system of adjustable frame springing which is applied to both the machine and sidecar chassis proved most effective, since the driver himself did not show any signs of suffering from vibration after the long period in the saddle, while the sidecar was perfectly comfortable over the worst stretches of road which were encountered, and some of these, especially in Lancashire and in the vicinity of Edinburgh, were as bad as anything which can be imagined. Our run was satisfactory in every way: especially so when we learned that the 8 h.p. Ruby had been successful in gaining a gold medal and had tied with another 8 h.p. outfit for the principal award (the Horsman Cup), which was awarded for the best performance in the trial.



Ready to check in at a control after "killing time" under the comparative shelter of a railway bridge Observe the ample mudguarding of the Royal Ruby machine

MODERN SPRING FORKS.

Notes on the Ways and Means Adopted by Twenty-seven Makers to Absorb Front Wheel Shock.

TO appreciate even faintly what the spring fork does for us, one must imagine doing without. The rigid frame machine is a quite practical and very popular proposition: but the rigid fork on the mechanically-propelled two-wheeler is extinct.

Had the idea of a spring fork never arisen, had the idea never developed into something workable, reliable, and efficient, then the motor cycle, as we know it to-day, might be non-existent.

Desirable Qualities.

Good as present-day forks are, a wide divergence in design and method in attaining the one end seems to indicate that finality has not been reached. Probably not; but it must be remembered that even the best types are based on a compromise and, unfortunately, a compromise between more than merely two factors. Comfort, ease of steering (under which must be included steadiness at all conditions), reliability (immunity from danger of sudden breakages), and durability (that is, maintenance of efficiency, and particularly lateral stability), all must be studied in the evolution of a front wheel springing system. It is but natural, therefore, that designers should struggle to these ideals by widely differing paths.

Our present purpose is to explain and analyse the various methods employed to-day to trap as far as possible front wheel "jar" before it reaches the machine and the rider.

Forks may be most readily and intelligibly classified into five general categories, by considering the movement or motion they permit of the wheel (or wheel spindle) when in action. Tabulated, these five types are:

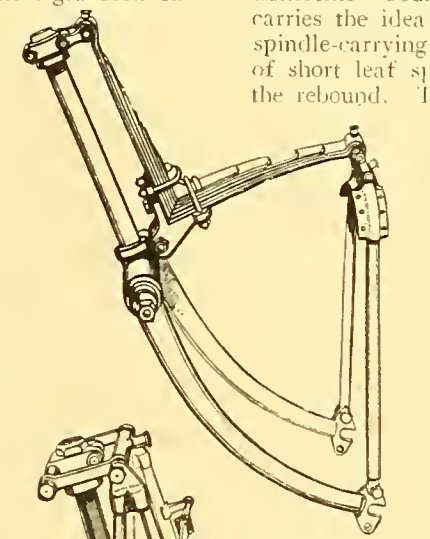
(1.) Vertical or slightly inclined straight line movement.

(2.) *(a)* Short radial movement in *front* of a low down pivot; or *(b)* short radial movement *behind* a low pivot.

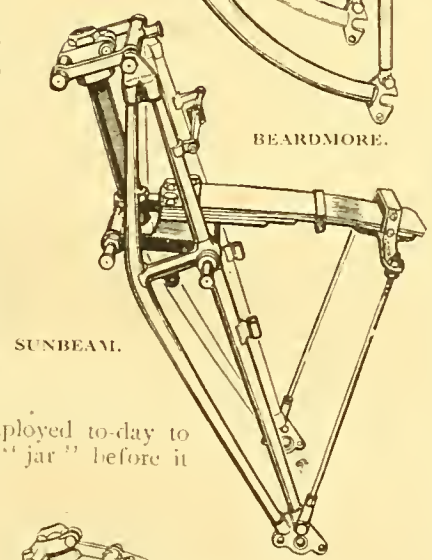
(3.) "To and fro" radial movement on a pivot at the foot of the steering head.

(4.) Upward (or vertical) curving motion obtained by two "parallel links" (modified in some cases by being neither parallel nor of equal length).

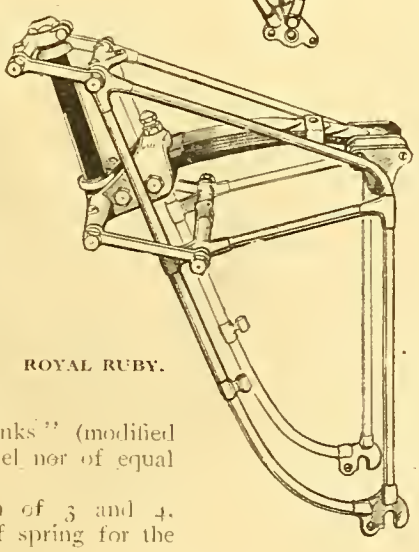
(5.) Approximately a combination of 3 and 4, obtained by substituting some form of spring for the top pair of links.



BEARDMORE.



SUNBEAM.



ROYAL RUBY.

Class 1, despite the fact that it lends itself admirably to enclosed shock and rebound springs, and to a strong and neat construction, has but three adherents—Coulson, Scott, and Wooler. And each carries the idea out differently. On the Coulson the spindle-carrying rods are linked at the top to a pair of short leaf springs, with two coil springs, to take the rebound. The Scott makes use of a duplex fork bridged by a plunger working against a single large compression spring; while the Wooler spindle floats on two pairs of coil springs in short upright guides.

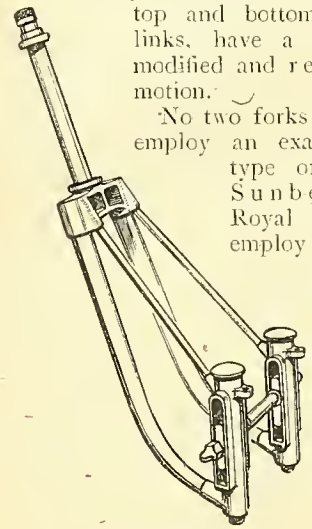
Suspending the wheel on short radius rods (Class 2) formed one of the earliest methods, and it still holds good on at least seven machines—Chater-Lea, Corona, F.N., Harley-Davidson, Indian, L.M.C., and P. and M. Excepting the Indian, their wheels all describe an arc in front of the pivot, and here again the actual springing is very varied. An extension of the pivot rearwards on the L.M.C. simply pulls against two coil springs—a very simple but flexible construction. On the Corona a similar extension, but at right angles, converts a "vertical" movement to a horizontal motion checked by enclosed springs. Both the F.N. and the Harley make use of duplex vertical stays containing coil springs—in the latter separate springs are used for shock and rebound. The Chater-Lea favours the simplicity of two sturdy unenclosed coil springs mounted above the duplex girder, while the P. and M. uses a pair of naked tension springs for shock stresses and a central enclosed coil for rebound. Doubled-back laminated springs reaching out from the steering head efficiently clamp both these movements on the Indian. It is noteworthy that both the well-known American machines make use of the short pivot system.

No Vertical Movement.

Only two forks of the types illustrated come into Class 3, by using the clean-looking and almost wear-proof action so long embodied on the Triumph. The other, of course, is the Beardmore, which, however, embodies two laminated springs set at right angles in contradistinction to the single short coil, or more recent enclosed shock and rebound, buffers on the Triumph.

Modern Spring Forks.—

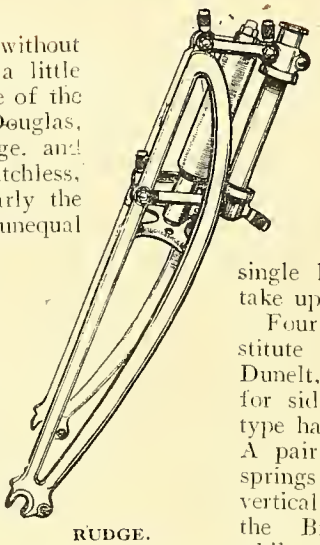
Class 4 is easily numerically superior without including the nearly allied Class 5, but a little study will prove that not all in Class 4 are of the true parallel link type. B.S.A., Cedos, Douglas, Druid (old type), Edmund, Enfield, Rudge, and Saxon all must be included: but the Matchless, Royal Ruby, and Sunbeam, and particularly the Matchless by reason of non-parallel and unequal top and bottom connecting links, have a considerably modified and restrained motion.



WOOLER.

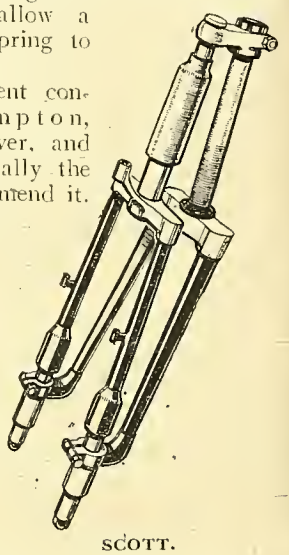
No two forks in this class employ an exactly similar type of spring. Sunbeam and Royal Ruby both employ a single flat laminated spring, but the spring in the former exercises its restraining influence in quite a different manner from the latter (reference to the respective drawings will prove this). Perhaps the most interesting of this batch is the Edmund, which has a vertical semi-elliptic spring with an action that may best be described as "frictionally retarding a parallelogram from becoming a rectangle," a description perhaps not technically brilliant, but, we hope, lucid!

The remainder embody from one to four coil springs, as follows: B.S.A., a single central coil, which is compressed under load; Cedos, the same in a shorter housing: Douglas, two long exposed tension springs which, of course, expand under load; Druid, "parallel originator of link" motion (on the latest pattern, however, the lower links allow a rocking motion to the girders more nearly allied to Class 5); Rudge, entirely enclosed central telescopic plunger type shock and rebound springs (incidentally, the Rudge fork enjoys a long-standing reputation for fine steering qualities); and, lastly, the Saxon, where angular extensions of the lower links allow a single horizontal coil spring to take up all shocks.

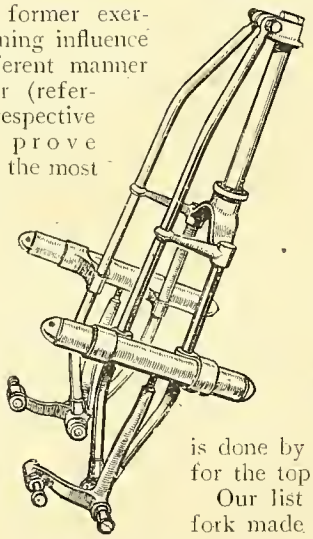


RUDGE.

Four names at present constitute Class 5—Brampton, Dunelt, O.K., and Rover, and for sidecar work especially the type has much to recommend it. A pair of tension springs provide the vertical movement in the Brampton fork, while two further pairs of smaller coils mounted on the upper links effectively damp "to and fro" swing. Upward shock on the Dunelt is absorbed by a single five-leaf spring, while the top pair of links act as plungers against tension springs extending towards the rear of the steering head. The O.K. design is notable for the manner in which it combines simplicity with a wide range of action; this is done by substituting a pair of helical leaf springs for the top links.

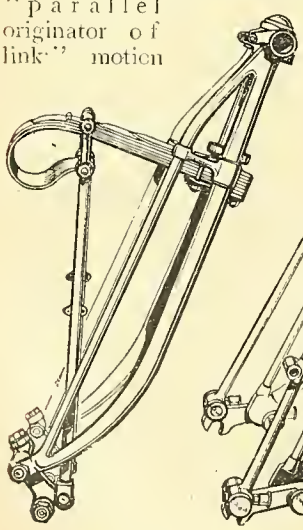


SCOTT.

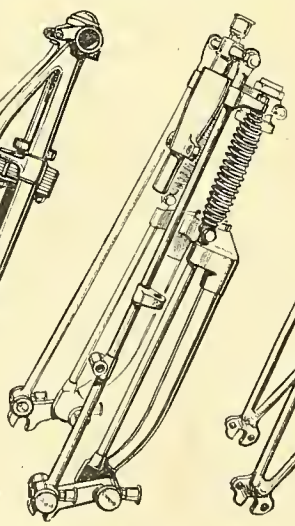


CORONA.

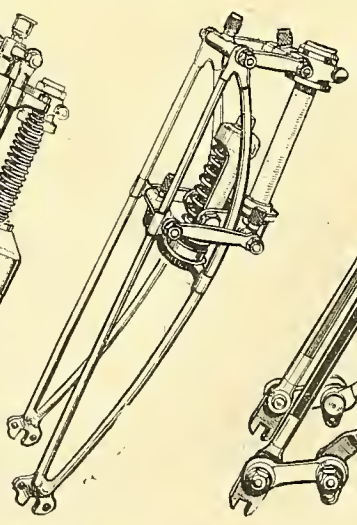
Our list of twenty-seven does not represent *every* fork made: but it is representative of every *type* of fork shown at Olympia last year.



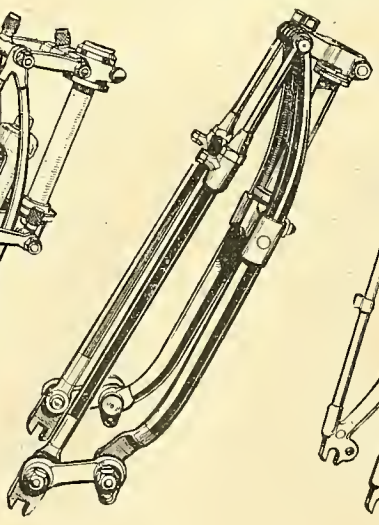
INDIAN.



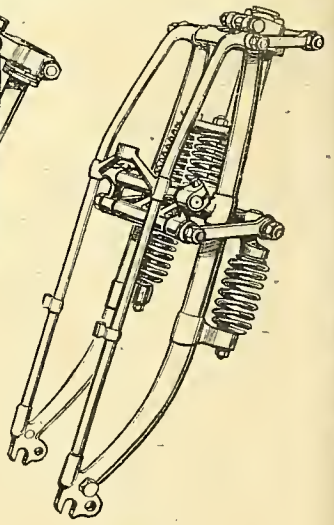
P. and M.



CEDOS.

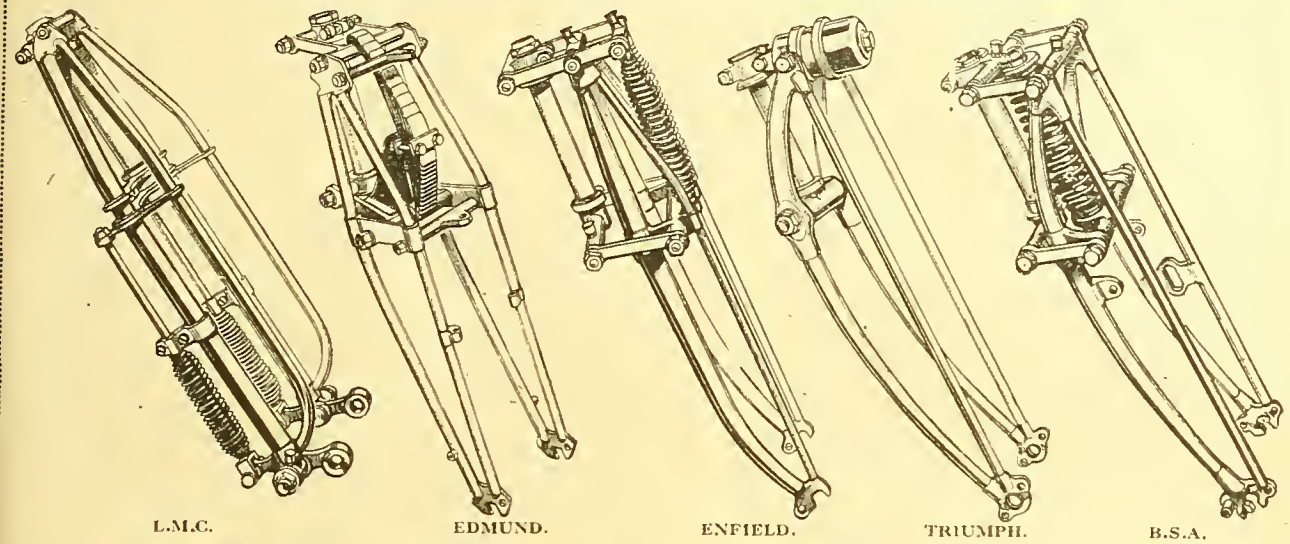


F.N

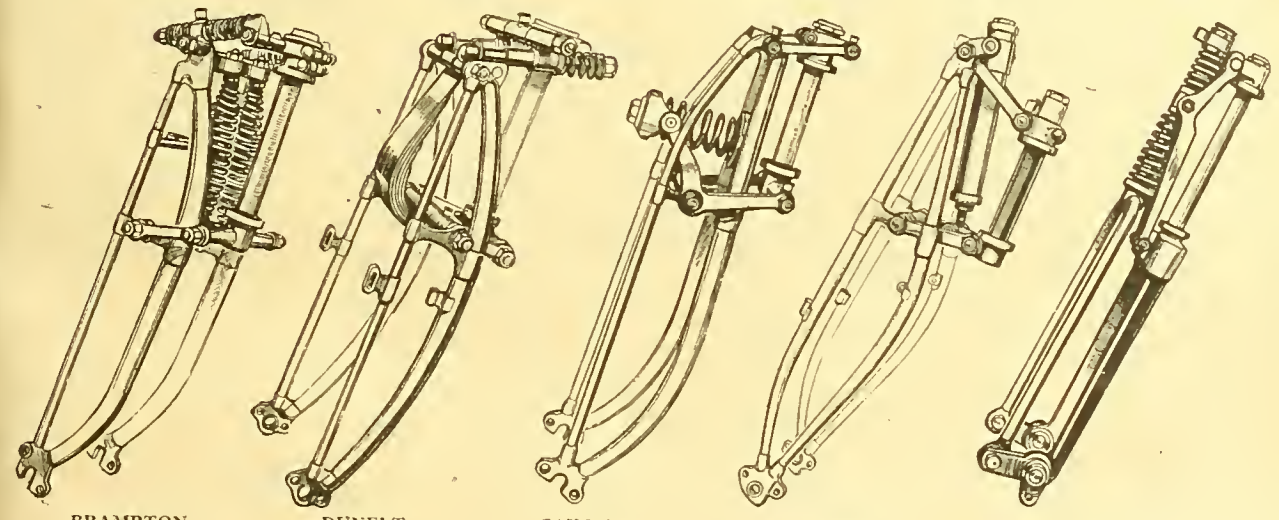


DRUID.

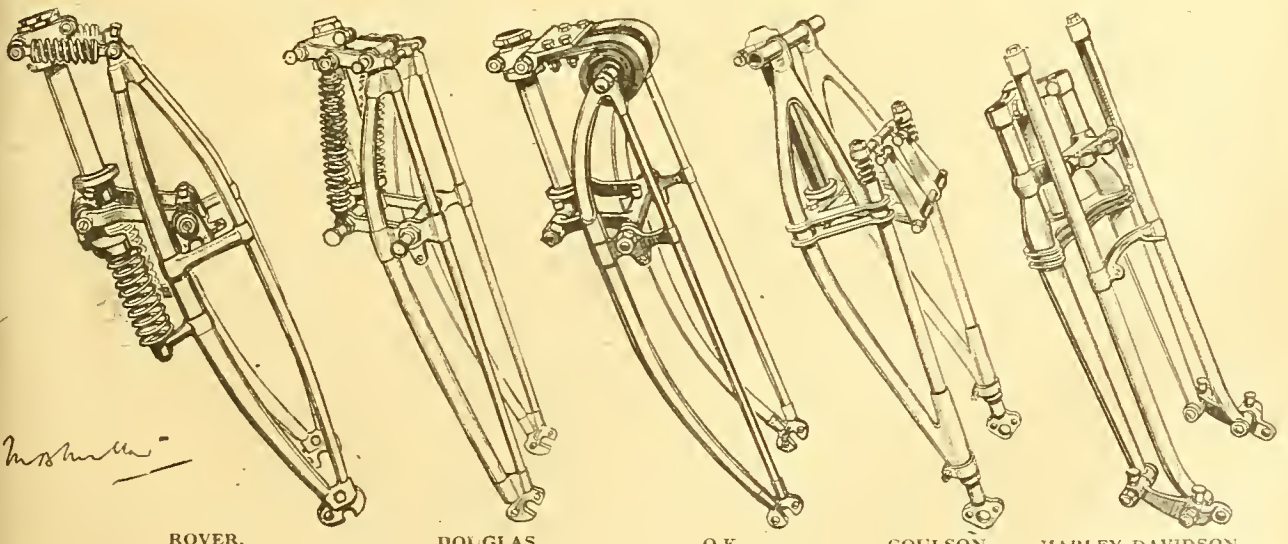
SOME EXAMPLES OF MODERN SPRING FORKS.



L.M.C. EDMUND. ENFIELD. TRIUMPH. B.S.A.

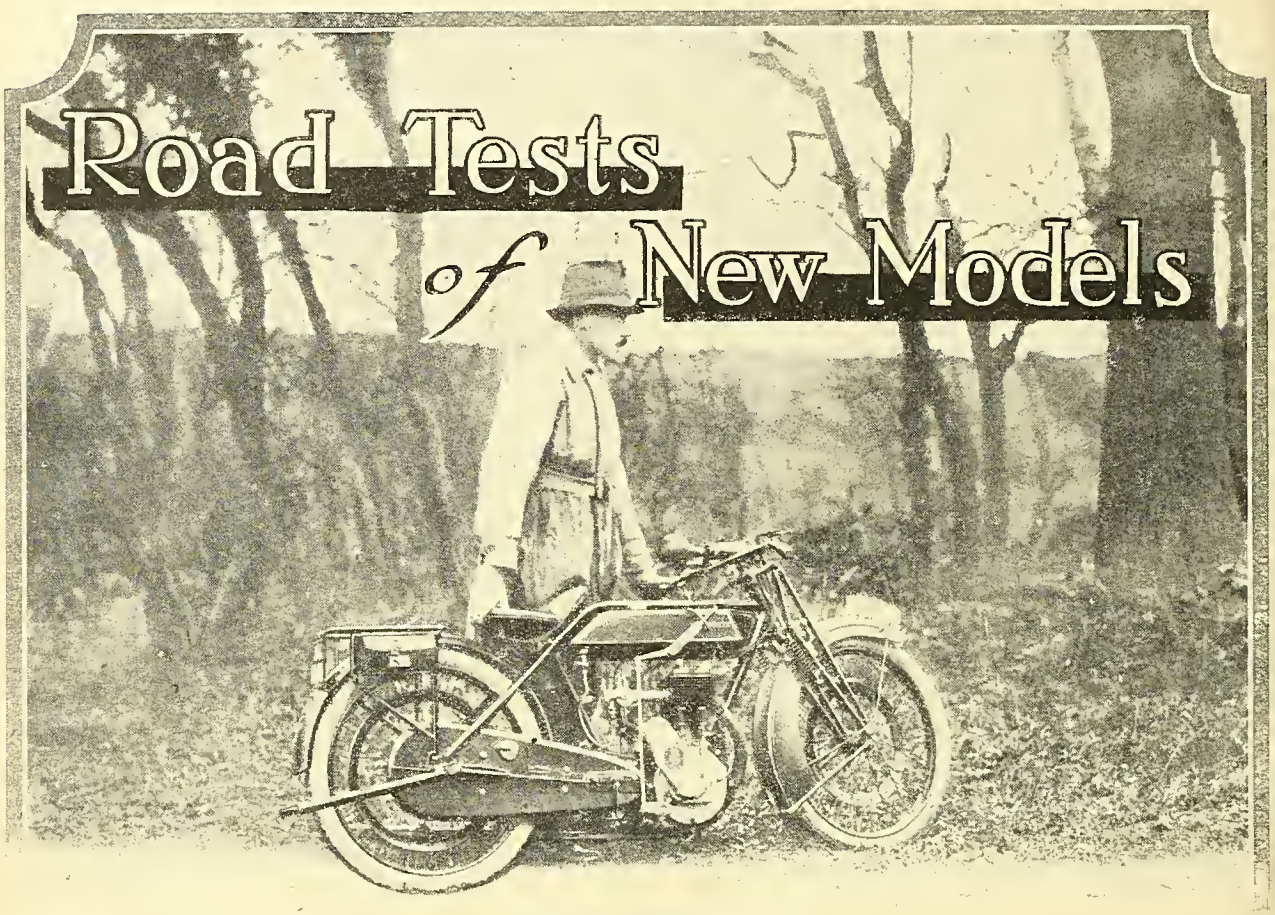


BRAMPTON. DUNELT. SAXON. MATCHLESS. CHATER-LEA.



ROVER. DOUGLAS. O.K. COULSON. HARLEY-DAVIDSON.

Road Tests of New Models



THE 1921 3½ h.p. T.T. SUNBEAM

SPECIFICATION.

ENGINE: 85 × 88 mm. = 499 c.c. single cylinder.	*TRANSMISSION: ⅝ × ½ chains in Sunbeam chain cases.*	*TYRES: 26 × 2¾in.*
CARBURETTER: Senspray or Amac.	*GEAR BOX: Three-speed, no kick-starter.*	*FORKS: Druid type.*
MAGNETO: M-L.	*CLUTCH: Hand control.*	*FITTINGS: T.T. bars footrests, narrow front mudguard.*
		WEIGHT: 230 lb.

THAT there is a market for a light and speedy solo mount of medium power is a fact which we have consistently emphasised.

Owing to the ever stiffening requirements of "go-anywhere" reliability trials and the amazing popularity of the sidecar, the ardent soloist, who did so much to develop the motor cycle in its earlier days, has found himself, latterly, almost uncatered for. The old type 180 lb. 500 c.c. "singles," so unfailingly successful in the hands of pre-war competition riders, have almost disappeared; the very efficiency of these machines proved to be their own undoing, since it was soon discovered that the engines were capable of sidecar work under most conditions, and, in consequence, weight and luxury were added, until finally the enthusiastic speed man found his machine overloaded.

Gears Essential To-day.

All the progress of the motor cycle movement has tended toward the use of high speed engines and a greater range of gearing. The earlier school of speed rider achieved his success with the direct belt drive and variable pulley; the modern speed man "lets it rev.," using his gears freely. That the latter method gives better results, especially in road racing, was shown in the last T.T., when direct geared machines were outclassed by similar engines with three-speed gears.

This is the day of the gear box, while chain drive is used almost entirely under high speed or arduous conditions on the majority of medium and high-powered mounts. Given chain drive, gears, and a clutch, the average rider demands a kick-starter, generous weather protection, and luxurious springing. His requirements have given us wide mudguards, underscreens, footboards, spring frames, efficient spring forks, spring seat-pillars, pan saddles, and every refinement associated with the up-to-date machine. His requirements have also given us the modern 500 c.c. mount of about 300 lb. unladen weight.

A small group of riders of the old hard-riding school (they form the backbone of support in club and open speed events) have never failed to look askance at the

Road Tests of New Models.—

ever-growing weight of the 500 c.c. class of machine. To many the charm of riding was in danger of being lost; speed, liveliness, ease of handling, and brisk acceleration were all being sacrificed to the sybaritic latter-day influx into the ranks of motor cyclists who cried "comfort, more comfort, and take a sidecar anywhere."



The trials rider on a sporting Sunbeam will have no difficulty in retaining his seat under the most adverse conditions. Here is a rider negotiating a path of deep loose sand.

Reducing Weight.

Realisation of this state of affairs has been dawning upon the trade for some time, and, in various quarters, a return to lighter specifications for purely solo types is being considered by those concerned.

To the makers of the Sunbeam machines must be awarded the credit for being the first to place on the market a model in which none but the main essentials of the general touring layout have been retained. Refinement and elimination are the keynotes of the new sporting T.T. Sunbeam, which has a specification drawn up to make a special appeal to the lover of medium-weight, medium-powered, sporting models. Taking the standard solo machine as the ground work, the frame has been shortened and lightened, lighter forks have been used, mudguarding is curtailed a little, a lighter gear box with only one sliding member is used, while the kick-starter is omitted, and internal expanding brakes are replaced by those of the dummy belt drum variety. Essentials of the touring model retained are the Sunbeam engine in standard form (except that an aluminium piston is used), and the well-known Sunbeam transmission by chains running in oil bath cases in conjunction with the engine-shaft shock absorber and multi-plate metal clutch controlled from the handle-bar.



The "Sports" Sunbeam is so unostentatious in operation that it travels faster than the rider realises, and until this is fully appreciated corners are approached more quickly than is wise. The excellent braking and the ease of control generally, however, prevent mishaps through under-estimated speed.

A Certain Liveliness.

Wolverhampton is one of those places from which it is an excellent plan to get away as quickly as possible, so, after taking over a new machine at the works of Messrs. John Marston, Ltd., we lost no time in leaving behind the greasy streets with their vile "stud-contact" tramlines.

Starting the new Sunbeam is easy, for, although its carburetter setting allowed speeds of six to sixty-five miles per hour, a short run and jump was all that was required; had it been tuned for less ambitious speeds a paddle-off under all circumstances would have been possible, but the jump was found easier except on falling grades. Once under way it was found that the riding position was one conducive to safe and easy handling—the wide, flat bars giving great security, while the footrests, immediately under the saddle, bring the rider into the best position for certain control. The clutch is operated by the left-hand as is the front brake, while the exhaust and throttle are on the right — this arrangement is open to a purely personal criticism, and if the machine had been our own the positions of front brake and exhaust would have been reversed at the earliest opportunity. Close to the rider's left foot the brake pedal gives quick and easy control without disturbing the balance or distribution of the rider's weight—an important point on such a really fast mount.

Road Tests of New Models.—

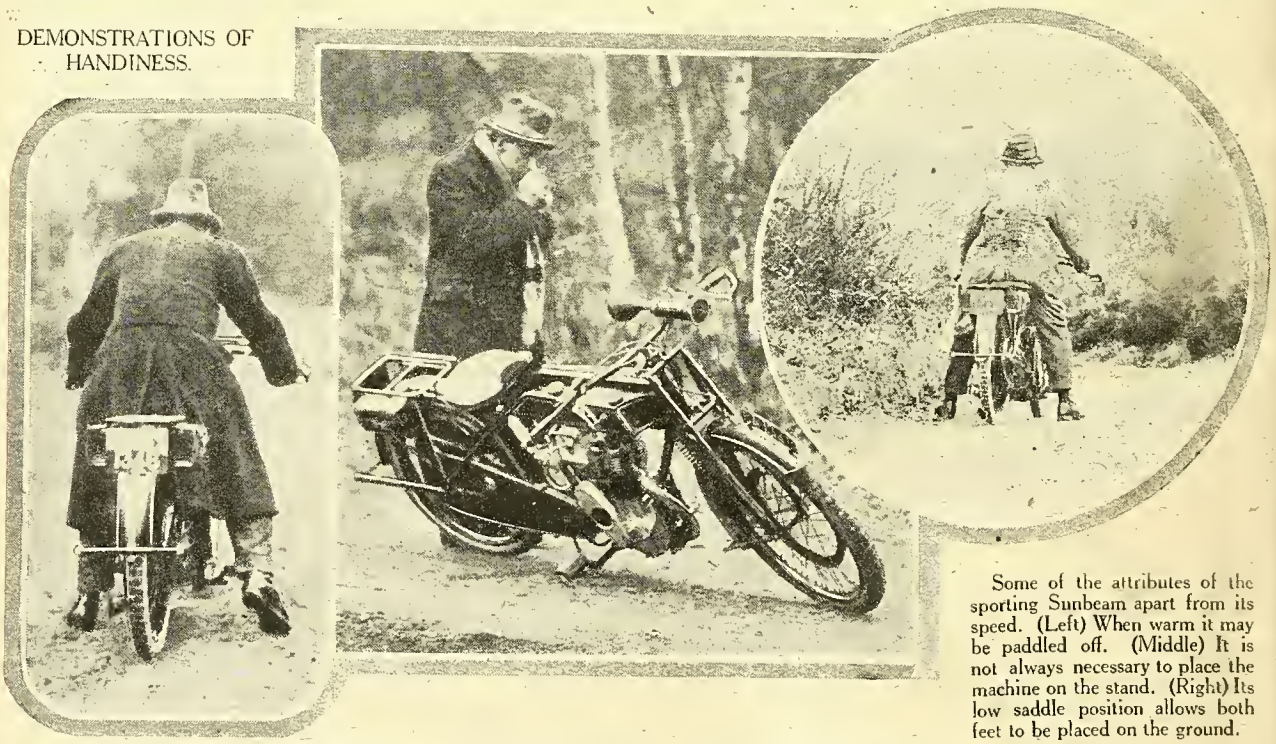
Very easy manipulation of the gears is possible on the new Sunbeam, the changing being silent, certain, and instantaneous, and the control lever is situated in a nearly horizontal position towards the front of the tank. High gear is engaged by pulling up (backward) the lever instead of pushing it forward as on the standard models. The action is easy and natural, and the change from second to top is delightfully easy. This is as it should be, since, on second speed, a considerable speed should be attained before top is snicked home; and the get-away then is astounding.

Our test comprised an afternoon's running in the vicinity of Kinver, near Stourbridge, and the machine was tried on good and bad main roads, on a rough surfaced hill, and on sandy by-lanes. Under all circumstances it proved delightfully tractable, no tendency to skid in grease was noticed, and the speed was all that could be desired. Absence of fuss is an outstanding characteristic of the engine; at 40 m.p.h. there is neither unpleasant noise nor vibration, while the range of gearing permits slow and certain climbing on any surface. Comfort naturally is, perhaps, a little less than on the standard models, since the rather hard semi-racing saddle and short wheelbase tend to pronounce the effects of pot-holed roads. Thanks to the shock absorber, the high top gear (approximately 4.6 to 1) does not cause harshness, and the pick-up is smooth and certain if initial speed is not too low. Judging by the speed on middle gear, however, it would seem that the top ratio might be lowered slightly without seriously affecting the maximum speed, while improving the acceleration from dead slow.

One point which should be mentioned is the provision of arrangements for rear tyre replacement without removing the back wheel. Of course, the interchangeable detachable wheels of the touring model are eliminated on the score of lightness, and a divided rear axle is used. This device was well tried out on pre-war Sunbeams and is simple and convenient.

Altogether, we were agreeably impressed with the sporting Sunbeam; it caters adequately for a definite (if, nowadays, somewhat limited) demand, and its success in so doing, as our test run proved, shows that the end in view has never been allowed to become obscured in the minds of its producers. The rider who requires a mount planned on purely sporting lines, and yet not unsuitable for solo touring or freak hill-climbing, must include the sporting Sunbeam in the first rank of machines produced for his needs.

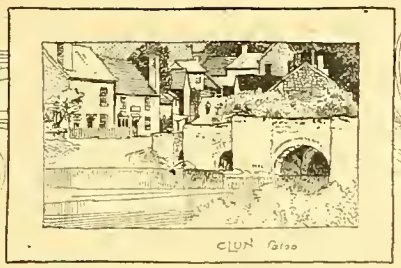
DEMONSTRATIONS OF HANDINESS.



Some of the attributes of the sporting Sunbeam apart from its speed. (Left) When warm it may be paddled off. (Middle) It is not always necessary to place the machine on the stand. (Right) Its low saddle position allows both feet to be placed on the ground.

SILENCE, MECHANICAL AND EXHAUST.

AN evening stroll from the Marble Arch to Hyde Park Corner is apt to be instructive to the keen motor cyclist. In the comparative quietude of the Park one is able to appreciate the wonderful silence of the strings of automobiles as they glide past. Not many motor cycles pass this way, but the majority of those that do so compare most unfavourably with the cars. On a recent occasion we counted some thirty cars passing over this section, and all were reasonably quiet. Not so the three motor cycles which were encountered on the same journey. None of these three have a reputation for being specially noisy, yet all made considerably more "racket" than the noisiest of the cars. The quietest motor cycle was a 4 h.p. twin, the exhaust of which was reasonably silent, though the valve clatter was audible from a considerable distance. An 8 h.p. sidecar outfit was noisy both mechanically and with regard to the exhaust, while the exhaust noise of a single almost drowned the mechanical noises, but not quite. The popularity of the motor cycle will never reach its zenith until designers pay more attention to silence.



Notes for the Novice.

No. XI.—TYRES.

Hints on Care and Management to Enhance Comfort and Avoid Undue Wear.

THE makers of pneumatic tyres always—or nearly always—advise their customers to keep their tyres blown up hard. This is good advice, especially from the point of view of economy, for a hard tyre will wear better than one which is insufficiently inflated, because there is less bending of the walls of the tyre at the sides and near the bead.



A tyre which fits its rim correctly but is under-inflated.

A tyre should be so inflated that it does not give appreciably when running on a smooth road; if it does, the wall will be continually bending, and this will cause both heat and wear. It should not, however, be so hard that it will pass over a stone or other obstruction without any flexion, as, if this be the case, a large amount of the advantages of a pneumatic tyre will be lost, and there will be practically no gain in comfort.

The happy medium is to inflate the tyre in such a manner that it shall give way slightly before the occasional obstruction, and, by partly absorbing it into itself, reduce the shocks that would otherwise be felt by the entire machine and rider; but, on the other hand, it should not be constantly bending, and thus using up engine power to its own disadvantage.

Road Shocks.

A fairly good test is to see that the tyres do not flatten out more than very slightly when the rider is seated on the machine. This, of course, means that the back tyre must be somewhat harder than the front, as it has more weight to carry, as well as more work to do. A very hard front tyre can be the source of considerable discomfort, even when the spring forks are fairly good ones.

It is desirable from a theoretical point of view to intercept all road shocks before they meet the wheels of the machine, to be by them transferred to the machine, and, finally, to the rider. This is, unfortunately, not always possible, but much may be done by the use of large tyres judiciously inflated. However, it must not be expected that the tyres can damp out the larger shocks caused by bad pot-holes or absorb the unpleasant waves which are found in some Tarmac roads. These are due to the weakness of the road foundations and their consequent destruction by the heavier class of motor vehicles. Often the surface itself remains intact and dip is formed—not a pot-hole, which is due to a breaking away of the surface of the road—then a heavy vehicle passing over this dip is caused to bounce on its springs, and so other dips are formed on each side of the first, if it be so placed as to encounter the traffic in both directions.



An example of under-inflation; the solid line shows where the ground line often is, the dotted line where it should be.

To damp out the jolts caused by such obstruction the tyres would have to be very large, and to be run in a very soft condition, and this, in addition to the other disadvantage previously mentioned, would give them a great and unpleasant tendency to roll.



Tyre and rim ill-matched.

Rolling.

Some tyres are said to have this tendency more than others, but I am inclined to the opinion that rolling is due rather to under-inflation, or to fitting a tyre which is large in section on a narrow rim, as, for example, a 3in. tyre on a 2¼in. rim. It will not then have sufficient support at its base, and its lateral rigidity will be wanting—in other words, it will roll.

The exception to the above opinion will, I think, be the case of a tyre with a narrow but outstanding tread. A tyre of this shape will have less support from the ground and will be inclined to bend near the projecting tread much in the same way as a tyre on a too narrow rim bends unduly near the bead with a similar result in each case, *i.e.*, a lack of lateral rigidity and a tendency to roll unless blown up very hard.

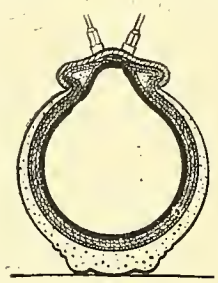
Many years ago I had a tyre on a pedal cycle with a single rib about five-eighths of an inch wide in the centre of the tread. This was one of the earliest—if not *the* earliest—attempts at a non-skidding pneumatic tyre (it came very soon after the idea of solutioning a strip of webbing along the tread), but it was not altogether a success, for it soon cracked where the tread joined the tyre and became useless.

Punctures.

Unfortunately, the care of pneumatic tyres does not consist only in using them in a proper manner and keeping them properly inflated, though the latter is 99% of the battle, and now we come to the point where the maintaining of the tyre in such a condition that it can be inflated at all must be considered. As will be shown, a little care should avoid much potential trouble.

Notes for the Novice.

Briefly, the inner tube of a pneumatic tyre may lose the power of retaining the air which is pumped into it in six ways: (1) it may be punctured or cut from the outside of the tyre by a nail, thorn, or piece of glass, to name only the three puncturing implements which are most common; (2) it may be chafed through by a roughness inside the cover; (3) a defect in the tube may develop into a tiny hole (I once had a tube that had many hairs running through the rubber and all leaked in time); (4) an imperfect joining of the two ends when the tube is made up; (5) an insufficiently screwed up valve seating; and (6) a leak in the valve itself.



A tyre which is insufficiently supported by the rim, and has too narrow a tread.

Test the Valve First!

Of these No. 1 is the genuine puncture or cut, does the most damage, and is the most trouble to repair, for the outer cover needs attention as well as the inner tube—in fact, a sufficiently bad cut may mean that the cover must go to the makers for treatment, or it may even have to be scrapped. Nos. 2, 3, and 4, internal defects, are the most difficult to locate, for sometimes the holes are very small and can be discovered only with the help of a pail of water. No. 5 also may easily escape detection, but both it and No. 6 can generally be put right without difficulty. It is a good rule when a tyre is found to be leaky, and the cause is not an obvious puncture, to commence operations by testing the valve. This is easily and quickly done, and may possibly result in saving the trouble of removing the tyre; therefore, it is always worth trying.

It is very irritating after removing the cover and expending half an hour or so in the vain search for a puncture by immersing the tube in water, which must be wiped off again, to find that all this trouble might have been avoided, and the tyre made fit for use again in a couple of minutes by the simple expedient of replacing the valve rubber. Sometimes, especially if the tyre has not been removed for some little time, it will be found that the inner part of a valve does not readily come away from the main body. This will be because the valve rubber has stuck. In this case it is inadvisable to pull the inner part out by main force, as this may spoil a good valve rubber, or, worse still—if spares are to hand—leave the valve tube sticking inside the valve, whence it is difficult to dislodge it.



The tyre of a motor cycle attached to a sidecar and leaning inwards causes uneven wear.

The proper procedure is to warm the valve with a lighted match, when, in nearly every case, the inside part, including the valve rubber, will be at once released and come away entire.

To test a valve the wheel should be turned until the valve is at the top, when it can be immersed in a wine glass or test tube full of water. This will show whether the leak is past the rubber or through the smaller tube to which the inflator is attached. Away from home, where a wine glass is not available, the latter point can be tested by moistening the finger and placing it for a moment on the end of the valve, when slowly issuing bubbles will reveal a leak, and the latter can generally be discovered by an examination of the valve rubber. In fact, the whole thing can be done in less time than it takes to read these lines.

Punctures when found are not difficult to mend, especially if the prepared patches, first introduced, I believe, by the "Patchquick" people, are used. These patches are often covered on the prepared side of a piece of paper or canvas which does not adhere tightly, and when this is taken off the patch can be at once applied to the tube after the latter has been properly treated if one is in a hurry, though it is better when there is time to apply a coat of solution to the patch as generally directed in the instructions, but the solution must dry before the patch is placed in position, if a good joint is to be made. Therefore, when time is an object, I should always prefer to apply the patch without a coat of solution, than to attempt to make a joint before the solution was sufficiently dry.

When a nail has been the puncturing instrument, it very often happens—in fact, more often than not—that quite a large number of small holes will be found on the side of the tube next to the rim, a fresh one being made at every revolution of the wheel until the machine is brought to rest. A careful examination should always be made with the object of discovering these holes, if any exist, and they can generally be covered by a single patch of large size.

Remove the Culprit.

Care should be taken, too, that the cause of the puncture is removed from the outer cover. Cases have occurred when a thorn or nail in the tyre has escaped notice, and as soon as the tube has been inflated a second puncture has been made. This is a very irritating experience, for it means that the tyre must be taken off again, and the outfit made use of a second time. Words are apt to fail a rider on such an occasion, unless he be blessed—or cursed—with a very fluent vocabulary.

When tyres are being mended the outer cover should not be forgotten. Many covers are made of compressed rubber, and automatically close up small holes, but a little solution or tyre putty will help to make sure that the hole is stopped, and that water will not make its way through and rot the canvas lining, thus causing a burst. The Shaler vulcanisers are also very handy for this purpose as well as for the repair of tubes. A canvas patch on the inside of the cover is sometimes a wise precaution, and should never be omitted if the lining is at all cut or frayed.



The tyre shown above when rolling.

Security Bolts.

If the outer cover is not a tight fit on the rim, it is desirable to fit security bolts, one, two, or three in number, according to circumstances, spaced equally

Notes for the Novice.—

round the rim, counting the valve as one. Thus, if one bolt is sufficient it will be opposite the valve: if two are used, they will be on each side of the valve at angles of 120°, and so on. These are wanted not so much to hold the tyre on the rim when fully inflated as to retain it in position when a puncture occurs, as it then may happen that the cover is dragged round the wheel, pulling the inner tube with it, and so tearing the valve from its seating before the machine can be brought to a standstill.

Security bolts make it rather more difficult to detach and replace a tyre, but this is hardly worth consideration. Care must be taken not to nip the tube between the flanges of the bolt and the cover. It will be found that the tube will slip more easily into position if it be rubbed over with French chalk before being put into the cover, and a little chalk should be put into the cover itself after all grit and dirt, which may very readily fall in from the wheel, has been brushed away. The chalk may be rubbed on with the fingers: it will help to prevent the inner tube from chafing or from sticking to the outer cover. The valve tube should also be treated in the same way: it will then be found to slip very easily into position and be less inclined to stick in the valve.

Rim Sections.

When purchasing new tyres it is always advisable to specify the rims to which they are to be fitted, or, failing this, an exact description of the old tyres. Now that rims and tyres are standardised, it is easy to obtain a good fit. Most motor cycles are equipped with rims of section D (1, 2, and 3), but some of the larger machines have round base rims known as section CC or section 65 mm., and tyres made for these cannot be used on section D and *vice versa*, for the beads are shaped differently.

Sidecar Tyres.

One thing more, if tyres are to give satisfactory service on sidecar outfits, great attention must be given to the correct alignment of the sidecar, otherwise there will be a continual dragging of the tyre sideways on the road, which will cause very rapid wear of the treads. It is very common to sidecar outfits on the road where the motor cycle is leaning over towards the sidecar in a most loving or confidential manner. This, again, is most unfair to the tyres, especially when, as is often the case, this fault is combined with under-inflation, for it causes excessive wear on one side of the tread, and excessive strain on the tyre walls on the same side. Oil has a harmful effect on rubber, therefore if any oil does happen to get on the tyres (it may run down a spoke from the hub if the latter has been over-oiled) it should be wiped off at once, and oil should not be allowed to lie about in puddles on the garage floor.

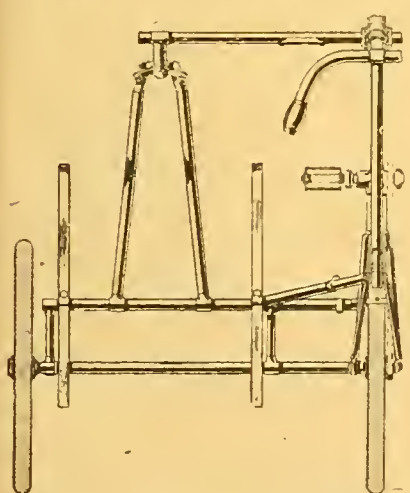
J.H.W.

Previous articles in this series include:
CARBURETTERS—Parts I., II., and III., Aug. 5th, 12th and 19th repectively. VARIABLE GEARS—Parts I., II., and III., Sept. 23rd., Oct. 7th and 14th respectively. CYCLE PARTS—Nov. 4th. LIGHTWEIGHTS—Dec. 16th. BRAKES—Jan. 27th.

The First Sidecar.

Claimants to the Honour of Suggestion, Invention, and Manufacture.

IT is often very difficult to trace the originator of an invention, especially an invention of the nature of a motor vehicle, but there appears no doubt that Mr. W. J. Graham, of 56, Church Street, Enfield, London, N., was the first man to patent a sidecar attachment. The writer is able to say that he rode in the machine, shortly afterwards purchasing one made under licence by Components, Ltd., an attachment which was run successfully with a 2¾ h.p. Ormonde throughout the summer of 1903.



Plan of the Graham sidecar chassis patented in 1903.

The design of the original chassis shows that there is very little difference between this and the modern sidecar. The first Graham sidecar was devised in 1902, provisionally protected on January 21st, 1903, and the rights of the invention were sold to Components, Ltd., Birmingham, on March 22nd, 1904. Needless to say, this sidecar was known as the "Liberty." The original Graham sidecar came into prominence on the occasion of the first Stock Exchange walk to Brighton, and was attached to a 3½ h.p. Minerva.



THE FIRST SIDECAR.
Attached to a 1903 Minerva, the Graham sidecar was accorded its earliest publicity on the occasion of the first Stock Exchange walk to Brighton.

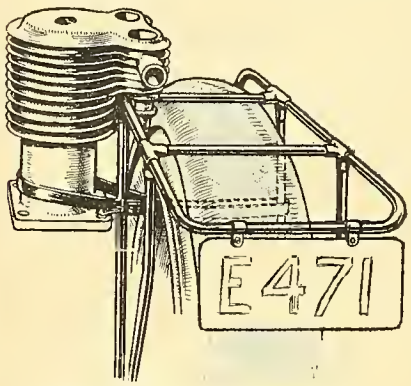
Mr. W. J. Graham must be indeed proud of his invention, which was to some extent suggested by a drawing by a humorous artist, and which has affected the motor cycle industry to a degree second only to the magneto and the pneumatic tyre.

B1

IDEAS: Useful and Ingenious.

Holding the Cylinder for Valve Grinding.

THE sketch shows a way in which I improvised a device for holding the cylinder of my 4 h.p. Triumph when grinding in valves.—T.A.S.

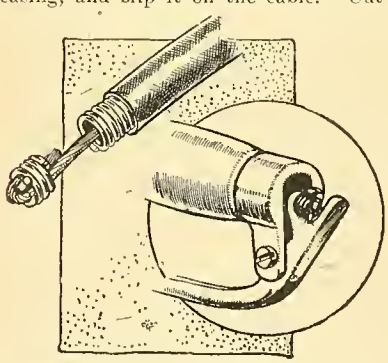


Holding down the cylinder when valve-grinding.

An Excellent Emergency Bowden Nipple.

A SUBSTITUTE for the soldered nipple can be made up in ten minutes, with nothing but a pair of pliers and a bit of copper wire.

First shorten the casing by an inch, or as much as is necessary to get enough exposed cable to work on. Then cut off a length of about three coils of the casing, and slip it on the cable. Cut a



An improvised Bowden wire nipple that may prove stronger than the soldered article.

piece of copper or other wire about $\frac{1}{8}$in. long. Double back the end of the cable, place the bit of wire in the fold, and wedge the three coils of casing over the turned back cable end. This results in a "stop" equal to a soldered nipple, and more durable. The cable does *not* snap off when doubled back, if carefully done.—A.G.B.

[Will the sender of the above please forward his present address?—Ed.]

A Control Lever Tip.

THE rubber of a fount-pen filler, fitted as shown in sketch over a wrapping of insulating tape, makes an efficient substitute for a missing con-

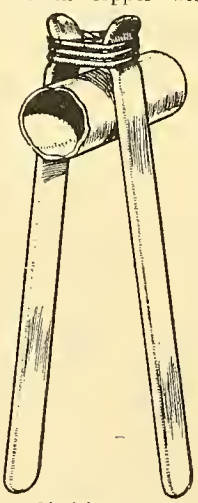


For broken control lever tips—a fount-pen filler and some insulation taps.

trol lever tip. It may also be advantageously used on the whole control if a surer grip be desired.—J.G.C.

Improvised Grips.

IN an emergency a pair of grips can be made up in a moment as illustrated. A pair of tyre levers, as shown, are bound round with a piece of thickish copper wire, or even string, taking care that they are tied, more or less, to suit the job. By this means a big and sure leverage is secured, and the job can be firmly held or twisted, as the case may be.—G.R.V.



Useful grips may be improvised from a pair of tyre levers and some copper wire.

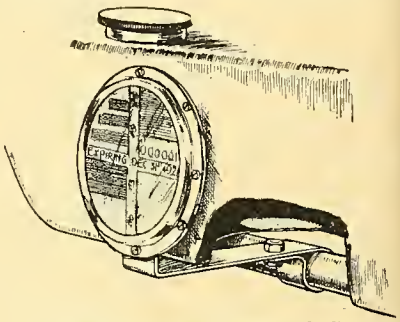
Vinegar—not Salt.

HAVING occasion lately to overhaul my machine, I had great difficulty in removing the flywheel from the engine. I spent some hours at it, and tried every possible method, but all my efforts were entirely useless. I remembered an old tip some days later, and as it has been successful I have no doubt it may be of assistance to others in a similar predicament.

I made a little cup of plasticine round the spindle, filled it with vinegar, and left it for a few hours, and on trying later the flywheel came away with the minimum of effort. I have since tried this on various articles, such as rusted bolts and nuts, screws, etc., and have never yet found it fail to act.—H.A.McQ.

One of Many.

THE holder itself was made from a lever pattern tin lid; and a piece of photographic film was washed clear and used as a covering, a rubber washer being placed between the licence and the film. It was found unnecessary to fit one between the lid and the back.

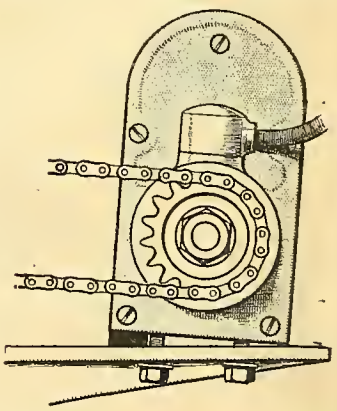


An unobtrusive and easily made licence holder. The clip-nut is soldered to the arm.

It is clipped to the middle tube of the frame, and the arm should be made so that it allows the holder to be about $\frac{1}{16}$in. from the side of the tank. The clip nut may be soldered to the strip.—R.C.

Magneto Chain Adjustment.

WHEN the full adjustment of the magneto driving-chain has been taken up, the correct thing to do is to take a link out. It is common to find, however, that on doing so the chain



An exaggerated view of a quite effective way of tightening the magneto chain when the limit of adjustment has been reached.

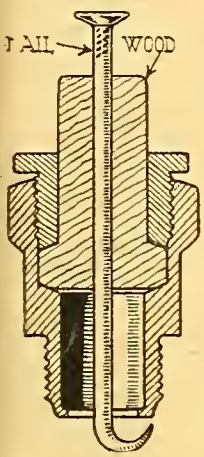
is too short. By inserting a packing piece (as shown in an exaggerated form) under one side of the magneto, and so tilting it, it is possible to increase slightly the range of adjustment.—G.M.

SANS SPARKING PLUG.

WE have received two ingenious solutions to the seemingly insuperable problem of "getting home" when the sparking plug has given out.

The first suggests requisitioning the rear brake block and shaping it to a slightly taper fit in the sparking plug hole. Then a long screw or nail is driven longitudinally through it, and bent over at the thicker end, so that when the improvised plug is fitted securely from the *inside* of the valve cap the correct sparking gap is obtained. It is claimed that the cylinder pressure will only tend to drive it further home. But we should imagine that this would be a very tedious task.

So, too, would the second idea, which we illustrate, although perhaps not to so great an extent. This suggestion depends on the disabled plug being of the detachable type; and a shaped piece of wood, which must be dry, with a shoulder to take the pressure, provides the insulation in this case. Obviously the nail is driven in after assembly; otherwise the illustration is self-explanatory.



A nail in lieu of an electrode and wood to replace the insulator.

AUXILIARY MUDGUARDING.

EVERY year sees a large increase in the use of the motor cycle by professional men who ride their motor cycles every day, whatever the weather may be.

These readers, particularly, will naturally be interested in any device designed to protect the rider and keep him clean during this time of year when the roads are usually muddy.

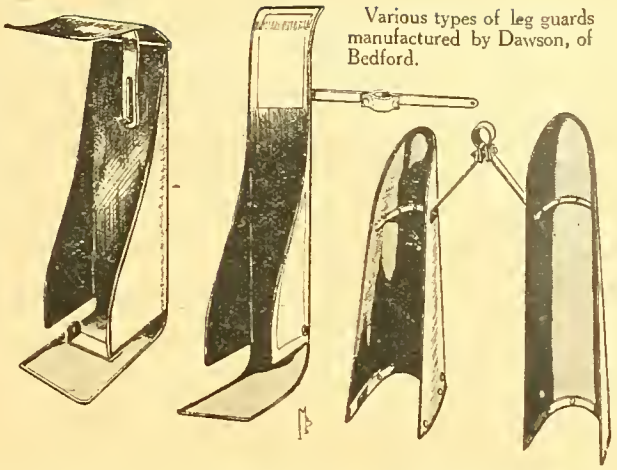


An undershield designed to protect the engine and gear box.

The question of mudguarding has been carefully studied by Mr. N. Dawson, 34, Ampthill Road, Bedford, who lately submitted to us several samples of various types of mudshields. One type consists of shields for protecting the rider's legs, held in position by a stay clipped to the secondary tube of the frame at the top and at the bottom by the footrests rod, which passes through a half-inch hole in each of the shields secured by a nut on the footrest rod.

A second pattern has a straight rod through the centre of the shield at the top fixed to the down tube, and a flap which comes over the knees. It is provided with a suitable means of adjustment by means of a butterfly nut, while the bottom has a small bracket with the shielded footrest lying in between and the rod passing straight through, while the outside nut tightens the whole securely.

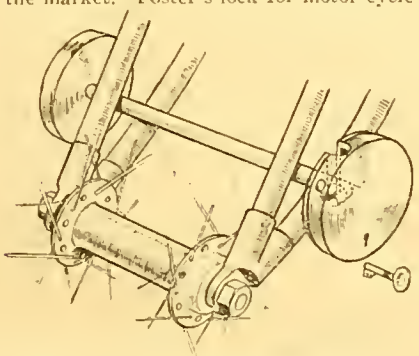
A third pattern is fixed in the same manner as the type of shield just described, but it has no adjustable flap.



Various types of leg guards manufactured by Dawson, of Bedford.

FRONT WHEEL LOCKING.

OF recent years the exploits of the motor thief have ever been on the increase, both in number and in audacity, and it is not surprising that many locking devices are appearing on the market. Foster's lock for motor cycle wheels consists, as may be seen, of two discs at the end of a rod of suitable length, one of these discs being pivoted diametrically to allow the device to be inserted between the front fork girder tubes. When in position this disc is turned back at right angles to the rod and held there by a spring lock. In the position shown it may only be released again by the key.



Foster's wheel lock in position in front forks.

HOUSE LIGHTING BY MOTOR CYCLE ENGINE.

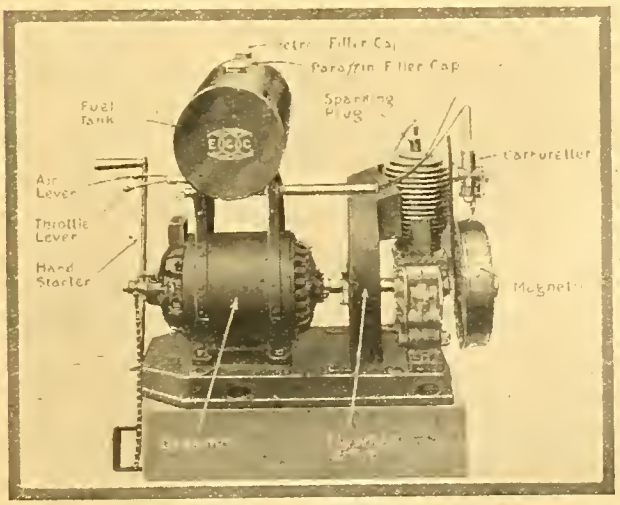
OUR queries department frequently deals with readers' enquiries respecting electric, petrol gas, and acetylene lighting plants, showing that living in the country presents problems to motor cyclists other than those that may be overcome by motor cycle.

In the lighting set illustrated, however, the power plant consists of a Villiers two-stroke engine with flywheel magneto, mounted on a bed plate with blower fan, dynamo, and petrol and paraffin tank.

This set is made by the Electrical Construction Co., Ltd., of Wolverhampton, and has an output of 500 watts, the battery capacity being 60 amp. hours at 25 volts.

Taking a 15 watt lamp (the half watt type gives greater candle power) as a standard, the accumulator will provide current for ten such lamps for ten hours, or five lamps for twenty hours; so assuming the requirements of the average small country house to be the equivalent of five lamps continuously burning for six hours per day, it is only necessary to charge the battery twice per week. After two minutes' running on petrol, paraffin may be used.

Of the two pole type, the dynamo is shunt wound, running on ball bearings and giving ½ k.w. 25-35 volts continuously at 1,250-1,350 r.p.m. A very complete equipment, including a slate switchboard with automatic cut-in and cut-out, is supplied with the set, which costs £115.



E.C.C. small house lighting plant which utilises a Villiers two-stroke engine.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

1921 ARBUTHNOT TROPHY TRIAL.

Sir,—I find that I made an error in the letter, which you published on February 2nd, on the subject of next year's Arbuthnot Trophy trial. I intended to suggest that the 1921 trial should be open to officers and men of the Royal Navy, Royal Marines, Army, and Royal Air Force. In the typewritten copy I unwittingly omitted to mention the Army.

W. S. JAMESON, Lt. R.N.

WHO ORIGINATED DISC WHEELS?

Sir,—Replying to the letter written by Mr. Chas. Daunton-Shaw, and published in *The Motor Cycle* of February 3rd, on "Who Originated Disc Wheels?" I believe that the first wheel of this description was invented by my father and introduced on a racing pedal cycle called the "Dorset Flyer," made by the Shaftesbury Cycle Co., of Shaftesbury, Dorset, about 1893. Being only a lad at the time I cannot recall the details of its construction, but as far as I know this was the first disc wheel made.

S. J. SMITH.

IN TROUBLOUS IRELAND.

Sir,—I notice that motor cyclists across the "pond" are worrying about the new taxation. Why should they worry? When they realise the position of Irish motor cyclists, they will probably cheer up and say "it must be done," and pay their *very fair* tax.

At present twenty miles is our limit; permits to have, to use, etc., with photographs, description, age, height, etc., and searches almost hourly. We do not grumble. We have to pay the tax also, but would pay anything to have the "open road" again for the coming summer.

Dublin. ONE OF THE MANY THOUSANDS.

SPLITTING TWO GALLONS.

Sir,—We notice in your issue of January 27th, under the heading of "Occasional Comments," a short paragraph entitled "Splitting Two Gallons."

The difficulties put forward by your correspondent would certainly not arise under the bulk storage and kerb pump system, as any amount from half a gallon upwards can be delivered from the pump with absolute accuracy. We think your correspondent's remark another point strongly in favour of the universal adoption of bulk storage. The utility of being able to draw a small quantity of petrol is apparent, having regard to the enormous numbers of light cars and motor cycles whose tank accommodation is small.

ANGLO-AMERICAN OIL CO., LTD.,
H. G. E. Greville, Publicity Manager.

Sir,—Referring to the remarks of your esteemed contributor "Ixion" in *The Motor Cycle* of January 27th, I quite agree that the question of whether a garage proprietor will "split" a can of petrol and supply one gallon or a less quantity is often an important one to the motor cyclist.

In this connection I would point out that one of the questions invariably put to garage proprietors who apply for the Auto-Cycle Union's official appointment is as to whether they will supply less than two gallons of petrol to the Union's members. There is great reluctance to appoint any garage where only complete cans of petrol are sold, but your readers will be glad to know that over 90% of the A.C.U. official garages and repairers do supply less than two gallons if required.

T. W. LOUGHBOROUGH,
Secretary, Auto Cycle Union.

PETROILING HINTS.

Sir,—While reading through "Occasional Comments," by "Ixion," in your issue of February 3rd, I was much interested in his remarks regarding "Petroiling a Scott."

I use for business purposes a Connaught lightweight sidecar outfit, which, as you know, has a petroil system of lubrication. The tank cap has a leather washer and a small hole in the centre of about 26ths for the purpose of an air vent. In addition to this, there is a metal anti-splash device fitted, which reaches to the bottom of the tank. Thus it is practically impossible for oil to leak round about the petrol cap. As long as nuts and unions are kept perfectly tight, I never find the least sign of any messiness. With regard to the carburetter, as long as one does not flood excessively, no leakage of any consequence occurs in that quarter. In my opinion, the petroil system is absolutely the best solution for lubrication troubles.

As a matter of fact, I understand that the majority of competition riders always add a little oil to their petrol, even on four-stroke machines.

S. T. ASHBY.

GETTING OUT OF LONDON.

Sir,—I should like to warn readers riding through London or leaving by the north, to avoid the fearful road between Edgware and Cricklewood. The surface is worse than any I encountered in a 1,200 mile tour in Devon and Cornwall. The narrow passage by the side of the car lines is rutted and "pot-holed," the lines in many places inches above the adjoining surface, and between the lines themselves blocks are out, and the track is more fit for a chamois than a motor cyclist. (Yet the L.C.C. is inflicting more miles of tramlines on us!) Riding solo on the evening of February 6th, I had three spills between the points named and another in Edgware Road.

The state of the several main roads leaving London by the north reflects discredit on the authorities concerned; the lead to the Great North Road until one reaches Barnet is a succession of leaps and bounds, and the Hampstead Road is notorious.

Can anyone tell me how to reach the pretty country and fine roads in Bedfordshire, Herts, and Buckingham on an average London Sunday without serious risk of life and limb?

R. W. WATT.

GOOD WORK ON AN OLD MINIATURE.

Sir,—In reply to Mr. M. J. Wright's letter which appeared in *The Motor Cycle* of February 3rd, I would like to mention that I purchased second-hand a little 2 h.p. scooter in June, 1913, which had done about 2,000 miles, but was in the pink of condition when I took it over. From that day until I joined up, I can safely say I rode it over another 2,500 miles. This little machine has a speed that can hardly be conceived by anyone until he crosses swords with me on the road. As a matter of fact, the only thing I fear on two wheels is the Norton (one of which I also possess).

I came home on a ten days' leave in 1918, and did not stop until I had knocked the scooter's record up another 1,500 miles. I am firmly convinced the machine is even better now than when it came out of the factory. I was "demobbed" in February, 1919, and have run about on it continually.

I would like to say, in conclusion, that this has been the most economical 'bus I ever possessed. My only replacement has been one back cover.

DONALD CAMERON.

TIME IS MONEY.

Sir,—*The Motor Cycle* has published several letters giving comparative costs and the saving effected by using a motor cycle instead of the train, but your correspondents do not appear to have considered that the "time" saved is in itself a very considerable item.

My own case may be of interest. I have to journey daily from Kingston-on-Thames to Cricklewood, a distance of fourteen miles each way. By public conveyances, I have to use two trains, a 'bus and a tram each way! and never manage the journey under one and a half hours; it is usually two to two and a quarter hours. On my machine I do the journey, in all weathers, in from forty to fifty minutes, according to the state of the roads and traffic.

Excluding Sundays, holidays, and special occasions, when I have had to go by train, I have made about 250 return journeys in the past twelve months.

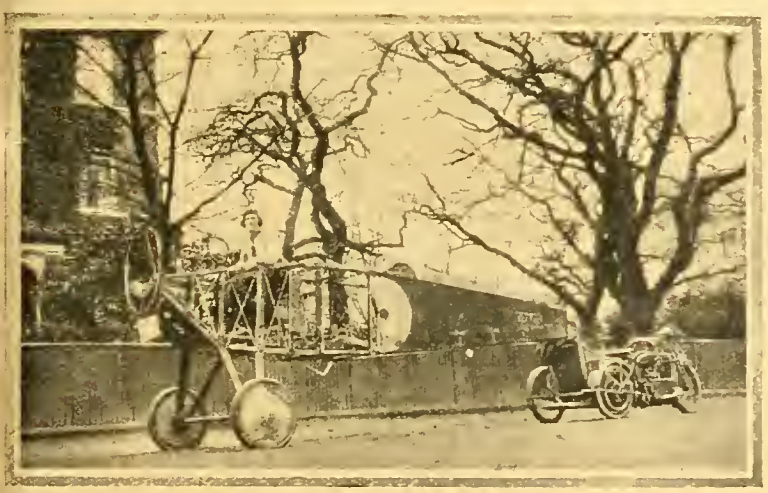
A very low estimate of the time saved is one hour each way, or two hours per day. 250 × 2 = 500 hours. Deduct, say, 25% to represent time spent in cleaning, repairing, and tuning up, and this leaves 375 hours, or more than a month of working days of twelve hours each! Surely an item worth taking into consideration in the course of a year.

H. A. CHAPLIN.

CRUELTY TO SIDECARS.

Sir,—I read with interest a letter published in your issue of February 3rd under this heading.

My 'bus—a 6 h.p. New Hudson—towed a single-seater aeroplane fuselage a distance of seven miles, chiefly through traffic. We got on to top gear easily and attained a speed of 25 m.p.h. The machine took a long trying gradient very easily on second gear; till, the engine beginning to labour, I looked round, and found several small boys having a free ride.



A big haul for a sidecar, but not so heavy as it looks. (See letter from Mr. J. Spalding.)

I wonder if your readers know of the bargains that may be picked up at certain aerodromes. I obtained the above-mentioned fuselage complete (less engine) for 10s. There are two 700×75 tyres on it, some hundreds of nuts and bolts, and innumerable other useful fittings, not to mention the wood. There were about fifty of these machines for sale at the same price.

J. SPALDING.

NEW HINTS FOR AN OLD ENGINE.

Sir,—Referring to Mr. Norman H. Mills's letter in your issue of February 3rd, *re* 2¾ h.p. De Dion engine, may I, as one of the users of this type for many years, offer the following suggestions:

Before attempting to tune the engine, carefully examine the exhaust valve seating for cracks. Make certain that both push rod and exhaust valve stem are a perfect fit, as being direct lift by the cam, any play causes great variation in timing. Fit a fairly strong exhaust valve spring, with as little clearance between the tappet as possible when hot. The inlet valve requires very close attention, and must have perfectly flat faces, and any suspicion of roundness should be removed in the lathe. The stem must be a good working fit, with no side play, and the lift must not exceed $\frac{3}{32}$in. The spring should be just weak enough for the engine to suck when turned by hand, which will show itself by a species of grunt in the inlet pipe.

As these engines are well balanced, and will rev. freely, the gear should be kept somewhat on the low side, to ensure good climbing. Use a plug with heavy electrodes, as it is not uncommon for these engines to show a dull red combustion chamber when riding at night. Fit as large an exhaust pipe as possible, it being advisable to increase the bore into the port, and avoid using thick piping with a view to eliminating the storage of heat round the cylinder head.

If Mr. Mills cares to follow these points, assuring himself, of course, that the engine is mechanically good regarding bearings, cylinder bore, and piston rings, etc., he will find that he has an engine that can show a clean pair of heels to many modern machines.

W. S. LEECH.

CHERISH YOUR LICENCE.

Sir,—I wish to draw the attention of your readers to the trouble and expense incurred in obtaining a new taxation licence in place of one lost.

I had the misfortune to lose mine in Maida Vale on February 2nd, 1921, the same day as it was issued me. My machine is a 1920 Indian with sidecar, and the licence, in its holder was fixed to the rear of the front number plate. Apparently, not enough clearance was allowed and it was pushed off, by the action of the front forks.

I applied next morning for another and was told that a Statutory Declaration from a Commissioner of Oaths, a declaration from myself, and a re-issue payment of 5s. would be required before they could consider the matter of issuing me another.

The Statutory declaration costing me 10s. 6d., the L.C.C. re-issue fee 5s., a new licence holder 5s., about six hours of my time, and the prospect of waiting a week or two, make me take this opportunity of warning other motor cyclists to look to the fixings of their licence holders.

I might add that a small "Teddy Bear" mascot was wired to the blank side of the holder. I leave it to you, to consider whether the "blank" mascot brought me any luck.

W. THORPE.

MORE DOG CATCHING.

Sir,—In reply to your correspondent, the Rev. J. M. Philpott, will you please find space for the following truthful account:

Some months ago, whilst proceeding along the King's (somewhat bumpy) highway, ruminating on the possibilities of one day becoming an aviator, I noticed a dog evincing a lively interest in the 24in. wheels of my New Hudson two-stroke. My mind was just wandering back to the thought that one day I might do a spinning nose dive, when the front wheel suddenly jammed solid, and, as a consequence, I executed a graceful curve over the handle-bars. I arose immediately, and with the help of the crowd which had already collected, placed the machine on the stand and looked for the damage. Whilst meditating on the purpose of the remark of a local committee candidate, that "he was not going nearly as fast as he usually does," I noticed a shower of mud and a noise like a steam whistle coming apparently from the front mudguard. Shortly afterwards a dog emerged similar in appearance to the one I had seen before, but rather thinner and longer, and a bit naked in places, which ran up the street, taking the steam siren effect with it, but misfiring slightly on one cylinder.

C. T. WORSELL.

Sir,—A few months ago, I had a similar experience to that of the Rev. J. M. Philpott. The dog, a White West Highland terrier, ran at my machine in the usual manner, lost his head, crouched down, and disappeared between the (B.S.A.) motor cycle and sidecar. I heard him yelp, and as I was going very slowly, I pulled up within a yard or two. On wheeling the outfit backward, I found the belt had trapped the dog's hair and had carried him round with it.

VINCENT H. SUGDEN.

MORE DOG CATCHING.

Sir,—I was interested in reading of the Rev. J. M. Philpott's dog-catching feat in the issue of *The Motor Cycle* for February 3rd; but, strange as it was, I do not think it so curious as the following extraordinary "accident" which happened a few months ago (I forget the exact date, but the incident was reported at the time in the *Bucks Advertiser*). A motor cyclist was riding from Aylesbury to Leighton Buzzard, and, upon approaching the latter town, which is by way of a long steep decline with level railway crossing at the bottom, he met the gates closed and train approaching. Unable to pull up, he crashed into the gates, as the engine came abreast of them. His motor cycle was utterly destroyed, but—and this is the extraordinary part of the business—the rider was thrown, and landed unhurt on the knees of the engine driver on the footplate of the "cab." As the newspaper remarked at the time, what a film stunt it would have made!

May I say that while I have given up my motor cycle for a cycle car, I am unable to give up *The Motor Cycle?*

M. C. MILLBURN.

Sir,—I read with interest the Rev. J. M. Philpott's letter in your issue of February 3rd, and offer the following solution, which may (or may not) be correct:

He had been enjoying a "blind" for some miles, and the resultant heat rendered the tread of his tyres tacky, with the result that when he ran over a dog it became amalgamated with the rubber, and was carried round, until brought to rest by the back stays.

Speaking more seriously, though, the writer some years ago had the following experience:

Whilst driving a small three-wheel runabout, which had the engine situated somewhat like the Morgan, a dog running across the road failed to accelerate quickly enough, and vanished underneath; but, strange to say, no bump was felt, nor did the animal reappear from the back of the machine. A hasty stop was made, and when a frantic yelping commenced underneath the bonnet, investigation showed that the dog was sitting in a pool of oil and water in the canvas underscreen beneath the engine, and, in fact, refused to budge until the underscreen was unstrapped, when it shot away apparently unhurt.

E. B. LEECH.

SIDECAR WHEEL BRAKES.

Sir,—Being a rider of a Rover sidecar outfit having a sidecar wheel brake (of the external band type), my impressions may be of interest. You are probably aware that the sidecar brake works in conjunction with the back wheel brake, and is actuated by the same pedal. As the two brakes are compensated (which I think is the most important point in the design), I have found every satisfaction in their working. On descending a hill with snow on the ground I have applied the brakes until both wheels were locked. The whole outfit tended to slide in a straight path, and I did not notice any ill effects on the steering. Unfortunately, I cannot really say what difference there would be with the sidecar brake put out of action, as I have not made a test under the above road conditions, but I should say that the outfit might possibly tend to keep to a straighter path with both wheels locked than with only the back wheel locked. I keep my brake rods adjusted so that the back wheel shoe commences to act just before the sidecar brake band, as I think this prevents any tendency of the sidecar wheel to act as a pivot on which to swing the cycle round, although I have never experienced that tendency. Speaking generally, I should not recommend sidecar brakes that were made to act independently of the back wheel brake (especially passenger operated); but where the two brakes are fitted through compensating rods to the same pedal (operated by the driver) I think the even braking effect on the road of both wheels is an asset to any outfit.

I have no interest in the Rover Co., except as a satisfied owner of a 1914 machine. A.G.

Beeston.

Sir,—Your remarks *re* sidecar wheel brakes reopen an old controversy. We entirely agree with you that sidecar wheel brakes when operated independently are very dangerous. When we first introduced our B.S.A. taxi outfit we were faced with the necessity of providing, in addition to the powerful internal expanding brake fitted to the machine, a second independent means of stopping and holding a heavy outfit when fully loaded under all conditions.

We realised at once the unsuitability of the front wheel brake as, if made powerful enough for this purpose, it would be extremely dangerous in operation if the surface of the road were at all greasy, particularly in descending a hill, having in mind the distance of the unbraked and heavily loaded sidecar wheel from the rear wheel, as compared with the length of the wheelbase of the machine.

In addition, the action of a front wheel brake throws an undesirable strain upon the steering column and forks in a direction contrary to that for which they are designed. At the same time, the attachment of another brake to the back wheel we considered to be undesirable, for we found, in the event of a sudden "pull up" being necessary, the braking friction of one tyre only was insufficient before locking of the wheel resulted and consequent heavy wear of the rear tyre.

We therefore designed the "County" combined and compensated rear wheel and sidecar wheel brakes (patent applied for), which we have fitted to a considerable number of motor cycle taxis which are now plying for hire in various towns.

This brake is capable of arresting the progress of and holding our taxi under all conditions, and, contrary to your surmise, it has a steadying effect upon the steering. This is particularly noticeable in grease, when it can be applied to its fullest extent without causing the outfit to slew round.

THE COUNTY CYCLE AND MOTOR CO.,
FAWKENER BIRCH, Manager.

A FRONT FORK WEAKNESS.

Sir,—May I warn fellow motor cyclists of a danger which they may perhaps have overlooked? I have for some years past ridden a well-known make of cycle, in which I learned to put absolute confidence, and which I thought I knew inside out. Two years ago I had a bad accident with it, which I attributed to cornering at too high a speed, though the explanation never satisfied me. But about two months since, when free-wheeling at a moderate pace, I saw the bolt head of the fulcrum link of the spring forks suddenly shear off, and when I regained consciousness I found my passenger insensible and badly injured.

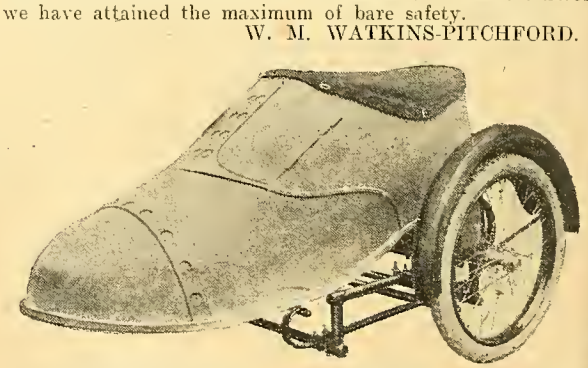
The two accidents have involved about twelve weeks' illness and nearly £100 in expenses, so that the matter is sufficiently serious to warn other riders to look to this point in their mounts, since it involves irremediable wreck if it gives way.

In the case of the machine in question, the bolt was of small section, unprotected by a sleeve, lubricated by an inefficient arrangement, and subjected to a constant shearing strain against a sharply faced bearing. Add the twist of the sidecar and the unCushioned punch of the road, and it is no wonder that the bolt had crystallised and parted.

Surely a spring fork can be designed in which failure of the parallel link fastening does not involve wreckage? Of course, now I know, I shall add a safety fastening, possibly of piano wire in many turns, for my nerve is still good. But it ought not to be necessary for riders thus to ensure themselves against designers.

Also, since, when one puts on the brake in an emergency, the momentum of the sidecar swings one on round to the right, cannot someone design us a differential sidecar brake? It is of little use to elaborate refinements of comfort before we have attained the maximum of bare safety.

W. M. WATKINS-PITCHFORD.



THE SIDECAR FOR ADVERTISING PURPOSES.
A delivery sidecar made by the Sandham Engineering Co. for a boot manufacturer.

SIDECAR AND CYCLE CAR.

Sir,—Just at present it appears to be the correct thing to decry the sidecar combination on the plea of over-elaboration and high cost, and boom the three and four-wheeled cycle car as *the* passenger vehicle. Fortunately, not everyone is taking this line of action seriously.

When purchasing a light car a buyer is frequently informed that the question of high price is a myth when viewed in comparison with pre-war equivalent money values; and that a modern light car with self-starter and dynamo lighting at £500 to-day is but approximately £30 dearer than its pre-war replica without electrical equipment, calculating on the decline of the sovereign to one-half of its pre-war value on a purchasing basis. Following this line of argument, a 1921 A.J.S. sidecar outfit, with spare wheel, tyre, and screen, ranks equal to a £108 outfit in 1913-14, and I think everyone will admit the new model has not degenerated in finish or service in the meantime.

Further, £300 to-day will purchase the best motor cycle and sidecar at present produced, and, coupled with such attractions (luxuries?) as spare wheel, dynamo lighting, spring frame or specially sprung saddle, speedometer, electric horn, etc.—in other words, perfection as near as skill and brains can make it. For the same sum I have the choice of about six three or four-wheeled cycle cars, some of which have hardly had a thorough test, all of which are acknowledged to be rough, and admittedly made on a minimum cost basis in order to sell at the figure and still show a profit.

I am not condemning the cycle car. It is a good thing in principle, and will eventually win full regard: but, nevertheless, it appears to me to be a penny-wise-and-pound-foolish policy to disparage the ultra reliable luxury sidecar, symbolical of perfection, in favour of a cheaply finished, noisy, and not over smooth-running vehicle which, excepting one make, has not yet proved its real worth. After several months' running of a post-war cycle car, I have abandoned the type for the present in favour of a really good sidecar outfit. I am keeping an open mind on the subject, but cannot see the benefit of jeopardising my season's pleasure, under present conditions of cycle car advancement, for the sake of a supposed improvement in personal protection during wet weather. F. E. SCHOFIELD.

IN PRAISE OF WATER-COOLING.

Sir,—Although a reader of *The Motor Cycle* since number one, I have never dared to encroach on your valuable space. I have owned all classes of motor cycles since 1909, single and twin, but could never find that "just as you like it" mount.

In 1915 I purchased a second-hand water-cooled Scott and fixed a sidecar. I had this outfit two years, and up to the time of selling it only cost me £2 for mechanical repairs.

I, however, wanted more power, but after my two years' pleasurable experiences, decided it would have to be another water-cooled engine. My choice was a second-hand 1916 "Williamson," with 8-10 h.p. water-cooled Douglas engine. I bought this outfit through the advertising columns of *The Motor Cycle* in 1917, and it is still going strong. I have done over 8,000 miles on this machine, and every mile a pleasure.

I have toured Wales, Cornwall, Devon, and home counties, mostly with three up (sometimes four), and I have yet to find the hill that can make this engine labour, or get hot. As to cooling, the system is ideal. In traffic the control is everything needed.

As to speed, well—coming from Exeter last September, I met a friend on a 1920 famous American outfit, who challenged me to a run home, the last in town to pay for suppers all round. He had one passenger, I had two. Well, he paid. His passenger has now a water-cooled outfit, and I feel sure if some of those "red hot" air-cooled enthusiasts were to give the water-cooled engine a fair trial, they would never ride anything else. ROBERT MUNDAY.

TEMPERATURE CHANGES AND LUBRICATION—AMERICAN EXPERIENCES.

Sir,—Having ridden for a number of years in sections of the United States where the daily winter temperature may vary from 40° F. to 3° or 4° F. below, I feel experienced enough in lubrication matters to sympathise with Mr. David Tod and others who have had hand oil pump troubles.

I have used machines fitted with the common or garden variety of hand pump, and also with mechanical oiling (with supplementary hand pump). In my mind there is no question concerning the comparative merits of the two systems, but neither will give satisfaction unless a little judgment is used in choosing the oil. Hard labour at the kick-starter has taught me to go to a bit of trouble in exchanging the heavy treacle-like lubricant which my motor utilises in the warm weather for the thinner winter oils used here.

The oil tank on my machine is located behind the rear cylinder, which keeps it at a fairly fluid temperature, even at below zero, provided the motor has been warmed up by running, etc. If I should get caught out with the heavy oil, and a cold motor and oil tank, I resort to paraffin and my petrol syringe, thinning down the oil until the motor will start.

It has been my experience with hand pump lubrication that in cold weather and with heavy oil the hand pump has to be sturdy. If one will notice the construction of the hand pumps on such American machines as the Harley-Davidson, Indian Scout, and Reading-Standard, one will see that there is plenty of pump cylinder wall, and that the rider may put considerable effort on the handle without fear of the whole works fetching loose, and giving the repairman something to do. I recently rode a lightweight of British manufacture for several days, and when the mercury began coyly to descend into the thermometer bulb I was afraid to push too vigorously on the bijou hand pump handle for fear of ruining the whole lubricating system.

If you will permit a suggestion from an advocate of the mechanical oiler, put more metal into hand pump cylinders and plungers, and change your oil to suit extremes of temperature. Thus, if your motor calls for oil of a consistency of Mobiloil B for temperatures above freezing, use one of the consistency of Mobiloil A for zero weather.

I am not connected with the oil business in any country, but just cite these products as examples.

Hartford, Conn, U.S.A. D. R. HOBART.

SUMMARY OF CORRESPONDENCE.

Mr. L. W. G. Hartley writes further to his letter published last week on the retarding effect, compared with America, of our moist atmosphere against very high speeds. He suggests that the F.I.C.M. should arrange tests to determine exactly how much difference is existent.

Over the signature of "Mascot" a correspondent praises the Apollo special two-stroke plug for speed and hill work with that type of engine.

"D.H.D." writes endorsing the experiences of Mr. E. H. S. Tye concerning the Cox-Atmos carburetter. He also praises the conduct of his 3 h.p. Royal Ruby, to which the instrument is fitted.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	By post.
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CURRENT CHAT

Times to Light Lamps.

Feb.	17th	... ...	5.45 p.m.
,,	19th	... ...	5.49 ,,
,,	21st	... ...	5.53 ,,
,,	23rd	... ...	5.57 ,,

What Petrol Costs in France.

The price of petrol in France varies from 2.40 frs. to 3.20 frs. per litre (1¾ pints).

London to Edinburgh Course.

The 1921 London to Edinburgh course has been considerably stiffened, and when the details are published many aspiring competitors will receive a surprise.

The Richmond Meet.

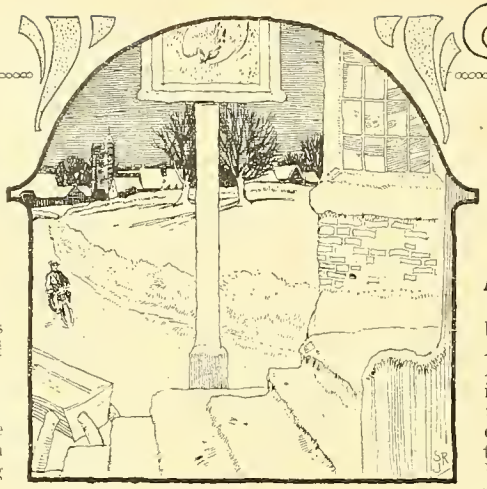
This year the annual meeting of Northern motor cyclists which is held on Good Friday in the Market Place of Richmond, in Swaledale, will be organised under the auspices of the Yorkshire Centre, A.C.U. At a recent meeting it was decided that the organisation should be carried out by the York and Middlesbrough clubs, and as the latter preferred to leave the arrangements in the hands of the former, Messrs. F. T. Cleveland and A. K. Procter have been appointed joint secretaries; their address is The Kiosk, Lendal, York.

Benzole, Benzene, and Benzol.

That important and energetic body, the British Engineering Standards Association, has had the question of a standard definition and specification of benzol (commonly known as "benzole") before it for some time now; and its findings have just been issued in booklet form, copies of which may be obtained, at 1s. 2d. post free, from the Secretary, 28, Victoria Street, London, S.W.1. "Benzole" in future shall denote a liquid consisting roughly of benzene and not more than 30% (by volume) of toluene and xylenes.

The Grand Prix.

In previous years cycle cars have been admitted to the Grand Prix Race at the same time as two-wheelers, but this year it is considered that motor cycles are sufficiently important for them to have their own event; the cycle cars will have a race of their own in September, over the same course as that which will be used by the motor cycles on July 23rd. The motor cycle contest will gain enormously by being held the day before the three litre car Grand Prix. Because of this bigger event it is possible to spend larger amounts on the preparation of the course, as is shown by the voting of £10,000 for road improvements only for the ten and a half miles of highway. Further, the grandstands, the pits, and the barricades erected for the car race on the 24th July, will be available for the motor cycle event, and thousands of spectators who would not come for a motor cycle race only will be induced to visit Le Mans for the double event.



Pillion Riding.

It is apparently against the law in Auckland, New Zealand, to take a passenger on the carrier of a motor cycle, and there have been several convictions for the breach of this regulation. This law only applies within the city area.

Garage Accommodation in the City.

The Auto Cycle Union, having been approached by a considerable number of members with enquiries as to where garage accommodation for motor cycles is available within the City of London, has recently carried out a full investigation of this matter. From this the Union has ascertained that garage accommodation actually within the City is very restricted. Garage proprietors or others who may be able to assist in this matter are invited to communicate with the Auto Cycle Union, 83, Pall Mall, S.W.1, and the Union will be pleased to consider the appointment of any suitable premises as A.C.U. official garages.

Special Features.

NOTES FOR THE NOVICE.
RIDING TO WIN.
MODERN SPRING FORKS.

American Road Records.

Road records in America have now been banned by the Motor Cycle and Allied Trades Association. The M. and A.T.A., the governing body of the sport in America, has never officially sanctioned inter-city trials, since in most cases they entail the reckless breaking of the traffic regulations. The Auto Cycle Union in England has, of course, for many years taken similar action, refusing to recognise any road records.

A Provisional Control.

As announced by *The Motor Cycle* last week, the Royal Automobile Club and the Auto Cycle Union came to an agreement regarding the control of four-wheeled cycle cars for competition purposes.

It was agreed that temporarily until the question of the line of demarcation between car and motor cycle is settled internationally, that the R.A.C. will favourably consider applications for permits for small four-wheeled vehicles coming under the definition of the Fédération Internationale des Clubs Motocyclistes (772 lb. weight 1,100 c.c. capacity or under) to compete in A.C.U. competitions in 1921.

The effect of this agreement is virtually that the Auto Cycle Union will control four-wheel cycle cars during the 1921 season, and it is anticipated that when international agreements have been formally ratified the control of this type of small car will be handed over permanently to the Union.



THE WAY HOME. Tenants moved into Leicester's first municipal houses last week. Their "lot" is not quite a happy one, however, as will be seen from the above illustration, which shows the only road home.

GAMAGES 1921 SUPER-SALE

THE "GAMAGE" TWO-STROKE

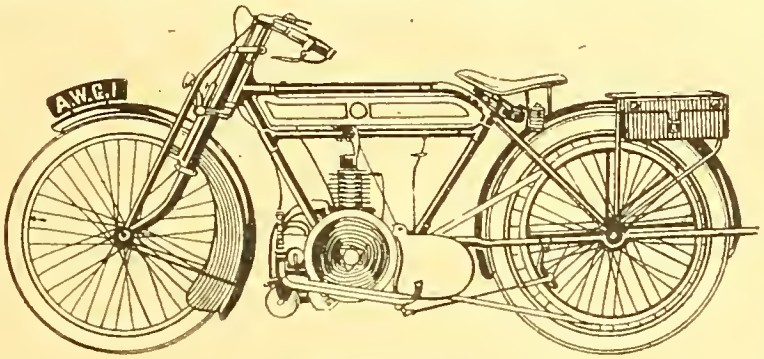
We are offering a limited number of these famous motor cycles at an amazingly low price during the Super-Sale only The high standard of excellence is rigidly maintained throughout

THE FINEST TWO-STROKE

The following Extracts from an unsolicited testimonial from an enthusiastic user render comment superfluous.

Bawtry, Yorks, 20/9/20.

"I have now run my 'Gamage' for a little over a year, on five days a week.....and over all kinds of roads and very often even across fields where there is no road, or even track. She has now run between three and four thousand miles and so far has had no repairs of any kind, save, of course, decarbonising the engine. **The machine will climb any hill on top gear** I once lent her for a week to my brother who rides a powerful single-cylinder machine, and he was astonished in the way the little Gamage went up the hills, and said he never would have believed it unless he had ridden the machine himself. It is only fair to tell you how reliable a machine you have put on the market at a reasonable price."



BRIEF SPECIFICATION

2½ h.p. Villiers engine, 2-speed gear, C.A.V. magneto, Best and Lloyd's semi-automatic lubrication, Saxon spring forks, Amac carburetter, 26 x 2¼ Dunlop tyres and Dunlop belt.

Usual Price £65

SUPER-SALE PRICE— **£58**

Carriage and packing extra.

NOW IS THE TIME TO BUY FOR THE COMING SEASON

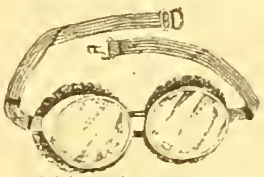
BARGAINS IN ACCESSORIES

PRICES THAT MAY NEVER BE REPEATED.

Special Sale Offer of high grade Palmer and other **MOTOR CYCLE TYRES.** All quite new but slightly shop soiled

Size	Sale Price.	Usual Price.
26 x 2in ...	£1 11 6 ...	£3 0 6
26 x 2½in. ...	1 12 6 ...	3 3 0
26 x 2¾in. ...	2 3 0 ...	3 16 4
26 x 3in. ...	2 9 6 ...	4 7 6
28 x 3in. ...	3 3 0 ...	5 2 10

Carriage extra



Special Sale Offer of **COLLAPSIBLE SIDE GOGGLES.** Sale price, per pair **2/11** Usual price 3/9. Postage 4d.

Aluminium **WHEEL DISCS** for Motor Cycles To fit Douglas, Harley-Davidson, Triumph, and Zenith. Sale price per set complete **57/6** Usual price 75/-. Carriage extra.

Special offer of **MOTOR CYCLE BULB HORNS,** very loud and deep toned, fitted with No. 8 bulb. SALE PRICE **11/9** Usual price 18/6. Postage 9d.

MOTOR CYCLE WHISTLE.

To fit to the exhaust pipe. Sale price **3/8** Usual price 5/9 Postage 9d.



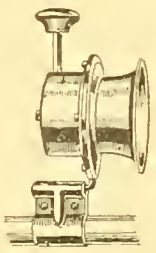
Breeches offer to motor cyclists.

400 Pairs only Plain and Fancy Derby Tweed BREECHES. Correct shape, knee double strapped with same material. The ideal garment for all outdoor workers. Cyclists, motor cyclists, and motorists. Stocked in sizes—30in., 32in., 34in., 36in., 38in. **23/11**

When ordering please state size round waist and height.

500 Pairs Velvet Cord BREECHES There is nothing more suitable for hard wear than velvet cord. This opportunity should be taken advantage of at once by motor cyclists. They are made up with lace knee, double knee extra strong, and stocked in sizes—30in., 32in., 34in., 36in., 38in. waist measurements.

SALE PRICE, per pair 23/11. Worth 37/6. Two pairs for 47/-. Postage 9d



MOTOR CYCLE KLAXON HORNS.

Ex. Gov., Stock.

Sale price **23/6**

Usual price 35/ Postage 1/-

WRITE NOW FOR THE BEST BARGAIN SALE CATALOGUE YET PUBLISHED.

GAMAGES, Holborn, London, E.C.1

In answering this advertisement it is desirable to mention "The Motor Cycle." C9

REAL VALUE

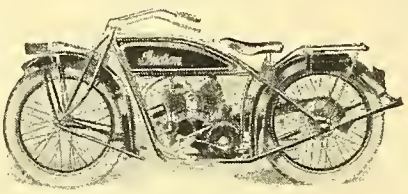
1921 **Indian** Motocycles

OUR ORGANIZATION, EQUIPMENT, AND OUTPUT ENABLE US TO OFFER MORE VALUE THAN ANY OTHER MANUFACTURER, WHILE MAINTAINING THE HIGHEST QUALITY THROUGHOUT.

IF THE INDIAN EQUIPMENT BE COMPARED WITH THAT OF ANY OTHER WELL-KNOWN MAKE IT WILL BE READILY SEEN THAT WE OFFER THE BEST VALUE IN THE MOTOR CYCLE TRADE.

SEND FOR LIST.

HENDEE MANUFACTURING CO.,
"Indian House,"
366-368, Euston Road, London, N.W.
Telephone—Museum 1643.
Telegrams—"Hendian, Eusroad, London."
AUSTRALIA—109-113, Russell St., Melbourne.
AFRICA—"Indian House," 127-9, Commissioner St., Johannesburg. "Indian House," 579, West Street, Durban. "Indian House," Strand St., Port Elizabeth.



Harrods
MOTOR CYCLES

Any of these Machines are available on Easy Terms of Payment—Details free on request

SOLO MACHINES

2¼ h.p.	**TRIUMPH JUNIOR,** 2-stroke, 2-speed ..	£75 0
2¼ h.p.	**LEVIS,** popular model, single speed.. ..	£60 0
2½ h.p.	**HOBART,** Albion 2-speed gear	£75 0
2½ h.p.	**O.K** Lightweight, single-speed	£50 8
2½ h.p.	**SPARKBROOK,** single-speed	£69 0
2⅞ h.p.	**SUN VITESSE,** single speed	£52 10
2¾ h.p.	**ALLDAYS ALLON,** model de luxe	£80 15
2¾ h.p.	**DOUGLAS.** 2-speed model	£85 0
3 h.p.	**ROYAL RUBY,** spring frame, etc. (nearly new)	£100 0
3½ h.p.	**RUDGE-MULTI,** T.T.	£110 5
4 h.p.	**TRIUMPH,** belt and chain, model 'H.' ..	£127 10
4 h.p.	**TRIUMPH,** all-chain drive, model 'S/D' ..	£140 0
4½ h.p.	**B.S.A.** all-chain drive, model 'H.'	£110 0
4¼ h.p.	**B.S.A.,** belt and chain, model 'K'	£107 0

COMBINATIONS

3½ h.p.	**ROVER,** with smart coach-built sidecar ..	£180 0
3½ h.p.	**INVICTA,** Abingdon engine, coach-built s/c	£143 0
4 h.p.	**DOUGLAS,** Twin-cylinder, 3-speeds, etc. ..	£170 0
4 h.p.	**COULSON,** spring frame, smart sidecar ..	£162 10
4 h.p.	**TRIUMPH,** model 'H.'	£182 10
4 h.p.	**TRIUMPH,** model 'H.' coach-built sidecar ..	£151 10
4 h.p.	**TRIUMPH,** chain-drive model	£165 5
4¼ h.p.	**B.S.A.,** model 'H.,' and No. 2 sidecar.. ..	£152 0
4¼ h.p.	**B.S.A.,** model 'K.,' and No. 2 sidecar	£149 0
4½ h.p.	**QUADRANT,** including carriage from works	£145 0
5-6 h.p.	**HAZLEWOOD,** countershaft, 3-sp. clutch, etc.	£186 0
8 h.p.	**ZENITH,** model 'H,' to makers' specification	£204 0
8 h.p.	**MATCHLESS,** Model 'H.'	£205 0
8 h.p.	**ENFIELD,** to makers' specification	£160 0

SPECIAL! *Harrods also offer from stock a few 1920 model Shop Soiled Solo Machines, and Sidecar Combinations, in first-class condition, at remarkably attractive prices. Order Early!*

Latest Lists of New and Second-hand Machines gladly sent free on application.

HARRODS MOTOR SHOWROOMS 116-118 BROMPTON RD LONDON SW1

C10 *In answering these advertisements it is desirable to mention "The Motor Cycle."*

By Road to the Football Cup Final.

Accommodation for members' motor cycles on the occasion of the Cup Final at Chelsea in April has been arranged for by the A.C.U.

R.A.C. and the Speed Limit.

Complete abolition of the speed limit is urged by the R.A.C. Several excellent arguments are put forward in favour of this course of action.

Defining "Owner."

Mainly on account of difficulties that have arisen regarding who is "the owner," for licensing purposes, of a vehicle purchased on the hire purchase system, the Ministry of Transport has provisionally defined "owner" as the "person by whom the vehicle is kept and used," who is, of course, not necessarily the legal owner. Registration books, therefore, do not constitute absolute proof of ownership with a power to sell.

Price Guarantees.

It is becoming quite common practice now amongst manufacturers to guarantee a full refund in the event of an early reduction in price. This issue contains many such announcements and, in addition, the following firms have notified us to this effect: Veloce, Ltd. (Velocette, to June 1st), Roberts and Hibbs (New Scale, to May 31st), and Cashmore Bros., Ltd. (Alecto, to May 31st).

Worth Winning.

Competitions are now the order of the day. The latest is an estimating contest organised by S. Smith and Sons, of 179, Great Portland Street, who will send an entry form to all purchasers of a K.L.G. plug between February 21st and March 7th. Competitors are asked to estimate the number of K.L.G. plugs sold by Messrs. Smith during the period mentioned, and the prize list includes a £300 8 h.p. Rover light car, a model H 4 h.p. Triumph, and a 2¼ h.p. Enfield lightweight, in addition to many other prizes.

Motor Cycle versus Roller Skates.

An exceptionally novel race between a 2½ h.p. Metro-Tyler motor cycle and Mr. A. R. Eglington, the world's record holder (on roller skates), will be run off at 9 p.m. at the Holland Park Rink, London, on March 9th.

Mr. G. F. Ammon, the motor cyclist, when interviewed at practice last week, stated that he found considerable difficulty in negotiating the 180° curves at each end of the floor. The consequent reduction in speed, however, is easily made up on the straight, which is of considerable length.

Mr. J. S. Bennett, of the Metro-Tyler Co., Ltd., informed us that the race is the result of a challenge by Mr. "Peggy" Bettison, the founder and manager of the National Sporting Club, who offers a side stake of £25.

Mr. Eglington's speed for the mile (the distance selected for the race) is just over two minutes; and, since a difference of two seconds only is the present standard of the competitors, it should prove an exciting event.

The machine is a standard one, with the exception of a fixed gear of 7½ to 1, and the use of Duralumin engine plates to reduce the weight.

Weights of Trials Machines.

It is possible that the 200 lb. limit may divide solo and sidecar mounts in future.

Efficiency.

At the Efficiency Exhibition at Olympia the A.A. is showing a model of one of its roadside telephone boxes.

Old Salonica D.R.'s Annual Dinner.

The second annual dinner will be held at the Torino Restaurant in Oxford Street, opposite Frascati's, on Saturday February 26th, at seven o'clock. This reunion is not confined to the old D.R.'s of any particular unit, but open to any D.R.'s who served in the Balkans. Application for tickets can be made to Mr. O. Feltham, 212, High Street, Ponders End, Middlesex, or Mr. W. Hines, Castle Brewery, Bedford.

Nine New Index Marks.

Re-registration under the new licensing regulations has apparently been responsible for the following batch of index marks, nine in all: City of Leeds, N W; County of Derby, N U; County of Glamorgan, N Y; County of Leicester, N R; County of Salop, N T; County of Somerset, Y A; County of Stafford, R E; County of Warwick, N X; and the County of Worcester, N P.

Two-stroke Motor Cycles.

For the first time an authoritative handbook on the practical management of two-stroke motor cycle engines has been produced. Known as "Two-stroke Motor Cycles" (published by Iliffe and Sons Ltd., 20, Tudor Street, E.C.4, price 3s., by post 3s. 3d.), it has been prepared by the staff of *The Motor Cycle* to meet the needs of the every-day rider. The illustrations cover a wide field, both by diagram and actual examples of existing practice, and the book will no doubt attain a popularity equal to that of "Motor Cycles and How to Manage Them." Next week we shall review some of its special features, reproducing some specimen illustrations.

Motor Cycle Tourists in France.

Motor cyclists who visit France must pay a supplementary tax of 12 frs. per month for two months. If their stay in the country is longer than two months full tax on the machine has to be paid.

Motor Cyclist Supervises New Trap.

A new short-distance trap in High Street, Eltham, is supervised by the local Douglas-mounted inspector. According to local reports, he recently gave chase to a motor cyclist who declined to stop, but the result is not known.

To Reduce Prices.

A meeting has been arranged at the Cannon Street Hotel, London, E.C., for 6.30 p.m. on Saturday, 26th inst. The object of this meeting is the establishment of an Association of Production Engineers, with a view to increased efficiency in manufacture, and consequently a reduction in prices. Particulars may be obtained from Mr. H. E. Honer, 273, New Cross Road, S.E.14, who is the convener of the meeting.

Mean Speed Records

At Brooklands on Thursday, February 10th, D. R. O'Donovan, on a 3½ h.p. Norton and sidecar, put up the following mean speed times for the flying kilometre and mile, which constitute British mean speed records in Classes G and H. Subject to approval by the F.I.C.M., they are also international records for these two classes.

AVERAGE MEAN SPEED RECORDS.

CLASSES G AND H (Not exceeding 500 c.c. and 750 c.c. respectively).

	Time.	Speed.
Flying Kilometre.—D. R. O'Donovan (Norton, 79×100 mm.=490 c.c., and sidecar)	33.99s.	=65.81 m.p.h.
Previous best: Oct. 19th, 1920, H. R. Davies (2¾ A.J.S. sc.), 62.84 m.p.h.		
Flying Mile.—D. R. O'Donovan (Norton, 79×100 mm.=490 c.c., and sidecar)	56.56s.	=63.57 m.p.h.
Previous best: Oct. 19th, 1920, H. R. Davies (2¾ A.J.S. sc.), 60.30 m.p.h.		



The motor cycle escort to H.R.H. the Prince of Wales in his recent official visit to Brighton. The riders are: P.C. Tindall, P.C. Latham, Sergt. Morgan, P.C. Holland, P.C. Funnell and P.C. Wood, M.C. All were mounted on Triumphs except Funnell, who rode a Douglas.

THE MOTOR CYCLISTS' PARLIAMENT.

Last General Committee Meeting of the A.C.U. 1920-21 Session held at Shrewsbury. Total Abolition of Speed Limit Suggested. Why Motor Cycles were not Taxed £5. Fruitful Work by all Departments of the Auto Cycle Union.

THANKS to the policy, first urged by *The Motor Cycle*, of holding its committee meetings in the provinces, the Auto Cycle Union is now regarded by everyone as a national organisation.

Before the war there was a feeling among motor cyclists that because the headquarters of the A.C.U. were in the Metropolis it was a London club, run by London men, chiefly for motor cyclists in the capital. Now that impression has been removed, and the Auto Cycle Union is firmly established as a *national* institution, with H.R.H. the Duke of York, K.G., as patron, governing the motor cycle movement for the benefit of its present and future participants.

A.C.U. Local Centres.

A feature during the past year has been the formation of centres, which divide up the country, enabling every motor cyclist in England to take an active part in the general work and to assist in furthering the interests of motor cyclists locally. To do this he need not necessarily become a subscriber to the A.C.U. direct, but may be a member of a local club which is affiliated to the governing body. Such clubs, in turn, are members of a centre which has a voice in the matter of government and, in addition, governs the pastime locally.

The General Committee meeting held at Shrewsbury last Saturday was very well attended by the representatives of motor cyclists all over the country. Lt.-Col. A. E. Davidson, chairman of the A.C.U., was in the chair, and in addition to committee men sent by the North-western, Midland, East Midland, Western, North-eastern and Yorkshire centres (in themselves a body well representing the interests of provincial motor cyclists), the following were also present: Rev. E. P. Greenhill (chairman of Competitions Committee), Mr. H. P. E. Harding (chairman of Touring Committee), Dr. A. M. Low, Major R. V. C. Brook, Col. F. S. Brereton, Messrs. W. H. Wells, F. A. Hardy, V. Horsman, H. Johnson, J. L. Norton, A. S. Ross, F. A. Applebee, E. J. Bass, J. A. Masters, R. I. M. Samuel, F. S. Whitworth, S. W. Philpott, F. W. Barnes, D. H. Noble, and T. W. Loughborough (secretary).

The Work of the Meeting.

This committee meeting was the last of the 1920-1921 session, and most of the work consisted of receiving the reports of the various committees, drawing up the annual report, receiving the financial report, and considering various points raised in their connection. It is outside our province to record details of all these matters, neither would motor cyclists generally be interested. Everyone who has now anything to do with committees and sub-committees knows that the amount of work done seems out of all proportion to the results attained, and that only the results count.

New Constitution of the General Committee.

As an outcome of the formation of local centres, the constitution of the General Committee has now been altered, and at the annual general meeting, which will be held in London at 6 p.m. on Friday, March 11th, a new committee will be formed as under:

	Maximum number.
PRESIDENT AND VICE-PRESIDENTS.—Elected at the annual general meeting from candidates nominated by committee or any centre, or any two individual members ...	13
R.A.C. REPRESENTATIVES. — Six appointed annually by the Royal Automobile Club, the parent body	12
INDIVIDUAL MEMBERS' REPRESENTATIVES.—Six appointed at annual general meeting of individual members, to hold office for two years	12
AFFILIATED CLUBS' REPRESENTATIVES.—Elected annually by Board of each centre, one per centre, with additional representatives up to a maximum of three per centre, one for every five clubs in excess of the first six	42
Total	79

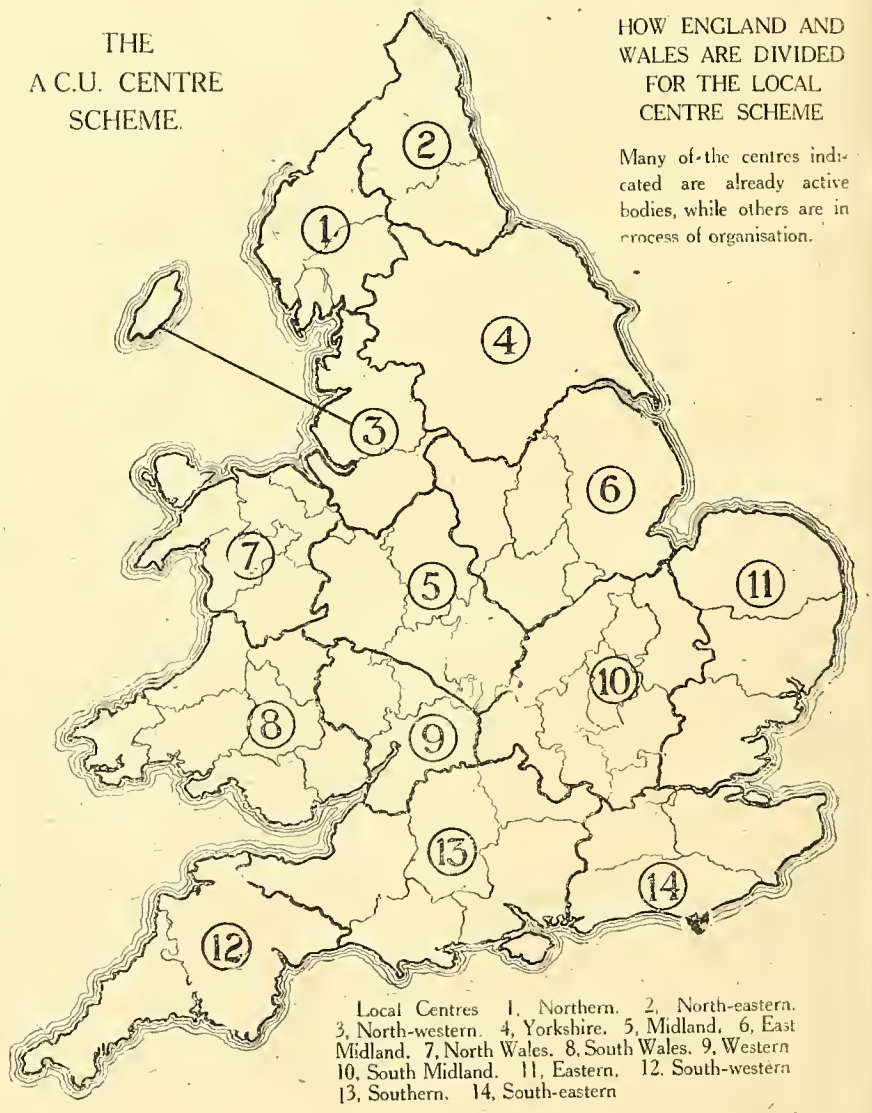
Voting Power at Centre Meetings.

The centre scheme previously referred to is now settling down in satisfactory working order. On Saturday the voting power of a club was decided on a basis of one vote for each club delegate at a meeting, and an additional vote to be

THE A.C.U. CENTRE SCHEME.

HOW ENGLAND AND WALES ARE DIVIDED FOR THE LOCAL CENTRE SCHEME

Many of the centres indicated are already active bodies, while others are in process of organisation.



Local Centres 1, Northern. 2, North-eastern. 3, North-western. 4, Yorkshire. 5, Midland. 6, East Midland. 7, North Wales. 8, South Wales. 9, Western 10, South Midland. 11, Eastern. 12, South-western 13, Southern. 14, South-eastern

The Motor Cyclists' Parliament.—

tended by such delegate or delegates on behalf of their club for each hundred, or part of hundred, members on the books of their club. An independent vote may also be exercised by each officer of the centre, and the chairman shall have a casting vote.

In the event of a centre becoming wound up, disbanded, or ceasing to exist, it was proposed that all moneys and properties of the centre should be deemed to be the property of the clubs in the centre, and be distributed amongst them in proportion to their membership. This motion was defeated, however, and it was agreed that in such cases any accumulated funds will become the property of the Union.

The Speed Limit.

One of the national matters considered at the meeting was the proposed revision of the law as to speed limits. All clubs had been invited to give their opinions, and these were by no means unanimous either for or against total abolition or increasing the present limit. It was decided to support the proposals of the Motor Legislation Committee, which favours total abolition.

In conversation with Mr. T. W. Loughborough after the meeting we gathered that this was the feeling of the majority of members and also the officials of the Union. Mr. Loughborough pointed out, however, that quite irrespective of the ultimate decision, the Union strongly desired to bring about an alteration in the dangerous driving clause. As the law stands at present the police are able to prosecute for fast driving on roads *where traffic might reasonably be expected at the time*, and this should be amended to take into account fact only.

Brakes on Racing Machines.

One of the several matters of interest to competition riders brought forward was that dealing with brakes on racing machines. It may be recalled that the absence of brakes was the cause of an accident on Brooklands during last year, and it has now been decided that, with the exception of machines entered for record breaking on enclosed tracks, all motor cycles taking part in races, and also in speed trials, must be fitted with a brake.

SIX DAYS TRIALS REGULATIONS.

Although little has been definitely decided regarding the Six Days Trials, the Competitions Committee and its Advisory Committee are busy preparing the final regulations. At a recent meeting of those responsible for competitions it was decided that the following is the definition of "engine capacity":

> "That for the purpose of the computation of engine volume, the cubic capacity be taken as the volume swept by the piston or pistons or other moving parts, subjected to the products of combustion to produce power."

Among the recommendations of the Advisory Committee, of which, incidentally, Maj. Watling, of the Manufacturers' Union, is a member, may be mentioned the plea that time lost through punctures during the speed tests at Brooklands should be allowed.

It is suggested that one day only be devoted to testing the consumption of petrol and oil. The suggestion that all machines over 350 c.c. shall propel sidecars has met with unanimous opposition, and in place of this feature it is proposed that team prizes should be awarded to solo machines under 350 c.c., and 500 c.c. and sidecar machines under and over 550 c.c.

Awards for Light Machines.

The Advisory Committee also recommend that one special award should be given for the best performance put up by any machine weighing under 200 lb. unladen, regardless of class.

Whereas in the original recommendations it was decided to divide solo and sidecar entries at the 350 c.c. mark, it is not altogether improbable that the final regulations will fix the line at 200 lb. weight. This would mean that all machines ridden solo would have to be of a weight which permits them to come into the 30s. taxation class.

Wheel Slip and Clean Climbs.

It has also been suggested that the secret check be done away with in reliability trials, but since the margins allowed in A.C.U. trials are very wide, it is not probable that this will be done. Another suggestion of the Advisory Committee is that a rider brought to a standstill on a hill through wheel slip should be credited with a clean ascent if he keeps his engine running and, lifting his back wheel on to a good surface, completes the climb.

So far nothing definitely has been decided regarding the Six Days course, but since the first and last days will be at Brooklands, one has only to glance at the map to gain a fair idea of the nature of the trial. In any event, there cannot be more than two days of hill-climbing.

This Year's Tourist Trophy Races.

It has been agreed that the maximum number of entrants for the T.T. races will be 100, and that each manufacturer will be permitted to enter three machines of any one type, and up to three entries will be accepted from private riders of any one model for each race.

The Year's Work.

Although the A.C.U. has not fulfilled to its entire satisfaction every ideal which it has had before it, the Union has full cause to feel satisfied with what has been accomplished. The eighteenth annual report of the General Committee contains evidence of activity in all the many fields in which the body operates, and which members often overlook.

During the past year the membership has steadily increased. At the General Committee meeting held at Cambridge on December 17th it was decided to raise the annual subscription from 10s. to £1, but it was agreed that no entry fee should be charged, and that the use of the Union's badge should be free to every member during the currency of his subscription. So far, it is recorded, raising the subscription does not appear to have unduly affected the membership roll.

The number of meetings of the several committees reflect the hard work put in by the voluntary force behind the movement. The Touring Committee met six times, the Competitions Committee thirteen times, and the Management Committee held fifteen meetings. These meetings are augmented by those held by the various sub-committees and those of the local centres.

THE A.C.U. SHARE IN LEGISLATION.

The activities of the new Ministry of Transport appear to have kept the Union busy, for it has actively participated in the representation of motor cycling interests, the secretary taking an important share in the work of the Motor Legislation Committee. One of the most general cries from motor cyclists when the new taxation scheme came into being was "What have our motoring organisations been doing?" In passing, we have usually found these questions come from riders who belong to no organisation, and therefore do not know of their activities. The report referred to shows that the Auto Cycle Union has been doing a great deal, and if the results are not altogether as every motor cyclist would like, they are probably better than they would have been had there been no A.C.U. to act and advise on the Motor Legislation Committee. For example, we are told in the report that the Government suggested £3 as the minimum for a motor cycle tax, and it is no secret that there were signs of £5 being the figure in the minds of the Ministry. As is now known, this was reduced to 30s. for machines not exceeding 200 lb. in weight. Further pressure was also brought to bear at the last moment in the House of Commons to reduce the scale applicable to a light sidecar outfit from £4 to £2 10s.

A United Front.

These modifications of the original Government intentions were only secured because the A.C.U. and the Manufacturers' Union were able to present a single and undivided expression of view, which was adopted *in toto* by the Motor Legislation Committee. The Ministry of Transport, therefore, was not in a position to play off one organisation against another, as it was, unfortunately, so successful in doing with reference to the maintenance of the petrol tax.

The report details other legislation work, past and present, which we are unable to give in full.

The Touring Department has also had a busy time. In the course of the year over 1,000 official hotels and repairers have been visited (as against 700 the year before); 800 applications for Customs papers, international visés, etc., were dealt with; and more than 1,000 foreign routes, in addition to upwards of 5,000 British routes, supplied.

Get-you-home Scheme.

Nearly eleven hundred cases of breakdown or accident were relieved through the get-you-home scheme during the year, and the Consular service has been greatly expanded. The number of consuls appointed has increased from 25 to 57, and others are receiving consideration. It is interesting to know that at least one lady consul is being appointed.

Prices of Second-hand Motor Cycles.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

Make, H.P., and Date.	Classified Prices.	Average Price.
A.B.C., 3 h.p., 1920	£93, £100, £100*, £110, £110, £115, ††130	£109
Acme, 8 h.p., sc., 1920	*£195	—
A.J.S., 6 h.p., sc., 1920	£175, †£175, £185, †£185, *£190, *£190, †£195, †£200, †£204, £210, ††223, ††235	£181
Allon, 2¾ h.p., 1920	£70, *£73	£72
Ariel, 3½ h.p., 1920	£85, *£105	£95
Bat, 8 h.p., sc., 1920	*£165, *£165, *£175	£168
Blackburne, 4 h.p., 1920	*£110, *£115, *£120, *£120, *£120, ††140, ††150	£117
Blackburne, 8 h.p., sc., 1920	††165, £175	£170
Bradbury, 6 h.p., sc., 1920	*£175	—
U.S.A., 4½ h.p., sc., 1920	£115, £115, £120, £125, £130, £135, ††140, ††150	£129
Calthorpe, 2¾ h.p., 1920	£48, £58, £65, £65	£59
Clyno, 2¾ h.p., 1920	£62, *£60, *£63, *£65	£60
Connaught, 2¾ h.p., 1920	*£49, *£50, *£58	£52
Coulson-B., 4 h.p., 1920	£90, £90, *£109	£96
Coventry-Eagle, 2¾ h.p., 1920	*£84	—
Diamond, 2¾ h.p., 1920	£48, *£55, *£79	£61
Douglas, 2¾ h.p., 1920	£82, £85, £85, £85, £90, £100	£88
Douglas, 4 h.p., sc., 1920	£125, £135, £135, £140, *£140, ††155, £190	£146
Edmund, 2¾ h.p., 1920	*£80	—
Enfield, 8 h.p., wc., 1920	£140, ††150, £152, *£153	£149
Enfield, 2¾ h.p., 1920	*£55, *£60, *£60, *£65	£60
F.N., 7 h.p., 1920	£125	£125
Harley-Davidson, 7-9 h.p., 1920	£158	—
Harley-Davidson, 4 h.p., 1920	††105	—
Hazlewood, 5-6 h.p., sc., 1920	*£170	—
Henderson, 10 h.p., sc., 1920	£180	—
Hobart, 2¾ h.p., 1920	£44	—
Humber, 4½ h.p., sc., 1920	£157, £160	£159
Indian, 7-9 h.p., sc., 1920	††158, ††160, ††170, ††175, ††180, ††195	£173
Indian, 4 h.p., 1920	††125	—
Ivy, 2¾ h.p., 1920	£55	—
James, 5-6 h.p., sc., 1920	*£150, £170, *£170, ††180	£168
Lea-Francis, 3½ h.p., 1920	*£112, *£115	£114
Levis, 2¾ h.p., 1920	£45, £45, £47, £50	£47
Martinsyde, 6 h.p., sc., 1920	£142, ††185	£164
Matchless, 8 h.p., sc., 1920	£160, £175, £175, ††175, ††180, ††185, ††185	£178
Metro-Tyler, 2¾ h.p., 1920	£60, £60, *£70, *£70, £72	£66
New Hudson, 2¾ h.p., 1920	*£60, *£60, *£63	£61
New Imperial, 8 h.p., sc., 1920	£145, *£168	£157
New Imperial, 2¾ h.p., 1920	£65, £65, *£78	£69
New Scale, 3½ h.p., sc., 1920	£100	—
Norton, 4 h.p., 1921	*£125	—
N.U.T., 3½ h.p., 1920	††125, †*£125, †*£125	£125
O.K., 2¾ h.p., 1920	*£43, *£43, *£45, *£59	£52
Omega, 2¾ h.p., 1920	£50, *£71	£62
P. & M., 3½ h.p., 1920	£80, £92	£86
P. & S., 2¾ h.p., 1920	£70	—
Quadrant, 4½ h.p., sc., 1920	£78, £120	£89
Rover, 3½ h.p., 1920	£85, *£125, *£125	£112
Rover, 5-6 h.p., sc., 1920	*£165, £175	£170
Royal Ruby, 3 h.p., 1920	£90, *£99, £100, £105	£99
Rudge, 3½ h.p., 1920	£80, £83, £85, £86, £89, £89, £90, £100, *£100, *£100	£87
Scott, 3½ h.p., sc., 1920	£130, £160	£145
Scott, 3½ h.p., 1920	£95, £105, £105, £110, £115, *£130	£110
Sparkbrook, 2¾ h.p., 1920	*£60, *£65	£63
Sunbeam, 3½ h.p., 1920	£125, £140, £150, £150, £155, £160, £165	£149
Sunbeam, 8 h.p., sc., 1920	††225, ††245	£235
Triumph, 4 h.p., 1920	£90, £100, £115, *£116	£105
Triumph, 4 h.p., sc., 1920	£100, £135, £150, *£155, £160, *£160, £170	£147
Velocette, 2¾ h.p., 1920	£53	—
Verus, 4 h.p., sc., 1920	£140	—
Zenith, 8 h.p., 1920	£110, £116, £125	£117

*Unused. †Dynamo lighting.

THE PRICE QUESTION.

The Trade Outlook as viewed by Motor Cycle Manufacturers. Some Reasons Advanced by the Trade as to why Reductions cannot be Expected for Some Time.

THERE appears little likelihood of substantial price reductions for some time. Several manufacturers have already made public announcements to this effect, and one or two guarantee prices for a limited period.

Such an action is, of course, one for the individual judgment of each manufacturer after he has reviewed the circumstances of his own particular case. As regards manufacturers who have large outputs or who produce machines in which expensive labour and materials represent a high proportion of value, a material price reduction cannot be expected at the present time in view of manufacturers' desire to give the public a highly reliable machine. Large stocks are still held by reason of the big purchases of raw materials and component parts last year at prices representing in some cases advances of 300% over pre-war, to which must be added labour costs (under conditions which have not made for production commensurate with wages paid).

Refinement or Low Cost?

An alternative method of price reduction might be modification in design, equipment, or quality, tending to economy, but which might not be favourably regarded by the user who is constantly demanding further refinements.

Whilst all desire to see price reductions, the user must remember that what in effect are "price reductions" are continually taking place in the shape of improvements in design, addition of desirable features, accessories, speed, luxury, and comfort, which are found in an increasing degree in cycles and motor cycles. The value of these to the user, and the cost thereof to the manufacturer, are both real and substantial.

When manufacturing costs are stabilised, and the manufacturer can reasonably expect an output of such a quantity and quality as is commensurate with his expenditure, then can the purchaser expect the same high-grade quality products at prices materially lower than those reigning at the present time.

It must be borne in mind that purchasers in the past have been able to obtain their wants at a lower retail price by reason of the large export trade which enables production of a larger number of vehicles at a lower price than would be the case if the home market alone were catered for.

Effects of Restricted Export.

The export trade is suffering great disabilities at present. Certain countries are entirely barred from importing British products; in other countries the imposition of drastic Customs tariff has almost killed the trade. Elsewhere depreciated exchanges and the refusal of the responsible authorities to permit the export of gold have almost completely barred the export of motor cycles.

Not only is this state of affairs affording the greatest anxiety to all concerned, but such a situation must inevitably reflect upon the selling conditions obtaining at home.

The Balance of Motor Cycle Engines.

Further Light on the Question of Balance. How Frame Design has to be Studied in Conjunction with Engine Balance.

THAT the theory and practice of balance are of interest alike to the expert and the general reader is proved by the number of queries on this subject that our technical department receive. Naturally, therefore, our article of February 3rd caused much comment and friendly discussion amongst our readers, especially so as it emphasised the effect of varying connecting-rod lengths—a point which has hitherto had little prominence. We print below, *in extenso*, the views of two correspondents further to this theme.

Mr. Georges Funck, A.M.I.A.E., of Coventry, discusses the important question of "under-balance" or "over-balance," and comes to the conclusion that for motor cycle engines the latter is the lesser of two necessary evils. He writes as follows:

"I have read with very much interest your article, 'The Balance of Motor Cycle Engines.' The effect of connecting rod length on the balance is shown admirably, and should once for all explode the *perfect* balance theory of the 90° engine. This perfect balance, as you mention, is only the case for infinite connecting rod length, which obviously is never possible in actual practice.

"However, there is one important point I desire to mention in connection with balance on which your article does not touch, *i.e.*, that for such engines which cannot be theoretically *perfectly* balanced, as is the case with most motor cycle engines, except the flat twin, we must take into consideration the machine in which the engine has to be used.

In our issue of February 3rd we published an exhaustive article on the balance, and balancing, of motor cycle engines. Two interesting letters, both from qualified engineers on this subject, are printed here, one dealing mainly with further theoretical considerations and the other with the practical side.

"Taking the case of a single engine in particular, as balanced according to your investigation (fig. 7), there remain two main forces of the largest amplitude essentially at right angles. One is vertical and one horizontal.

"By 'under-balancing' we increase the vertical one and decrease the horizontal one. 'Over-balancing' has the opposite effect. These vertical or horizontal free forces, which in no case can be wholly eliminated, are transmitting themselves to the frame of the machine, and through synchronisation are setting up disagreeable vibrations.

"Now since the machine rests on tyres and generally has a spring fork and sometimes a spring frame, which all are tending to assist vibration in a vertical direction, I am of the opinion that the vertical component is the most harmful one, and should be kept rather low. The horizontal component, however, has no such elastic means to assist vibration. From this consideration I consider that the best results are obtained by 'over-balancing' the engine, and the amount of overbalance depends entirely on the machine itself and, I venture to say, on the rider also.

"It is the 'under-balanced' engine which gives the rider the uncomfortable 'electric' shock through the handle-bars, and which makes it difficult for him to keep his feet on the footboards.

"An engine giving good results on one machine needs re-balancing to give equal results on another machine. This is particularly noticeable if the engine is mounted in two widely different machines, such as a motor cycle and a cycle car or light car. This 'over-balance' might under the circumstances require to be carried to a high degree. In the light of the above considerations, it will be noticed that the 90° engine is not so favourably placed as, for instance, the 60° engine, and the rectification presents difficulties which are non-existent for the 60°, and, according to the machine, the 60° will give equal, if not better, practical results.

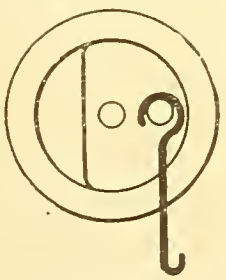
"As space is rather limited, I would like to mention one further interesting fact. The free unbalanced force is moving in opposite directions to the rotation of the engine, and does not move round uniformly, although the engine may turn at a uniform speed. This non-uniformity, again, has a great influence on the synchronous vibration.

"One point in your article, I consider, needs rectification as being very misleading. In the last paragraph but one you declare that the alteration (lightening or weighting) must 'be made at a distance from the centre exactly equal to the crank radius.' I presume the writer had in mind that if the *exact* amount of weight as revealed by the balancing test (fig. 17), either deficient or in excess, is either added or removed, it will have to be in the position as indicated in your article. However, the same result is evidently obtained by removing or adding less, as the case may be, at a distance greater than the crank throw, provided the weight alteration is proportionate to the relative distances from the centre, *i.e.*, the greater the distance from the centre at which the correction is made, the smaller the correction need to be."

Mr. Arthur G. Booth, A.M.I.A.E., writing from Wolverhampton, gives another and possibly more accurate method of actually carrying out the operation in practice. It is noteworthy that his concluding paragraph should raise the same point as Mr. Funck, *i.e.*, that it is not necessary for the balance weights to be on a coincident diameter with the crank pin, provided they are proportionately heavier or lighter as the radius decreases or increases on that of the crank pin. Mr. Booth's letter follows.

"I have read with great interest the article on balance, and wish to congratulate the author on the lucid way in which he deals with his subject.

"May I be allowed space to raise a point which has come to my notice in regard to the actual operation of balancing? I find, particularly in engines which have developed very little wear in the big end, that if the balance is obtained by the method illustrated in fig. 17, it is very difficult to arrive at an accurate result, and that an ounce or two either way has no perceptible influence on the equilibrium of the flywheels. This is due to the slight amount of frictional resistance to rotation in the big end of the connecting rods hampering the free movement of the flywheels. Also this slight binding of the big end causes the C.G. of the reciprocating parts to swing a small distance away from a vertical line drawn through the crank pin centre, thus altering the leverages.



Another convenient method of carrying out the practical side of balancing. (See letter from Mr. A. G. Booth, A.M.I.A.E.)

"A method I have found more successful in practice is as follows:

"Build up the flywheels without the connecting rod, piston, etc., and place them on the runners, as in fig. 17, suspending the weight to be balanced from the crank pin by means of a steel wire (spoke wire is very suitable) hooked at one end, the weight of the wire being included in the total weight. The hook should have an internal diameter slightly larger than that of the crank pin, and the contact side should be bevelled to a knife edge.

"With a little lubricating oil on the crank pin, the weight will be found to hang quite freely, and the balance can be obtained almost to a dram, thus assuring the correct proportion of the reciprocating masses being represented.

Further Light on the Question of Balance.—

"This method gives more accurate results, obviates the necessity for drilling a hole opposite the crank pin from which to suspend the weights, and is no more complicated than that advocated in the article in question.

"The weight to be suspended is equivalent to all the rotating masses plus the correct proportion of the reciprocating masses as stated by the author, and should be obtained thus :

"(1.) For rotating masses support the big end of the connecting rod at a point opposite its centre on a delicate spring balance (postal scales are very good), holding the piston and keeping the connecting rod horizontal meantime. If crank pin rollers and cages are fitted, these must also be weighed with the big end.

"(2.) To obtain the reciprocating masses, subtract the rotating weight already found from the total weight of all the parts, *i.e.*, piston, connecting rod, gudgeon pins, and bearings.

"For a twin-cylinder engine, weigh the two big en when obtaining the rotating masses, and subtract this fr the total of all the parts for reciprocating masses.

"One other point I wish to bring forward. Why stipula that when the flywheels are out of balance the alterati must be made at a distance from the centre exactly equ to the crank radius? A more common method is to remo the metal from the rim, when only about .4 of the form weight of material need be taken away, due to the ext leverage obtained.

"I think it should be mentioned that metal removed mu be taken in equal amounts and at the same point from ea flywheel; also that alterations to the balance of engin with an outside flywheel must be made in the bob-weight not in the flywheel."

We invite further criticisms and opinions on th important question. At a later date we shall publis a review, by the writer of the original article, up the points raised.

THE SPEED LIMIT.

Opinions of our Readers on the 30 m.p.h. or No Limit Question.

ON first thoughts one would be inclined to consider that the majority of motor cyclists would favour the complete abolition of the speed limit were the decision left in their hands. Yet, although completely representative data will not be available until the publication of the voting figures by the two associations who are at present circularising their members, we think that only a small minority favour this drastic step. This opinion is borne out by various letters that we have received on the subject, extracts from which we publish below.

"Why not have the speed limit abolished on all main roads, except 200 yards each side of cross roads and 500 or 600 yards outside any town or village? The speed limit in these areas should be the present limit of 20 m.p.h., and warning signs erected in conspicuous positions to show where the limits commence. Other signs should be set up about 100 yards before the speed limit signs, to act as distant signals.

"Also, all the responsibility should be put on the vehicle turning out of the side road on to the main road. All side roads should be well danger posted. By main roads, I mean all roads except narrow winding lanes (which should keep to the present limit). The option of having no speed limit on small but straight by-lanes should be left to the discretion of the local authorities. "COMMONSENSE."
"Malvern."

Dangers of No Limit.

"The A.A. and M.U. demand the opinion of its members on the speed limit and taxation of motors.

"Question No. 3 can be dealt with at once. A flat rate tax on motor spirit is the only *fair* system.

"As to Question No. 1, motor vehicles nowadays crowd every highway in the kingdom. A speed limit *suitable to the particular road* is necessary in order to protect all road users. The absence of a speed limit would restrict offences for alleged excessive speed to driving to the public danger, which is far more serious than exceeding a speed limit, and which is capable of a much more elastic and less certain proof: the opinion of a village policeman might suffice. A reasonable speed limit would, however, provide a basis whereby a motorist summoned for an offence under Sec. 1 para. (1) of the Motor Car Act, 1903, would be safeguarded, for, if he were accused of driving '*at a speed* or *in a manner* which is dangerous to the public,' the fact that he had kept within the speed limit at the time would invariably operate in his favour. A speed limit is absolutely essential in Great Britain, and it should vary (as suggested below) for each class of road, and also for the type of motor car. My reply to Question No. 2, therefore, is a substantial 'Yes,' qualified as follows:

"Speed level on first-class roads, 40 m.p.h.; second-cla roads, 30 m.p.h.; third-class roads, 20 m.p.h.; and throu towns and villages 20 m.p.h. or lower, according to lo requirements.

"All motor vehicles exceeding 2 tons in weight to ke within half the suggested limit. "G. W. HUNTBACH."

A 20 m.p.h. Limit—with No Traps!

"Is it not best to let sleeping dogs lie? or, in oth words, to retain the present limit of twenty, which is actual nearly a dead letter already?

"As things are going at present, I imagine that anoth ten years should see the 20 m.p.h. forgotten, *whether it erased from the Statute Book or not.*

"On the other hand 'thirty' is a much more practic figure—so practical, in fact, that it would, in all probabilit be strictly enforced. And who amongst us has not exceede thirty at times? Even the 'babies' reach thirty-five.

"The consequences of no limit leave little to imaginatio We should all be haunted by 'Section One' (isn't it?) of t Motor Car Act and probably never dare to exceed fifteen.
"London, S.W." "Z.Y.X."

Lesser of Two Evils.

"The speed merchants will likely be shocked to think any alternative to no limit. I felt that way myself until saw an article on the subject that set me thinking.

"First, suppose the maximum limit to be abolished. T probable result would be:

"(1.) Certain motorists will take advantage of the fac and drive alike to the danger of the public, other motorist and themselves.

"(2.) The police will proceed to convict them for dangero driving; but, usually being without commonsense, will al convict innocent motorists at the same time.

"(3.) Those magistrates who at present mete out justi will fine or otherwise punish those motorists who are brough before them, without discriminating between the sheep a the goats.

"(4.) That punishment for reckless driving will be muc heavier than for exceeding the speed limit.

"Next suppose the limit to be raised to 30 m.p.h.:

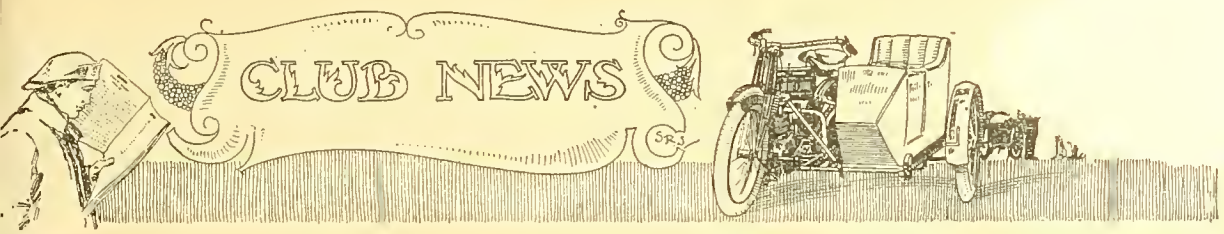
"(1.) That, for usual condifions and long tours, I do n think 30 m.p.h. would be found an excessive restriction up speed.

"(2.) That for really good straight stretches, it would almost as bad a restriction as 20 m.p.h.

"(3.) That probably the police would trap those same goo stretches.

"(4.) That fines would likely be increased, though peop would really not go faster than they do now.

"In conclusion, it seems we get caught both ways, thoug not so badly by the second alternative.
"Cambridge." "CANTAB."



Southend and District A.C.

e have before us the annual report e Southend and District A.C., and, ng from this, the club is a very e" body indeed. Its activities in- a legal section, with the services honorary solicitor, and an insurance ommittee, and it has to its credit ppointment of an R.A.C. guide in istrict.

Woolwich and Plumstead M.C.C.

party of Woolwich club members rather a poor showing at Cudham t a recent week-end. Deep ruts have formed by locked waggon wheels, nost of the climb resembles a newly hed field. A solo Triumph stopped times at the bend, and a sidecar nto a bank. The party found Brasted Westerham hills in good trim, but Hill (Crown Ash) very loose.

Wrexham and District M.C.C

Wednesday, February 9th, the ham and District Motor Cycle Club its first annual dinner at the nstay Hotel, the Mayor, Ald. T. age, presiding. Over 100 guests were tained, including Mr. Phillpott, the U. consul, Liverpool, and members e North Wales Club. The trade was otionally well represented by both s and makers. An excellent concert the usual vote of thanks terminated st enjoyable evening.

Forthcoming Club Events.

Feb. 19.—Essex M.C. One-day Winter Trial.
Feb. 19.—Bristol M.C.C.—Opening Run.
Feb. 27.—Wallington and District M.C.C. Club Run.

Ivy M.C.C. (Wolverhampton)

At an enthusiastic meeting, on Thursday, February 10th, of members of the old branch of the N.M.C.F.U., it was decided to carry on the club in future as the Ivy M.C.C. (Wolverhampton), with headquarters at the Mitre Hotel, Victoria Street. Mr. W. J. Dawes, 86, Vicarage Road, was elected chairman, and Mr. G. H. Sanders, 223, Dunstall Road, was elected secretary. Subscriptions were fixed at 5s. per year for gentlemen, and 2s. 6d. for ladies.

Stourbridge M.C.C.

The next event of this club will take the form of a social evening at headquarters, the Woodman Hotel, Clent, on Saturday, February 26th, at 7.30. A good musical programme is being arranged, and a very enjoyable evening is expected. It is hoped that all members will make a special effort to attend. All motor cyclists are cordially invited, and any wishing to become members of the club are requested to get into communication with the secretary, 111, High Street, Stourbridge, who will be pleased to furnish full particulars.

Westmorland M.C.C.

At the invitation of their popular president, Mr. R. Rainshaw Rothwell, of Broom Riggs, Hawkshead, some six hundred members and friends of the Westmorland M.C.C. thoroughly enjoyed a concert at the Town Hall, Kendal, on February 10th.

At the moment the committee is busy with arrangements for the annual open hill-climb at Orton Scar on Easter Monday, March 28th. Motor cyclists who propose to attend the rally at Richmond, Yorkshire, on Good Friday will be able to include both events during the Easter holidays.

Leeds and District M.C.

A general meeting, adjourned from January 13th, was held at the new headquarters, the Albion Hotel, Leeds, on February 10th. Among other business, the following officers were elected for 1921: President, Col. Sir E. A. Brotherton, Bart., M.P.; vice-presidents, Messrs. O. Brooks, S. Jepson, H. H. Charge, T. Chappell, sen., A. Walton, and H. A. Crawford; trials hon. secretary, Mr. Martindale; delegates to the Yorkshire Centre of the A.C.U., Messrs. A. C. Thornton and R. Cawthorne.

Mr. S. Jepson has presented the club with a valuable watch for use by the official timekeeper in competitions. A hearty vote of thanks was accorded the donor.



ON THE ROOF OF WALES. In spring, summer, autumn, and even winter, there is always new touring ground to be found in Wales. The A.J.S. owner has discovered that there are some fine roads over the mountains in the central counties.

...rict M.C.U.

...known as the Motor Cycling ... The programme ...uns, speed trials, and ... J. Bonnard is treasurer, ... Tilney secretary *pro tem.*

A Club for Harley-Davidson Riders.

Several enthusiastic riders of Harley-Davidson motor cycles in North-west London propose forming a club to be known as the Harley-Davidson Motor Cycle Club. Subscriptions are 10s. 6d. for members and £1 1s. for honorary members.

The proposed club has the approval of the Harley-Davidson firm, who have promised a substantial donation.

Motor cyclists who desire to join should communicate with Mr. Rowntree, 325, Kentish Town Road, N.W.

Eastern Counties M.C.

The Eastern Counties Motor Club will hold its annual general meeting at the Rose and Crown Hotel, Walthamstow, on February 21st, and hopes to continue the usual season of social runs and picnics as before. The Executive will be pleased to hear from anyone wishing to become members to associate in the programme. We are desired to point out that the above club is run purely on social lines for good fellowship and intercourse of kindred spirits.

Exeter M.C. and J.C.C.

At the annual general meeting of the Exeter Motor Cycle and Junior Car Club, held under the chairmanship of Mr. C. C. Harvey, in the unavoidable absence of the president (Sir Robert Newman, Bart., M.P.) and Mr. B. C. Matthews (chairman of the committee), it was decided, after a lengthy discussion, to debar trade members from taking any part in the management of the club. The new officers appointed were: Hon. secretary, Mr. C. C. Harvey; assistant hon. secretary, Mr. R. S. Hartree: hon. treasurer, Mr. A. M. Hull; committee, Rev. R. C. Owen, Messrs. C. R. Claridge, W. R. Bright, G. Goodchild, L. Mock, P. L. Crews, L. Peters, and J. Clarke. The retiring hon. treasurer (Mr. Tapley Soper) and the late hon. secretary (Mr. T. J. Mooney) were heartily thanked for their services.

TO CLUB SECRETARIES.

For reference purposes and in order to place on record the numerical strength of organised participants in the pastime, will club secretaries please supply us with the following information:

(1) Date on which club was formed.

(2) Number of members on January 1st, 1921, or in the case of a newly formed club, at current date.

(3) Fixture lists for 1921—when ready.

(4) Secretary's address.

(5) Press Secretary's address.

(6) Whether affiliated to A.C.U. or not.

Envelopes containing club matter should be marked "Club" on the top left-hand corner, and addressed to the Editor of "The Motor Cycle."

Colchester and District M.C.

Mr. A. Crowther, a vice-president, presided over a large company, including ladies, on the occasion of the club's annual dinner. Interspersed with the speeches, a capital musical programme was provided, and the floor was afterwards cleared for dancing.

Coventry and Warwickshire M.C.

In the nature of an opening run, a speed-guessing competition was attended by some forty members on Saturday, February 5th. Considerable local interest was taken in the event (as in the doings of the club generally), and an enjoyable afternoon's sport was provided. G. F. Evans (3½ Sunbeam), with an error of one minute, was first in the solo class, and E. S. Astley (5-6 Rover sc.) (48 seconds late) was the most consistent of the sidecarists.

Members who are desirous of competing in the Colmore Cup trial (for which arrangements have been made to make them eligible) should communicate their intentions at once to Mr. Phil Mosedale, "The Nook," Maney Hill Road, Sutton Coldfield.

The Motor Cycling Club.

The next important event to be held by the M.C.C. is the London to Land's End trial on Friday and Saturday, the 25th and 26th March. Entries close on Tuesday, March 1st; the trials hon. secretary is Mr. B. Alan Hill, "Apsley," Fellowes Road, South Farnbor... Hants. Intending competitors who d... to join the M.C.C. for the purpos... this competition must forward ... applications to the secretary, Mr. S... comb May, 34, Gower Place, Lon... W.C., so as to reach him not later ... Tuesday, February 22nd.

Wallington and District M.C. and L.

The club will hold its annual f... dress carnival dance on Monday, M... 14th, at the Small Public Hall, Croy... from 8 p.m. to 1 a.m. Bands wil... supplied by Mr. Marius B. Winter, ... ton House, Regent Street, ... App... tion for tickets, which are 8s. 6d. e... should be made to the secretary, Mr... M. Bowen, the Chalet, Woodcote Ave... Wallington, Surrey.

Blaina and District M.C.C.

A motor cycle club has now ... formed as above. The following off... were elected: Chairman, Mr. Robe... captain, Mr. T. Nicklin: vice-capt... Mr. H. Matthews; treasurer, ... Murray; joint secretaries, Mr. Harr... ton and Mr. H. Prichard. The se... taries would be very pleased if o... club secretaries would forward him ... useful hints on club management.

Worcester and District M.C.C.

On January 27th the club held ... annual general meeting at the Pack H... Hotel, Worcester. The secretary's re... stated that the success of the club an... its members in competitions through... 1920 was nothing short of marvellous, ... it could safely be said that no other ... could present such a record. A hill-cl... and one-day trophy event were extren... well supported, and the hill-climb attai... almost the importance of an open ev...

Neath and District M.C.C.

A reliability trial is to be run on Ma... 27th, starting at 10 a.m. prompt. ... winner will become the holder of a ha... some challenge cup, and there are ot... prizes of gold and silver medals. ... course will not be too stiff, thus allow... small machines a chance to gain ... premier award.

The Club is forming an excellent p... gramme for this season, including sp... trials, hill-climbs, reliability runs, ... social functions. Particulars may be ... from Mr. Fernand Dupont, La Mar... May's Hill, Neath.

ACTIVITY IN ITALY.

THE Italian motor cyclists have in front of them a year full of interesting and sporting competitions in a quantity far more numerous than any other preceding year.

The fixtures list of sixty-three events was fixed by the delegates of all clubs affiliated to the Moto Club d'Italia at a recent meeting in Milan. This programme was officially inaugurated on Sunday, January 16th, at Rome, with a hill-climb. The following are the results of this event which was called the Gran Premio d'Inverno:

CLASS 250 c.c.—1, Ciai (Clyno); 2, Perucci (Ivy).

CLASS 350 c.c.—1, Del Sordo (Terrot).

CLASS 500 c.c.—1, Minetti (Della Ferrera); 2, Marcolli (Triumph); 3, Boccolini (Motosacoche); 4, Trivellato (Sunbeam); 5, Cittadini (Motosacoche); 6, Di Giulio (Rudge).

CLASS 750 c.c.—1, Garettoni (Harley-Davidson); 2, Rimoldi (Della Ferrera); 3, Madrulli (B.S.A.); 4, Bruscoli (Sarolea); 5, De Prosperis (Scott).

CLASS 1,000 c.c.—1, Faraglia (Harley-Davidson); 2, Malvisi (Harley-Davidson); 3, Visioli (New Imperial); 4, Ruggeri (Harley-Davidson); 5, Genevini (Indian); 6, Chimici (Indian).

SIDECAR CLASS, 1,000 c.c.—1, Malvisi (Harley-Davidson); 2, Fizzoni (Indian); 3, Putti (Indian); 4, Morabito (Harley-Davidson).

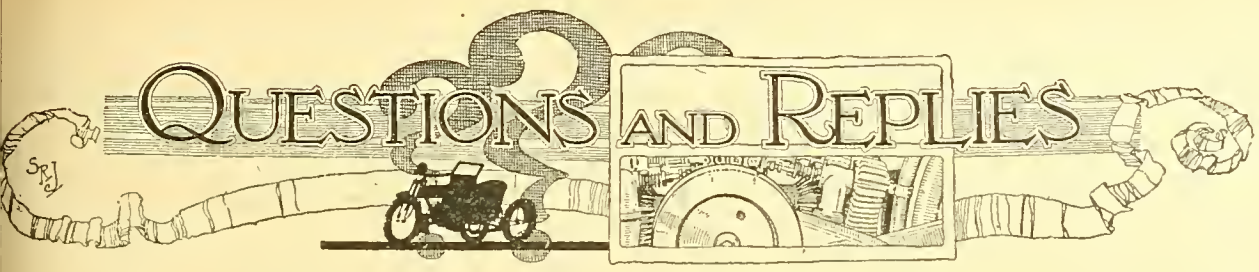
It was a fairly representative entry, and the successes in the various classes were fairly evenly divided between the machines representing England, France, Italy, and America.

The first really important event to be held will be a road race, also to be run at Rome, called the Circuito del Tevere, followed by a hill-climb to be held at Parma on May 8th. Other important events are scheduled as follows:

An Italian Calendar.

May 15.—Circuit de Cremona. International road r...
" 29.—Circuit del Lario. International road r... the Italian Tourist Trophy.
June 12.—Circuit d'Orbassano. International r... race, 100 km.
July 10.—Circuit del Sestrieres. Reliability trial.
" 17.—Biella Oropa. Hill-climb.
" 31.—Coupe de la Consuma. Hill-climb.
Aug. 7.—Susa Mont Cenis. Hill-climb in conjunct... with the car race on the same day.
" 28.—Aosta to the St. Bernard Pass. Hill-cli...
Sept. 4.—Circuit de Brescia. International road r...
" 17-18.—Milan to Naples. Long distance tria... 900 km. in a single trip.
" 25.—Reliability trial for two-stroke machine...
Oct. 2.—Flying kilometre trials (international).

Most of the events have been approv... of by the manufacturers' unions recen... formed in Italy, and will, therefore, ... supported by them.



A selection of questions of general interest from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d. stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

FOR CANADIAN TRAILS.

My sons in Alberta are very anxious to have a motor cycle of British make, and I thought of a small two-stroke; but, as the situation of my farm is some three miles out of town, against the heavy gradient of prairie trails, which means cart-track over grass, and as the temperature in the shade gets up to 110° F., I have my doubts as to the suitability of this type. Will you let me know what machine you would suggest? We should not require a sidecar.—G.S.P.

or the kind of roads which you describe, we should advise you to have a achine of at least 500 c.c. with two or ree speeds. A lightweight machine ight answer the purpose, but the frame id wheels might suffer under such hard age, and it would thus prove more pensive to maintain than a heavier and ore solidly constructed mount.

BALANCING A V TWIN.

I have a little problem that I would be very indebted to you if you will solve it for me. I have a 50° V twin air-cooled engine which I am tuning up for speed. I am fitting light aluminium (Zephyr) pistons, which will necessitate rebalancing the engine. I know the weights of the pistons, gudgeon pins, connecting rods, crank pins, crank pin bosses for bearings, retaining nuts, etc. (1.) How can I calculate the required weight of the balance weight on the flywheels? (2.) For ordinary cast iron flywheels, am I right in assuming that a cubic inch of metal weighs 4 ozs.? (3.) Also right in assuming that the required balance weight varies in inverse ratio to the square of the distance from the centre of the mainshaft to the centre of weight? (4.) In a 50° V twin engine the pistons and connecting rods balance each other for 25° each side of the top and bottom dead centres, *i.e.*, for 100° out of the 360°. Does any allowance require to be made for this? May I say that I cannot just remove the difference in weight between the old pistons and the new ones, as the engine was not correctly balanced previously? —E.N.W.

.) It is usual to balance the whole of ie rotating and half the reciprocating ass. (2.) A cubic inch of cast iron eighs 4.16 ozs. (3.) The balance weight aries inversely as the distance (not the quare of the distance). (4.) No. See ie article in our issue of February 3rd.

POSITION OF LICENCE ON SIDECAR.

In the case of a sidecar outfit must the new licence holder be fixed to the sidecar, or can it be fixed to the motor cycle?—SUNBEAM.

The licence holder may be fitted to the motor cycle provided that it faces the near side of the road.

Important Dates.

Mon., Feb. 21st. to Mon., Feb. 28th—Paris Nice Trial.

Sat., March 5th—Colmore Cup Trial.

Fri., March 25th—Richmond Meet.

Fri., March 25th, and Sat., March 26th—M.C.C. London Land's End Trial.

Fri., April 8th, and Sat., April 9th—Western Centre A.C.U. Two-day Open Trial.

Fri., April 15th and Sat., April 16th—Ealing and District M.C.C. London-Holyhead-London 24 hr. Open Trial.

Sat., April 16th—Yorkshire Centre A.C.U. Open Hill-climb.

Wed., April 27th—A.C.U. One-day Trial.

Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.

Wed., May 25th—A.C.U. Silencer Trial at Brooklands.

Tues., June 14th—Junior T.T. Race

Thurs., June 16th—Senior T.T. Race.

Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup

Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.

Sat., July 23rd—Motor Cycle Grand Prix Race in France.

Mon., Aug. 1st. to Sat., Aug. 6th—International Six Days Trial in Switzerland.

Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

OVERHEATING TROUBLES.

(1.) I have a 1914 Triumph which overheats badly, although I give it plenty of air, and it is timed correctly. It has just been decarbonised. (2.) It is also very heavy on petrol (under 50 m.p.g.). It is fitted with a B. and B. carburetter, jet No. 27, and I ride solo. Is this the correct jet?—S.A.C.

(1.) Make sure that the exhaust valve is not closing early. It should not close until the piston has reached the top dead centre. Worn valve operating mechanism and excessive tappet clearance may account for the trouble. (2.) You do not give sufficient details to enable a full answer to be given; but it would appear that the jet is too small. Try a 32 jet. Remember that it does not follow that you will get the most economical running with a very small jet.

A MISSTATEMENT AS TO AGE.

On viewing a machine recently advertised, I was informed that it was a genuine 1918 model, and, taking the owner's word together with the advertisement, I decided to pay £25 deposit, and remit balance in a week or so. In the meantime I wrote to the makers, giving them the number of frame together with number of engine, asking them if that machine left their works in 1918. The reply was that it was supplied to the Russian Government in 1917. I have informed the owner to this effect, stating that I did not wish to go any further in the transaction. Can I reclaim the deposit?—J.K.

If the machine is not as stated on the receipt, there is no obligation upon you to complete the purchase. We should advise you to inform the seller that you cannot accept delivery, demanding at the same time that your deposit be returned. Should he refuse to do this, place the matter in the hands of a local solicitor.

CARBURATION AND OILING ON LEVIS.

Will you please inform me how to set the petrol level on my Levis machine? The carburetter is an Amac. I have been trying to set it to the jet top, but without success, as I cannot get it low enough. Should the petrol level be set to the jet top? I have heard that the level should be adjusted just below the top of the sprayer in the mixing chamber. Is this correct? I have been oiling on the petroil system, but as there is an oil tank and a three-way oil pipe to the cylinder and main bearing, I thought I might oil this way. Will it be satisfactory, or may I put less oil in the petrol and use the tank and pipes to provide the rest?—W.E.B.

The petrol level in the Amac carburetter should be $\frac{1}{16}$in. below the spraying jets and not below the regulating jet. The best way to set the level in this carburetter is to ignore the jet altogether and adjust the needle so that there is $\frac{1}{16}$in. up and down play between its split pin and the top of the float. This will give you the required petrol level. On no account use the petroil system on your machine. It would be best for you to write to the makers asking for their instruction booklet, which will explain the working of the Levis lubrication system.

A PLAIN CLUTCH WANTED.

I have a 1914 3½ h.p. V-twin machine with hub gear, of which the latter is not in good order, and wish to know if there is a clutch wheel on the market which I could fit in its place.—C.P.

Clutch wheels are no longer manufactured, and if the three-speed hub gear is not worth repairing, we should suggest that you replace it with a fixed wheel; and if you must have a clutch, fit either a Mahon free engine pulley on the engine shaft, or one of the Bradbury two-speed engine shaft gears.

LOWER GEAR NEEDED.

I have a W.D. Douglas machine, and although it is very fast on the level it will not climb freak hills. I live in a very hilly district, and have one hill, about 1 in 4, on which races were held before the war. A 2¾ h.p. Douglas won an event just before the war, but my machine will not go up at all. Can you give me any hints to get it better on hills? I have checked everything I can think of, carefully, and it seems correct. When I open up there seems to be a pop back as if the mixture is too rich, but I have tried all size jets and it makes no difference. I am wondering if the gears are too high. If so, how can I lower the gear. On hills about 1 in 8 to 10 I can do 30 m.p.h. on low gear by speedometer, but on steeper hills the engine konks out.—W.J.B.

As the performances appear to be good under normal conditions, evidently the machine is over-geared for freak hills, and we recommend that you obtain a sprocket for the flywheel with two less teeth than the one at present fitted. It is not likely that this will appreciably reduce the maximum speed on the level, and hill-climbing will be much improved. The sprocket is screwed on to the flywheel boss by means of a left-hand thread.

CHOKED RELEASE VALVE.

My 2¼ h.p. Velocette two-stroke is always very stiff to push when in gear, even with the release valve lifted. If the road is slightly greasy I am unable to make the engine revolve quickly enough to fire, though it fires at a very low speed. Also, the engine will run with the release valve lifted. Apparently, the valve is working correctly, but the compression is not completely released when it is operated. I fancy the trouble is due to carbon deposit in the narrow tube which conducts the gas from the release valve to the exhaust port. I have decarbonised the engine recently, and was puzzled to find a method of removing this carbon in the tube. (1.) Can you tell me whether the trouble is carbon in the small tube? (2.) How may I clear this tube of the deposit? —F.R.

(1.) It is quite likely that the trouble is due either to carbon in the passage connecting the release valve of the exhaust port, or to the release valve itself not lifting sufficiently. Take up the adjustment in the control cable, or shorten the latter if necessary. (2.) This tube is closed at the top by a set-screw. It would be advisable to write to the makers for their instruction booklet.

READERS' REPLIES.

UNDER-OILING.

As a novice, I hesitate to give my advice, but as my 1919 P. and M. outfit suffers from the same ailment as "A.G." complains of in the issue of February 3rd, I venture to suggest the cause of the trouble and its remedy. I find that, with a passenger, it is very unwise to attempt a speed above 30 m.p.h., for as soon as I cover more than five miles at, say, 35 m.p.h., the knocking occurs, and the only remedy is the low gear for half a mile and an extra cooler in the shape of a pumpful of oil. If such a thing occurs on the level it can only be expected to be intensified on a hill. The cause then is hard driving, and the remedy is obvious. In order to take an ordinary hill successfully, it should be rushed with air two-thirds and gas one-quarter open. Immediately the hill is met, reverse the levers, placing gas two-thirds and air one-quarter. At the slightest suggestion of reduction in revolutions gently reduce air and spark equally. I have been severely censured by more experienced riders for altering the spark at all, except in exceptional circumstances, but I find there is no knocking, nor is there overheating if this method is followed out. I have rushed my P. and M. on top gear with three up on a hill of 300 to 400 yards, with the steepest part of 1 in 10, and sailed away to the top.—J.A.

With reference to query from "A.G." in your issue of February 3rd on the subject of loss of power in a P. and M. with B. and B. carburetter and variable jet, may I suggest that if he still has the trouble, after satisfying himself that his lubrication is correct, the cause is possibly too weak a mixture. I have a 1920 P. and M. combination with Amac carburetter and W.S.R. variable jet. The jet opening needs to be slightly increased as soon as the engine warms up, or if the engine is pulling under any but the lightest load, for there is then great loss of power, knocking, etc., which a change down at once cures, as he describes. Manipulation of the air lever alone is not sufficient to effect a cure.—K.B.

REMOVING RUST.

My suggestion to "L.W." is that he sponge the bars (to remove rust) with either of the following pickles: Ten per cent. solution of sulphuric acid or twenty-five per cent. of hydrochloric acid, with a final sponge of clean water, and then polish with ordinary polishing material. T. A. McCreadie mentions a preparation for depositing nickel on the handle-bars. I should advise "L.W." that, unless all the old nickel is first stripped off the bars, he will not get a firm deposit, for it takes an experienced electro-plater to deposit nickel on top of nickel.—G. E. Jackson

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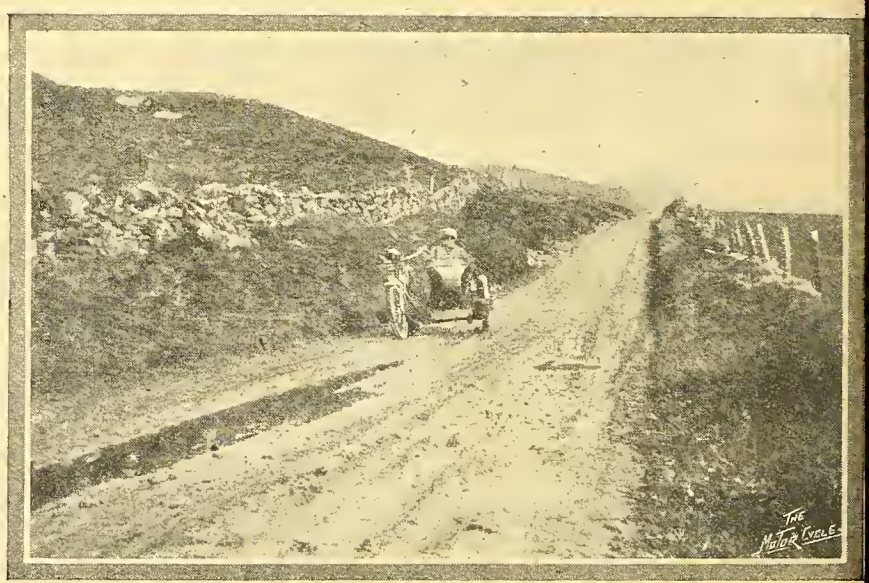
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Sheffield to Marlborough.—A.G.

Sheffield, Chesterfield, Alfreton, Ripley, Derby, Melbourne, Cole Orton, Ibstock, Hinckley, Coventry, Southam, Banbury, Chipping Norton, Burford, Lechlade, Swindon, Marlborough. Approximately 149 miles.



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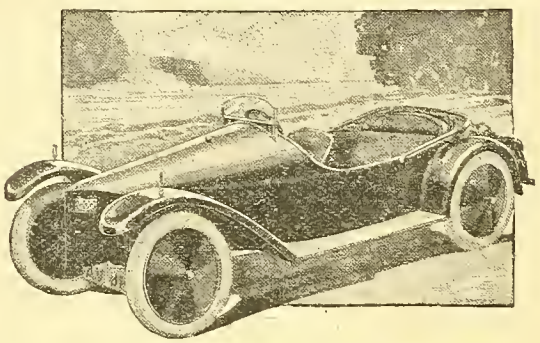
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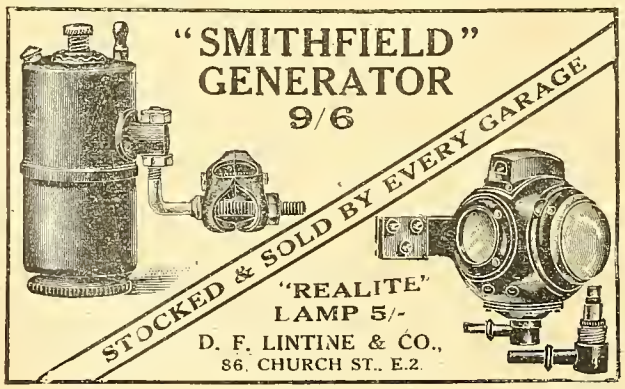
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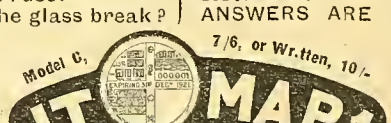
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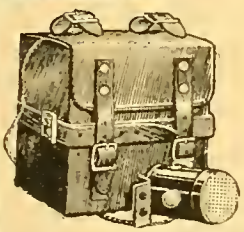
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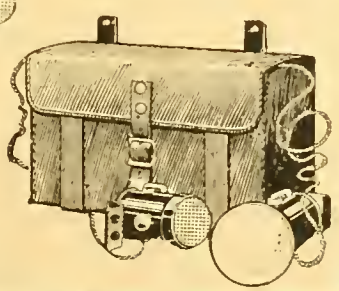
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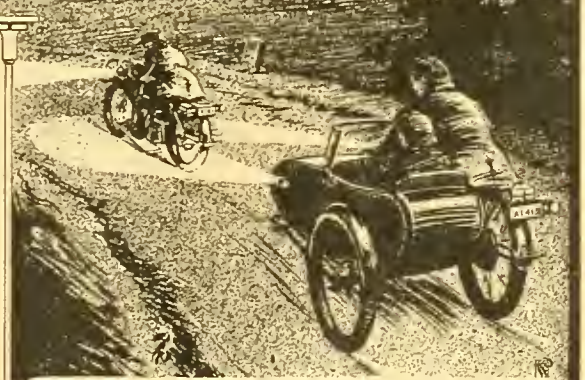
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Grand Prix **£218.**

G.N.
£241 17 6, or £65 down and 11 payments of £17 14 7.
Legere model **£275 12 6.**

8-10 h.p.
KINGSBURY.
£295, or £79 5 6 down and 11 payments of £21 12 6.
Dynamo and spare wheel included.

DISCOUNTS ALLOWED from Easy Payment prices if account paid in three, six, or nine months.

LAMB'S

EXCHANGES.
387, Euston Rd., London, N.W
'Phone: Museum 4978.
50, High Rd., Wood Green, N.
'Phone: Hornsey 1956.
151, High St., Walthamstow.
'Phone: Walthamstow 169 (2 lines.)

In answering this advertisement it is desirable to mention "The Motor Cycle."

MOTOR CYCLES FOR SALE.

Bradbury.

RADBURY 4h.p. and Sidecar, variable gear, K.S., perfect; £30.—17, Heaton Rd., Mitcham. [1566

RADBURY 1921 Models, prompt delivery.—Agents, Bright and Hayles, 78, Church St., Camberwell. [1808

RADBURY 1920 4h.p., 3-speed, Grindlay sidecar, new, machine shop-soiled; £150.—North, Bridge-Peterborough. [1461

½h.p. Bradbury, Bosch, B. and B., tyre as new, low; sacrifice, £9/10, bargain.—Argyle Lodge, ton Rd., Burton-on-Trent. [1763

AUCHOPE'S, 9, Shoe Lane, London, E.C.—6h.p. Bradbury combination, new 1921 model, 1/5; 4h.p. solo, £121/12. [1991

RADBURY 6h.p. Combination, shop-soiled, makers' price £199, our price £175; fully equipped.—Rat- Bros., 200, Gt. Portland St., W. Mayfair 6042. [0433

p. Bradbury, 1913-14, single-speed, engine sound, reliable, Bosch, 2 new Dunlop tyres, studded, new s, tax 30/-; £43.—W. Medlin, 2, Pearces Cottages, Coed, nr. Merthyr. [1180

RADBURY 6h.p. Twin, fully equipped as makers' specifications, shop-soiled; at greatly reduced e: now is the time to buy.—Mebes, 154-156, Gt. land St., W.1. 'Phone: 3426 Mayfair. [1299

RADBURY 4½h.p., 3-speed gear box, kick start, hand clutch, Watsonian sidecar, almost new, in ect order, electric lighting, tax paid; £89. Ford sis wanted.—B. Booth, 37, Hightown, Crewe. [1652

Brough.

h.p. Brough, 3-speed, kick start; £32/10, offer.— 26, Mannock Rd., Wood Green, N.22. [1789

20 5h.p. Brough, Swan sporting sidecar, speedo- meter, lamps, tax paid; offers; see Exchange.— yton St., Cheetham Hill, Manchester. [X7051

OUGH 5h.p. Flat Twin, £140; 3½h.p. flat twin, overhead valves, ideal sporting solo, £130.—Sole s, G. and J. Dawson, Regent St., Cambridge. ne: 993. [0462

W Model G Brough, 5-6h.p., flat twin, all-chain drive, coachbuilt sidecar, shop-soiled, at greatly ed price; write for special bargain list.—The ler Motor Co., Aston Rd., Birmingham. [1876

Brough Superior.

OUGH, superior, 8h.p., overhead valves, built to an ideal for the rider who will have the best; enquire of sole agents for Cambridgeshire, Hunt- nshire, and district, G. and J. Dawson, Regent Cambridge. Phone: 993. [0463

Brown.

.—Brown 3½h.p., Bosch, B. and B., Gnido gear, wants few parts.—Write Southerun, 10, Mayall Herne Hill, London. [1135

B.S.A.

.A.—All models now in stock; delivered any- where.

.A. Sidecars, hoods, grids, screens, etc., in stock.

.A. Replacements, every part and pattern, by return.

.A. Specialists: County Cycle and Motor Co., Broad St., Birmingham. [6575

.A. Combination, 1914, countershaft, dynamo lighting, excellent condition; £85.—See below.

.A. Combination, 1915, accessories; £95.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensing- 260. [0406

A. All-chain Combination, brand new; £145.— Welford, St. James' St., Brighton. [1726

20 B.S.A. (late) H. Combination, hood, screen, luggage grid, scarcely used; £115.—Below.

AND New Magdyno Combination; £164.—Clark, 7, Exhibition Rd., South Kensington. [8954

7 (March) B.S.A. and Sidecar, all accessories.— Reynolds, 303, Western Bank, Sheffield. [1538

.p. B.S.A. Combination, all-chain drive, guaranteed unused; £135.—Smith, 54, Hampstead Rd., N.W.1. [1701

A. Combination, 4½h.p., model H, perfect £95. -Off Licence, Truman's Rd., Stoke Newington. [1705a

A. 4½h.p. Combination, lamps, horn, tools, wind creen, all as new; £110.—H. Wright, Arlesey. [1235

A. 1915 Combination, £75; excellent condition. -Full particulars, 13, Crooklog, Bexley Heath. [1422

A. Late 1913 Combination, chain, 2-speed, clutch, xcellent condition; £75.—7, Chatsworth Rd., W. od, S.E. [1206

TON.—All B.S.A. models in stock, solo and ombinations, complete.—Grosvenor Garage, Brad- t., Bolton. [X2019

A. 1921 Models; orders now accepted for early elivery.—Ratcliffe Bros., 200, Gt. Portland St., Mayfair 5042. [0429

A. 3½h.p., clutch, perfect, for any countershaft, amaged or otherwise; sell £36.—106, Chatham alworth, S.E. [1976

THE HALIFAX MOTOR EXCHANGE

New Address—
25, HORTON STREET,
HALIFAX.
EXCHANGES WANTED.

1921 NEW MODELS.

LAGONDA, 11.9 b.p., coupé, dickey; full equipment; reduced price	£465	0
CALTHORPE, 2-seater, standard model	475 gns.	
CALTHORPE, 4-seater, full equipment	495 gns.	
COVENTRY PREMIER, 3-wheeler	£288	15
L.S.D., 8 h.p., 3-wheeler	£245	0
REX-BLACKBURNE Model 55 8 h.p. Combination, 28×3, spare wheel ..	£218	18
***DOUGLAS,** 2½ h.p., 3-speed, solo	£100	0
SCOTT, 3½ h.p., 2-speed	£130	0
***ROYAL RUBY,** 3 h.p., spring frame ..	£120	0
***TRIUMPH,** 4 h.p., and Sidecar	£161	0
NEW IMPERIAL, 8 h.p., and Sidecar	£186	18
NEW IMPERIAL, 2½ h.p., 2-speed ...	£80	17
B.S.A. 4½ h.p. 3-speed all-chain Comb.	£152	0
SCOTT Combination	£170	0
BRADBURY, 6 h.p., and Sidecar	£187	10
ENFIELD, 2½ h.p., 2-speed, lightweight	£65	0
TRIUMPH, countershaft, and Sidecar.	£161	0
B.S.A. twin Combination, Lucas dyno, spare wheel, etc.	£235	9
SUNBEAM 8 h.p. Combination, Lucas dyno lighting, spare wheel, etc....	£274	1

*1920 models. Cash offers wanted.

1921 DOUGLASES.

2½ h.p., 2-speed	£85	0
2½ h.p., 3-speed, no clutch	£100	0
2½ h.p., 3-speed, kick-start, clutch ...	£105	0
4 h.p., 3-speed, clutch	£130	0
4 h.p. 3-speed Combination	£170	0

Prices plus transit. Exchanges, easy terms.

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ACME-J.A.P., BRADBURY, DOUGLAS, ENFIELD, NEW IMPERIAL, NORTON, REX, SUNBEAM, SCOTT, and TRIUMPH Motor Cycles; L.S.D. and COVENTRY PREMIER 3-wheelers; AIREDALE, DOUGLAS, CALTHORPE, and LAGONDA Light Cars; MILLS-FULFORD and SWAN Sidecars.

Exchange enquiries solicited.
SECOND-HAND MACHINES.
Guaranteed in Running Order.
Solo Machines.

A.B.C., 1920, Magdyno lighting, speedo- meter, electric horn, 700 miles	£132	10
EDMUND, 2½ h.p., 1920, as new	£75	0
ARIEL, 1920, 3½ h.p., 3-sp., c/shaft...	£98	10
NORTON, 3½ h.p., T.T.	£75	0
COVENTRY EAGLE, 1920, 3½ h.p., 3-speed	£98	10
METRO-TYLER, 2-speed, red	£62	10
DOUGLAS, 1920, 2¾ h.p., 3-sp., accessories	£87	10
HOBART, 1920, 2½ h.p., 2-speed, as new	£62	10
BRADBURY, 3½ h.p., 3-speed	£47	10
DOUGLAS, 1919, 4 h.p., little used....	£87	10

Passenger Machines.

LAGONDA, 1920, coup', tax paid	£395	0
RICHARDSON, 1920, 2-seater, tax paid	£198	0
MORGAN, 8 h.p., Sporting, tax paid ..	£145	0
BUCKINGHAM, 2-seater, tax paid ...	£85	0
SCOTT 2-stroke Coach Comb	£78	10
PREMIER, 3½ h.p., 2-sp., and Sidecar	£47	10
BRADBURY, 6 h.p., Grindlay Sidecar, lamps, etc., 1920 Combination	£162	10
B.S.A. TWIN, 8 h.p., new Sidecar	£148	0
ARIEL 3½ h.p. 1920 3-sp. Combination	£128	0
HARLEY, 7-9 h.p., 1920, and new latest type bulbous back Sidecar..	£198	10
HARLEY 1920 Combination, electric ..	£200	0
DOUGLAS 1919 4 h.p. Combination ..	£125	0
DOUGLAS 1920 4 h.p. Combination ..	£145	10
CHATER-LEA 8 h.p. 3-sp. Comb.	£85	0
BRADBURY, 3½ h.p., 3-sp., Sidecar ...	£78	0
BAT-JAP 6 h.p. 3-speed c/shaft Comb., speedometer, watch, lamps, etc....	£90	0

Easy Payments Arranged.
NEW ACCESSORIES.

Easting Windscreen, standard	£4	10	0
New Magnetos, Single or Twin, for all makes. "Exchanges."			
Cowey Horns, 50 -; Klaxons	£1	16	0
Capac 1920 Carburetter, nearly new..	£2	12	8
Cowey Speedometers	£6	0	0
Bonoiksen, trip	£6	18	6
Smith, trip	£5	15	0
Binks Carburetters, post free	£4	18	10
Capac Carburetters, post free	£4	8	0
New Army Knapsacks, 13½×11"		5	6
Plated T.T. Bars, for Triumphs	£1	5	0

Carriage extra.

MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A. Combination, 1917, fully equipped, over- hauled, tax paid, spares; £95.—7, Cambridge St., Wolverton, Bucks. [1540

1920 (July) 4½h.p. B.S.A., all-chain, sidecar, licence paid, no accessories; £85.—C. Ingram, Hazelmere, Goldsworth Rd., Woking. [1287

B.S.A. Twin 1921 Combination, just delivered, £198; B.S.A., new Model K2, in stock, finest sidecar machine made, £107.

JANES and Adams, the recognised B.S.A. agents, East Finchley, London, N.2. [8488

B.S.A.—A fine machine at a reasonable price; immediate delivery 1921 models.—Turner Bros., 134, Upper Thames St., London, E.C. [1675

B.S.A. 3½h.p., 2-speed, excellent condition, complete with lamps and horn; ride away; £56, or near offer. —Brawn, Cambridge Rd., Sandy, Beds. [1113

1920 B.S.A. Combination, Cowey speedometer, Lucas lamps, horn, wind screen, indistinguishable from new; £97.—37, Arlington Rd., Surbiton. [1557

1920½ B.S.A. 4½h.p., all chain, Lucas lamp, Cowey horn, splendid condition, licence paid. Midlands.—Box 2,097, c/o *The Motor Cycle.* [1958

B.S.A. Combination, 1914, in excellent order, 2-speed, free engine, hand and foot control; £55.—Davies, 4, Plasycoed Ter., Ystradgynlias, Breconshire. [1383

B.S.A. and Gloria Sidecar, 1919, accessories, Easting, only run a few miles; £125.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0409

B.S.A.—All models for earliest delivery. Also 1920 models at reduced prices.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2016

B.S.A. 1919 C.B. Combination, 3-speed, C.S., kick starter, excellent condition, lamps, horn, etc.; 90 gns., offers.—Diller, 4, Roxford Ter., Shepherd's Bush, W. [9567

MUST Sell.—B.S.A. combination, K., September, 1920, fully equipped, perfect, tax paid; best offer; reason bought car.—Coates, Bank House, St. Ives, Coruwall. [1681

H. F. EDWARDS, the B.S.A. competition specialist, can give delivery all models; also expert advice. —50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [1904

B.S.A., 4½h.p., Model K, 1919, with Patey family sidecar, exceptional condition; £115.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1036

B.S.A. 6h.p. and 4½h.p. Solo in stock for immediate delivery; price list and catalogue post free; de- ferred payments arranged.—Sole district agents, The Walsall Gauge, Walsall. Tel.: 444. [4010

B.S.A. 1921 6-7h.p. Twin Combination, complete with spare wheel, luggage grid, and screen; cash, or extended payments.—Taylors, Ltd., 52 and 53, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0481

3½h.p. B.S.A., 2-speed gear, completely overhauled, and guaranteed perfect, fully equipped with all lamps, etc., take sidecar anywhere; any trial or examination; nearest £45.—Day, Okehampton. [1343

F.O.C.H. have a brand new B.S.A. Model H, shop- soiled; £95; exchanges and easy payments ar- ranged.—5, Heath St., Hampstead (or. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, in- cluding Saturdays. [1376

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— New 1921 B.S.A. motor cycles, chain and chain- cum-belt, delivered from stock, price £110 and £107 respectively; easy terms one-fifth down and the remainder in 12 monthly payments. [1992

B.S.A. 4½h.p. Model H, late 1920, with B.S.A. No. 2 sidecar, Magdyno lighting, brand new, slightly soiled; usual price £158/15, our price £145/15; this very special offer cannot be repeated.—Wilkins, Simpson, opposite Olympia, London. [1353

B.S.A. 1919 Model H. and Dunhill sidecar, Lucas front lamp rear, and sidecar lamps, Smith's speed- ometer, horn, mirror, and spares, guaranteed mechani- cally perfect; £105.—Marquis, c/o Hucklebridge, 133, Sloane St., London, S.W.1. [X6948

1913 B.S.A. Combination, C.B. sidecar, 2-speed and clutch hub, engine thoroughly renovated, with adjustable tappet, new valve guides, pistons, and all bearings, pulling magnificently, new belt and tyre; £70, or near offer.—Box 1,825, c/o *The Motor Cycle.* [7616

B.S.A.—A motor cycle worthy of its name is the B.S.A. We have always in stock at least three models, Model K, Model H, and 6-7h.p. twin, imme- diate delivery; all spares in stock; trade supplied.— Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0379

B.S.A. Canoelet Combination, 4½h.p., 3-speed, K.S. and clutch, Oct., 1916, bought new 1917, outfit re-stoved as new, tank by B.S.A., excellent order throughout, new H.A.H. electric lamps, Watford trip, Clayrite horn, knee-grips, pannier bags, tools, sidecar apron, tube carrier, etc., tyres good, long copper ex- haust, widened bars, spores; trial; climb anything, fast, all-chain drive, beautiful outfit, tax paid; £110; ex- change fast solo, cash adjustment.—M. B. Lax, 17, Hilton Rd., Leeds. [1118

MOTOR CYCLES FOR SALE.

B.S.A.

1920 (July) B.S.A. Model H2 Combination, Lucas Magdyno, Easting screen, Cowey horn, speedometer, luggage grid, mirror, just completed 4,000 miles, perfect order; owner buying new B.S.A. model; any trial; tax paid; £135.—Neame, Coombe Farm, Farnborough, Hants. [1543

Burman.

1920 4h.p. Single-cyl. Burman, 2-speed, hand clutch, kick starter, mileage under 100; bargain, £55.—111, Cox St., Coventry. [X7083

Calcott.

CALCOTT, 2½h.p., variable gear, lamps, horn, nice machine; £30.—17, Heaton Rd., Mitcham. [1568

Calthorpe

CALTHORPE 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Below.

CALTHORPE 2¾h.p., 2-speed Enfield gear, as makers' specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [1300

1915 Calthorpe-Jap, 2¾h.p., Enfield 2-speed, 4-stroke, excellent order; £37.—R. E. Thomas, Hendre Villa, Penglaise Rd., Aberystwyth. [1261

CALTHORPE Junior, 2¼h.p., 2-speed, perfect, go anywhere; £33. Wanted, 2-stroke.—P. Webb, Grammar School, Tonbridge Rd., Maidstone, Kent. [1248

CALTHORPE-J.A.P. 2¾h.p., 1920 model, Enfield 2-speed, £65; also 2-stroke model, with Enfield gear, £58.—P. J. Evans, 81-91, John Bright St., Birmingham. [9410

CALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon; all models in stock for immediate delivery.—The Carlton Motor Co., 53, Torwood St., Torquay. [0201

Campion.

CAMPION Combination, 8h.p. J.A.P., equal to new; £140.—37, Bayswater Rd., Newcastle. [1781

1915 4h.p. Campion-Jap, free engine, pedal start; £35.—29, St. Leonards St., Bromley-by-Bow, East 4708. [1772

£70.—Campion combination (about 1914), 4¼h.p. Precision engine, good condition, all-chain, clutch, 2-speed, 3 lamps, 3 generators, tools, running order, insured £80, tax paid.—Deurance, Elim, Shelthorpe, Longhborough. [1274

Cedos.

CEDOS 2-stroke, the finest lightweight reaching the public, earliest deliveries, particulars on application.—Largest London Agents: Fowler and Brigden, 130, Euston Rd., London, N.W.1. 'Phone: Museum 4827. [0469

Chater-Lea

CHATER-LEA Combination, 8h.p., 3-speed countershaft, chain, kick start, car tyres, screen, luggage platform, horns, mirror, lamps, spares, tools, tax.—Wheeler, St. Nicholas, Thanet. [1799

CHATER-LEA 1914 8-10h.p. Combination, 3-speed, clutch, K.S., disc wheels, lamps and accessories, tyres almost new, fast sporting model, slight sidecar repair; £65, or best offer.—Fry, The Cottage, East Knighton, Winfrith, Dorset. [1185

Chater-Lea-Jap.

CHATER-J.A.P. 6h.p., 3-speed, clutch, guaranteed perfect; £38, offer.—329, Old Ford Rd., E. [1642

CHATER-J.A.P. 4h.p. Combination, C.B., Bosch, B. and B., 3-speed, lamps, generators, horn, good condition; £65, offers.—Ross, Watford, Rugby. [X6923

Cleveland.

1920 Cleveland, 3h.p., clutch and kick start, new Senspray carburetter; £60.—Mackenzie, 46, Clerke St., Grimsby. [1356

Clyno.

CLYNO, 1920, all on, guaranteed perfect; offers.—50, Fairlawn Grove, Chiswick, W.4. [1608

NEARLY New 2¾h.p. Clyno, 1920, 2-speed; 60 gns.—A. J. Young and Co., Ltd., Newmarket. [1256

CLYNO 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Below.

CLYNO Lightweight, 1920, shop-soiled, at greatly reduced price. Now is the time to buy.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [1301

CLYNO Countershaft, 5-6h.p., solo; offers.—Thompson, 32, Clarence Rd., Kentish Town, N.W. [1470

CLYNO 1913, C.B. sidecar, 3-speed, K.S., good 'bus, lamps on; £75; licence paid.—R. Yare, Kirkby Stephen. [1406

CLYNO Lightweight, 1920 model, complete with lamps, horn, tools, etc.; 50 gns.—H. J. Marston, 50, Argyle St., Birkenhead. [1501

CLYNO, 3-speed, large tandem sidecar, Cameo, electric lights, spare valves, chains, splendid condition; £105.—190, Maple Rd., Penge. [1492

TEN Brand New Clynos, 2½h.p., 2-speed models; list price £75; to clear at £58.—J. Hebden and Sons, 149, St. James St., Burnley. [2021

1915 Clyno Combination, engine as new, interchangeable wheels, spares; £110, or near offer.—Way, York Terrace, Devizes, Wilts. [1575

REYS

173, Gt. Portland Street.

Telephone—Mayfair 879.

1921 Models in Stock.

Following for Immediate Delivery:

1921 8 h.p. **ENFIELD** Combination....	£160	0
1921 6-7 h.p. **B.S.A.** and Sidecar and spare wheel.....	£207	0
1921 4 h.p. **DOUGLAS** Combination ..	£170	0
1921 8 h.p. **MATCHLESS** Combination	£205	0
1921 8 h.p. **NEW IMPERIAL** Comb. ..	£186	18
1921 3½ h.p. twin **LEA-FRANCIS**.....	£130	0
1921 2¾ h.p. 2-speed **DOUGLAS**	£85	0
1921 2¾ h.p. 3-speed **DOUGLAS,** with clutch	£105	0
1921 4 h.p. **TRIUMPH,** chain drive....	£140	0
1921 10 b.p. **HENDERSON,** with reverse gear	£210	0
1920 5-6 h.p. **JAMES** Combination	£175	0
1920 8 h.p. **NEW IMPERIAL** Comb. ..	£165	0
1920 2-stroke **DIAMOND**.....	£50	0
1920 2¾ h.p. 2-speed **NEW IMPERIAL,** with clutch	£83	0
1920 2¾ h.p. 2-speed **NEW IMPERIAL,** without clutch	£78	0
1920 **BABY TRIUMPH**.....	£70	0
1920 3½ h.p. **LEA-FRANCIS**	£118	0
1921 **GRAND PRIX MORGAN,** M.A.G. engine	£229	14
1921 **G.N.,** dynamo lighting	£275	12
1921 **PREMIER** Super Runabout.....	£288	15
DE LUXE A.C. MORGAN, in splendid order, all accessories	£170	0

NEW IMPERIAL SPARE — PART STOCKISTS. —

SECOND-HAND MACHINES.

1915 4 h.p. **TRIUMPH,** 3-speed.....	£75	0
1920 4 h.p. **DOUGLAS** Combination ..	£150	0
1920 2-stroke **JAMES,** 2-speed	£65	0
1920 6 h.p. **ZENITH,** sports model, and Sidecar.....	£130	0
1920 8 h.p. **MATCHLESS** Combination, dynamo, and accessories.....	£185	0
1920 2½ h.p. 2-speed **EDMUND**.....	£78	0
1915 4 h.p. **TRIUMPH** and accessories	£90	0
1915 4 h.p. **TRIUMPH** and Sidecar....	£105	0
1920 4-cyl. **HENDERSON** and Sidecar, all accessories.....	£175	0
1920 4 h.p. **DOUGLAS** Combination, all accessories	£145	0
1920 2¾ h.p. **DOUGLAS** with clutch and all accessories.....	£85	0
1916 2-speed **CALTHORPE**.....	£38	0

A BARGAIN—Heavy Bulbous-back Sidecar, brand new. List price **£42.** Our price **£30.**

CANOELET SIDECARS. — All Models in Stock. —

EASY PAYMENTS TAKEN ON ALL MACHINES, AND EXCHANGES ENTERTAINED.

Large Stock of Powell & Hanmer Lamps and other Accessories.

CAR DEPOT:

378, Euston Road.

Telephone—Museum 6436.

MOTOR CYCLES FOR SALE.

Clyno.

CLYNO 1921 models, immediate delivery; 1920 weights, shop-soiled, £63; list price, £75.—cliffe Bros., 200, Gt. Portland St., W. Mayfair

CLYNO 2-stroke, 2-speed, clutch, Dec., 1919, fect condition, tax paid, full equipment; £5 near offer.—Chapman, St. Dunstan's, Nightingale Rickmansworth.

1914 6h.p. Clyno Combination, fitted with l horn, and speedometer, just completely hauled and in splendid condition; £75.—Tel.: Mu 6626.—A.S.C., 60, Mortimer St., W.1.

CLYNO 8h.p. 1921 Combination.—Batchelor Co., East Surrey agents, have a new 8h.p. ination; demonstration runs given; orders booke very early delivery.—Batchelor's, Clarence St., Kin on-Thames. 'Phone: 1809.

8h.p. Clyno-Jap and Sunbeam Sidecar, fitted electric lighting set (accumulator), detachabl interchangeable wheels, and special sprung pillion hinged dash, tyres, good, the whole in perfect con and entirely overhauled, re-enamelled and plated; Midlands.—Box 49, c/o *The Motor Cycle.* [

1916-17 5-6h.p. 3-speed K.S. Clutch W.D. C unrenovated, £40 each. These machine worth £120 when finished; they are all complete mag. and carburetter; new Thomson-Bennett required. £5/10 extra. These machines only overhauling and renovating. The engines and boxes are absolutely A1. I have a large quant these machines, and they are going like hot cak come and inspect my stock and you are sure t something. Reduction on quantities.—Below.

1916-17 5-6h.p. 3-speed W.D. K.S. Clynos novated; £85. I have also a very large of Clyno spares; not one of each kind, but thous See my advert. under Miscellaneous for Clyno s etc.; I sell my spares very cheaply to buyers machines.—Please apply or write to J. J. Doole Killyon Rd., Clapham, S.W.8.

Connaught.

CONNAUGHT 2½h.p., 1920 model, single speed, soiled only, £50; also 2-speed model, £58.—Evans, 81-91, John Bright St., Birmingham.

NEW 1920 Connaught 2½h.p. Miniature Mod speed, lamps, horn, all complete; list £70 w accessories; accept £60, no offers.—Stanworth, Hi nr. Burnley, Lancs.

Corah.

3½h.p. Corah-Jap, Simms variable mag., B.B justable pulley, semi-T.T., new Bates rear, exhaust, good running order, fast, licence paid, holder; nearest offer £20.—15, South St., bourne, Derbyshire. [

Coulson.

1920 Coulson 4h.p., 2-speed, brand new; Bartlett's, 93, Gt. Portland St., W.

COULSON-B., 1920, 4h.p., 2-speed, perfect cond worth having; £98, or nearest.—Curtis, 7, St., Grantham.

COULSON B 1921 Models in Stock.—Sole Wil Agents, Wessex Motors, Ltd., 60, Catherin Salisbury. 'Phone: 72.

COULSON B, 4h.p., shop-soiled, at greatly re price; now is the time to buy.—Mebes, 154-6 Portland St., W.1. 'Phone: 3426 Mayfair.

COULSON B, 4h.p., 2-speed, spring frame, sories; £90.—Newnham Motor Co., 223, Ha smith Rd., W.6. 'Phone: Hammersmith 80.

SOLE agent for Newport, Shifnal, Ludlow, north, and part Staffordshire for Coulson B mediate delivery all models.—Evans's Garage, Ne Salop. [

COULSON-B., 1919, 2¾h.p., Albion 2-speed, frame, accessories, tools, spare belt, new mileage about 3,500, licence paid, attractive re machine; £68.—105, London Rd., Southend-on-S

COULSON-B.—We are sole agents for Wolverh ton, Stourbridge, Dudley, Walsall, and dis good deliveries; private and trade enquiries invi The Molineux Garage Co., Ltd., Wolverhampton. 1160.

COULSON-B, 4h.p., 120 gns.; an ideal solo or car mount, as low and handy as a Levis; in st Sole agents for Leeds and 15 miles radius, excl Bradford.—The Headingley Motor and Engineering Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Hea ley 480.

F.O.C.H. have a brand new Coulson B 2¾h. speed, and 4h.p. 3-speed, shop-soiled; £8 and £108/10; exchanges and easy payments arra —5, Heath St., Hampstead (nr. Hampstead Station). 'Phone: Hampstead 3752. Hours 9- cluding Saturdays.

Coventry Eagle.

GREAT Snip.—Coventry Eagle 1920 3½h.p. bination, best Lucas accessories, mileage cost £175; accept £110; exchanges.—60, Wallin Av., N. Kensington.

F.O.C.H. have a brand new Coventry Eagle, 2 kick starter, shop-soiled; £84; exchanges and payments arranged.—5, Heath St., Hampstead Hampstead Tube Station). 'Phone: Hampstead Hours 9-7, including Saturdays.

MOTOR CYCLES FOR SALE.

Enfield.

FIELD 1920 2¼h.p., fully equipped, indistinguishable from new; £65.—Parker's, Bradshaw-Bolton, and 245, Deansgate, Manchester. [6920

19 2¼h.p. Enfield, 2-stroke, 2-speed, all-chain drive, in new condition, ride away, lamps, horn, etc.; in, £58; after 6 p.m.—334, East St., Walworth. [1240

FIELD Combination, 1918, dynamo lighting, hood and screen, speedometer, splendid condition; £140; sid.—125, Freemason's Rd., Custom House, E.16. [1200

FIELD Combination, 1913-14, overhauled, new oversize Dunlops; sell cheap, offers.—Scotswood, r Drayton Rd., Sandon Rd., Edgbasten, Birming- [X7073

21 Enfield Combination, dynamo lighting, with or without dynamo; in stock, immediate delivery; price.—J. Smith and Co., 52-54, Hampstead Rd., 1. [0352

h.p. Twin-cyl. Royal Enfield, 2-speed, new tyres, Bosch, B and B., 1911-12, runs well; £27, or —J. Blackburn, Carnadere, Castlefinn, Co. gal. [1552

17 Enfield Combination, 8h.p., dynamo lighting, Easting, Tan-Sad, insurance, tax paid; £135. one: Wanstead 48.—374, Greve Green Rd., onstone. [1836

21 Enfield 8h.p. Combination, absolutely perfect, delivery 3 weeks ago; any trial; must sell; owner abroad; £155, or offer.—Write, O.T.L., 23, Apple- Rd. W.14. [1384

FIELD, 6h.p., 2-speed, handle start, coachbuilt sidecar, Easting, accessories; £75.—Newnham r Co., 223, Hammersmith Rd., W.6. 'Phone: mersmith 80. [1038

FIELD 1920 2¼h.p., Lucas accessories, spares, mileage 500, absolutely perfect; £55, offers; ex- ge 3½h.p., old if good.—Merry, 10, Ambleeote Rd., Park, S.E.12. [1418

21 8h.p. Enfield Combination, Lucas Magdyno lighting set, mileage under 200, tax paid, guar- ed perfect, unscratched; approval against cash; 2.—104, Elgin Rd., Seven Kings. [1985

FIELD Combination, late 1912, cane sidecar, not done 10,000 miles, stored during war, new Binks, art, horn, lamps, watch, mirror, licence, spares; offers?—Barton Firs Barton-on-Sea, New Milton, ts. [1602

OYAL ENFIELD Motor Cycles.—Immediate delivery of the new 8h.p. combination at £160; p. lightweight, £65; call and inspect or send for culars.—P. J. Evans, 81-91, John Bright St., ingham. [1482

20 Royal Enfield Combination, 8h.p., dynamo lighting, Easting, Tan-Sad, Watford speedo- r, insurance, run 439 miles only; cost £225, £175.—374, Grove Green Rd., Leytonstone. ne: Wanstead 48. [1833

15 3h.p. Enfield, 2-speed, fitted with electric lamps, horn, machine in good running order; £48. See advert. re gloves in Miscellaneous nts.—Duncan and Shepherd, 33, The Parade, ers Green, N.W.4. [1824

17 3h.p. Twin Enfield, 2-speed, all-chain drive, cost £8 overhauled, with new carburetter, new tyres as new, speedometer, all lighting set, per- approval; 42 gns.; 30/- tax.—H. Mann, Ivy se, Thomas St., King's Lynn. [1971

18-17 Royal Enfield 6-8h.p. Combination, new latest model sidecar, fully equipped with wind screen cover, new tyres, lamps, horn, speedometer, etc., class condition throughout; trial by appointment; sell.—All offers to the Manager Gas Works, New et. [1202

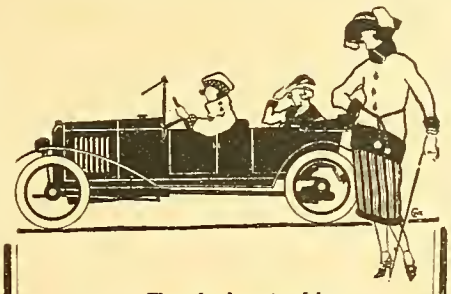
AUCHOPE'S, 9, Shoe Lane, London.—Enfield 1921 combination, with dynamo lighting set, standard model, £160; 2-stroke solo, £65; also 3h.p. Enfield twin, £55; and 2¼h.p. Enfield, 1920, 10; easy terms arranged, one-fifth down and the inder in 12 monthly payments. [1994

FIELDS.—The cheapest twin combination on the road. We are North London agents, and can give diate delivery of the standard model, £160; elec- model, £180; trade supplied. All spares in stock. e supplied.—Jones' Garage, Muswell Hill, N.10, and Woodside Parade, North Finchley. [0360

FIELD 8h.p. 1920 Combination, quite new, £152/10, much below original prices; also 1916 bination, £89/10; 1915 dynamo combination, £125; lightweight, £52/10; terms quarter down and 11 nents.—387, Euston Rd., N.W., 151, High St., hamstow, and 50 High Rd., Wood Green, N. [1015

TE 1920 6h.p. Enfield Combination, done 900, as new and guaranteed absolutely perfect, with follow- extras, etc., hood, screen, side curtains, lamps, speed- er, Ton-Sad, new spare cover and tube, new spare ng chain, valve, Coverall apron, etc., tax paid, nificent outfit; ride reasonable distance; £155.— y, 4, Furneaux Villas, Paignton. [1280

FIELD Combination, 1920, 6h.p. twin, handle- starter, practically new, and in perfect order, l with sidecar cover, Easting wind screen, mirror, amps, and D.A. cylinder, speedometer, horn, on, mudshield, spare tube, and usual tools; £160; ce and insurance can be transferred.—Claude Bas- , 61, Station Rd., Harlesden, N.W.10. [1707



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MOTOR CYCLES FOR SALE.

Excelsior.

3½h.p. Excelsior, Druid, B.B., Bosch, tax 30/-; £28. —71, Grove Rd., Windsor. [1788

1915 5-6h.p. Excelsior Big Single and sidecar, 3-speed, kick starter, lamps, tools, etc.; £85.—H. Wright, Arlesey, Beds. [1234

EXCELSIOR Big Six Combination, 1914-15, screen, horn, lamps, etc., in good order; what offers?—Featherstone, Tregantle, Leckhampton. [X7020

NEW 4½h.p. Big Single Excelsior Combination, bulbous back sidecar, slightly shop-soiled, at great reduction; write for special bargain list.—The Premier Motor Co., Aston Rd., Birmingham. [1878

F.N.

F.N., 4-cyl., overhauled and re-enamelled; £30.—28, Cranmer Av., West Ealing, W.13. [1758

F.N., 4-cyl., little used, new buck tyre, complete; £50. —Arnold, Quadrille Court, Lymington. [1401

F.N. 4-cyl., 2-speed and free, Bosch, new rings, new Dunlop rear; £25.—69, Cranleigh Drive, Leigh-on-Sea. [1141

4-CYL. F.N. Combinations and Solo Singles actually in stock:—Grimes and Co., 18, Bruton Place, New Bond St., W. [9443

£20.—4-cyl. F.N., single gear, recently overhauled, new studded tyres, in good running order.—Cornford, Binden, Wool, Dorset. [1831

F.N. 4-cyl., speeds, clutch, special machine, just stoved black, dropped frame, wide tank, footboards, overhauled, £55; good sidecar, £5.—60, Meath Rd., Ilford. [1139

Francis-Barnett.

JULIANS of Reading have 1921 Francis-Barnett in stock. [0479

Harley-Davidson.

I HAVE

1917, 1919, and 1920 Harley-Davidson combinations; from £100 to £200.

BUY from the Sole Agent, J. A. Stacey, 12, Eccleshall Rd., Sheffield. [1927

1920 Harley 4h.p., new; £140.—21, Hobson St., Cambridge. [1435

HARLEY Sports, fully equipped, new; £142.—7, Exhibition Rd., S.W.7. [1934

HARLEY-DAVIDSON 1918 Model, good condition; £80.—Owen, 59, Scholefield Rd., Upper Holloway. [X6990

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross, 86, High Rd., Lee. [5669

1918 Harley-Davidson, excellent condition; £95; 2-speed lightweight part.—175, Knollys Rd., Streatham, S.W.16. [1661

1920 Harley-Davidson 4h.p. Combination, Henderson sidecar, all accessories; £145.—Apply, Pavilion Garage, Sloane Sq., London. [1469

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', Southport, Lancashire. Tel.: 607. [5009

1919 (Nov.) Harley-Davidson, mag. model, and sidecar, splendid order and condition; trial by appointment; £170.—Bicknell, Nailsea, Bristol. [X6946

1918 Harley-Davidson Mag. Combination, complete with lighting set and horn, re-enamelled and overhauled; £120.—Mastin, Gosberton, Spalding, Lincs. [1635

HARLEY 1920 Standard Dynamo Combination, speedometer, discs, Easting, College, privately owned, unscratched, licensed; £178.—7, Exhibition Rd., S.W.7. [1929

1920 Harley-Davidson 7-9h.p. Model F, magneto model, brand new, with lighting set and mechanical horn; £173.—Mastin, Gosberton, Spalding, Lincs. [1633

180 Gns.—Harley 1920 Electric Combination, hood, etc., new, dependable condition, speedometer, 2,000 miles, insured, tax paid 1921.—8, Blenheim Place, Putney. [X7004

1920 Harley-Davidson 7-9h.p. Model J, electrically equipped, brand new combination, speedometer, etc; list price £249; reduced to £225.—Mastin, Gosberton, Spalding, Lincs. [1632

HARLEY-DAVIDSON, 1917, Dec., electric model, with 2-seater sidecar, fully equipped, speedometer, etc., spare, tax paid; £128.—22, Princes Rd., Finsbury Park, London. [1918

HARLEY-DAVIDSON 1920 4h.p., Swan sporting sidecar, F.R.S. electric lighting, indistinguishable from new; £180.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6915

1920 Harley-Davidson 4h.p. Sports Model, brand new, complete with lighting set, horn, and speedometer; list price £164/10; accept £147/10.—Mastin, Gosberton, Spalding, Lincs. [1631

1915 Harley-Davidson Mag. Combination, complete with lighting set and horn, re-enamelled and overhauled by Harley Davidson Co.; £110, or near offer.—Mastin, Gosberton, Spalding, Lincs. [1634

1918 Harley-Davidson, Canoelet MM4 sidecar, overhauled and guaranteed perfect throughout, enamel and plating as new, lamps, horn, tools; £135. —Langford's, 37, Cricklewood Broadway, N.W.2. [1664

MOTOR CYCLES FOR SALE.

Harley-Davidson.

1920 Harley-Davidson Model J Standard Combination, engine No. L20T14197, done 3,000, perfect condition, carefully run in, new back tyre, tools, Barkers side valances.—Box 2,091, c/o *The Motor Cycle*. [1471

1920 Harley-Davidson Model J (electrically equipped) Combination, mileage under 3,000, complete with speedometer, discs, hood and screen, condition like new, tax paid; cost £267; £200.—T. Mastin, Gosberton, Spalding, Lincs. [1636

1920 7-9h.p. Harley-Davidson, complete with lamps, horn, speedometer, and discs, splendid condition; price £140. See our advert. re driving gloves in Miscellaneous column.—Duncan and Shepherd, 33, The Parade, Golders Green, N.W.4. [1823

SPECIAL Harley, single-speed, clutch, 75 m.p.h., speedometer, new tyre, tube, low mileage, spring forks, guaranteed perfect, hot stuff, photograph, spares, racing forks, sprockets, seat, buying car; £105, or nearest.—Foden, Westfields, Sandbach. [1583

REMARKABLE Offer of 4 1918 and 1919 Harley-Davidson machines; these machines have been thoroughly overhauled, re-enamelled, and plated, and are indistinguishable from new; £100 each. — The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W.1. [2020

HARLEY-DAVIDSON Combinations from £75; Good-year all-weather 28×3 covers, £2/17/6, new; Remy dynamo repairs by American Remy expert. Anything Harley from a split pin to engine unit.—Harley Expert and Specialist (Harleys only), 117, Poplar Rd., Edgbaston, Birmingham. [X6897

Henderson.

HENDERSON 1920 4-cyl., brand new, unused; £145.—Ridley, 30, Lawn Crescent, Kew Gardens, S.W. [1157

HENDERSON 10h.p. Combination, Swan sidecar, perfect running order.—Stallwood, Model Cottage, Farnborough Green, Farnborough, Hants. [1588

HENDERSONS, 1921, immediate delivery; extended payments.—Barker's Motors, 194, Balham High Rd., S.W.12. 'Phone: Latchmere 4441. [1340

LUXURIOUS Henderson 4h.p. Combination, 1919-20, absolutely as new, unscratched; any trial; first cheque £170.—13, Victoria Rd., Sheffield. [1599

1920 Henderson Combination, bulbous back sidecar, wind screen, disc wheels, all in splendid condition; £175; tax paid.—Hartop, Draper, Bedford. [1221

NEW 1921 Model Henderson, the most highly developed motor cycle ever built; now in stock for immediate delivery; liberal exchanges.—The Premier Motor Co., Aston Rd., Birmingham. [1879

HENDERSON, 1920, small mileage, De Luxe family sidecar, disc wheels, complete accessories; £220.—Barker's Motors, 194, Balham High Rd., S.W.12. 'Phone: Latchmere 4441. [1859

HENDERSON 4-cyl., 10h.p., believed 1915-16 model, 2-speed hub gear (dogs, not old S.A. type), countershaft clutch, hand and full control), hand pump and mechanical lubrication, mag., Schebler carburetter, new tyres, navy blue enamel like new, with most plating the same, carefully ridden, make first-class fast solo or combination machine, tax £3/3; accept £88, subject inspection, or consider old Scott part.—Stanley R. Sizer, Ings Rd., Hull. [8360

Hobart

HOBART 2-speed, 1920 model, unused; 60 gns.—H. J. Marston, 50, Argyle St., Birkenhead. [1503

1921 Hobart, 2-speed, latest model, new, makers' price, £78/10.—Shepherd, Enfield Highway, Enfield. Tel.: Waltham X31. [0477

Humber.

1914 3½h.p. Humber, coachbuilt sidecar, good order, any trial, tax paid; £65, nearest offer.—Manley, Sunbridge, Sevenoaks. [1217

HUMBER 3½h.p., 1913, 2 gears, free engine, Bosch mag., powerful engine, good order; £22.—68, Gloucester Rd., Camden Town. [1524

HUMBER 4½h.p. Flat Twin, 1920 model, unused, shop-soiled only; £125.—P. J. Evans, 81-91, John Bright St., iBrmingham. [9405

HUMBER 4½h.p. 1921 Flat Twin, with Dunhill sidecar, ridden 70 miles only, perfect throughout; £157/10.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [1944

HUMBER 6h.p. Twin-cyl. Water-cooled Combination, licensed, purchased 1917, engine and gears just examined and certified perfect, with hooter, speedometer, 3 acetylene lamps, Easting wind screen, Tan-Sad, tools and spares, mileage under 3,000, splendid hill-climber; price £140.—Redleafe, Reigate. [9146

Indian.

INDIAN, 5-6h.p., clutch model, excellent running order; £29.—Below.

INDIAN, 7-9h.p., 2-speed, spring frame, perfect; £42/10.—17, Heaton Rd., Mitcham. [1565

HORSMAN for Indians.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0470

INDIAN 1919 7-9h.p., everything like new; gift, £75.—C., 12, Station Parade, Muswell Hill. [1745

4h.p. Indian Scout, absolutely as new, semi-T.T. bars, electric head lamp; £130.—14, Prince's Sq., Harrogate. [1223

CRABTREE & SON, Ltd.,

Motor Engineers,

WISBECH.

2,500 New Covers

(Ex Government Stock).

28 × 3 Kempshall, Macintosh, and Wood-Milne

26 × 2½ Clincher de Luxe

30/- each, plus carriage.

Brand new heavy 26 × 2⅜ Clipper Covers, to fit 2¼ rims

28/6 each, plus carriage.

Tubes 26 × 2⅜ **6/6 each.**

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overhauled, but not re-enamelled, good tyres.

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MOTOR CYCLES FOR SALE.

Indian.

1915 Clutch Model Indian; £60; a gift, 77 n tax paid.—19, Wilcox Rd., South Lan London, S.W.8.

7-9h.p. Indian Combination, 2-speed, good cond £65.—Apply, C. Skelton, 172, Avenue Acton London.

1921 Indians.—Immediate delivery from stoc Brown, Indian Specialist, 3 and 7a, Parker Burnley. Tel.: 1032. [X

1920 Indian Scout, all lamps, horn, etc., very £130.—Homac's, 243, Lower Clapton R 'Phone: Dalston 2408.

7-9h.p. Indian Combination, 2-speed, clutch, ometer, luggage grid; £90; or exchange.—I ton, Elton, Peterborough. [

1914 7-9h.p. Indian, clutch model, in good ning order; £53.—G. George, Louvain, combe Rd., Godalming, Surrey.

1919 7-9h.p. Indian and 1920 bulbons back si almost new; any trial; £135.—Conne Victoria Rd., Stroud Green, N.4.

INDIAN Combination, clutch model, good con tax; sell, or exchange solo, Triumph prefe Joe Herron, Browney Lane, Durham.

1920 Dynamo Electric Indian Combination wheels, Cameo screen, splendid condition trial; £145.—37, Regent St., Rugby. [

INDIAN 1915 7-9h.p., 3 speeds, clutch, kick condition good; £65.—Parker's, Bradsha Bolton, and 245, Deansgate, Manchester. [

1913 7-9h.p. Indian Combination, electric lig leg guards, etc., goes well; £60.—Homac's Lower Clapton Rd., N. 'Phone: Dalston 2408.

1920 Powerplus Indian Combination, dynamo-li set, electric horn, mileage under a thou accept £145.—Smith, 54, Hampstead Rd., N.W.1.

INDIAN Powerplus Combination, 1920, co with electric lamps and horn, speedometer, n etc.; £180.—H. J. Marston, 50, Argyle St., Birke

INDIANS.—7-9h.p. Powerplus 1919 and 1918 n condition and appearance equal to new; re gains, £77/10.—Owen, 59, Scholefield Rd., Uppe loway. [

INDIAN 1920 7-9h.p. Powerplus Combination trically equipped, low mileage, equal to new; —Parker's, Bradshawgate, Bolton, and 245, Dea Manchester.

POWERPLUS Indian 1916 7-9h.p., spring Canoelet sidecar, electric and acetylene lig very smart lot, little used; £110.—95, Paulet Rd., berwell, S.E.5.

POWERPLUS S.F. Indian, 1916, 3-speed, Magdyno lighting, speedometer, Swan s tools, splendid condition, tax paid; £115.—92, Rd., Leyton, E.10.

1915-16 9h.p. Indian Combination, khaki, 3 K.S.C., lamps, horn, tools, etc., good conditi paid; best offer secures.—Write Box C.S. 4126, Ha Salisbury Sq., E.C.4.

INDIAN 1920 7-9h.p. Powerplus Combination age 3,000, hand and foot clutch,, special s electrically equipped, full set of tools and s £180.—Hewin's Garages, Ltd., the real service Taunton.

BARGAIN.—7-9h.p. Indian, 1918-19, 3-speed, solo, Powerplus, just overhauled and ren perfect, no lamps or accessories, too powerf owner; lowest price 69 gns., worth double; stamp —Keen, Leominster.

1920 Powerplus Indian Combination, Mills-F dynamo lighting, hood, screen, electric luggage grid, speedometer, etc., mileage 2,700, condition any trial; £150; close offer.—Langford Cricklewood Broadway, N.W.2.

1914 7-9h.p. Indian Combination, complete lamps, horn, tools, etc., owner no furthe having purchased car, mechanically sound, and to drive away; £80, or nearest offer.—Reply, J. Probert, Trinity Hall, Cambridge.

INDIAN Scout, 1920 model, lamp set and mech horn, low mileage, carefully used, fir mechanical condition and appearance, last ma £125.—Herbert Robinson, Ltd., 32-35, Green St, bridge. Tel.: 995. T.A.: Bicycles.

INDIAN Motor Cycles.—Immediate delivery o famous machines, electrically equipped. combination, £226; 4h.p. Scout, with speedo £157; lighting set £15.—Sole Birmingham Age J. Evans, 81-91, John Bright St., Birmingham.

1920 Indian Combination, 7-9h.p., as new, d lighting, electric horn, speedometer, n tured, Easting, spares worth £20, including new year tyre, complete waterproof Coverall, tax £170; buying car.—Teulon. 34, Huddleston Rd nell Park, N.

Invicta.

INVICTA 1920 3½h.p. Combination, fitted w accessories and sidecar screen, run 400 mile accept £118.—Olympia Motor Co., 1, Hamm Rd., W.14. 'Phone: Western 4140

MOTOR CYCLES FOR SALE.

Ivy.

Cycles.—1921 models in stock.—Rothwell and Ilbourne, Cowleigh Garage, Malvern. [1796

1921 Models.—Sole district agents, Wessex tors, Ltd., 60, Catherine St., Salisbury. 'Phone: [5006

½h.p. 2-stroke, 1915-16, Lucas, Cowey, Dunlops, lendid running order; £40.—Jenkins, Claremont, r, Herts. [1532

2-stroke, late 1919, 3½h.p., all accessories, per- et running order, tax paid; £55.—82, Cromwell Wimbledon. [1462

2¾h.p., 2-speed, top-hole condition, as new, mps, etc; £48, bargain; delivered.—Mason, 42, rn Rd., Jesmond, Newcastle-on-Tyne. [1615

the aristocrat of its type; delivery of all models m stock; prices and catalogue post free.—Sole Agents, The Walsall Garage, Walsall. Tel.: [4011

EDIATE Delivery of all Ivy models, the acknow- iged finest lightweight.—Full particulars, H. G. and Co., London and District Agents, 91, Gt. ad St., W.1. Mayfair 4084. [0022

Ixion.

N-VILLIERS 2¾h.p., perfect condition; £35.— ller, 16, Trafalgar Studios, Manresa Rd., , S.W.3. [9559

James

ES 4½h.p. Combination, Lucas dynamo lighting, l accessories, perfect; £100.—Below.

ES 1920 2¾h.p., 2-speed, all accessories, perfect ndition; £55.—The Wimbledon Park Engineer- orks, London, S.W.19. Tel.: 511 Wimbledon. [1818

ES Combination, 3-speed, chain drive, kick start, ½h.p.; £88; take lower power part.—57, Ken- St., Camberwell, London. [1590

ES New Combination, all models for immediate elivery from stock. Sole district agents, The l Garage, Walsall. Tel.: 444. [4012

ES 5-6h.p. Combination, 1920, used only for rial runs, fully equipped; £170.—Ratcliffe Bros., t, Portland St., W. Mayfair 5042. [0423

p. James Twin, 3-speed, perfect order, fully equipped, fast, powerful, takes sidecar anywhere; rial; nearest £60.—Day, Okehampton. [1344

ES 5-6h.p. 1920 Model Combination, absolutely nused, complete with lamps, horn, etc.; £150.— Evans, 81-91, John Bright St., Birmingham. [9412

ES New 5-6h.p. Twin, Model de Luxe sidecar, 170, list £190; also new 3½h.p. twin solo, £120, 135.—Stevens, 248, Grosch St., Birmingham. [X6602

ES, 4½h.p., 3-speed, all-chain, with James anoclet sidecar, accessories; very cheap, £75.— am Motor Co., 223, Hammersmith Rd., W.6. e: Hammersmith 80. [1037

0 James 5-6h.p. Combination, 3 speeds, K.S. and clutch, countershaft, coachbuilt sidecar, Cameo screen fully equipped, as new; £150.—10, Royal e, Dawes Rd., Fulham. [1581

0 James 6h.p. de Luxe Combination, used for a new demonstration runs only, indistinguishable new; the first small deposit received will secure special clearance price, £169.—Below.

1920 James 2-strokes, slightly shop-soiled; £65 and £60.—Below.

OTHER Bargain, 1919-20 James 4½h.p., 3-speed, ull-chain drive combination, lighting set, horn, meter; 120 gns. Try us for spares for engine, ox, shock absorber, brake, etc., tanks and frames.— hitby and Son, James Specialists and Sole Agents, e Vale, Acton, London, W.3. 'Phone: Chiswick [1393

C.H. have a 1919 James 4½h.p. combination, as new, completely equipped, electric set; £120.—5, St., Hampstead (near Hampstead Tube Station). e: Hampstead 3752. Hours 9-7, including Satur- [1367

IES 1919 5-6h.p. Combination, new condition, well kept, carefully driven, Tan-Sad, speedometer, e grid, extended silencer, Lucas accessories; £120, change 2-seater, cash adjustment.—Woodward, 18, d Rd., Peckham, London, S.E. [X6951

J.A.P.

p. J.A.P., a.i.v., Bosch, B.B., Grade gear, re liable; offers.—84, Clarence Rd., Hackney. [1472

P. 1920 2¾h.p., 2-speed, kick start, specially sprung, almost new, fully equipped, owner going d, and must sell; £70, or nearest offer; seen after .—Box 2,032, c/o *The Motor Cycle*. [1196

J.E.S.

S. 1921 Models from stock.—Gibb, Gloucester. 'Phone: 852. [0441

S., ride away, excellent condition, tax paid; £26 10s, absolute.—Wright, 14, Gordon Rd., Alder- [1531

Lagonda.

GONDA 4h.p., mag., rebored, new piston; £12.— 8, Peabody Estate, Rodney Rd., Walworth. [1496

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MOTOR CYCLES FOR SALE.

Lea-Francis.

1920 Lea-Francis, shop-soiled, only; cost £130, accept £90.—Smith, 54, Hampstead Rd., N.W.1. [1700

1920 Lea-Francis 3½h.p. Twin, lamps, etc., first-class order; £100.—Bartlett's, 35, Gt. Portland St., W. [2060

LEA-FRANCIS 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Below.

LEA-FRANCIS, M.A.G., as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair [1305

LEA-FRANCIS 1920, shop-soiled only, list price £130; our price £115; orders now accepted for 1921 models.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0431

LEA-FRANCIS 3½h.p. M.A.G. engine, Millford sidecar, August, 1920, mileage under 400, detachable wheels, spare wheel and tyre, speedometer, D.A. lighting with spare cylinder, etc., condition as new; £135.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [9456

Levis.

LEVIS. Levis. Levis.

GENTLEMAN'S Popular Model, £60; lady's Popular Model, £60; immediate delivery. Levis specialists and sole distributors for London and district. Spare parts stocked, repairs undertaken.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., W.1. [0384

JULIANS, of Reading, have 1921 Levis in stock. [0483

GIBB, Gloucester.—1921 Levis from stock.—'Phone: 852. [0442

LEVIS Popular Model, 2-speed, new tyres, tax paid; £45.—6, Golders Way, Golders Green. [1316

1920 Levis, mileage about 800, beautiful condition; 42 gns., very great bargain.—Julian, 64, Broad St., Reading. [0490

1920 Levis Popular, perfect, unpunctured tyres, lamps, horn, accessories; £45.—Wright, 75, Bloomfield St., Derby. [1679

LEVIS, the finest 2-stroke in the world; delivery from stock; £60.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4013

1916 Levis, 2-speed, countershaft, overhauled, re-enamelled, and plated; Easter bargain, £45.—Wait, 36, St. Thomas Rd., Hackney. [1475

LEVIS Baby, 1920, registered, full kit, Cowey, lamps, horn, watch; £55, or will exchange with cash for 4h.p. Triumph.—58, Thornhill Rd., Barnsbury, N.1. [1293

IN Stock, 1921 Levis, £60. Good wine needs no bush. Nuff said!—Sole agents, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [0479

LEVIS 1919-20 2¼h.p., 2-stroke, lamps, horn, mirror, plated long exhaust, knee-grips, toolbags, pump, Dunlop tyres, perfect, new condition; £48; exchange heavier.—Lister, 9, Craven Rd., Keighley. [X6995

NEW 1921 Levis Models in Stock for immediate delivery; 2¾h.p. Touring, Sports, or Ladies', £60; early delivery of the new Model S, Stunney-Archer 2-speed, handle-bar controlled clutch, £68.—The Premier Motor Co., Aston Rd., Birmingham. [1880

Lincoln-Elk.

LINCOLN-ELK 4½h.p. Combination, countershaft, kick start, Dunlops, Bosch, running order; nearest £55.—Lodge, The Avenue, Birstall, Leeds. [1627

L.M.C.

LLOYD Motor Cycle, 2¾h.p., running, useful; nearest £15.—Webber, Hele, Cullompton, Devon. [1319

L.M.C.—Mebes and Mebes are the sole London and Home Counties agents; early delivery of all 1921 models; trade enquiries esteemed.—Below.

L.M.C., suspension and ordinary models, shop-soiled, as makers' specifications, at greatly reduced prices; also 6h.p. and 4½h.p. combinations, second-hand; at bargain prices.—154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [1304

M.A.G.

6h.p. M.A.G.-J.H. and Sidecar, complete, lamps, etc.; £70.—Cross, Agent, Rotherham. [X7001

Martin.

MARTIN-J.A.P. 1915 6h.p., 3-speed Armstrong gear and clutch, Binks carburetter, lamps, tools complete, machine enamelled Indian red, tyres good, licence paid and in holder; the whole in splendid going order, fast and flexible mount; £60, no offers.—Capt. Hoskins, R.E. Mess, Bulford Camp, Salisbury Plain. [1379

Martinsyde

JULIANS, of Reading have 1921 Martinsyde in stock. [0484

1920 Martinsyde Combination, excellent condition, Lucas equipment, horn, Easting; licence paid; best over £140.—Jones, Wainholme, Pembrey, Carm. [1574

MARTINSYDE-NEWMAN 1921 Models.—We are now accepting orders for early delivery, all models; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [1306

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS

1921 Combinations, any model from stock, or in few days. Gradual payments can now be arranged. Every outfit personally tested by the Matchless specialist. Spares of all dates in stock.—J. Tassell, 1a, Bloomfield Rd., Plumstead. [6881

JULIANS of Reading have 1921 Matchless in stock [0480

GIBB, Gloucester, can deliver 1921 Matchless models from stock.—'Phone: 852. [0443

1920 Matchless, Magdyno lighting, absolutely brand new, unused; £195.—Below.

ALL 1921 Models Immediate Delivery from Stock; deferred payments and exchanges if desired.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kew 3709. [1899

1920 Matchless Combination, absolutely perfect, run 300 miles; £175.—136, Lambeth Walk, S.E. [1426

MATCHLESS Combination, 8h.p. J.A.P., 2-speed, K.S., equipped, perfect; £68.—17, Heaton Rd., Mitcham. [1564

SHEFFIELD Sole Agents for 1921 Model Matchless combinations; delivery from stock.—Stacey, 12, Ecclesall Rd. [1926

MATCHLESS 1915 8h.p. Combination, excellent condition; £120.—Full particulars, 13, Crooklog, Bexley Heath, Kent. [1423

MATCHLESS 1920 Model H., acetylene lighting, privately owned, excellent throughout; £154.—Clark, 7, Exhibition Rd., S.W.7. [1931

1920 Matchless Combination, with Lucas lamps, condition as new, licence paid; £165.—Stacey, 12, Ecclesall Rd., Sheffield. [1925

MATCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0424

MATCHLESS 8h.p. Combination, 1921, accessories, used fortnight; £195.—70, Royal Hospital Rd., S.W.3. Tel.: Kensington 7113. [1852

MATCHLESS 1920 Combination (August), M.A.G., £30 extras, speedometer, etc.; £175; exchanges.—17, Birchington Rd., Kilburn. [1792

1919 Matchless, 8h.p. Victory Model, detachable wheels, spare wheel, lamps, etc., £135.—Bartlett's, 93, Gt. Portland St., W. [2058

1921 Matchless Combination, M.A.G., brand new, unused; £205; or exchange 1919-20 solo or combination.—Shaw, Durkar, Wakefield. [1397

BRAND New Matchless Combination, Lucas lamps; makers' price £215, accept nearest offer £200.—Brewster, Sparhawk St., Bury St. Edmunds. [1768

1913 Matchless-Jap, single gear, slight repairs to clutch hub and silencer, engine good, all tyres new; £55.—7, William St., Gt. Northern Terrace, Lincoln. [1227

MATCHLESS Model H Combination, hood, special screen, leg shields, lamps, horn, etc., must sell; exceptional bargain; £168.—W., 2, Worship St., London. [1584

MATCHLESS 1916 Combination, 7-9h.p., M.A.G., electric lighting, hood, screen, speedometer, Tan-Sad; £150.—Particulars, Ogden, Inchkeith, Bushey Hall Rd., Watford. [1391

1917 Matchless 8h.p. Combination, 3-speed, spare wheel, lamps, horn, new spare chain, climb anything, 2 new tyres, tax paid; £115.—Job, Alban House, Oxted, Surrey. [1121

MATCHLESS 8h.p. 1920-21 Combination, dynamo lighting, only driven 60 miles; cost £245, accept £220.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0417

MATCHLESS 1920 Combination, Model H., Magdyno lighting, hood, screen, speedometer, little used; £180, or lightweight and cash.—Spurling, 8, Corinthope Rd., Hampstead, N.W.3. [1413

1920 Model H Matchless, detachable wheels, Magdyno, hood, screen, sidecar step, leg shields, and tax paid, beautifully sprung; bargain, £175.—36, Baroumere Rd., E. Finchley. [1263

MATCHLESS 8h.p. Combination, 1920, dynamo lighting, practically as new, guaranteed perfect; £185 genuine bargain.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0418

MATCHLESS Service Depot. 'Phone: Greenwich 751.—All 1921 new models. Secure one now. Demonstration ride with pleasure at S. E. Clapham (Motors), Stockwell St., Greenwich, S.E.10. [1030

MATCHLESS 1920 Model H Combination, dynamo lighting, spare wheel, hood, screen, Capac carburetter; £160.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1035

MATCHLESS-M.A.G. 8h.p. 1917 Combination, hood and screen, electric lighting, spare wheel and 4 sound tyres, speedometer, licence, insurance to April; £105.—The Ley, Northwich, Cheshire. [9416

MATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [5668

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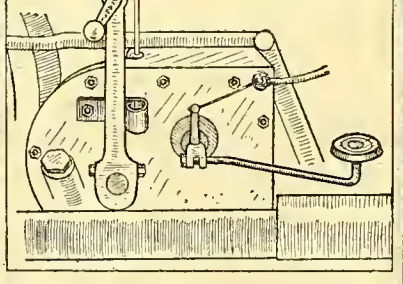
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2¾ h.p. 2-speed £68
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MOTOR CYCLES FOR SALE

Matchless.

MATCHLESS, 1921 Models, from £205; deliveries daily.—Agent (wholesale and retail), S.W. London: George Smith, 268, Lavender Hill (Arding and Hobbs), Clapham Junction. 'Phone: Battersea 1271.

MATCHLESS Combination, 8h.p. M.A.G., latest brand new, slightly soiled, Magdyno lighting, speedometer, leg shields, sidecar step, etc.; usual £243/1/6, our price £195; this offer cannot be repeated.—Wilkins, Simpson, opposite Olympia, London.

MATCHLESS 8h.p. Combination, M.A.G. engine 34547, Easting screen, 3 lamps and generator, luggage grid, in exceptionally good condition, ready for expert examination and trial, not used since complete overhaul; £100, no offers, bargain.—Sawyer, Works, Wrentham. (D)

1920 Matchless Combination, 8h.p. J.A.P., latest newest model, Magdyno lighting set, wind-screen, Triplex glass, and side wings, trip speedometer, legshields, spare wheel, tax paid; no faults; taking 1921 model; £200, or nearest offer.—F. Cornwall Parade, C.E., Finchley, N.3.

1921 Matchless.—We are the recognised agents for North Essex, and can deliver from stock; let us suit your convenience, place your order with us; we are experts and can guarantee you real satisfaction; exchanges.—Walbro Motor Cycle Co., 4, St., Saffron Walden, Essex. 'Phone: 45.

MATCHLESS 8h.p. Combination, 1918-19, specially built for E. Ware, tester, J.A.P. works, Morgan-Jap engine, Bosch mag., all-chain drive, sprung sidecar, spare wheel, Tan-Sad, all accessories; this combination is worth 3 new ones as regards; bargain, 140 gns., offer, or exchange.—Sawyer, 34, Kennington Lane, London, S.E.

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce of three wheels; immediate delivery from stock; terms, deferred payments, or exchange; trade supplied; spares in stock.—Jones' Garage, Muswell Hill, and at Woodside Parade, North Finchley.

Metro.

1919 Metro-Tyler, A type, single speed, kick-start, discs, tax paid, very little used; Myall, Ditchling, Sussex.

METRO-TYLER, 1920, 2 speeds, speedometer, complete, 800 miles, overhauled, perfect; £6 guson, Timbralls, Eton, Bucks.

METRO-TYLER 1920 2¼h.p., fixed gear, as new; £55.—Parker's, Bradshawgate, and 245, Deansgate, Manchester.

METRO-TYLER, 1919, 2-speed, discs, horn, long nickel exhaust, plating and enamel fast, tax paid; £58.—Wort, Powick, Worcester.

METRO-TYLER, 1920 model, Type S, 2-speed, used, shop-soiled only; list price £96, £70.—P. J. Evans, 81-91, John Bright St., Birmingham.

Minerva.

2¾h.p. Minerva, Bosch mag.; £12.—Hardgrave Station, Howden, Yorks.

Moto-Reve.

MOTO-REVE 2h.p., single, Druids, Lycett mechanical horn, holder and licence, complete overhauled, rebushed, compression excellent; £ 15, Balfour Grove, Oakleigh Rd., Whetstone,

Motosacoche.

MOTOSACOCHE Lightweight, about 2¼h mechanical valves, V belt drive, splendid li cbioe; £22.—Allen, 10, Freshford St., Earlsfield,

New Hudson.

NEW HUDSON 2-stroke; £25; must sell.—10 ford St., Earlsfield, S.W.18.

NEW HUDSON, 2¾h.p., 3-speed, splendid co £23.—17, Heaton Rd., Mitcham.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., E.C.4.—New Hudson 2¼h.p., 1920; £9

NEW HUDSON 2¾h.p., 2-stroke, lamps, ho mechanically sound; £28; trial.—143, Rav Rd., Earlsfield, S.W.

1920 2¼h.p. New Hudson, brand new, unuse —Edwards, 50, Harrington Rd., South K ton. 'Phone: Ken. 3709.

NEW HUDSON 1916 4h.p., 3-speed, K.S. lamps, very little used, equal to new; Brown, Dderw, Llandrindod Wells.

NEW HUDSON Combination, 4h.p., 1919, series, little used; a bargain, £95.—Taylor 52, Sussex Place, S.W.7. 'Phone: Kensington

NEW HUDSON, June, 1920, Lightweight scratched, as new, lamps, horn; neares See Wanted column.—14, St. Augustine Av., G

£55.—New Hudson, 1914-15, countershaft 3 speed, clutch, K.S., full equipment, re-enu tax paid, appearance and mechanically guaran new.—22, St. James's Rd., Kingston, S.W.

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New Hudson.

W HUDSON Lightweights, all models, on view; Popular, 50 gns.; de luxe, 65 gns.; Ace, 75 gns. for 2¼h.p., 3½h.p., and 6h.p. machines stocked. gnes and any information by return.—New Hud- epot, 45, Gray's Inn Rd., Holborn, W.C.2. [1982

New Imperial.

IANS, of Reading, have 1921 New Imperial in tock. [0485

5 2½h.p. New Imperial, 2 speeds, tax paid; £34.— Cross, Agent, Rotherham. [X6998

W IMPERIAL 2¾h.p., 2-speed, 1916, tax paid; 45 gns.—Whitfield, Fleet, Hants. [1715

W IMPERIAL, 2¾h.p. J.A.P., 2-speed, new tyres, fast and reliable; £28.—64a, Highbury Grove, N.5. [1296

6 New Imperial, 2-speed, good running order, trial, licenced; £36.—Sharpe, 325, Essex Rd., ton. [1981

8 New Imperial-Jap, 2¾h.p., 2-speed, excellent condition, accessories; 40 gns.—Fersfield, West- Rd., New Malden. [1648

W IMPERIAL 8h.p. Solo, W.D., mileage 2,500, unpunctured; perfect mechanically; £80.—95, arry Rd., S.E.22. [1623

W IMPERIAL.—All models for immediate de- livery. Newnham Motor Co., 223, Hammersmith W.6. 'Phone: Hammersmith 80. [2017

W IMPERIAL, 2¾h.p. J.A.P., clutch, and kick starter, 1920; £65.—Taylor, Ltd., 52, Sussex S.W.7. 'Phone: Kensington 7260. [0413

W IMPERIAL 1919 8h.p. with Sunbeam Sidecar, fully equipped, Easting; £145.—Parker's, Brad- ate, Boltcn, and 245, Deansgate, Manchester. [X6917

18 New Imperial-Jap, 4h.p., special model, 3-speed and clutch, lamps, horn, low mileage, beautiful tion; £75; can be seen.—Hamilton Garage, St. s Wood Rd., N.W.8. [1408

W IMPERIAL-J.A.P. 2¾h.p., 2-speed, in perfect condition throughout, lamps, horn, spare valves piston rings, back tyre new, any trial; first cheque es motor cycle £30.—J. Chambers, Preston Bis- Buckingham. [1629

C.H. have a brand new New Imperial 2¾h.p., kick starter, shop-soiled, £78; exchanges and easy ents arranged.—5, Heath St., Hampstead (nr. ostead Tube Station). 'Phone: Hampstead 3752, s 9-7, including Saturdays. [1370

W IMPERIAL Motor Cycles.—Immediate delivery of these popular lightweight machines, 2¾h.p. 2- model with clutch and kick starter, 85 gns.; 3-speed combination, 178 gns.—P. J. Evans, 81-91, Bright St., Birmingham. [1454

FE 1919 New Imperial-Jap 2¾h.p., 2-speed counter- shaft, Lloyd and Best drip feed, Lucas head lamp, ie rear, spare valve, spare belt, spare spokes, not 250 miles, brand new condition throughout; any a bargain, nearest £70 secures.—Evans, 1, Hill Rhymney, Mon. [1421

New Scale.

W SCALE 3½h.p., 1920 model, as new; £80.— George Eastwood, Wholesale Market, Hudders- [8320

Norton.

LIANS of Reading have 1921 Nortons in stock. [0489

BB, Gloucester, can deliver 1921 Nortons from stock.—'Phone: 852. [0444

ORSMAN for Nortons.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0471

RTON, T.T. model, brand new; £98.—Bartlett's, 93, Gt. Portland St., W. [2055

LLIAMS' Garage, Cheltenham, can give imme- diate delivery of any model Norton. [X6444

RTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [6126

RTON, 1918, B.R.S., condition excellent, very fast; £75, or best offer.—Guest and Co., Rugby. [X6908

20 (Whitsuntide) Big Four Norton, sports side- car.—Reynolds, 303, Western Bank, Sheffield. [1537

RTON'S for immediate delivery, each machine specially tuned.—Evans's Garage, Newport, Salop. [X6557

RTON Sports Combination, 3½h.p., 3-speed counter- shaft; £98.—Albany, Booth Rd., Collindale, Hen- [1653

20 3½h.p. Norton, sports model, Cowey horn, Cowey speedometer; £90.—Victoria Garage, Snr- [1596

RTON 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. ne: 72. [5005

20 Norton Big Four, delivered November, brand new and unlicensed; £120.—Apply, R. Murray, inary Surgeon; Rugeley, Staffs. [X7030

RTONS.—Alec Jackson (ex Dispatch Rider) rides them and sells them. Immediate delivery. Can er anywhere.—East Parade, Keighley, Yorks. [2062

RTON All-Chain Big Four Combination, as new; £105; special machine, guaranteed perfect, tax —Wilson, Yarningale, Claverdon, Warwickshire. [1563

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Quarter down, balance in eleven monthly instalments.

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1921	**CALTHORPE** Combination, Star- mey-Archer 2-sp. (Tax £2 10s.)	110 gns.
1920	**SCOTT**, Sports Model, 2-speed ..	£130
1920	**DIAMOND-VILLIERS**, 2¾ h.p., 2-stroke, 2-sp., clutch, and kick-starter	78 gns.
1920	**COULSON-B.**, 4 h.p., 2-speed ..	£90
1920	**NEW IMPERIAL-J.A.P.**	£60
1920	**PRIORY**, 2¾ h.p., 2-stroke ..	£55
1920	**AROEN**, 2-stroke, 2-speed ..	£55
1920	**NEW IMPERIAL** Combination ..	£150
1919	**HARLEY-DAVIDSON**, electric model	£150
1919	**TRIUMPH** Combination, complete with electric lighting	£135
1920	**A.J.S.**, spare wheel, electric light- ing, speedometer, hood, screen, Tax paid, perfect condition. All accessories and spares	£200

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7, SOUTH SIDE, CLAPHAM COMMON, S.W.4.

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'Crams: "Burlington Motors, Clapham"

(50 yards from Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

Norton.

1921 Norton 3½h.p., T.T., 3 speeds, kick starter, clutch drive, brand new, unused; £132, or ex- change any solo it reasonable.—Shaw, Durkar, Wakefield. [9872

BIG Four Norton, 1919, Norton sporting sidecar, screen, disc wheel, Lucas electric lighting, 700×80 new Dunlops; £125.—102, Westwood Rd., Earlsdon, Coventry. [X7079

1921 Norton Models, Big Four, B.R.S. (Philipson), and 3½h.p. T.T. countershaft, immediate de- livery.—Spa Motor and Engineering Co., South Cliff, Scarborough. [7626

NORTON 1917 Big 4 3-speed Coachbuilt Combina- tion, as new throughout, insured £125 until Sept., 1921; accept £105.—30, Crystal Palace Park Rd., Sydenham, S.E.26. [1549

NORTON Agents.—Motor cyclists in or near Oldham call. Our Mr. Mitchell will demonstrate to you the finest machine in the world.—Bulloughs Motors, Waterloo St., Oldham. [2050

NORTON Big Four, 1920, chain drive, S.A. 3-speed countershaft, semi-T.T., magnificent machine, Klaxon, knee grips, unscratched, mileage 500; £114, bargain.—18, St. Mary's Rd., Peckham. [1986

NORTON Motor Cycles.—Immediate delivery of all models: combination £177, Big Four solo £135, 3½h.p. sports £132, 3½h.p. T.T. £98, sporting sidecar £35.—P. J. Evans, 81-91, John Bright St., Birmingham. [9413

1919 B.R.S. Norton, Philipson, engine No. 19673, lamps, Klaxon, tools, new belt, just overhauled, fitted 1921 B.S. cylinder, tuned and guaranteed excep- tionally fast by Mr. Leslie Mitchell, bike new; £95.— Meller, Jun., 28, Belmont St., Oldham. [1660

NORTON B.R.S. (Brooklands certificate), winner of open scratch race Brooklands, Oct. 2nd, 73 m.p.h. for lap, also other Brooklands awards, 14 firsts, 3 fastest times in hill-climbs, etc., just re-enamelled, tax paid, guaranteed perfect; £98.—Kennedy, 116, High St., Oxford. [1119

NORTON T.T., late 1919, little used, fully equipped with largest P. and H. head lamps, electric gear, Klaxon, knee-grips, etc., in perfect condition, and just like new, very fast and flexible; 85 gns., or exchange new or nearly new I.O.M. Rudge.—Hindes, 24, Harsnett Rd., Colchester, Essex. [1233

N.S.U.

3½h.p. N.S.U., new tyres, Bosch; £24; good order. —Walsh, Weaverham, Cheshire. [1854

5-6h.p. N.S.U. Twin Combination, £48; Bosch twin magneto, £8.—1, Cedars Rd., Clapham. [1757

N.S.U. 3½h.p., 2-speed, F.E., Bosch mag., B. and B., Triumph pattern tank, nearly new tyres, lamps, and horn; £28.10.—Knight, High St., Reigate. [1910

N.U.T.

N.U.T., latest type Lucas Magdyno lighting, brand new; £150.—Pollard, Broomfield Rd., Chelmsford. [X6697

N.U.T. Brand New Dynamo Model; £120.—70, Royal Hospital Rd., S.W.3. Tel.: Kensington 7113. [1851

RACING N.U.T., 8-10h.p. J.A.P., o.h.v.; nearest offer £80.—Brewster, Sparhawk St., Bury St. Edmunds. [1769

N.U.T. Latest Electrically-equipped 3½h.p. Models at makers' list prices from stock.—A. J. Young and Co., Ltd., Newmarket. [1253

N.U.T.—Delivery from stock of all models. Sole wholesale and retail agents for Staffordshire; the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [4014

N.U.T. 1920 3½h.p., Magdyno lighting, run 100 miles, indistinguishable from new; £125.—Par- kers', Bradshawgate, Bolton, and 245, Deansgate, Man- chester. [X6911

1914 6h.p. N.U.T., 3-speed gear, clutch, T.T. bars, footrests, lamps, mechanical horn, Amac, knee- grips, tyres good, numerous spares and tools, 60 m.p.h., 75-80 m.p.g., tax paid; £73.—Baddeman, All Saints Vicarage, Newmarket. [1526

O.K.

JULIANS of Reading have 1921 O.K. in stock [0481

1920 O.K.-Union, brand new; clear; £43.—Bartlett's, 93, Gt. Portland St., W. [2054

1920 O.K. Villiers, brand new, single speed; £46.— Stebbings, Attleborough, Norfolk. [1144

2-SPEED O.K., latest model from stock at list price — A. J. Young and Co., Ltd., Newmarket. [1258

O.K.-VILLIERS, 1921, unused; £45.—Compton Supply Co., 54, St. James's St., Ashted, Bir- mingham. [X7028

2¾h.p. O.K.-Union, new October, 1920, new Miller lamp, unused Dunlop belt; any trial; £45.—End- cliffe, Moor St., Luton. [1414

1920 O.K.'s, unused, shop-soiled only; one single speed £43, one 2-speed countershaft £58; both guaranteed.—Station Garage, Banbury. [X6986

1917 2½h.p. O.K. 2-stroke, absolutely like new, fully equipped, new tyre; photo; £29/10; ride away.—181, Newton Rd., Burton-on-Trent. [1761

O.K. Lightweight, 2½h.p., 2-speed, countershaft, good condition, ride away; bargain, £25.—Garage, Hausler Rd., East Dulwich. (10-5, not Sunday.) [1547

MOTOR CYCLES FOR SALE.

O.K.

O.K., Union 1920, run a few miles only, fitted with all accessories; cost £56; accept £39.—Chinery, 1, Hammersmith Rd., W.14. 'Phone: Western 4140. [1346

F.O.C.H. have a brand new O.K. 2-speed, shop-soiled; £59; exchanges and easy payments arranged.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1571

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall, Andover. [0368

1921 Omegas; £50 to £120; all models in stock; deferred payments.—Bartlett's, 93, Gt. Portland St., W. [2056

OMEGA.—Immediate delivery of all models.—The Rochester Auto Supply Co., Corporation St., Rochester. [0465

1921 Omega, single speed, 2-stroke, delivery from stock, £50; 2-speed model, £58; other models in a few days.—Gray and Raynes, 8, Low Rd., Balby, Doncaster. [8457

F.O.C.H. have a brand new Omega, 2¾h.p., kick starter, shop-soiled; £73/10; exchanges and easy payments arranged.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1573

P. and M.

JULIANS, of Reading, have 1921 P. and M. in stock. [0488

£55.—P. and M., 1919, condition as new.—36, High St., Hampstead. [1646

1917-18 P. and M., minus mag. and small parts; £35.—1, Othello St., Liverpool. [1815

P. and M., tax paid (light), good condition, about 1913; £37/10.—Brummitt, Banbury. [1579

1916 P. and M. Combination, first-class order and condition; £80.—Bartlett's, 93, Gt. Portland St., W. [2061

P. and M. 1917 3½h.p., first-class condition; trial; £55.—Cowdell, Wallace's Garage, Enville St., Stourbridge. [1265

P. and M. Combination, condition as new, wind screen, Cowey trip, all accessories; offers.—52, Gaskarth Rd., Balham. [1518

57 Gns.—1918 P. and M., lamps, tools, tax paid, excellent condition.—79, Castleton Mansions, Riverview Gardens, Barnes. [1314

1918-19 Semi-T.T. P. and M., absolutely unscratched, thoroughly reliable, guaranteed perfect; genuine bargain, £50.—89, East Hill, Wandsworth. [1689

P. and M. 1918 3½h.p., 2-speed, K.S., perfect condition, lamps, tools, registration and tax paid; £60; owner ill.—'Phone: 888 Hammersmith. Appointment. [1594

P. and M. 1919 Combination, lamps, spares, horn, etc., 1920 colours, in absolutely new condition, any trial given; 78 gns.—A. Southorn, 12, Thiale Rd., Streatham, S.W. [9842

1920 P. and M. 3½h.p., brand new last August, and in absolutely new condition; £80; will accept *Motor Cycle* deposit system.—Box 2,103, c/o *The Motor Cycle*. [1960

LATE 1918 P. and M., enamel unscratched, all on, tyre unpunctured, mechanically perfect offers.—Buckingham, Glen Cottage, Underriver, Sevenoaks. 'Phone: 2X3 Tonbridge. [1559

1919 P. and M. Combination, engine No. 8151, fully equipped lamps, Klaxon, apron, tools, spares, 4 spare tubes, excellent condition; £80.—Thring, Zaria, Broadwater Rd., Worthing. [1795

1920 P. and M., run 500 miles; also 1920 P. and M., B.A.F., with Canoelet sidecar, run 500 miles; must sell both; no reasonable offer refused.—Clegg, 1, Broad St., Teddington. [1147

1921 3½h.p. P. and M. Olympia Show Model, ridden 50 miles only for demonstration, perfect; £115.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [1945

£65.—P. and M. Combination; late model, 7000 engine number, Bosch magneto, nice condition and order, and fitted with brand new lighting set.—Apply, 14, Effra Parade, Brixton, London, S.W. [1158

1920 3½h.p. P. and M. Combination, Millford sidecar, ratchet brake, Cowey trip speedometer, horn, tools, Lucas lamps, spare tube, excellent condition, insured and tax paid; £140.—41, Victoria St., Lincoln. [1766

P. and M. Motor Cycle Combination for sale, 3½h.p., 2-speed, kick starter, mechanically perfect, late 1919, complete accessories, tyres and new, in perfect condition; offers wanted.—Rich, 100, High St., Harlesden, N.W.10. [8903

P. and S.

PEARSON-SOPWITH 1920 3h.p. 2-stroke, 2-speed, clutch, K.S., lamps, horn, registered, new condition; £70.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1040

Peugeot.

£14.—Peugeot 3h.p., B.B. mag., new tyres.—Derby Arms Garage, Mortlake. [X7006

Accessories. H.A.H. Complete Electric Lighting Sets.

REGISTERED H.A.H. TRADE MARK

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between Feb. 21st, 1921, and June 1st, 1921, to grant a REBATE of any difference in price on goods purchased after Feb. 21st, 1921, and actually held in stock on the date

ANY REDUCTION IS MADE.

H.A.H. COMPLETE SETS.—Head, Side, and Tail Lamps, Accumulators, Carrying Case, Switch, Wiring, etc. Ready for installing,

Fig. 895. Best quality finish throughout. Very massive and strong. Adjustable focus. Adjustable brackets. Special dust and weather-proof front. Price as illustrated. 72/6 each Nickel plated.

H.A.H. HEAD LAMPS

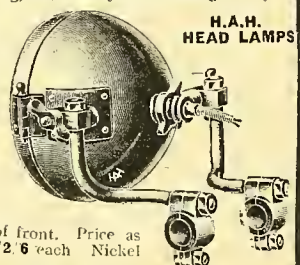


Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. Price as illustrated. 54/- each.

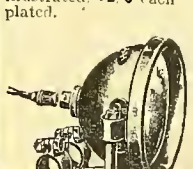


Fig. 347. **Speedolite H.A.H.** Patent Speedometer Lamp, **7/6** each Clips direct on to Speedometer and has coloured bulb to prevent glare.

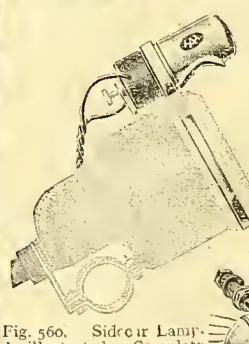


Fig. 560. Sidecar Lamp. As illustrated. Complete switch, bulb, wire, nuts, washers, etc. Price 8/6 each.



Fig. 573. Shows red dangersignal, lights No. plate. Complete with switch bulb wire, clip, etc. Price **9/6** ea. "Force" Hellesen Battery, **9/11**

386. Special metal case for "Force," **10/6** Complete rear set, **29/6.**



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4¼h.p. Precision, 3-speed, clutch, perfect con £45.—'Phone: Museum 1826.

PRECISION, 4¼h.p., coachbuilt underslung Sturmey-Archer 3 speeds, clutch, kick thorough order; £55.—Cope, 36, Ling Rd., C Town, London, E.16.

Premier.

PREMIER 1915-16 4h.p. Coachbuilt Combinat speed countershaft, kick start, accessories mileage 7,000, new condition, tax paid; £70.— Jolly Waggoners, Ewell, Surrey.

Quadrant.

HORSMAN for Quadrants.—Victor Horsman 7, Mount Pleasant, Liverpool.

QUADRANT Sole Agents, Clifford Wilson C Royal Hospital Rd., S.W.3. Tel.: Kens 7113.

1920 Quadrant 4h.p., 3-speed Combination, speedometer, screen, etc., just as new; Bartlett's, 93, Gt. Portland St., W.

Radco.

RADCO 2½h.p., as new, electric lighting; 145, Leander Rd., Brixton, S.W.2.

1920 Radco, 2-speed, 24in. wheels, as new, £50.—Wait, 36, St. Thomas Rd., Hack

BARGAIN.—2¼h.p. Radco, re-enamelled, re new tyres and mudguards, fine little bike £30.—1a, Richardson Rd., Eccles.

RADCO Lightweight, single-speed, as makers' fications, shop-soiled; at greatly reduced now is the time to buy.—Mobes, 154,156, Gt. P St., W.1. 'Phone: 3426 Mayfair.

Raleigh.

THE New Flat Twin Raleigh in stock at We St. James St., Brighton

RALEIGH 1921 Model; orders now accepted f machine, solo or combination.—Ratcliffe 200, Gt. Portland St., W. Mayfair 5042.

RALEIGH 5-6h.p. Twin; early delivery.—Vie machine at Newnham Motor Co., 223, Ha smith Rd., W.6. 'Phone: Hammersmith 80.

Regal.

4¼h.p. Regal-Precision, all-chain drive counters speed and clutch, in sound mechanical orde tyres, lamps, all accessories, perfect condition; tion invited; price £48.—W. Moore, 4, Spring T Gaywood, King's Lynn.

Rex

REX 3½h.p., Bosch mag.; £38.—Price, 38 Anns Rd., Harringay, N.4.

REX C.B. Combination, fully equipped; ride £35.—321, Ivydale Rd., Nunhead.

REX Combination, 4h.p., 1913, running order good; £40.—Trussler, Cranleigh, Guildford.

REX Motor Bike, 3½h.p., Bosch, spring, han controls, valves, mechanical, low price; £17 —Wade, Av. Motories, Littleover, Derby.

3½h.p Rex, condition, appearance, perfect tyres, belt, T.B., Saxon forks, very fast —MacIarlane, Tillonburn, Newhouse, Lanarkshi

1911 4h.p. Rex Single, running order, Bosch B., Armstrong 3-speed and clutch, £25 Clyno sidecar body, re-enamelled, £5.—S. She Ryston End, Downham Market, Norfolk.

8h.p. Twin Rex, special racing model, fixed late 1915, perfect condition; £85, or exchan Triumph, countershaft, cash adjustment.—Gibbe Harboro' Rd., Kingsthorpe, Northampton.

Rover.

1914 Rover 3-speed Coach Combination, equ £56.—Shaw, Park St., Wellington, Salop.

1919 3½h.p. Rover, T.T., Philipson, lamp, and speedometer; £85.—Smartt, Staveley, shire.

1919 Rover Combination, 5-6h.p., beautiful tion, mechanically perfect; £135.—Osbald Digbeth, Walsall.

ROVER 1920 3½h.p., shop-soiled; list price our price £125.—Ratcliffe Bros., 200, Gt. land St., W. Mayfair 5042.

1919 Rover, 3½h.p., 3-speed, clutch, kick s full equipment, perfect condition; Cundell, Harbour, Paignton.

1918 T.T. Rover, hand-controlled Philipson, equipped, spares, as new; £72.—20, St., Hanmersmith Broadway.

ROVER 3½h.p. Combination, Sept., 1919, as Lucas lamps, unused spares; £120.—Malpas Works, 12, Brockley Cross, S.E.

3½h.p. T. T. Rover, Philipson, H.C., equipped, new, 57 gns.; also Rover sporting C.B. si 10 gns.—19, Streatley Rd., Kilburn.

100 Gns. secures 6h.p. Rover Combination, co with wind screen, only 6 months' use, g new.—Advertiser, 93, Onslow Sq., S.W.7.

MOTOR CYCLES FOR SALE.

Rover.

ER 3½h.p., 1920 model, complete with Rover sidecar, unused, shop-soiled only; £155.—P. J. 81-91, John Bright St., Birmingham. [9404

ER T.T. Model, 3½h.p., 1920, with Philipson illey complete, in perfect order, very fast; 80 . J. Marston, 50, Argyle St., Birkenhead. [1498

ER Combination, 5-6h.p., run 300 miles only, lly equipped; great bargain, £140.—374, Grove Rd., Leytonstone. 'Phone: Wanstead 48. [1834

ER Motor Cycles.—Place your order with an ficial agent, the man who rides a Rover; im- e delivery; hire purchase if desired.—Collard, Garage, Shifnal. [2684

(July) 3½h.p. Rover, all-chain, large bulbous back sidecar, Easting, lamps, horn, tools, in- uishable from new; £140.—20, Queen St., ersmith Broadway. [1728

T.T. Rover, long 3in. copper exhausts, exceptionally fast, perfect condition and appear- £56, or exchange 2¾h.p. Douglas or similar.— Hill, Bassett, Southampton. [1856

ER 1920 5-6h.p. Twin Combination, roomy side- ar, upholstered red, electric lighting, disc wheels, very smart turnout; £179, or near offer.— lge, Fife Rd., Hearsall Common, Coventry. [X6906

ER 3½h.p., countershaft model, also T.T. model, hilipson pulley, as makers' specifications, shop- at greatly reduced prices; now is the time to Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Mayfair. [1308

3½h.p. Rover P.P. Speed Model, fitted with racing Amac, Bonniksen trip, Klaxon, knee long plated exhaust, been carefully run in and for competitions, can do 70, the finest sporting on the road, and guaranteed as new, only run iles; cost £138 with accessories, tax paid; first for £115 secures; no offers; preference given npetition rider.—Any further particulars from nworth, Higham, nr. Burnley, Lancs. [1163

Royal Ruby.

7 2½h.p. Royal Ruby, perfect running order; any trial, little used; £32.—E. Pledger, Ely, Cambs. [1175

AL RUBY 1920 3h.p., spring frame, brand w; £90.—Fowler and Brigden, 130, Euston Rd. [1840

Royal Ruby 3h.p., K.S., spring frame, ridden few miles only, new condition; £110.—Turnill, N. rough. [1459

AL RUBY 1920 Model.—London Agents: Fowler and Brigden, 130, Euston Rd., N.W.1 n 4827. [1843

AL RUBY New 3h.p., spring frame; list price £120, our price £99.—Ratcliffe Bros., 200, Gt. d St., W. Mayfair 5042. [0427

8h.p. Royal Ruby Combination, splendid condition, unpunctured, electric and gas lamps, id; any trial; £160 or nearest offer.—Haines, Northfield Av., Ealing, W.13. [1638

Rudge.

GE, 1912, F.E., new tyres, licence paid; £27.— haw, Park St., Wellington, Salop. [X7032

. Rudge Multi at makers' list price, from stock.— J. Young and Co., Ltd., Newmarket. [1259

p. Rudge, 1919, I.O.M., lamps, tools; £75, or near offer; after 6.—21, Moyser Rd., Streatham. [1321

GE Multi T.T. Touring, 1920, brand new; £92. —Fowler and Brigden, 130, Euston Rd., N.W.1. [1841

GE 1921 Models.—London Agents: Fowler and igden, 130, Euston Rd., N.W.1. Museum 4827. [1846

4 Rudge Multi, little used, smart appearance; best offer over £40.—95, Langroyd Rd., Colne. [X6983

—1920 Rudge Multi combination, all accessories, erfect condition, tax paid.—40, Aynhoe Rd., [1267

T.T. I.O.M. Rudge, 3½h.p., done a few miles only, lamps, horn, etc.; £75.—64a, Highbury N.5. [1295

0 (June) Rudge, lamps, Tan-Sad, Cowey, motor smit, new condition; nearest £90.—94, Colchester oventry. [X6885

GE Multi, 3½h.p., 1920, good condition, small ileage, Lucas horn, lamps, etc.; £85.—Hedley , Chiswick. [1572

GE Multi C.B. Combination, legshields, 3 amps, good tyres, tax paid; £80.—29, Thorn- d., Leyton, E.10. [1609

GE Multi 3½h.p., T.T. touring model, shop- iled only; bargain, £95.—P. J. Evans, 81-91, Bright St., Birmingham. [1453

0 Rudge Multwin 7-9h.p. Combination, shop-soiled, Cancelet sidecar, powerful and fast; £165.— Bridgefoot, Peterborough. [1460

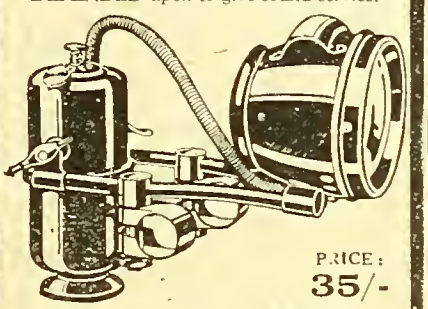
0 5-6h.p. and 7-9h.p. Rudge Multi Combinations, new; £152 and £175.—Shepherd, Enfield High- Enfield. Tel.: Waltham X31. [0341

GE Multi, 1916, plating and enamelling in ood condition, new tyres and tubes, lamps; £49. 52, Winchester Rd., East Twickenham. [1764

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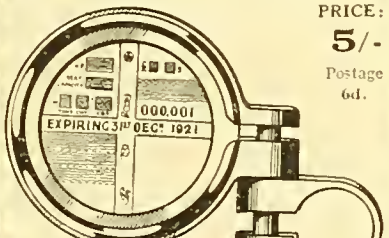


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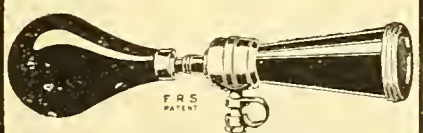
A new gas set, specially designed for small motor cycles. Gives a powerful light for its small size, and is neat, compact, and reliable.
3½in. Headlamp, 2½in. Lens Mirror. Finest Black Ebony finish with N.P. relief.

PRICE: **5/-** Postage 6d.



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Adjustable to ANY angle. Note the One Nut attachment No ugly screws showing and no sharp edges projecting. Nothing to rust or shake loose. Even pressure all round the rim which holds the card, etc., making it absolutely waterproof.
Supplied in Brass, N.P., Black and Brass, or Black and N.P Immediate delivery.



Regd. No. 679275. **Price 22/6**

New Straight Horn

Gives a loud and harmonious note, and is a most effective road clearer. Embodies a special reed, immovable dust-cap, and the One Nut attachment. Finest smooth black and N.P. finish.

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MOTOR CYCLES FOR SALE.

Rudge.

RUDGE 3½h.p., discs, 2 horns, speedometer, lamps, spare cover and tube, flexible exhaust; £80, offers.—C. E. Thompson, Jesus College, Cambridge. [1266

RUDGE 1919 3½h.p. Isle of Man Model, full T.T. bars, long exhaust pipe, very fast; £73.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6918

RUDGE 1920 5-6h.p. Big Single Combination, fully equipped, indistinguishable from new; £140. —Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6922

1920 I.O.M. Rudge, T.T., under 500, perfect, long copper exhaust, F.R.S. Major lamps, numerous accessories; £85.—Hulme, 102, Richmond Rd., Earl's Court, S.W. [1184

LATE 1920 Touring Rudge Multi, absolutely as new, very fast, cylinder never been dismantled; accept 82 gns.—Apply, 65, Northcote Rd., Clapham Junction, between 6 and 8 p.m. [1794

RUDGE-WHITWORTH, coachbuilt sidecar, 1912. 3½h.p., 2-speed gear, accessories, good mechanical order; £45.—Taylors, Ltd., 52, Sussex Place, S.W.7 Phone: Kensington 7260. [0460

RUDGE Multi 3½h.p., T.T., late 1920, brand new, slightly soiled; usual price £110/5, our price £92; this is a special bargain, cannot be repeated.—Wilkins, Simpson, opposite Olympia, London. [1352

RUDGE Multi 3½h.p., June (1920) model, done 700 miles, condition as new, genuine bargain; first cheque £84 secures; no offers; good reasons for selling.—38, Fielding Rd., Wadsley Bridge, Sheffield. [1173

37 GNS.: Really Absurd Bargain. Rudge 3½h.p., clutch, powerful, 1920 colours, nearly new torpedo coach sidecar, excellent tyres, smart; would separate.—24, Beauval Rd., East Dulwich. Not Sundays. [1156

NOV., 1919, I.O.M. Rudge Multi, lamps, horn, speedometer, tools, etc., engine, tyres, and appearance excellent, fast and reliable, tax paid; best offer secures. —Write Box C.S.4126, Haddons Advertising Offices, Salisbury Sq., E.C.4. [1507

1920 Super Sporting 7-9h.p. Rudge Multi Twin, high gear, long exhaust, T.T. (or touring) bars, Sensplay or Binks, oversize back tyre, excellent condition, stored over 6 months, small mileage, start first kick, tax paid; £120.—F.K., Bolnore, Hayward's Heath, Sussex. [1269

Scott.

SCOTT Squirrel in stock.—Welford, St. James St., Brighton. [1721

GIBB, Gloucester, can deliver 1921 Scotts from stock. —'Phone: 852. [0445

SCOTT Combination, 1921; what offers?—Grimes, 18, Bruton Place, W.1. [1937

MAGDYNO Scott Combination in stock.—Welford, St. James St., Brighton. [1720

SCOTT, 1916, lamps, horn; £60; very sporty.—St. John's Cottage, Rochampton. [1130

1920 Scott Combination, tools, horn, tax paid; £145.—12, Dalmeny Av., Holloway, N. [1659

SCOTT Combination, 1920, cost £240, complete; accept £170.—37, Bayswater Rd., Newcastle. [1780

IMMEDIATE Delivery 1921 Scott motor cycle and combination, in stock.—Millards, Chesterfield. [4003

1915 Scott Combination, very little used, in splendid condition; what offers?—Gurney, Clarmont, Burnham-on-Sea [9188

1920 Scott, brand new, in perfect order throughout; £118; take good lightweight part.—N. Walker, 17, George St., Hull. [1398

1920 Scott Combination, run 125 miles only, Lucas lamp, horn, speedometer, 3in. Palmer; £130.— Clark, 7, Exhibition Rd., South Kensington. [1021

SCOTT, 1919-20 model, semi-T.T. bars, footrests, 3in. tyre, Binks carburetter, in fine condition; offers invited.—D. Smith, c/o *The Motor Cycle*, Coventry. [X6577

JUST Arrived, brand new 1921 Scott and sidecar. Advertiser will sacrifice deposit, viz., £20, as must realise; would separate.—Box 161, c/o *The Motor Cycle*. [X6513

1920 Scott, Rennox sidecar, P. and H. lamps, etc., mileage 1,000, guaranteed perfect; £145.— Homac's, 243, Lower Clapton Rd., N. 'Phone: Dalston 2408. [1963

1914 Scott, perfect order, recently overhauled, new bearings, etc., all accessories; £55, or with coachbuilt sidecar, £65.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [1903

SCOTT 1920 Combination, hood, screen, electric lighting, perfect condition, every accessory; £165.— Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2015

SCOTT Coachbuilt Combination, in new condition, 1921 colours, a genuine bargain; cash wanted; £95; delivered anywhere.—Bernard, 42, Glenthorn Rd., Jesmond, Newcastle-on-Tyne. [1616

T.T. Scott, as new, overhauled at cost of £30 last month, new parts throughout, including bars, radiator, chains, discs, speedometer, Tan-Sad, perfect; sacrifice, £90, or good lightweight and cash; tax paid.— W. Little, Chain Lane, Mickleover, Derby. [1394

MOTOR CYCLES FOR SALE.

Scott.

1921 Scott Combination, not done 100 miles, engine No. 5049, delivered 3 weeks ago, licence paid; £155.—Welford, 28, St. James' St., Brighton. [1723

Singer.

1914 T.T. Singer, perfect; any trial; 24 gns.—Toilet Club, Mill Lane, N.W.6. [1864

1914 Singer, 3-speed, Mills-Fulford sidecar, licence, lamps, Easting, etc., good condition; £70.—37, Church St., Edmonton. [1571

SINGER 1914 4½h.p. Wicker Combination, Bosch, B. and B., clutch, excellent running order; £47. Lamberth, Westwell, Kent. (D) [1181

1914 4½h.p. Singer, 2-speed, clutch, countershaft, good condition, new tyres; £30.—Edwards, 50, Harrington Rd., South Kensington. [1905

Sparkbrook.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—Sparkbrook 2½h.p., 1920, excellent condition; £42/10. [1997

LATE Model 2-speed Sparkbrook, Villiers, thoroughly overhauled, fast, steady machine, excellent condition; bargain, £40.—1a, Richardson Rd., Eccles, Manchester. [1562

1921 Show Model Sparkbrook (New) 2½h.p. 2-stroke, countershaft drive; the ideal mount for the lightweight rider at an ideal price, £64. — The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W.1. [2019

SPARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra finish, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt Portland St., W.1. Phone: 3426 Mayfair. [1309

Sun.

1920 Sun, Stanley 2-speed, Watford speedometer, Klaxon, lamps, as new; £60.—21, Hobson St., Cambridge. [1436

1920 Sun-Vitesse, 2¾h.p., 2-speed, fully equipped, as new; £53, bargain.—Wait, 36, St. Thomas Rd., Hackney. [1477

Sunbeam

NEW 1920 Sunbeam 3½h.p. Solo; £155/8; in stock. —Randall, Andover. [0366

SUNBEAM 3½h.p., 1914, and sidecar, speedometer; £75.—Campbell, Elms, Tavistock. [1208

WILLIAMS' Garage, Cheltenham, can give immediate delivery of any model Sunbeam. [X6445

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. Sunbeam, new 1921 model, just delivered; £155/8. [1998

SUNBEAM, French military model, 1919, completely equipped, perfect; £130 cash.—The Fort, Newhaven. [1542

1915 6h.p. Sunbeam Combination, in first-class order, laid up during the war; £160.—Meldrum, Esplanade, Dundee. [1363

1921 Sunbeam, 3½h.p., Lucas Magdyno lighting, 3½h.p. touring Sunbeam in stock; list price.—Cross, Agent, Rotherham. [X6999

SUNBEAM 2¾h.p., K.S., clutch, 2-speed, perfect condition; a bargain, £50.—Lowbridge, High St., Eckington, Sheffield. [1676

SUNBEAM Brand New 3½h.p., solo model, complete with Lucas lamps and horn; £157/10.—The Walsall Garage, Walsall. Tel.: 444. [4008

SUNBEAM 3½h.p. Combination, brand new, in crate, privately owned, owner bought light car; £200.—Merilees Cedar Av., Chelmsford. [X6696

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

1920 3½h.p. Brand New Sunbeam and Sidecar, interchangeable wheels, at list price, from stock.—A. J. Young and Co., Ltd., Newmarket. [1254

1920 Sunbeam 3½h.p. Combination, in faultless condition, hardly used, detachable wheels, lamps; £165.—27, Sidmouth St., Devizes. [1576

SUNBEAM 1920 3½h.p. Model, fully equipped indistinguishable from new; £150.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X6916

SUNBEAM Combination, 1917, 3½h.p., quite perfect, excellent condition, stored during war, ill-health cause sale; £120; near offer.—8, Blakemore Rd., Streatham. [1913

SUNBEAM Combination, 1919 (July), 8h.p., grey, fully equipped, insured, tax paid, spares, overhauled, excellent condition and appearance; £165.—28, Oxford St., Liverpool. [1417

1920 3½h.p. Sunbeam Combination, electric lighting, speedometer, horn, etc., mileage negligible; cost new £225, accept £185.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 6042. [0435

SUNBEAM.—We are Wolverhampton agents. Spare parts in stock. Repairs and overhauls. Estimates upon request for re-enamelling and plating. — The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

SUNBEAM 3½h.p., 1920, delivered August, not run during winter, Sunbeam leg shields, Cowey signal, Binks, excellent condition, small mileage; £140, or near offer.—Fergus O'Connor, 58, Northumberland Rd., Dublin. [1360

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BLACKBURNE,
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MATCHLESS,
MARTINSYDE-NEWMAN,
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New Imperial	8 h.p. Combination ...	**£115**
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MOTOR CYCLES FOR SALE

Sunbeam.

8h.p. Sunbeam Combination, 1919, spare wh Dunlop, 3 Lucas lamps, 2 spare tubes an accessories; owner buying car; £180, tax free, offer.—Apply (letter), Read, Wyrelingholme, Wilb Letchworth, Herts.

1920 Sunbeam Combination, black and gold hood, screen, apron, spare wheel, extra tyre, tube, horn, mirror, Watford trip, acetyle paid; £230; excellent condition.—Rev. C. E. Bolnhurst, St. Neots.

SUNBEAM Combination, 3½h.p., 1919, picke machine, special engine, Lucas accessories, meter, legshields, sidecar has disc wheel and screen on special 3-ply scuttle, perfectly ke trial; will ride to purchaser; £150.—Oswald Much Wenlock, Shropshire.

1914 Sunbeam 3½h.p., 3-speed, H. control black and gold touring model, Bosch, B jet, lamps, generator, Lucas horn, oversize tyr Dunlop rear, gears overhauled by makers stored during war, carefully driven, and in e condition, tax paid; 84 gns.—Williams, Builde St., Caergwrle.

Triumph.

JULIANS, of Reading, have 1921 Triumph in

TRIUMPH, 1921 Models.—George Smith, C Junction, S.W.

NEW 1921 Triumph S.D. Solo; £140; in Randall, Andover.

NEW 1921 Triumph S.D. Combination; £1 stock.—Randall, Andover.

COUNTERSHAFT Triumph, complete, lamps; Cross, Agent, Rotherham.

1920 Triumph, in fine order, complete, lamp £115.—Cross, Agent, Rotherham.

TRIUMPH, renovated W.D., late 1920, little £85.—Ivydene, Douglas Rd., Cork.

ALL 1921 Triumph Models in Stock.—The Motor Co., Aston Rd., Birmingham.

1919 Triumph, Millford sidecar, speedometer, horn, excellent condition; £110.—Below

ALL 1921 Models Immediate Delivery from differred payments and exchanges if wi Edwards, 50, Harrington Rd., South Kens 'Phone: Ken. 3709.

TRIUMPH, 1919, little used, not W.D., 3 £87.—Shaw, Park St., Wellington, Salop.

1921 4h.p. Triumph, Model H., guaranteed n £120.—Smith, 54, Hampstead Rd., N.W.1.

TRIUMPH, ridden 50 miles, as new; £95.—W 769, Romford Rd., Manor Park, London,

TRIUMPH 3½h.p., excellent condition; £25 Moffatt, 139, Burntwood Lane, Earlsfield, S

TRIUMPH, 1920, 4h.p., Henderson sidecar, all sories; £135.—Sharp, Stuart Rd., High Wy

TRIUMPH, 1915, clutch, and C.B. sidecar, nice order.—308, Upper Richmond Rd., M

TRIUMPH 3-speed; £40; exchange lightweigh trial.—57, Kenbury St., Camberwell, Lon

TRIUMPH 3½h.p., excellent condition, lamps —Walker, Bleriot Works, Addlestone, Sur

TRIUMPH, coach sidecar, 2-speed, top-hole tion; £45.—1a, Princes Place, Holland W.11.

3½h.p. Triumph, with tradesman's sidecar ment, perfect order; £45.—Box 2,050, *Motor Cycle*.

TRIUMPH, 1920, single-speed, completely equ perfect; lowest, £80 cash.—6, Knatchball Ashford Kent.

3½h.p. Triumph, 3-speed, and coachbuilt stre sidecar, excellent condition; £75.—Victori age, Surbiton.

TRIUMPH 1920 Combination, brand new; —Fowler and Brigden, 130, Euston Rd., Museum 4827.

2¼h.p. Junior Triumph; 2-speed, go anywhere, tyre; quick sale, £44 cash.—181, Newton Burton-on-Trent.

TRIUMPH, 1918 renovated, Dunhill coachbuilt car, excellent throughout; £78.—Clark, 7, E tion Rd., S.W.7.

TRIUMPHS.—A fine selection of Triumphs in fully guaranteed; inspection invited.—Ross High Rd., Lee.

1920 Triumph Combination, mileage 400, equipped; £130; exchanges.—60,—Wallin Av., N. Kensington.

LATE 1920 Baby Triumph, fitted with discs, horn, tools, as new; £65.—Peter Jennings, Fla Heath, High Wycombe.

BABY Triumph (August, 1920), complete with Lucas accessories; £70.—Frank Whitworth, 139, New St., Birmingham.

COUNTERSHAFT Triumph, 1918 (?), lamps, K perfectly reliable, well tyred; £85.—Crotree John's Rd., Newport, Wight.

OTOR CYCLES FOR SALE.

Triumph.

Triumph Combination, beautiful condition, only n 50 miles, tax paid; £135, or nearest.—Brenda ., Moor St., Coventry. [X6972

4h.p. Triumph, countershaft model, in stock for immediate delivery.—J. Smith and Co., Hampstead Rd., N.W.1. [0354

MPH, all models in stock, W.D., fully guaran ed by makers; £105.—Ratcliffe Bros., 200, Gt. d St., W. Mayfair 6042. [0436

MPH and Sidecar, 1919, carefully driven and ot, looks like new; £130.—Central Garage, Hag- Halesowen, Birmingham. [1433

Baby Triumph, 2-speed, had very little use, uaranteed perfect throughout; £55.—Lang- 37, Cricklewood Broadway, N.W.2. [1666

MPH Junior, Nov., 1919, mileage under 800, new, unpunctured, all accessories, licensed; £65; —5, Elmwood Rd., Herne Hill, S.E. [1683

MPH, 1921, H., and sidecar, Cameo, lamps, n-Sad, insurance, 120 miles, perfect, tax paid; , no offers.—Cluer, Hambleden, Henley. [1649

MPH, renovated, delivered August, only done 00 miles, splendid condition; what offers?— s, 135, West Side, Clapham Common. [1137

Triumph Countershaft, 3-speed, kick start, hand tch, engine No. 42005, fast and powerful; £65; snip.—Wait, 36, St. Thomas Rd., Hackney. [1476

MPH 1920 Model H., brand new, ridden 100 iles only, tax paid, absolutely perfect; £118, Heath, 10, Ambleeote Rd., Grove Park, S.E.12. [1359

. Triumph, believed 1910, tyres as new, tank renovated; ride away anywhere; first £29; —Argyle Lodge, Newton Rd., Burton-on-Trent. [1760

4h.p. Triumph, 3-speed, and Gloria sidecar, fully equipped, engine overhauled July last re- down; £80; tax paid.—8, Manor Rd., Coventry. [X7084

Y Triumph (Aug., 1920), complete, lamps, R.S. head, horn, tax paid, condition as new; ewis, Wellington Villa, Dunton Green, Kent. [1334

Triumph Junior, all models, now arriving; also very leading make of motor cycle.—S. E. Clap- Motors), 27, Stockwell St., Greenwich, S.E.10. [1029

MPH 3½h.p., 1910 standard model, overhauled, th Eagle-N.S.U. 2-speed gear, tax 30/-; price —Eagles and Co., 275, High St., Acton, Lon- [X7017

MPH, countershaft, as new, nearly new tyres, unbeam sidecar, stormproof apron and lamps; re, £93.—Beecher, 472, Archway Rd., London, [1814

MPH 1918-19 Countershaft, speedometer and ccessories complete, thoroughly reliable, ready to where; £90; week-ends.—64, Balloch Rd., Cat- [1338

Triumph C.B. Combination, 3-speed, clutch, hood, screen, new tyres, belt, owner going , £55, offer; any trial.—M., 14, Crabtree Lane, n. [1335

MPH 3½h.p., old racer, renewed, perfectly over- auled, licence, climber, fast, humps, footboards, dle B.B., heavy tyres; £30.—Morgan, Winston, irket. [1325

Triumph and Light Henderson Sidecar, over- hauled and guaranteed perfect throughout, horn, tools; £90.—Langford's, 37, Cricklewood way, N.W.2. [1665

MPH 1920 4h.p. Combination, Lucas accessories, owey, hood and screen, indistinguishable from £180.—Parker's, Bradshawgate, Bolton, and 245, ate, Manchester. [X6914

YDON Agents for Triumph motor cycles. All models in stock, ready for immediate delivery.— s Presto Motor Works, Ltd., 145, North End, n. 'Phone: 2624. [1348

p. Triumph, sports type, torpedo tank, dropped frame, lone copper exhaust, all accessories, new s, smart, fast; £25; photo, stamp.—Atheldene, on Lane, Worthing. [1680

—1914 Triumph, 4h.p., 3-speed, clutch, hub, Watsonian, Binks, renovated, trial, instruction, ered; exchange countershaft. — Woodward, 1, ury Rd., London, E.8. [1607

0 Triumphs.—A few slightly shop-soiled machines at greatly reduced prices, solo and sidecar; write ecial clearance bargain list.—The Premier Motor ston Rd., Birmingham. [1882

8 Triumph, countershaft, Bosch mag., P. and H. lamps, horn, spares, insurance, perfect condition, gone abroad; seen at Harper's Garage; £75.— r, Square, Calne, Wilts. [1271

p. Triumph, single-speed, 1914 engine, in good condition. See our advert re gloves in Mis- eous columns.—Duncan and Shepherd, 33, The e, Golders Green, N.W.4. [1827

LY Used Since July, 1920, 1919 4h.p. C.S. Triumph, tyres unpunctured, P. and H. lamps, nd, knee-grips, horn, tols, spare valve, complete; 0.—89, Maxey Rd., Plumstead. [1483

UMPH, Sept., 1919, 4h.p., countershaft, latest gear change, Lucas lamps and horn, numerous , splendid condition; bargain, £90.—Crosby, pton Grove, Headon, N.W.4. [1668

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A.J.S. 1914 6 h.p. Combination, and accessories; tax paid	£95	0
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BROUGH, 1920, 5 h.p., 3-speed, kick-starter, Henderson Elite Sidecar, accessories	£140	0
B.S.A. 1919 4½ h.p. Combination, and accessories	£120	0
CLYNO, 1920, 2¾ h.p., 2-speed, clutch. Tax paid	£50	0
DOUGLAS, 1920, 2¾ h.p., 3-speed, clutch, and kick-starter, accessories. Tax paid	£85	0
BRITISH-EXCELSIOR, 1920, 2¼ h.p., 2-speed, accessories	£65	0
JAMES 1919 4½ h.p. Combination de luxe	£110	0
MATCHLESS 1920 8 h.p. Combination, Lucas accessories	£175	0
METRO-TYLER, 1920, 2½ h.p., 2-speed, accessories	£55	0
NEW IMPERIAL W.D. 8 h.p. Combination, and accessories	£120	0
NEW IMPERIAL W.D. 8 h.p. Combination, and accessories	£120	0
OMEGA, 1919, 2¼ h.p. J.A.P., 2-speed, accessories. Tax paid	£50	0
P. & M., 1918, 3½ h.p., 2-speed, clutch, and kick-starter	£70	0
ROYAL ENFIELD 1914 6 h.p. Combination, and accessories	£80	0
SCOTT 1920 3½ h.p. Combination, and accessories	£135	0
SUNBEAM 1913 6 h.p. Combination, and accessories	£120	0

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	Makers' List Price.	Our Cash Price.
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BROUGH, 5 h.p. flat twin, 3-sp., clutch, and kick-st.	£140 0	£125 0
CLYNO, 2¾ h.p., 2-speed, and clutch	£75 0	£65 0
INVICTA, 3½ h.p., 3-speed, clutch, and kick-starter	£117 12	£102 0
LEVIS, 2¾ h.p., Popular Model, single-speed	£60 0	£57 0
MARTINSYDE 6 h.p. Combination, 3-speed, clutch, and kick-starter	£170 0	£160 0
ROVER, 3½ h.p., 3-speed, clutch, and kick-starter	£119 16	£115 0
TRIUMPH, 4 h.p., Model H, 3-speed, clutch, and kick-starter	£127 10	£120 0

SHOP-SOILED SIDECARS.

	Makers' List Price.	Our Cash Price.
CANOELET, D.4	£31 10 0	£25 0
CANOELET, M.M.4	£38 15 0	£32 10
GLORIA, de Luxe	£55 0 0	£52 10
GLORIA, Special	£45 0 0	£43 0
MILLFORD, Skiff	£27 15 6	£22 0
MILLFORD, Corvette	£28 7 0	£23 0
MILLFORD, Olympia Corvette	£31 10 0	£28 0
SWAN, Sporting	£31 17 6	£29 0
SWAN, Standard	£32 11 0	£31 0
HENDERSON, B.1	£31 0 0	£27 0
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MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPHS.—We are the North London agents, and can give immediate delivery; chain drive, chain cum-belt, and renovated models.—Jones Garage, Muswell Hill, N.10; and at Woodside Parade, North Finchley. [0382

TRIUMPH Model H 4h.p., late 1920, brand new, slightly soiled, 3 speed, kick starter; usual price £127/10, our price £115; this special offer cannot be repeated.—Wilkins, Simpson, opposite Olympia, London. [1351

TRIUMPH 1921 Models in stock for immediate delivery; exchanges arranged. Also Triumph H. models, renovated by the makers, just delivered, as new, £90 and £95.—Eagles and Co., 275, High St., Acton, London. [X7018

COUNTERSHAFT Triumph 4h.p., Sturmey-Archer 3-speed and kick starter, lamps, horn, Tan-Sad, and accessories, enamel and plating unscratched; going abroad; bargain, 75 gns.—Wood, 12, Erlanger Rd., New Cross Gate, S.E.14. [1112

1920 T.T. Triumph, done 2,800 miles, perfect condition, 2 lamps, 2 generators, long exhaust, knee-grips; £85, or nearest offer; exchange for I.O.M. Rudge, Blackburne, A.B.C., N.U.T., or similar.—Ivydene, Tichbourne St., Leicester. [1528

BABY Triumph, 2-stroke, purchased last June, perfect condition, ran about 1,000 miles, decarbonised and tuned; engine dismantled for inspection if required, any trial; £65, including any new gas lamp set selected.—Meeten Motors, Dorking. [1136

1914 Triumph Combination 4h.p., 3-speed, clutch, Service sidecar, accumulators, head light, tyres good, numerous spares, owner's possession since new, sound running order; trial by appointment; £65.—Pothill, Rosemead, Waltham Abbey. [1488

TRIUMPH 1914 4h.p., 3-speed Sturmey-Archer wheel, all controls, top and bottom stays, gear wheel, cranks, tree-engine rod, clutch, back brake, carburetter, levers, timing case, countershaft brake; £15, or offer.—Wilson, Scotlarhall, Carluke, N.B. [1404

1919 Triumph Combination, Montgomery No. 1 1920 sidecar, hood, screen, luggage and petrol carrier D.A. lighting, luxurious outfit, perfect condition; genuine bargain; tax paid; seen by appointment; £120.—113, Helix Rd., Brixton Hill, S.W.2. [9415

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4h.p. 1921 Triumph solo, delivery from stock, £127/10; also new 1921 4h.p. Triumph combination, all-chain drive, £195; new 4h.p. 1921 Triumph solo, all-chain, £140, and 4h.p. W.D. Triumph solo, from £90. [2002

TRIUMPH 1921 4h.p. Countershaft Model, £127 10; 4h.p., Type W.D.B., £90 and £95; 4h.p. all-chain drive, £140; 4h.p. fixed engine sporting, £105; Cambridge agents for Triumphs. Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A., Bicycles. [1941

TRIUMPH Combination, countershaft, just completely overhauled, restored and plated by the Effra Motor Works, and fitted with disc wheels, new saddle, and brand new body to suit requirements of purchaser; price £88. Apply, 43, Brailsford Rd., Tulse Hill, Brixton, S.W. [2033

1916 Triumph 4h.p. Countershaft, kick start, renovated and guaranteed absolutely as new; this machine has following fittings all brand new: Fellow-mag., Sensspray carburetter, tank, Brooks saddle, tyres, and belt, and plated rims, all plating and enamelling new, wide bars, footboards; price £68, or with new sidecar £88.—Virgo, 156, High St., Hounslow. Tel.: 128. [1328

Velocette.

JULIANS, of Reading, have 1921 Velocette in stock. [0486

HORSMAN for Velocettes.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0473

BARGAIN.—Velocette 2-stroke, good running order, all accessories; £25.—Apply, Harper, Craven Arms, Salop. [1243

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [4703

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.—Velocette 2½h.p., new 1921, 2-speed, all-chain drive, delivery from stock; £75; easy terms arranged. [1990

IMMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¼h.p., 2-speed, all-chain drive; £75.—Agents: W. Sparrow, Ltd., Osborne Garage, Yeovil. [1632

1921 Velocette, not done 50 miles, very completely equipped with Hunt's electric lighting, Lucas horn, licence paid, unscratched; £75.—Welford, St. James' St., Brighton. [1722

Verus.

VERUS-BLACKBURNE 2¾h.p., brand new; £85.—7, Exhibition Rd., S.W.7. [1932

Victoria.

VICTORIA-VILLIERS, 1920, 2-speed, lamps, horn; £52, offer; after 6.—130, Drayton Park, Highbury, London, N.5. [1566

Vindec.

VINDEC 2¼h.p., 2-speed, almost new, tax paid; £48.—Grace, 54, Albert Rd., Kilburn. [1115

MOTOR CYCLES FOR SALE.

Wilkin.

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [1310

Williamson.

WILLIAMSON 8h.p. Combination, air-cooled Douglas engine; offers. See Exchange column. [1671

WILLIAMSON Combination, 8h.p., splendid condition; best offer.—West, 72, Dynevor Rd., Stoke Newington, N.16. [1262

LATE Williamson Combination, 8h.p. water-cooled Douglas engine, spare wheel, beautifully equipped, luxurious outfit; £115; exchanges.—60, Wallingford Av., N. Kensington. [1154

Wolf.

2¾h.p. Wolf-Jap, good condition; £30 cash; ride away.—Parrott, Churchill, Loughton. [1278

WOLF-J.A.P. 4h.p., countershaft; £60, offers; Jones speedometer, 4-cyl. mag., cheap.—Tegg, Camille, Pangbourne. [1387

2¾h.p. Wolf, new piston, lamps, horn, etc.; £28, or offers; stamp please.—Sharpe, 45, Clabon Mews, Cadogan Sq., Chelsea. [1578

WOLF-VILLIERS, 1920 model, just as delivered, 3h.p., 2-stroke, 2-speed countershaft gear box, makers' equipment, brand new, must sell for best offer.—A., 136, Ravensbury Rd., Earlsfield, London, S.W. [1717

Wooler.

WOOLER, 1920, horn, speedometer, mileage under 250, hardly soiled; offers.—Dunmore, Boston. [1603

WOOLER Flat Twin, 1920 models.—London agents, Fowler and Brigden, 130, Euston Rd. Museum 4827. [1845

WOOLER 2¾h.p., complete with lamps, horn; £75; trial Saturday by appointment.—Cook, South Field, Atkins Rd., Clapham Park, S.W. [1871

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W1. 'Phone: 3426 Mayfair. [1311

WOOLER, 1920, scarcely used, too big for owner; for sale £90, or would take in part exchange new or nearly new good lightweight.—Lt.-Col. John Brown, 80, Abington St., Northampton. [1407

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. Wooler 1921 touring models from stock, £103/10; also 2¾h.p. Wooler, 1920, £75; easy terms one-fifth down and the remainder in 12 monthly payments. [2000

Yale.

1915 5h.p. Yale C.B. Combination, 2-speed, K.S., all on, perfect running order, smart appearance; bargain, £60, or nearest.—25, Grove Hill, South Woodford, E.18. [1519

Zedel.

ZEDEL 5-6h.p. C.B. Combination, ride away; £56; tax paid.—Bird, 91, Pelham St., South Kensington. [1798

Zenith.

JULIANS of Reading have 1921 Zenith in stock. [0482

ZENITH 1921 Models.—We are accepting orders for early delivery; your enquiry esteemed.—Below.

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [1312

ZENITH Gradua, 1916, twin J.A.P. 4-5h.p., excellent condition; £55.—Marshall, Cornhill-on-Tweed. [1402

2¾h.p. Flat Twin Zenith, slightly shop-soiled; accept £100 cash, a bargain.—A. J. Young and Co., Ltd., Newmarket. [1255

8h.p. Zenith C.B. Combination, 1915-16, in good condition, all accessories; £80.—1, Chandos Rd., Tottenham. [1586

ZENITH Coachbuilt Combination, Bosch, B. and B., lamps; bargain, £65.—Robinson, 106, Fawe Park Rd., Putney, S.W.15. [1511

ZENITH 6h.p. Sports Model, 1920, shop-soiled, unused; bargain, £118.—P. J. Evans, 81-91, John Bright St., Birmingham. [9407

1917 Countershaft Zenith Combination, 6h.p., lamps, horn, speedometer, insurance policy; £95.—2, Macclesfield Rd., S. Norwood. [1385

10h.p. 90mm. Bore Racing Zenith, exceptionally fast, free engine to 2-1 gear, as new; £95, near offer.—64, South St., Bridport. [1626

ZENITH-GRADUA 1915 3½h.p., T.T., condition perfect, all accessories, speedometer, Lucas lamps; £55.—17, Birchington Rd., Kilburn. [1793

GENUINE Bargain.—Zenith 8h.p. sporting solo, 1920, new; £125.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [0319

ZENITH Combination, 1920 Henderson sidecar, not run 800 miles; £145.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0408

1920 Countershaft Zenith, kick starter, Swan sporting sidecar, lamps, speedometer, Klaxon horn; cost £230; accept £165.—Smith, 54, Hampstead Rd., N.W.1. [1703

THE MOTOR CYCLE
Insurance Policy



Testimony

THIS space will be occupied each week with copies of letters from Policy holders who have made claims. Original letters may be inspected.

Gentlemen,

I much regret that it has been necessary to make this claim. I must, however, place on record my appreciation of the manner in which you have dealt with this affair without the slightest equivocation. I desire also to thank you for your efforts, entirely on your own initiative to get the repairs expedited.

My investment in a policy issued by you has been a distinct success, and your comprehensive cover—drawn up by motor cyclists for motor cyclists—should surely commend itself to that considerable section of the community, generally limited in means, who need the maximum value in return for their outlay.

I trust the day is not far distant when yours will be recognised as "The House" for Motor Cycle Insurance.

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MOTOR CYCLES FOR SAL

Zenith.

6h.p. Sporting Zenith-Gradua, excellent licensed and equipped; cost £120 highest offer secures.—Whitegate Farm, Yorks.

ZENITH 1921 Models, orders now accepted delivery; 1920 models at greatly reduc write or call.—Ratcliffe Bros., 200, Gt. Portla Mayfair 5042.

1920 5h.p. Sports Zenith, lamps, Klaxon speedometer, good order; offers; excha sporting combination; cash adjustment.—55, Rd., Grantham.

OPPORTUNITY; motor journalist offers 8h.p. Zenith combination, very carefu electric light, speedometer; £150 cash.—B c/o *The Motor Cycle.*

1920 8h.p. Zenith Sporting, clutch model, lamp, Klaxon, Milford sidecar, splendid very fast; £145, or nearest.—Stephens, Br Teme, Worcester. (D)

ZENITH-GRADUA 4h.p. Sports Model, clu oughly overhauled, re-enamelled, new i guards, etc.; £55; tax 30/-.—Russell, 20, Colliers Wood, S.W.19.

ZENITH 1919 8h.p. J.A.P., sports mod exhausts, magnificent machine, P.H. la grips, perfect, giving away; £95, or offer Mary's Rd., Peckham.

ZENITH 1920 6h.p. Combination, Lucas a Cowey, knee grips, Ace discs, luggage g to new; £160.—Parker's, Bradshawgate, Bo 245, Deansgate, Manchester.

89, Wigmore St., W., is the address of t service depot, where you can obtain a for models from 1911-1921, have your mach hauled, etc., and purchase your new moun coming season.

WHY Not a New Zenith for Easter?

WRITE for the Zenith Catalogue, and co following prices for new 1920 models 8h.p. countershaft, £142; 8h.p. sporting, £1 sporting, £110; 5h.p. sporting, all accessories used, £115; 8h.p. countershaft combination, sories, £190; 1919 6h.p. sporting combinati sidecar, new, electric lighting, all accessorie

ALL 1921 Models for immediate delivery.

PAY us a call to-day; you will see the sig Zenith hanging outside to guide you; phone is Mayfair 5598. — The Motorists' Agency, Ltd., 89, Wigmore St., W.

1920 Zenith Combination, 8h.p. J.A.P., shaft, clutch, kick start, Binks, all lam screen, Klaxon, pump, etc., whole outfit abs new; cost £230; nearest to £140 secures.—G., Rd., Brixton S.W.2.

ZENITH 1920½ 5-6h.p. Sports Model, Gradu horn, tools, accessories, licence holder, 700, new condition and mechanical order; tri proval against cash; only wants seeing; offer West Riding.—Box 2,080, c/o *The Motor Cyc*

ZENITH Special Sports Model, 8-10h.p., s J.A.P., special Druid forks, special wi P. and H. lighting set, Lucas, Klaxon, al discs, knee grips, exceptionally fast but flexibl off, done 1,000 miles, splendid condition; near offer.—Elliott, The Bull's Head, Aston Aylesbury

Ladies' Motor Cycles.

SUN-VITESSE Lady's Model, unused, 2-spee K.S., absolutely new and unscratched; Welford, St. James' St., Brighton.

1919 2½h.p. New Imperial, lady's model engine, 2-speed, clutch, and kick start with lamps; price £35.—Duncan and Shepl The Parade, Golders Green, N.W.4.

Miscellaneous

ALLBER Motors.—Great bargains; come our stock; all machines guaranteed; no exchanges entertained, or we buy for cash.

ALLBER.—Bradbury 1920 4h.p. 3 speeds kick, complete with lamps, etc., in ni £65.

ALLBER.—Rover 1918-19 3½h.p., T.T., pulley, complete lamps, horn, tools, etc., order; £52/10.

ALLBER.—Excelsior 1920 3h.p. 2-stroke, countershaft, polished aluminium discs; lamps, etc., absolutely as new; £52/10.

ALLBER.—Indian 1920 Powerplus, 3 speeds kick starter, run 500 miles, as new, £95.

ALLBER.—Rudge Multi 1920 Isle of Man 3½h.p., aluminium discs, fitted lamps, distinguishable from new; bargain; £75.

ALLBER.—Hazlewood-Jap 1917 5h.p., 3 clutch, kick starter, complete lamps, ho condition as new; £57/10.

ALLBER Motors have machines always Don't pay high prices. We bargain w Give us your order to supply new or second-h

ALLBER Motors, Thornsett Rd., Earlsfield, S.W. 'Phone: Latchmere 4388.

OTOR CYCLES FOR SALE.

Miscellaneous.

S' Garage.—All tax paid on machines purchased n this date. Our motto is fair and square deal- ch cannot be found everywhere. Any machine on the deposit system, or upon the deferred Send for our big list.—Jones' Garage, Muswell 10, end of Woodside Parade, North Finchley.

S' Garage.—1914 4h.p. 3-speed Triumph, over- uled, perfect; £52/10.

S' Garage.—1920 2¼h.p. Villiers, 2-speed, as , perfect; £52.

S' Garage.—Late 1919 P. and M. combination, as new, not W.D.; £100.

S' Garage.—1914 Indian 7-9h.p., 2-speed, over- uled, as new; £65.

S' Garage.—1920 2¼h.p. Enfield 2-stroke, all essories, and as new, 2-speed; £57/10.

S' Garage.—1920 Hobart, 2¼h.p. Villiers, brand w; £52; £10 under list price.

S' Garage.—1920 8h.p. Bat, unused, list price 65, soiled; price £145.

S' Garage.—1919 7-9h.p. Harley combination, W.D., electric model, all accessories; a real 160.

S' Garage.—1919 James 6-7h.p. twin combina- n, all accessories, perfect; £130.

S' Garage.—Norton combination, 3-speed, all- hain drive, all accessories; a real good snip,

S' Garage.—1920 O.K. Union, brand new; we ve several to dispose of, dirt cheap; £45/10; nder list price.

S' Garage.—1917 4h.p. Triumph, 3-speed, T.T. s, perfect order; £77.

S' Garage.—1919 2¼h.p. James 2-stroke, 2-speed, accessories; bargain, £52/10.

S' Garage.—3½h.p. Triumph, 1913, Philipson lley, all in perfect order; dirt cheap, £40.

S' Garage.—1917 8h.p. Sunbeam combination, A.G. engine, Lucas dynamo, electric light nt, hood, screen, spare wheel, etc., a real good gift, £155.

S' Garage.—1920 4h.p. Douglas combination, ab- utely as new; a snip, £145.

S' Garage.—1920 2¾h.p. Wooler, brand new; list ice £103, accept £87/10.

S' Garage.—Late 1919 Harley-Davidson, electric odel, complete with 2-seater sidecar to match, ly as new, not scratched; £195.

S' Garage.—1920 4-cyl. Henderson combination, solutely like new, 3 brand new tyres, all acces- including speedometer; £175.

S' Garage.—1920 brand new A.B.C., 4-speed, e ideal motor cycle; a gift, £120.

S' Garage.—1920 brand new A.B.C., electric odel, registered but unused; offers.

S' Garage.—1920 4¼h.p. B.S.A., chain drive, d sidecar, all brand new; list price £152, our 130.

S' Garage.—1920 Clyno, 2-speed, 2-stroke; list ice £75, our price £59.

S' Garage.—1917 2¾h.p. 2-speed Douglas, abso- tely like new; £57/10.

S' Garage.—1914 2¾h.p. 2-speed Douglas, in rfect condition; £46/10.

S' Garage.—1920 2-speed Radco, brand new; t price £65, our price £57/10.

S' Garage.—Late 1919 5-6h.p. Rover combina- on, fully equipped, hardly used, wind screen, 127/10.

S' Garage.—New renovated (by makers) 4h.p. riumph, with almost brand new Triumph side- £160 lot for £132/10.

S' Garage.—Brand new 1920 8h.p. Bat solo, op-soiled; list price £165, to clear £135. Side- match, £32.

S' Garage.—Brand new 1920 6-7h.p. Ariel com- nation, shop-soiled; list price £177/10, to clear

S' Garage.—1920 8h.p. Blackburne combina- on; list price £225, to clear £190; brand new.

S' Garage.—1920 3½h.p. Rudge, I.O.M., brand w; list price £110/5, to clear £90.

S' Garage.—1921 Alldays Allon, 2-speed, kick tart, h.b.c. clutch; £80; brand new.

S' Garage.—Brand new 1920 3½h.p. Ariel com- nation, Magdyno model; list price £182, to £167/10.

S' Garage.—4¼h.p. B.S.A., Model H, all-chain, 920, shop-soiled; £100; brand new.

S' Garage.—1920 brand new Diamond 2-stroke, -speed, K.S., h.b.c. clutch; list price £85, to £75.

S' Garage.—1920 brand new Diamond-Jap, 2- peed Enfield gear; list price £80, to clear £72.

S' Garage.—1921 8h.p. Enfield combination, lodel 180, £160; Model 190 £182; from stock.

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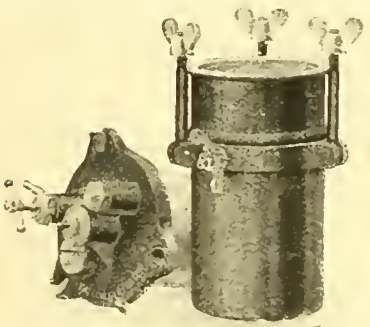
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Motor Cycle size £2 17 9
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Complete with Side Valance, 60/-; or without Valance, 55/-. Carriage 2/-.

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£4 10s. Carriage and packing 4/- extra

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will take the knock out of the dirtiest engine without dismantling. 6/- and 10/6. Carriage 4d.

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Set, comprising 5½in. headlight, torpedo sidecar lamp, and tubular tail lamp all complete, black finish, with bulbs. £4 9s. 6d. per set. Packing and carriage 2/6

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'Phones: Accessories and Repairs, Museum 1210
Motor Cycles and Cars, Kensington 720.
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Miscellaneous.

JONES' Garage.—Brand new 1920 Matchless combination, spare wheel, wind screen, all Lucas lamps and horn; list price £215/17, to clear £190.

JONES' Garage.—1921 Matchless combinations from stock, standard models, £205; electric models, £230.

JONES' Garage.—1920 3½h.p. Rover combination, brand new; list price £202, to clear £180.

JONES' Garage.—1920 5-6h.p. Rover, brand new, solo; list price £180, to clear £150.

JONES' Garage.—Late 1919 3½h.p. Sunbeam, absolutely as new, complete with all Lucas lamps and ready for 10,000 miles tour; £147/10.

JONES Garage.—4h.p. makers renovated C.S. model Triumphs, as good as new, carrying makers' guarantee, with S.H. tyres and saddle, £90; with new tyres and saddle, £95; in stock for immediate delivery.

JONES' Garages.—It is impossible to advertise all our wares, so send for our list. We have a great variety of sidecar bodies from £5, and posh ones, too. Sidecars, brand new, from £19 upwards. Spares and accessories at city prices, so let's hear from you.

JONES' Garage.—Remember that all machines will have the 1921 tax paid, and in the case of second-hand will be thoroughly overhauled.—Jones' Garage, The Broadway, Muswell Hill, and at 4, Woodside Parade, North Finchley. [1889

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BAT-J.A.P., 1912, all parts; 6h.p. J.A.P. engine, spring frame, wheel, etc.—Below.

TRIUMPH and Douglas Parts.—I have several parts for these machines; cheap to clear.—22, Princes Rd., Finsbury Park, London. [1917

COMBINATION, twin, Bosch, free engine; £15.—Hall, Hockman, Whetstone, London. [1171

NOVELTY Motor, 2-stroke, chain drive, lowest on the road; 60 gns.; exchange combination.—57, Kenbury St., Camberwell, London. [1592

BARGAINS.—P. and M. with coach sidecar, £25/10; 3½h.p. Triumph, £25/10; 3h.p. Clyde, £10; 2½ h.p. machine, £5/5.—Booths' Motories, Halifax.

BARGAINS.—1919 P. and M. and new sidecar, £120; 3-speed Indian and sidecar, £59/10; 2-speed Indian and sidecar, £49/10.—Booths' Motories, Halifax.

BARGAINS.—6h.p. 2-speed Rex combination, £49/10; 3½h.p. Sun-Precision, 3-speed, £35/10.—Booths' Motories, Halifax.

BARGAINS.—1920 Cronch light car, spare wheel, electric lamps, £220; shop-soiled 1920 10h.p. Swift light car, dynamo lighting, £425; exchanges.—Booths' Motories, Halifax.

BARGAINS.—Six 1915 Douglases from £42/10; 4 h.p. Douglases, £75/10; 4h.p. Douglas with new sidecar, £97/10.—Booths' Motories, Halifax.

BARGAINS.—Lightweights: 2¼h.p. New Imperial-Jap, £38/10; 1919 Enfield 2-speed, £49/10; 1920 Scott and sidecar, £135/10; 1919 6h.p. 3-speed Royal Ruby, £89/10.—Booths' Motories, Halifax.

BARGAINS.—Shop-soiled 1920 models: 2¾h.p. O.K., £43/10; ditto 2-speed, £54/10; 2¾h.p. Omega-Jap, 2-speed, £67/10; Harley-Davidson and sidecar, £189/10; 6h.p. Ariel combination, £149/10; exchanges entertained. Pay us a visit.—Booths' Motories, Portland Place, Halifax. Tel.: 1062. [8479

YOU can get exactly the motor cycle you want through the Kwiksale Private Motor Registry, 55, Long Acre, W.C. Gerrard 2392. Send for list of privately owned motor cycles. [0138

TRIUMPH Combination, with torpedo wicker sidecar, good running order and condition, £48; New Hudson, solo, 2¼h.p., 2-stroke, in good condition, disc wheels, £30, or near offer.—151, Caledonian Rd., King's Cross, London. [1291

NEW and Second-hand Motor Cycles: Wilkin 4h.p., Rudge 3½h.p., Coulson B 4h.p., Douglas 2¾h.p., Hobart 2¾h.p., J.A.P., Hobart 2¼h.p., Villiers, Harley-Davidson 7-9h.p.; in all cases delivery free Rugby.—Guest and Co., Rugby. [X6907

MOTOR Cycles (new models), sidecars, and bodies actually in stock: B.S.A., Allon, New Scale, Radco (3 models), Triumph, Douglas, Sun Vitesse (for which we are the sole agents for the City of London), and others at lowest manufacturers' prices; carriage paid.—Bancroftian Co., 64 and 78, Bishopsgate, London, E.C.2. [0356

INDIAN 7-9h.p. Combination, electric lights, speedometer, very good condition, £75; Royal Ruby, 1916, lamps, etc., good tyres, £35; Triumph T.T. 3½h.p., Philipson pulley, £30; King Dick 3½h.p., Grado gear, perfect order, £22; 3½h.p. Blumfield, good tyres, and perfect order, £20; A.C. carrier, Sankey wheels, good condition, £55; any exchange entertained.—Geo. A. Sax, 619, Garratt Lane, Earlsfield. [1754

F.O.C.H. for new and second-hand cycles, combinations, and runabouts at low prices; inspection invited; agents for Triumph, F.N., Zenith, B.S.A., A.J.S., etc., also the famous Kingsbury Junior, Citroen, Bleriot Whippet, G.N.; we will purchase your present machine for cash or arrange an exchange.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1377

MOTOR CYCLES FOR SALE.

Miscellaneous.

BATCHELOR and Co., 36, Clarence St., Kingston-on-Thames (est. 1898), 'phone 1809, can supply from stock 1921 Triumph, chain drive, £140; 1921 Triumph, Model H, £127/10; 1921 Baby Triumph, £75; Triumph 4h.p. W.D.B., £105; 1921 Enfield 2-stroke, £65; 1921 Enfield 8h.p. combination, £160; 1921 Douglas, 3-speed, £100 ;1921 Douglas, 2-speed, £85; 1921 Douglas, clutch, £105; 1921 Douglas combination, £170; 1921 Matchless combination, dynamo, £230; also 1921 Rover, Ariel, A.J.S., Allon, Bradbury, B.S.A. motor cycles; exchanges arranged. Montgomery sidecars, all models stocked; catalogue sent. [6334

MOTOR ATTACHMENTS.

AUTO-WHEEL, B.S.A. de luxe; £9.—Meldrum, Espianade, Dundee. [1364

1920 Auto-Wheel, £22; cost £30.—17, Wilcox Rd., South Lambeth, London, S.W.8. [1210

J.E.S. Engine and Tank, etc., makers' colours; £4.—Aitken, 14, Gordon Rd., Aldershot. [1529

AUTO-WHEEL, Model de Luxe, condition as new, ready for any journey; £10.—Piercy, 255, High St., Hounslow. [1898

AUTO-WHEEL and Cycle, in splendid condition; £21; would separate.—Nicton, Railway Bridge, Plough Lane, near Beddington. [1469

AUTO-WHEEL and Gent's Lea-Francis machine, small frame, excellent condition; what offer?—J. T. Lawrie, 58, Deverell St., New Kent Rd., London. [1239

1½h.p. J.E.S. Engine, complete with tank, belt rim, belt, controls, new carburetter, ready for attachment to cycle, excellent condition; 12 gns.—Langford's, 37, Cricklewood Broadway, N.W.2. [1667

MOTOR CYCLES FOR HIRE.

MOTOR Cycles, solo, Saturday to Monday, 42/6, 1 week, 85/-; combination, 52/6 and 115/-; write for further information.—Maudes', 100, Gt. Portland St., W.1. [8160

TRICYCLES FOR SALE.

INVALIDS' Tricycles and Motor Tricycles; catalogue free.—Rayner, 10-12, George St., Blackpool. [X7038

ARGSON Hand and Motor Propelled Tricycles, for invalid and disabled.—Particulars, Argson Eng. Co., Ltd., 3, Kendalls Mews, George St., W.1. [2647

TRICARS FOR SALE.

A.C. Sociables, modern, fully equipped, mechanically sound, good appearance; from £60 to £85; trial.—29, Allsop St., Upper Baker St., London, N.W. [9284

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SCOOTER Motor for Sale, as new.—315-317, High Rd., Chiswick. [1182

AUTOPED Scooter, quite new; £19.—Miss Hawk, c/o 77, Acre Lane, S.W.2. [1870

A.B.C. Skootamota, 1920, straight from makers, not unpacked.—Young, Fairbourne, Blaenau Festiniog. [1605

EGERTONS, Northgate, Ipswich, can deliver from stock A.B.C., Skootamotas, and Mobile Pups. [4863

SKOOTAMOTA, A.B.C., complete carrier; cost £58; nearly new; cash £30.—Warne and Williams, 50, High St., Dorking. [1288

AUTOGLIDER Scooters, 1921 models.—London Agents: Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [1847

WHIPPET Motor Scooter, T.T. handle-bars, comfortable seat, very pretty machine, runs faultlessly; £40, or offer.—Cundell, Harbour, Paignton. [1787

SKOOTAMOTA, A.B.C., absolutely new and unused, in crate, latest engine and carburetter; was £63, accept £35.—Storer, 3, Sherrington Place, Chicheley St., Ashted, Birmingham. [X7026

AUTOPED Scooters.—Immediate delivery from stock; 1½h.p. 4-stroke engine, free engine clutch, and dynamo lighting, 1920 model, shop-soiled only, £28.—P. J. Evans, 81-91, John Bright St., Birmingham. [1456

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RENNOC Sidecar Co. are actual manufacturers of hoods, wind screens, etc.

RENNOC Co., 155a, Marlborough Rd., Holloway, N.4.—See advert. under Sidecar Attachments. [9734

HERCULES Hoods, best and cheapest on the market, made to fit any body.

HERCULES Hoods, 52/6, 65/-, and 80/-; write for list.—Hercules Hood Co., 698, Seven Sisters Rd., South Tottenham, N.15. [1506

CAMBER Hoods, 55/-; wind screens, 27/6.—Bright and Hayles, 78, Church St., Camberwell. [1809

WIND Screen, Easting, slightly soiled, unused, perfect; price £3/10, great bargain.—64, Bishopsgate, London. [0398

HOOD Materials.—Twill, sticks, celluloid, fittings, etc.; materials complete for recover, 14/9.—Henry Jones, 778, High Rd., Tottenham, London. [8232

AUSTER Triplex Adjustable Aero Type Wind Screen, overall size, 13×7¾in., 15/- each, including carriage and packing.—George Cumming, 19, Rose St., Aberdeen. [X5207

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THE GREAT

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offer all the Advantages to Buyers.

1. REFUND GUARANTEE

on all new 1921 models bought now from us, should price fall before June.

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Carriage paid to your address. Send for list.

3. THE LARGEST STOCKS

of the leading makes on best terms for Cash, Exchange or Easy Payments.

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BAT	ZENITH
COULSON B.	CALTHORPE
B.S.A.	COVENTRY EAGLE
INVICTA	
NEW IMPERIAL	DIAMOND REX
WILKIN	VERUS
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Morgan-Runabouts. Unit No. 1 Cars.

113-115, Lothian Road, Edinburgh; 272-274, Gt. Western Rd., Glasgow.

HOODS, WIND SCREENS, E

WIND Screens, Avro adjustable, Triplex gl ing type, 12/6. elsewhere 42/-; braod easily fitted.—Central Garage, 302, London R ton Heath.

AUSTER Triplex Glass Adjustable Aero T Screens, 12×6½, 10/6 each; electric t with wire, 2/-.—Bastone's, 228, Pentonv King's Cross, London, N.1.

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VENUS Step Bodies are the best for old

VENUS Bulbous Bodies are roomy and very

VENUS Tandems hold 2 persons. Strong but not unsightly. Get one.

VENUS Bodies are made in a factory and direct. Catalogue free.

VENUS Sidecar Co., 6-14, Gourley St., S. T

CLYNO and other W.D. bodies, from 30/-.— and Flynn, 39, Essex Rd., London, N.1

TRADESMEN'S Box, 4ft. 8in. long, 1ft. £2/10.—81, Little Ealing Lane, South

CAMBERWELL Coach Bodies, £5/12/6 to —Bright and Hayles, 78, Church St., Ca

SEVERAL Coachbuilt Bodies, designed for t price; photographs; letters.—Lane, 30, Watford.

SPORTING Body, new, specially built fo exchange touring body, or sell £7.—26, T Brixton.

BRAND New 2-seater Sidecar Body, comp apron, colour green; £10, or best o Okehampton.

2-SEATER Bulbous Backed Body, almost new off American X.—17, Wilcox Rd., South London, S.W.8.

PERFECTION Coachbuilt Sidecar Bodie £6/15; new sidecar chassis, with wheel —Motories, 25, Horton St., Halifax.

SIDECAR Body, coachbuilt, stepped type, 3 2-seater sidecar off Harley-Davidson, goo tion, £25.—22, Princes Rd., Finsbury Park.

ROYAL Leicester Sidecar Bodies fit any cha class finish. Several bodies (new) to cle Write for designs.—The Willowbrook Co., turers, Leicester.

RENNOC Sidecar Co. always hold the larg of bodies in the trade, racing, touring, dems; taxi bodies and tradesmen's carrier speciality; see advert. under Sidecar Attach Rennoc Sidecar Works, 155, Marlborough Rd way, N.4.

RENNOC Sidecar Bodies, a large quan models; clearance at knock-out prices. clearance list.

SIDECAR Body Designs for the trade only ing, coloured, pencil, or line drawings of designs, also working drawings, full-sized or t Cooper's Vehicle Journal, Ltd., established to the coach trade for over 80 years. Consult designing new ideas.—20, Tudor St., London,

SIDECAR ATTACHMENTS.

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FOR

SANDUM, the Smart Sidecar Specialists.

SANDUM Sidecars.—Best value in Olympia S

SANDUM Models.—The Exquisite £24/1 Sports £28/10, are of distinctive appear

SANDUM Elite Sidecar, £28/10; the smart car on the road; highly recommended i Motor Cycle."

SANDUM Duel Purpose Sidecar (patented). or 2-seater sidecar as required in 5 second of body as our single-seater Elite. Luxurious fortable seating for 2 adults, with the weight rect position over rear axle. Finished in colours any make of machine, £45; bodies only, The latest development of the 2-seater as desig us, and approved by the recognised experts.

SANDUM Featherweight Streamline Body, sm racy, weight 18 lbs.; price £4/17/6.

SANDHAM Engineering Co., Ltd., 336, Gra Rd., W.C.1. 'Phone: Holborn 933. Fa 162 to 165, Pentonville Rd., N.; and Br Works, Britannia St., W.C.

CAMBER.—Lightweight sidecars, £16/10.

CAMBER.—Semi-touring sidecars, £20/15.

CAMBER.—Tandem sidecars, £27/10.

CAMBER.—Makers: Bright and Hayles, 78, St., Camberwell, London. 'Phone: Brixton

SIDECAR ATTACHMENTS.

DLETON'S Spring Wheel Sidecars are guaran eed for 3 years.

DLETON'S One Piece Unbreakable Chassis Axle, with spring wheel, is fitted to our 2-seaters lecars for high-powered machines.

DLETON'S Undertake all classes of repairs to notor cycles and sidecars, bodywork, etc.

DLETON'S, London's Oldest Established Side ar Makers, Wholesale and Retail, 27, Stroud Rd., Finsbury Park, N.4. 'Phone: Hornsey [8008

NOC Sidecars, bodies, hoods, screens. Largest tock in London; actual manufacturers throughout.

NOC Co. have the finest selection of complete lecars in the trade.

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ENIX Sidecars.—All parts supplied from stock. nd repairs for this make by the Rennoc Co.

NOC Sidecar Co. are actual manufacturers of oods and wind screens, fitted while you wait.

NOC Sidecar Co. undertake repairs to any make f sidecar; complete renovations a speciality.

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NOC Co. invite correspondence. Send for 1921 catalogue.—Rennoc Motors, Ltd., Victoria Rd., n, N.4. 'Phone: Hornsey 850.

NOC Co. invite clients to view their works and e the famous Rennoc sidecars and bodies being y built throughout. [9732

'GLAS Coachbuilt Sidecar, minus wheel; £8.— Lodge, The Avenue, Birstall, Leeds. [1628

RLEY-DAVIDSON Sidecar complete, set gas amps.—Goodsell and Flint, Stroud, Kent. [1131

CAR, coachbuilt, nearly new, perfect condition; 18, offers.—Write, 40, Waller Rd., S.E.14. [1523

nd M. and Douglas Sidecars, in good condition; 10 each.—24, Church Walk, Hampstead. [1645

E Sidecar, 4-point, good tyre; £5/10, offers.— eymour, 1, Boundary Rd., Shepherd's Bush. [1226

CHER'S Sidecar Box, cost £22, used 3 times; £12; all enclosed, door at rear.—170, Red Lane, ry. [X7045

OELET Sporting Sidecar, absolutely complete, ood condition; £15.—Dixon, 147, Stamford Hill, n, N. [X6947

CAR, slightly soiled, but unused, coachbuilt; rice £15/10, original price £22/10.—64, Bishops London. [0399

VENS Sidecars.—The best that British industry an produce. Immediate delivery. Catalogue on ation.

VENS Model No. 1, sporting torpedo, for Triumph, Rudge, B.S.A., etc., etc.; price complete £22.

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W 2-seater Matchless Sidecar Body, 1921, front pron, 2 screens; £18, list price £25.—Osenat, Bow Rd., E.3. [1142

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STONE'S.—Distributing agents for the famous Montgomery sidecars. Latest 1921 sporting and models in stock; trade supplied.

STONE'S (Sidecar Dept.), 228, Pentonville Rd., King's Cross, London, N.1. Tel.: 2481 North. [5533

LLFORD 1912 Cane Family Sidecar Body, with apron, good condition; 35/-.—Albert, 102, Wate Rd., Clapham Common. [1170

20½ £42 Canoelet Sidecar, 600 miles; exchange Swan sporting and little cash; sell £32.—Fitton, lands, Dewsbury, Yorkshire. [1165

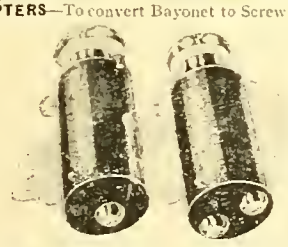
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BOWDEN FRONT BRAKES to suit any machine.
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NEW Sidecar, coachbuilt B.S.A., underslung chassis, suit Triumph, £18; also B.S.A. body, new, finished, £6.—7, Farman Rd., Coventry. (D) [X7077

ROYAL Leicester Sidecars to suit all machines, roomy bodies, comfortable upholstery, excellent springing; prices from £19/10 upwards.

SEND Your Sidecar to us for renovation. New hoods, wind screens, and aprons fitted. Write for catalogue.

THE Willowbrook Co., Royal Leicester Sidecar Works, Belgrave Gate, Leicester. [0335

2-SEATER Coachbuilt Sidecar, underslung chassis, suit 6h.p. to 9h.p., luggage grid, Easting; £18.—Haines, 130, Northfield Av., Ealing, W.13. [1637

DOUGLAS C.B. Sidecar, repainted, upholstered, 4-point suspension, nearly new Hutchinson tyre; £12/10.—4, Eridge Rd., Bedford Park, London. [1114

WATSONIAN Coachbuilt Sidecar, only few weeks old, Easting wind screen, taken off Triumph; £16.—159, Burntwood Lane, Earlsfield, S.W.17. [1431

INDIAN Sidecar, 2-seater streamline wicker body, 28×3 wheel, new electric head lamp; £12/10 lot.—Stanway, 63, Bethesda St., Hanley, Staffs. [X7047

DOUGLAS Sidecar, complete, as new, £16; also P. and M. sidecar, complete, £10; Milford chassis, from £2, sound.—Motors, 39, Essex Rd., London, N.1. [2023

SIDECARS.—Many designs, bodies and chassis sold separately; hood, screen (all makes), renovations.—T. Williams, Manufacturer, 9, Lower Chatham St., Oxford Rd., Manchester. [X6985

HENDERSON Sidecar.—Large stock of all models, shop-soiled, at greatly reduced prices; now is the time to buy.—Mohes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [1303

SUNBEAM Sidecar, complete, 4-point fixing, as new, fit Triumph, B.S.A., Blackburne, Harley, Indian, nearly all other makes, stormproof apron, less tyre; £16.—Beecher, 472, Archway Rd., London, N.6. [1813

P. J. EVANS can supply a number of shop-soiled sidecars, consisting of Canoelet, Mills-Fulford, and Henderson at greatly reduced prices; send for bargain list.—81 91, John Bright St., Birmingham. [9414

SIDECARS to suit 4h.p. Douglas, with coachbuilt sidecar body, coverall apron, heavy 26×2½ Dunlop rubber-studded cover, new; carriage paid, £28; worth £40. The Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [9496

SIDECAR.—Have a Hopley folding sidecar. Saves garage. Attached to motor, will go through passage 27in. Tandem and single bodies fitted. Tested 7 years on motors up to 9h.p.—Hopley, Upper Highgate St., Birmingham. [0152

CANOELET MM4's, underslung touring models, bulbous backs, Coverall aprons, 28×3in. wheels with heavy Dunlop tyres; £23 each; special connections for Harley-Davidsons.—Holliday Bros., 20, Queen St., Hammersmith Broadway. [1750

MAGNIFICENT Sidecar Body, Harley colour, bulbous back, locker front and back, dashboard with mirror, superbly upholstered, hood and side aprons, Triplex screen, Triplex glass; the whole cost £55, accept £30, or nearest offer.—Clarke, Terrace, Turnham Green. [1474

A FEW Left, unused ex-W.D. Mills-Fulford sidecar chassis, complete with 28in. wheels, cones, mudguards, springs, etc., suitable for spring frame Indians, right-hand fitting, easily convertible; 35/- each; please call.—Smith's, 86, Chalk Farm Rd. (opp. Chalk Farm Tube Station). [2030

PARAGON (patent) Folding Sidecar saves storage; has 7 years to its credit, and has proved itself absolutely reliable. Fits any make of motor cycle, and when folded combination will pass through a 30in. doorway. Call and see it demonstrated.—Wincycle Co., Ltd., 236, High Holborn, W.C.1. [0388

RUNABOUTS AND CYCLE CARS.

CALTHORPE 1921 Light Cars; exchanges wanted.—Motories, 25, Horton St., Halifax. [1448

G.N., list price; extended payments.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9662

MONOCAR.—Gibbon's components, less engine and gear box; £28.—King, 1, Percy Cottages, Datchet. [1332

G.N. Legere, as new, completely equipped, disc wheels; £280; no exchanges.—W., 51, Ridgeway, Enfield. [1975

COVENTRY Premier 1921 3-wheeler; 275 gns.; cash or exchange.—Motories, 25, Horton St., Halifax. [1447

TAMPLIN 1921 Cycle Cars, immediate delivery; £165.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [2012

SMALL 2-seater, hood, screen, Stepney, lamps, tools, running order; best offer to Alma Parade Garage, Redcar, Yorks. [1382

G.N. Cycle Cars; latest models always in stock.—Best deliveries from Drake and Mount, Ltd., Motor Agents, Bracknell. [3936

MORGAN 1920, a.c. J.A.P., excellent condition, hood, screen, spare tubes and chain, jack, etc., little used, tax paid; lowest £195.—Morrison, 39, Bishops Rd., N.6. [X6945

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RUNABOUTS AND CYCLE CARS.

MORGAN New 1920 de Luxe, W.C., complete with hood, screen, lamps, horn, etc.; £225.—Gibb, Gloucester. 'Phone: 852. [0446

ROVER Light Car, 1921 model, 8h.p., in stock for immediate delivery; £300.—Godfrey's, Ltd., 208, Gt. Portland St., London, W.1. [0350

8-10h.p. J.A.P. Cycle Car, live axle, hood, screen, lamp, perfect; £75; exchanges entertained.—81, Hornsey Park Rd., Hornsey, N. [1776

MORGAN 1915, a.c., completely renovated and licensed; £140 cash, or lightweight taken part payment.—Dale, Little Haven, Pemb. [9887

ROVER 1921 Models; £300 inclusive; motor cycles taken in part.—Authorised Agents, R. B. Clark and Co., 7, Exhibition Rd., S.W.7. [1935

WAUCHOPE'S, 9, Shoe Lane, London, E.C.—Morgan de Luxe, M.A.G., water-cooled, new 1921; delivery from stock; list price. [2003

1917 Carden Monocar, 2 speeds, disc wheels, dome mudguards, fine condition; £75, nearest cash offer.—3, Ladysmith Rd., Cradley, Staffs. [X7025

MORGAN Grand Prix, M.A.G., lamps and full equipment; list price; extended payments.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9100

SINGER Light Car, 1914, dynamo lighting, faultless; £245, 1920 combination part exchange.—Hop. 2329.—61, New Kent Rd., London, S.E.1. [1585

MORGAN De Luxe, 1918-19, M.A.G., air-cooled, full equipment, spleadid condition; £165.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9664

MORGAN de Luxe, 1920, water-cooled, perfect condition, electric side and tail lamps, painted red; £200.—Capt. Collings, Buller Barracks, Aldershot. [1276

G.N., Morgan, and Premier super runabouts for immediate or future delivery; extended payments, exchanges.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9098

G.N.—Immediate delivery of latest models, with or without dynamo lighting, from the main Kent agents, The Rochester Auto Supply Co., Corporation St., Rochester. [0466

MORGAN, M.A.G., 1918, red, discs, equipped, in splendid order; £170, nearest, or exchange good motor cycle part.—Robinson, Station Rd., Dalton-in-Furness. [1527

G.N., Morgan, and Premier super runabouts for immediate or future delivery; extended payments, exchanges.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9661

COVENTRY Premier Runabout, 3 speeds and reverse, dynamo lighting; 275 gns.—Special agents, Ratcliffe Bros., 200, Gt. Portland St., W.1. 'Phone: Mayfair 5042. [0385

MORGAN.—New 1921 Grand Prix water-cooled Olympia Show model, purchased off stand, latest improvements, show finish; £215.—Shaw, Engineer, Royston, Herts. [1600

PREMIER Super Runabout, 1920, but delivered this year, fully guaranteed; £270; exchange considered.—Frank Whitworth, Ltd., Midland Agents, 139, New St., Birmingham. [X6956

CYCLE Car Chassis, suitable for light engine, includes clutch, differential, brakes, steering complete, radiator, bonnet, 5 good tyres; £20.—89, Tollington Park, N.4. [1515

MORGAN Runabouts.—We can deliver the de luxe model from stock; early delivery other models; book now.—Walbro Motor Cycle Co., 49, High St., Saffron Walden, Essex. [X6981

G.N. Cycle Cars.—Official agents for North Essex. We can deliver these from stock or in few days.—Walbro Motor Cycle Co., 49, High St., Saffron Walden, Essex. 'Phone: 45. [X6980

SINGER Light Car, 2-seater, painted blue, dynamo lighting, 2 head lamps, 5 wheels, good tyres, in splendid running order; £250.—Britnell Bros., 43-45, High St., Fulham. Putney 1652. [1505

MORGAN Grand Prix, M.A.G., lamps, and full equipment; list price; extended payments.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9663

MORGAN 1920 (Sept.) De Luxe, M.A.G. w.c., discs, lamps, hood, screen, mechanical horn, spare chain; cost over £260; mileage 800, unscratched; £230.—Mucklow, Woodhill, Bury, Lancashire. [1581

MORGAN 1921 Grand Prix, M.A.G., water-cooled, 5 weeks old, discs, lighting set, speedometer, hood, accessories; owner going abroad end of month; trial; £220.—5, Elms Mews, Clapham Common. [1644

MORGAN de Luxe, 1918-19, M.A.G., air-cooled, full equipment, splendid condition; £165.—Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [9101

MORGAN de Luxe, w.c. M.A.G. engine, speedometer, lamps, etc., practically brand new, only done 300 miles; exchange good bike and cash, or sell £220.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E. 3155. [1487

COVENTRY Premier Runabout.—G. L. Francis and Co., authorised agents for the Coventry Premier runabouts, 7-9h.p. Immediate delivery of 1921 model, £265.—169, Shaftesbury Av. 'Phone: Gerrard 3288. [0386

COVENTRY Premier Super Runabouts.—We can deliver these from stock and take your used machine in part exchange.—Official agents: Walbro Motor Cycle Co., 49, High St., Saffron Walden, Essex. 'Phone: 45. [X6979

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Size	Our Price	List Price
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26 x 2½	45/-	76/-
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FREE To all purchasers of covers from this list we include one of our Elite Motor Cycle Outfits with every cover ordered.

Size	Make.	Our Price	List Price
24×2	Wood-Milne Special	29/6	47/6
26×2	Avon Ribbed	27/6	33/6
,,	Englebert Wired-on Rib	25/-	55/-
26×2¼	Avon Combination	44/-	91/-
,,	Hutchinson Passenger	44/-	68/9
,,	Beldam Extra Heavy	39/6	64/-
,,	Dunlop W.D. Heavy	39/6	53/6
,,	Clincher de luxe Ex. Hy.	37/6	62/6
,,	Hutchinson T.T.	37/6	59/-
,,	S. Moulton Extra Heavy	34/-	59/-
,,	Englebert Wired-on Rib	30/-	60/-
,,	Wood-Milne Special	29/6	53/9
26×2⅜	Dunlop W.D. Heavy	42/6	56/9
,,	Palmer Cord Heavy	39/6	62/-
,,	Clincher de Luxe Ex. Hy.	39/-	68/6
,,	Kempshall Anti-skid	37/6	75/-
,,	Wood-Milne Extra Heavy	37/-	63/9
,,	Wood-Milne Special H'vy.	32/6	56/9
26×2½	Wood-Milne Extra Heavy	44/-	86/-
×2¼			
,,	Hutchinson T.T. R.S.	37/6	63/3
26×2½	Avon Tricar Rubber Stud	45/-	78/-
,,	Wood-Milne Extra Heavy	44/-	87/6
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,,	Englebert Wired-on R.S.	35/-	72/6
,,	Englebert Wired-on Rib	30/-	70/-
28×2½	Goodyear A.W. Tread	45/-	84/-
28×3	Goodrich Safety Tread	52/6	93/6
,,	Dunlop W.D. Ex. Heavy	48/6	84/-
,,	Wood-Milne Extra Heavy	35/-	81/-
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Size.	Our Price.	List Price.	Size.	Our Price.	List Price.
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Heavy .. 17/6
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RUNABOUTS AND CYCLE CA

2-SEATER Bleriot-Whippet, 1919, 8h.p. J.A. cyls. and Ricardo pistons, dynamo lightin royal blue, all on, any trial; £160; room w Emerson, Wykeham Cottage, West Grove, H Walton-on-Thames.

WAUCHOPE'S, 9, Shoe Lane, London, New 1921 8h.p. Coventry Premier, spare detachable wheels, dynamo lighting; price 2 easy terms one-fifth down and the remainde monthly payments.

MORGAN.—We are agents for these famou abouts, and are now in a position to offer able delivery. We specialise in repairs, overha repainting.—The Molineux Garage Co., Ltd., hampton. Tel.: 1160.

AGENTS for G.N., Grahame-White, Coventr mier, Kingsbury Rover, and other high new and second-hand; always a good select stock; cash or extended payments.—Service Co High Holborn, W.C.1.

1920 (late) Morgan de Luxe, a.c. J.A.P., n 400 miles, complete with hood, hood cove screen, P. and H. lamps, mechanical horn, tool unpunctured; price £200, including licence.—P. Greenhill, Sherborne, Dorset.

BLERIOT-WHIPPET Light Car, handle acetylene head lamp, electric side and tail spare wheel, car only done 700 miles, tyres and work as new; price 190 gns.—Duncan and Sb 33, The Parade, Golders Green, N.W.4.

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CLEMENT ¾ Landaulet, in good running £95.—1a, Strathleven Rd., S.W.2.

UNIC Landaulet, 12h.p., sound order; £ Princes Place, Holland Park, W.11.

£50 down and 12 payments of £5 monthly reliable landaulet.—Palmer's Garage, Toot

£50 down and 12 monthly payments £7/10 reliable 2-seater.—Palmer's Garage, Tootin

£375 cash secures magnificent 8-cyl. De Dion —Palmer's Garage, Tooting.

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£100 down and 12 monthly payments £10 magnificent Napier landaulet.—Palmer's Tooting.

IRIS Interior Drive Limousine, dynamo light excellent order; £250.—77, Acre Lane, S.

SAXON 10h.p., 1916, dependable condition economical; £150.—Derby Arms Garage, Mo

BELSIZE, 1914, with double dickey, 10h.p., 5 nice order, reliable; £200.—Derby Arms Mortlake.

NEW Pick 14h.p. 2-seater, dynamo lighting, ve £135; appointment only.—14, Glenelg Rd., ton, London.

SPORTING 2-seater Peugeot, 12h.p., streamlin detachable disc wheels; £160; exchange co tion.—84, Greenside Rd., Croydon.

CHENARD-WALCKER, 4-cyl., 3 and reverse, van body, good tyres, engine perfect; £30 sell.—20, Queen St., Hammersmith, W.6.

FORD Landaulet, English body, 1920, mag., saver, 5 detachable wheels, tyres as new, l for year; £300.—St. Briac, Broad Lane, Cove

HUMBERETTE, A.C., just been thoroughly hanled, new parts fitted, all accessories; no able offer refused; must sell.—Branch, Holloway corn.

8-10h.p. Sizaire-Naudin 2-seater Car for Sa exchange for late model motor cycle, good tion throughout, tax paid.—Amoe and East, Ki Maidenhead.

10h.p. Twin Alldays 2-seater, in perfect con new tyres, lamp, hood, screen, Stepney, carburetter Bosch magneto; bargain, £100.—D Cheltenham.

NAPIER Landaulet, 15h.p., engine just thor overhauled, nearly new tyres; giving up b only reason for sale; accept £230, or take combi part.—Revell, 104, Peel St., Hull.

HUMBERETTE, 1914, a.c., new hood, disc 40 m.p.h., 50 miles p.g., yellow and quite sporty; any trial; £135.—374, Grove Green Leytonstone 'Phone: Wanstead 48.

TAXICABS.

£100 Down and 12 Monthly Payments of £20 London taxicab.—Details, Palmer's Garage, ing.

COMMERCIAL VEHICLES.

L.G.O. 3-ton Lorry, £145; guaranteed in good o Southern Motor Co., Acre Lane, S.W.2.

LORRY Bodies for Ford Tonners in Stock, strong make, enclosed cab; £65.—The Willow Co., Leicester.

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Down and 12 Monthly Payments of £25 secures magnificent 3-ton lorry.—Details, Palmer's Tooting. [2035

own and 12 Monthly Payments of £15 secures ondid 1-ton truck, twin solids, will carry 30 tails, Palmer's Garage, Tooting. [2042

-CARRIER, A.C.'s make, modern, excellent con- on and appearance throughout; bargain, £65; 9, Allsop St., Upper Baker St., N.W. [9283

EXTENDED PAYMENTS.

list price; extended payments.—Rey, 378-384, ston Rd. 'Phone: Mnsenm 6456. [9099

ENGINES.

Excelsior, m.o.v., sound; £5.—16, Highgate Rd., London. [1887

ISION Engine, as new; £9.—Motors, 39, Essex ., London, N.1. [2024

J.A.P. Engine, mag. and carburetter; £10/10.— Framfield Rd., Hanwell. [1283

Engine, No. 3333, complete with magneto; £20. 0, Claremont Rd., Liverpool. [X6953

Clynos Engines, 1916-17, less mag. and car- retter, good condition and order; £15 each.—

GE Quantity of electric cable for disposal; sell in large quantities; cheap. Electric lamps, lighting shades, switches, etc.—J. J. Dooley, ron Rd., Clapham, S.W.8. [2008

Twin Peugeot Power Unit, a.i.v., Bosch, B.B., good running order; £10.—254, Icknield St., ham. [X7043

Rex Engine, mechanical valves, frame, C.A.V. agneto, faultless; £5/5 lot.—Ballard, 7, Fairlax mptonwick. [X6692

2-stroke Engines, 2 and 3-speed gear boxes; mmediate deliveries.—Burts, 245, Hammersmith ndon, W.6. [1958

CHOPE'S, 9, Shoe Lane, Fleet St., London. 8-10h.p. J.A.P. water-cooled engine, new 1920, ith magneto; £45. [2001

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Twin Rex, water-cooled, perfect, mechanical es, £7; new Fellows twin magneto to suit, £5. ard, 137, Earl's Rd., Sontbampton. [1714

AYS 4¼h.p. Singles, ball and roller bearing, de- mpressor, and mag. platform, brand new; £10 . Filkington and Co., 390, Lichfield Rd., Bir- n. [1330

MPH Countershaft Engines, new, £25; also 14 4h.p., complete with exhaust pipes, magneto , etc., £12.—Miles, 11, Chichester Rd., West , N.W.6. [1974

GLAS 2½h.p. Engine, complete, Bosch, Amac, ultless, gnit, £5/10; C.A.V. new 4 volt 20 amp. nutor, unused, 10/-.—Stocker, 49, Riverside, n-on-Thames. [X6693

Alldays Engines, 6 only, brand new, decompres- s, plates for filling to frame, less magneto and ter; £9, to clear. Spare parts for above, cheap. , Engineering Co., Leamington. [9196

-O.H.V., 499 c.c., stainless steel valves, roller earing connecting rod, ball bearing gear, and pindles, detachable head, brand new trade special letric Engines, Ltd., 30-32, Mortimer St., W.1. [9243

Specialists.—Engines in stock from £15; ecial bargain; 292 c.c. o.h.v. engine, perfect, Senspray carburetter, 1921, £2/15.—B.P. 40, Murray Mews, Murray St., Camden Town, [1892

J.A.P. Engine, side-by-side valves, complete ith inducti n pipe, Amac cambnretter, silencer d silencer Thomson and Bennett - Bosch mag., p as a complete unit, new; accept £42.—The otor Cycle Co. Haymarket, Newcastle-on-Tyne. [9497

PELTHWAITE'S Big Stock of Engines: 8h.p. ater-cooled De Dion, £12 (make lovely stationary); 914 Clyno, £12; 3½h.p. m.o.v. Minerva £4 10, 3/10; Quadrant, £3; Fafnir, £3; 2½h.p. Pre- with 2-speed gear, £5/10. See Ignition column. , Wilcox Rd., South Lambeth, S.W.8. [1190

Engines, J.A.P. engines, J.A.P. engines.—I ave the largest stock of J.A.P. engines and n England, over 30 engines always in stock to from, and the price, 5h.p. twins, £18/10; £20; 8h.p., fitted with new pistons and 1921 rs, £22/10; 3h.p. J.A.P. crank cases, flywheels, nnecting rods, £10; valves complete, 4/-; piston 1/6; cam wheels complete, £1; postage extra; for reply.—Hawkins, 455, York Rd., Wands- [5883

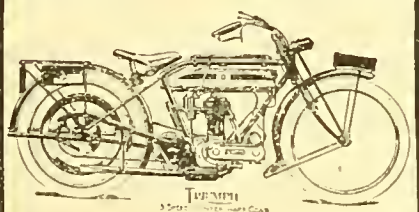
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Magnetos for Douglas, Triumph, V twins, etc.; changes.—Motor Exchange, 25, Horton St., Hali- [1449

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MAGNETO, Dixie clockwise twin, unused, perfect; £3/3, must sell.—64, Bishopsgate, London. [0396

WEST London Magneto Co., London's leading magneto repairers, guarantee every repair for 12 months.

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WEST London Magneto Co., 164, Shepherd's Bush Rd., London, W.6. [8677

BOSCH Contact Breakers, Z type, complete less points, perfect; 10/-. Radhall, 187, Woodhouse Lane, Leeds. [10 [1713

THOMSON BENNETT, converted, to suit Clyno, new; £4.—De Court and Flynn, 39, Essex Rd., London, N.1. [2028

THOMSON-BENNETT Magneto, new, £3/5; also 6-cyl. car magneto, £7/10, bargain. 279, Union St., Blackfriars. [1468

BOSCH Magneto off 1911 Triumph, complete with sprocket, in perfect condition; £3/10.—Don, 45, Cowick St., Exeter. [1695

BOSCH Magneto, single, ZA1, anti-clock; £3/15; some spark.—Heppelthwaite, 1, Sutherland Ter., Ebury Bridge, S.W.1. [1734

THOMSON-BENNETT Magnetos converted for Clynos, with base plate; £3/10.—Super Power Co., 81, North Side, Clapham, S.W.4. [1712

MAGNETOS by Thomson-Bennett and M.L.'s of Coventry, single-cyl. fixed ignition type, A.D.S. 180°, clock or anti-clockwise.—Below.

SOILED, otherwise new. Tested and guaranteed in good working order, 30/- each, cash with order, or deposit system. Discounts for quantities.—Below.

MATHEW and Kidman, 171, Stafford Rd., Wallington, Surrey. [1281

PLATINUM Screws, guaranteed real platinum; all types and makes, 12/- per pair; trade supplied.—Reliance, 11, Gt. Sutton St., E.C.1. [1800

C.A.V. and Thomson-Bennett 1 and 2-cyl. Magnetos, soiled only, 75/-, others from 40/-; approval.—Laviver Co., Elnathan Mews, Paddington, W.9. [1612

E.I.C. Magneto, 180°, suitable for flat twin, as new, 80/-; also Dixie 50° anti-clock, good condition, 65/-; bargains.—Brown, Wellington Place, Dursley. [1533

MAGNETOS, new, waterproof, single £4, twin £5/10, 4-cyl. £8/10; Ford conversion sets, £10; Thomson-Bennett twins, A.C.2 £6/10, 90° £8/10.—Ashton, Granary Lane, Mirfield. [6525

MAGNETO Repairs, all makes, promptly and efficiently. All work guaranteed; expert staff; estimates by return. Give us a trial.—Ward and Co., 51, Upper Richmond Rd., Putney. [2047

UNSATISFACTORY Magnetos should be replaced by a Boulton, £5 each; immediate dispatch. A few shop-soiled to clear at lower prices.—Boulton Magnetos, Ltd., Oldhall St., Wolverhampton. [6458

T.B. Magnetos for P. and M. and Triumph, with fixing bolts and base plate, 50/-; T.B. singles, without breaker and brush holder, 37/6.—Super Power Co., 81, North Side, Clapham, S.W.4. [1711

GOVERNMENT Surplus (New).—Magnetos, C.A.V. and Thomson-Bennett, single and twin, 180°, clock and anti, £2/15; Bosch waterproof, enclosed, ZE1, single, clock and anti, £3/10, postage 1/9.

LODGE Plugs, Aero, 2/-; K.L.G., type R7, 1/6; K.L.G., R6, 2/6; new high-tension wire, unperished, 7mm., 4d. per yard, coil of 25 yards 6/3; special terms for quantities; all goods per return post on approval against cash.—Moody's Engineering Works, 51a, New Park Rd., Brixton Hill, London. [1978

IGNITION APPLIANCES.

MAGNETO Repairs.—Send your magneto to Palmer's Garage, Tooting. Reply paid, quotation telegraphed on receipt. Quick, efficient repair guaranteed in from 2 to 6 days, usually within 24 hours.—Palmer's Garage, Tooting. [2036

BOSCH, second-hand, ZA2, 180°, £4/10; ZE2, 180°, £5; ZE1, single, anti, £4/15; DA2, 42°, £2/10; E.I.C., 180°, £4; C.A.V. single, anti, £3/10. All magneto spares at right price; exchanges arranged.—Ashby, 18, Hertford Place, Coventry. [1697

THOMSON-BENNETT Magnetos for 4h.p. Douglas, fitted complete with Bowden wire adjuster for advance and retard, leads and terminals, all ready for bolting on engine; these magnetos are tested and have never been used; price £3 each.—Tilley, Pine Cottage, Weybridge. [1897

LOVELAND Magneto Repair Service.—Repairs to all makes quickly and efficiently executed. Spare parts for all types. Bosch pattern contact breakers, 12/6 each; Bosch pattern contact screws, 10/6 per pair; remagnetising by special process, 5/- per pair.—'Phone: Streatham 1390. Loveland Bros., Crescent Magneto Works, Norbury, S.W. [2022

WEST London Magneto Co. guarantee a satisfactory repair to any make of magneto. Our large stock of spare parts enable us to return repairs within 24 hours; estimates wired if desired. Send at once for our list of magnetos and spare parts; all repairs guaranteed for 12 months.—West London Magneto Co., 164, Shepherd's Bush Rd., London, W.6. [8678

HEPPELTHWAITE'S Sold 300 Magnetos last week at 50/- each. M.L. singles, anti or clock, and guaranteed for 18 months. Cannot repeat after these are gone. Sent return of post carriage paid, 50/-. Also one or two Ruthardt 50° twin £3/15, 42° Dixie £3/10, Fellows enclosed type £3/10 (not lightweights).—17-19, Wilcox Rd., South Lambeth, London, S.W.8. [1191

RUNBAKEN Repair Service.—Thorough and efficient repairs to any make of dynamo, starter, or mag. We have the spare parts, plant, and skilled labour turning out guaranteed work only.—Enclose instructions and send by rail to The Runbaken Magneto Co., Ltd., 115, Gt. Portland St., London, W. ('Phone: Mayfair 3586). North of England: Derby St., Cheetham, Manchester ('Phone: City 8266). [0258

MAGNETOS, Government surplus, guaranteed, new, suitable for Triumph, B.S.A., P. and M., Douglas, etc.; C.A.V. and Thomson-Bennett single and twin, 180°, clock and anti, £2/15; Bosch enclosed waterproof, ZEL, single, clock and anti, £3/10, postage 1/9; Lodge Aero plugs, 2/-; K.L.G., Type R7, 1/6; K.L.G., Type R6, 2/6; new high tension wires, unperished, 7mm., best quality, 4d. per yard, coils of 25 yds. 6/3, special terms for quantities. All goods send per return post on approval against cash.—Moody's Engineering Works, 51a, New Park Rd., Brixton Hill, London. [1977

EUSTON Ignition Co.'s 24 hour repair service. Guaranteed repairs to all types of magnetos; Splitdorf and Dixie specialists; official Indian electrical service station; Thomson-Bennett repairs and spares. All repairs are tested on an approved A.I.D. test bench before dispatch, and therefore carry our guarantee for 12 months. We hold the largest stock of guaranteed magnetos in London, twins all degrees; spare parts for all makes in stock; charged accumulators all voltages always ready in stock; plugs, cables, ½-watt and vacuum bulbs all voltages. We give you real live service always.—Euston Ignition Co., 329, Euston Rd., London, N.W.1. 'Phone: Museum 5034. T.A.: Magdyno, Eusroad, London. [0263

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NEW Beldam Clearance Covers, 26×2, 25/- each; 26×2¼, 26×2⅜, 26×2½, 26×3, 30/- each; 28×3, 40/- each; 700×80, 60/- each.

GOVERNMENT Surplus, Dunlop heavy second-hand covers, 26×2¼ and 26×2⅜, 12/6 each; 28×3, 17/6 each; new Dunlop and Bates tubes, 26×2¼, 2⅜, and 2½, 6/6 each. All goods cash approval; money refunded if returned within 7 days in the same condition as received.—Homerton Rubber Works, Brooksby's Walk, Homerton, E.9. 'Phone: Dalston 3483. 'Grems: Emanrubwor, Hack, London. [0331

BASTONE'S for new clearance covers and tubes (no better or cheaper house).

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BASTONE'S.—26×2⅜ Hutchinson T.T., 35/-; ditto Passenger, 40/-.

BASTONE'S.—26×2½ Michelin, 21/-; Wood-Milne, 30/-; Hutchinson Passenger, 39/-; Avon Sunstone, 39/-.

BASTONE'S.—650×65 Hutchinson ribbed, 45/-; Goodrich Safety tread, £3/10; Hutchinson ribbed, 700×75 for 650×65, 50/-; Goodrich Safety tread, 700×80, £3/15.

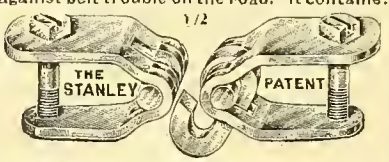
BASTONE'S.—28×3 Palmer Cord heavy, 45/-; Hutchinson ribbed, 50/-; Goodyear all-weather tread, 60/-.

BASTONE'S.—Michelin tubes, 26×2¼ or 26×2½, 8/6; Goodyear butted, 28×3, 10/-.—228, Pentonville Rd., King's Cross, London, N.1. Tel.: 2481 North. [2004

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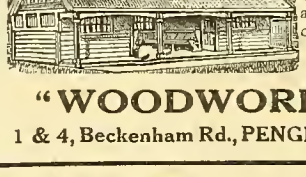
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700×80, for voiturette rims, will fit 6 Dunlop grooved 75/-, Wood-Milne 70/-, Spencer-Moulton 70/-, Beldam Bulldog 70 Sunstone 70/-.—Below.

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26×2½ Dunlop Heavy Rubber-studded 45/ Sunstone 41/6, Dunlop combination and steel-studed 57/6, Rom ditto 55/-, Avon c tion 47/6, new endless tubes 6/6, heavy rubber studs, 40/-.—Below.

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INNER Tubes, new, Dunlop 26×3 and 28×3, 7 plus carriage.—Dooley.

PLEASE apply for above to J. J. Dooley, 33, Rd., Clapham, S.W.8.

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BRAND New Clincher Tyres, 26×2¼ 33/6, 39/-.—Wandsworth Motor Exchange, Ebn Wandsworth.

TYRES. Great Sale.—Don't buy any until yo seen our list. It is a revelation.—Banc Co., 64, and 78, Bishopsgate, E.C.

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ECONOMIC.—Wood-Milne 24×2¼ heavy 31/- £2/12; 26×2 heavy 30/-, listed £2/10; heavy 36/-, listed £3.

ECONOMIC.—Wood-Milnes: 26×2⅜ heavy listed £2/16/8; extra heavy 39/6, listed £

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ECONOMIC.—Wood-Milne: 28×2½ American 38/9, listed £3/4/8; extra heavy 45/-, £4/0/8.

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ECONOMIC.—26×2¼ Dunlop heavy W.D. listed £2/11/3; Kempshall clearance an 30/-, listed £2/17/4; non-skid 35/-, listed £3/ Dunlop tubes, W.D., 7/6.

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ECONOMIC.—Fully guaranteed: Dunlop stud, 24×2 27/9, 26×2 29/9, 26×2¼ 31/

ECONOMIC Tyre Co., 314, New Cross Rd., (near Town Hall). 'Phone: New Cross 1

BURST Motor Cycle Tyres, chafed beads rem made perfect, tube vulcanising, butt-ends retreading; send for list.—Melton Rubber Works, Mowbray.

GENUINE Bargains.—Brand new Dunlop 28×3, extra heavy rubber studded, suit I etc.; price 50/- each.—Apply, Salmons, 8, Upp Martin's Lane, W.C.2.

WISE Motorists reduce their running costs by ing their worn tyre covers to the Beldam Co. (1920), Ltd., Brentford, Middlesex, to be retr A Beldam retread lasts as long as many new Estimates given free.

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The London-Land's End Regulations.

NEW regulations for long distance trials are always a matter of interest to competition riders. Many feel that existing rules are not quite adequate and are apt to lead to bickerings. As a result, any innovation requires careful thought, for the results are often far-reaching and may even lead to the development of undesirable types of motor cycles. In the forthcoming London to Land's End trial, organised by the Motor Cycling Club, certain features have been introduced which call for comment. Following the precedent of the Club's London-Exeter trial, no adjustments will be permitted in controls. This is as it should be, for the modern motor cycle should be capable of a twenty-four hour non-stop run, except as regards replenishments, and the opportunity for minor adjustments is always permissible at the expense of time in unobserved sections.

It is in the regulations governing the most severe portion of the run, between Porlock Village and the top of Lynton Hill, that the real innovations occur. With the idea of avoiding possible difficulties in deciding what is and what is not a clean climb, time limits have been set for two sections, which is a good feature, provided the limits are sufficiently carefully calculated.

The first limit covers the three miles subsequent to the Ship Inn, Porlock, and includes practically nothing but the famous Porlock Hill. A minimum limit of 18 m.p.h. is specified, and this should not worry seriously solo machines over 350 c.c. Small two-strokes, however, will be hard put to it to maintain this speed, and the average medium-powered sidecar outfit will have to be in very good trim. Added to this, the surface of Porlock Hill is often remarkably greasy, and wheel spin on the severe gradient will cause even the bigger passenger machines some difficulty. The second debatable condition is to the effect that no one shall be more than five minutes late at the top of Lynton Hill. This implies an average speed of approximately 18 m.p.h. over rough and narrow moorland roads, *down Countisbury Hill*, and up Lynton Hill. If all goes well the average is not too high; but new competitors who do not know the country should be warned that the long and narrow descent of Countisbury is highly dangerous, and culminates in a sharp pitch near the foot, which has been the cause of more than one serious accident.

It is not often we find ourselves at variance with a sporting body such as the Motor Cycling Club, but in this instance we feel insufficient distinction has been made between machines of widely differing powers, and that the average speeds may be too high for safety under adverse weather conditions.

Fostering Club Life.

AT a period when, to many people, the times may appear to be suddenly out of joint, there may be some tendency for all but the utilitarian side of the motor cycle movement to be placed on one side. Such a policy, especially on the part of club officials, is rather short sighted, for the practising of economy by the curtailment of a healthy recreation is unwise; moreover, the truth of the saying that "once a motor cyclist always a motor cyclist" must not be forgotten.

In club circles, for instance, there is no need for a curtailment of programmes or the adoption of a spirit of resignation if events are not supported with the usual enthusiasm. Rather let trials secretaries absorb the duties of social organisers where the latter officials do not already exist especially; if the average member at the moment is disinclined to join in extensive trials which necessarily involve expenditure of time and incidental sums, let the club programme be adjusted to suit circumstances. Social runs, runs with an object, outings to places of local picturesque, historical, or archæological interest are well worth taking; they serve to keep the members together, to strengthen mutual good feeling, and to cater for a class which either cannot or will not muster up enthusiasm in competitions.

An index to the advertisements in this issue will be found on the page facing the back cover.

Occasional Comments by "Ixion"



Greasy Camber, and a Pillion Flapper.

I APPRECIATE no items in my postbag more heartily than the—usually unprintable—letters which I occasionally receive from keen amateurs on whose toes I have trodden. The causes specified in my cross-heading have brought me a breezy letter from a damaged enthusiast, who is familiar with all the machines which I rode in 1920. He waxes extremely merry at my remark that a Scott is not easily left, even by a Norton; but he doesn't know the roads of which I spoke. He considers I have a bee in my bonnet about the A.B.C., which he prefers to formularise as follows:

$$X + Y = Z$$

when X is high revs, Y is small bearings, and Z is wear. (Happy thought: express some of my own childish notions in this learned form, chucking in a few surds and *n*th powers to fog the innocent.) When his broken limbs have calloused up integral once more, he proposes to sniff the ozone on an I.O.M. Rudge, which, he assures all and sundry, is *the* goods.

More About Electric Cables.

MY next letter is from a No. 8 hat, and has given me a headache. He thinks less than nothing of the merchant who impressed me a few weeks ago by talking in thousands of megohms; apparently, there might have been something in it if he had said millions. Anyhow, his prescription for a care-free existence with electric lighting on car or cycle is to scrap the lot, as Jacky Fisher put it, immediately on receipt. Then go to a cable company, and get them to make up multicore wires with (*a*) conductors of forty No. 33 s.w.g. wires, insulated with (*b*) pure vulcanised rubber to a diameter of .7 mm. finally (*c*) covered with cab-tyre sheathing. I gather that if you put the charge of a Pacific thunderstorm down these cables when they were submerged in water, they would still function merrily. Incidentally he bids me beware of the jute packing advised by another correspondent; it has a spongelike love of water, and soon shorts.

Rust Prevention and Cure.

AT Smethwick, in Staffs., there is a firm known as T. Howse, Ltd., which specialises in chemical dopes and appears to enjoy a high reputation in technical circles of a more august character than those which I frequent. Its top man, or "big shout," as the Yankees would call him, has a curious psychology. Some while ago he wooed me with a sample bottle of some stuff called Corrosine, guaranteed to prevent rust; it was quite good, too. Now he has weighed in with another bottle of dope called Derusta. It is much as if an evangelist were to offer you with one hand a safe passport to the golden gates, and with the other hand an asbestos suit in case you missed your way. My latest motor cycle being only a week old, the times weren't quite ripe for a routine test of Derusta. But in my madder moments I play golf. [We shouldn't call it that.—ED.] My clubs have lain in a damp shed since 1914. I selected a favourite driving iron, and anointed it with Derusta. Being of a trustful disposition, I was much disappointed. I expected to hear a rending sound and to behold all the orange excoriations peeling off incontinent. They didn't. I massaged the clubhead gently with Derusta for five minutes, and at the end of that period it became possible to decide that the metal had originally been white and not red. From which I deduce that Derusta would do good work on a motor cycle which had lain neglected in a damp shed for some months.

'Ware Petroil on Scotts?

MY recent note on petroiling a Scott has brought me a lot of correspondence. The firm have no objection to the petroil system, but advise that an occasional pumpful be ejected *via* the drip feeds for the sake of the bearings. But a correspondent who has tried the system says it made him wish the originator into a place where petrol does not keep. It began by choking his carburetter; it then fouled the petrol tap filter; and finally it made such a mess of his transfer port gauzes that he had to cleanse them with a blow-lamp, and finally buy a new set. As it happens, I did not make this experiment until just before I parted with my Scott; using a thin, filtered oil, well mixed with petrol before insertion in the tank, I experienced no trouble of any kind. Some months later the purchaser enquired whether I would like to buy the Scott back.

Insurance.

RECENTLY in these notes I suggested that the following principles should govern our economies in an outlay which has become very expensive.

(1.) Every motor cyclist should be fully covered against "third party" risks in the interests of himself, his dependants, and any persons whom he may chance to injure. (For a man of limited means to burden his own shoulders with risks which may exceed £1,000 is criminal folly—there is no other name for it.)

(2.) Whether we insure the machine itself or not is a matter of taste. (It is a pure gamble. Can we replace it, if burnt to the ground? Would we rather face this rather remote peril, or part with the necessary premium?)

(3.) Whether or not we insure ourselves against personal injury is a question to be settled by the effects which two months in bed or permanent crippling would have on our homes and business. If it is wise to obtain this protection, we ought probably to cover ourselves against general accidents and sickness; in that case motoring accidents may be included in the "personal" policy and excluded from the motor cycle policy.



INTO THE TEETH OF THE STORM

The Ascent of the Rugged Llanberis Pass against a Gale.

IT was at Conway that we put up for the night after a pleasant run without special interest or excitement from the old city of Chester. The road along the borders of the Dee and then of the opening sea would be far more dreary and uninteresting were it not for the vision of better things that lures one on. Comparatively level and of average surface, it neither gave us the opportunity of doing things or seeing things, and, the weather being quiet and the sky monotonously overcast, we found nothing to excite the spirit of adventure; certainly nothing that in any degree could be regarded as a forecast of the programme that was to be unfolded ere the little tour was finished.

We had ample time for a jaunt to the Great Orme, and were in time to see the sun conquer the gloom of the evening clouds and send its fires across the sea

The whole heavens were on fire: it seemed that streaks of molten metal were being poured from an unseen cauldron, till the sparks burst upwards, their light trailing away in half-seen luminous wreaths that curled and flashed behind a screen of glowing gauze.

We slept that night the sleep of weariness and peace, and so we woke refreshed; and the clear sun shone radiantly in the opened window; but it was the clearness that speaks of a sky-way washed by the rains of night; and white lines streaked the clear blue sea away to the northern horizon.

A Freshening Gale.

By nine we were on our way along the coast road of North Wales, and the wind was wrestling to impede our progress—a pure, fresh wind, that banished all ill-humour and called forth the highest and the best. At first a merry, playful thing, it soon became too persistent for playfulness, and it was evident that it was only testing our courage, and was prepared to do better later on.





(Left) There are not many motor cyclists who, frequenting North Wales year by year, do not eventually get caught in a storm in the passes. Pen-y-Gwryd Hotel, just beyond the summit of Llanberis Pass, has on scores of occasions proved a welcome stopping place after a tussle with a gale.

(Right) A scene in Llanberis Pass

A Road Test in the Foothills of the Alps.—

lake side. The weather cleared a little and a most magnificent view was unfolded. Huge hills on all sides, and above them the Alps, towards which I was heading —a more ideal testing ground could not be imagined.

I took advantage of a respite in the weather to try a "speed burst." The pick-up was rapid, and 50 m.p.h. was reached with ease, but as I was on an unknown road and the visibility was low, I did not exceed this, although there was power enough in the engine had I required it. Nor, I may say, did I keep it up long, which was lucky, as in a few minutes I met a herd of bullocks. This gave me an opportunity for some clutch work, as the brigand in charge of the brutes refused to take any notice of me. The action of the clutch was sweet, but I would like an auxiliary clutch pedal. This, however, is merely a matter of opinion, as many motor cyclists prefer handle-bar control for such occasions.



Where the Moto-Guzzi is made—Mandello, on Lake Lecco, a branch of Lake Como. The snow-clad peak in the background is Monte Grigna.

Had the weather been anything like fine I should have made the Swiss frontier at Castasegna or Tirano, but, as it was, the head of the lake was my turning point. From this point the Alps were obscured, and the surrounding country was remarkably like the Loch Lomond district near Ardlui. The rain was almost Scotch in its intensity, but the little pink villas brought one back to the Sunny South.

There was no serious hill on the route, but, what hills there were, the machine took in its stride. It has been on the road for over two years, and had about 8,000 miles to its credit, but it pulled like a 1921 machine.

G.S.M.

MORE TAXATION ANOMALIES.

ANY fresh legislation seems bound to produce anomalies and hardship to some of those affected, and this is particularly so when motors or motor cycles are the subjects of that legislation. It is very big odds against the man who drafts a new regulation concerning motor cycles being himself a motor cyclist; and it seems almost impossible that either he or his advisers should be cognisant of all the ins and outs connected with the pastime.

A reader who signs himself "Auld Reekie" points out two glaring anomalies upon which he has sought the guidance of the Ministry of Transport. The Ministry's reply through the local taxation officer is also appended. The points in question were: (1.) "What licences require to be taken out by a person owning two identical machines, but only one sidecar attachable at will to either? (2.) In the event of an owner of a sidecar outfit selling the sidecar, would a refund be made to him by the authorities for the unexpired portion of the year?"

The reply goes as follows:

"The Secretary of the Ministry of Transport has forwarded to me a copy of your letter to him on the subject of rating for duty on sidecar used alternately with two Triumph motor cycles, and also on your position relative to refund in the event of your selling your sidecar.

"I have to state that the Ministry is of opinion that if any person uses the same sidecar attached at different times to two motor cycles, he must pay an additional sum of £1 in respect of both motor cycles. With reference to the second query contained in your letter, in the Ministry's opinion a refund would not be payable under the circumstances mentioned."—LOCAL TAXATION OFFICER.

Comment is needless.

INSTRUCTION IN TWO-STROKE MANAGEMENT.

DESPITE the fact that two-stroke engines have held a prominent place in the motor cycle movement for the last ten or eleven years, specialised literature regarding this type of power unit has been particularly unfertile.

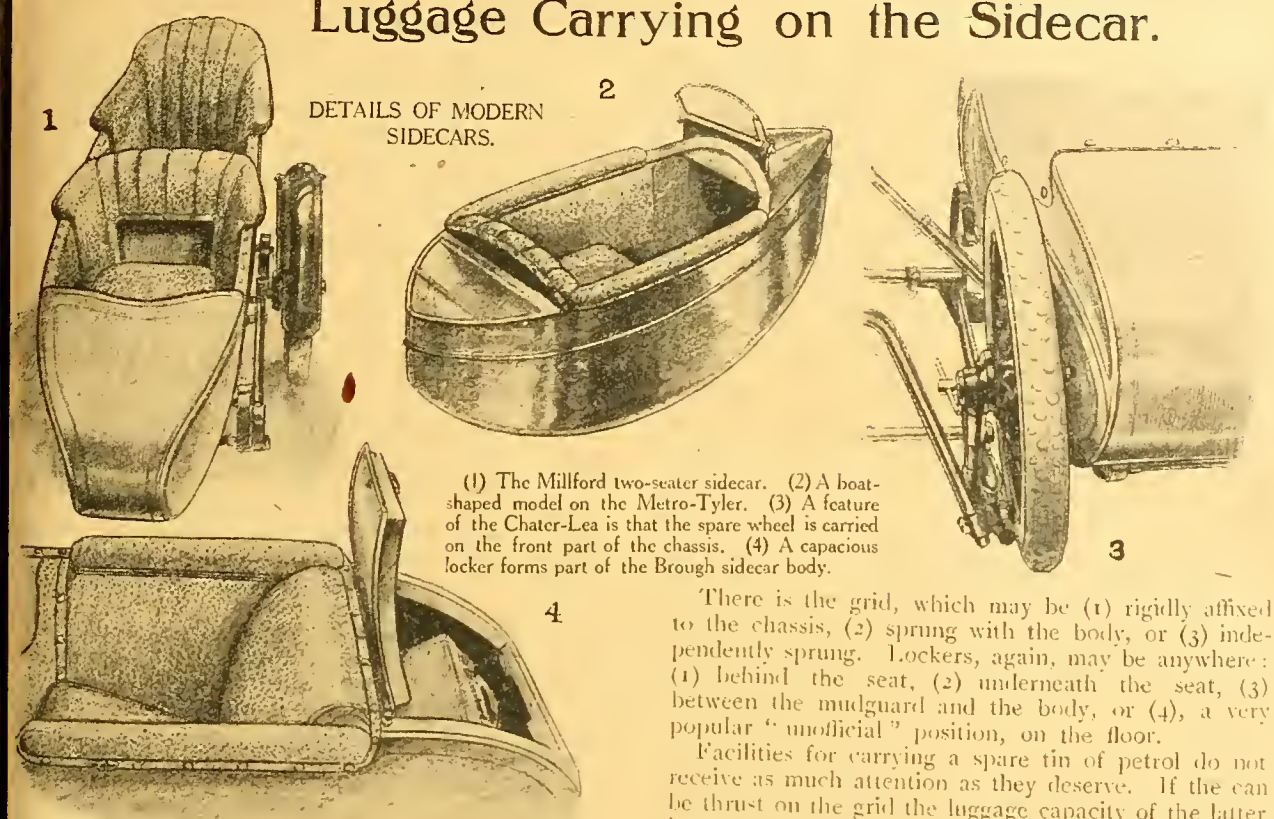
The enquiring novice who wanted practical instruction in the whys and wherefores of management has been almost entirely limited to the two-stroke chapters of such handbooks as "Motor Cycles and How to Manage Them," which, although excellent in their way, have necessarily not exhausted the possibilities of the subject. An effort to produce something on satisfactory lines has borne fruit, however, in the handbook* now under review. The work of the staff of *The Motor Cycle*, it embodies all that is accepted and trustworthy in the discussion of two-stroke possibilities as applied to motor cycle practice, while the instructional chapters, which cover such ground as "Getting the Best Results on the Road," "Tuning Up," "Tracing Troubles," and "Cleaning the Engine," have been compiled by writers who have used and appreciated two-stroke motor cycle engines from their inception. Innumerable hints and tips will enable the inexperienced rider, puzzled by some minor defect, to search all possible causes of trouble, and then, the secret of his difficulty being revealed, to rectify it in the easiest possible way.

To those who are interested in the development of the two-stroke, the chapter on past and contemporary designs of more unconventional nature than their fellows, and the final notes on the technical aspects of the two-stroke, will repay careful study.

* "Two-stroke Motor Cycles." Price 3/-. by post 3/3. Iliffe & Sons Ltd. 20, Tudor Street, London, E.C.4.

Luggage Carrying on the Sidecar.

DETAILS OF MODERN SIDECARS.



(1) The Millford two-seater sidecar. (2) A boat-shaped model on the Metro-Tyler. (3) A feature of the Chater-Lea is that the spare wheel is carried on the front part of the chassis. (4) A capacious locker forms part of the Brough sidecar body.

WHILE automobile bodywork has become more or less standardised in recent years, sidecar design, and more particularly sidecar coach-work, follows no distinct fashion.

Probably no two sidecar chassis are entirely alike, and no two sidecar bodies bear more than a faint resemblance to each other. Naturally, therefore, luggage-carrying arrangements are presented in a variety of forms.

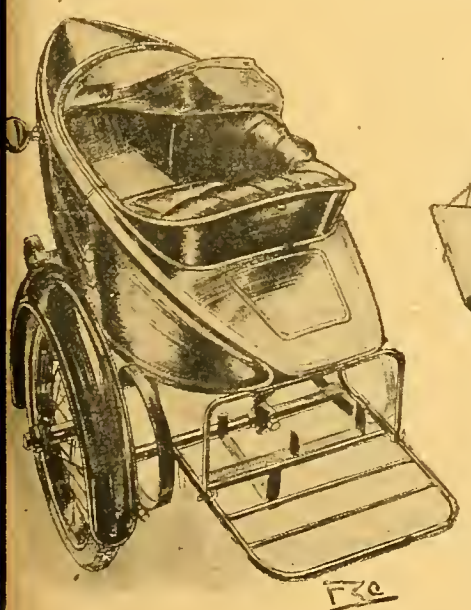
There is the grid, which may be (1) rigidly affixed to the chassis, (2) sprung with the body, or (3) independently sprung. Lockers, again, may be anywhere: (1) behind the seat, (2) underneath the seat, (3) between the mudguard and the body, or (4), a very popular "unofficial" position, on the floor.

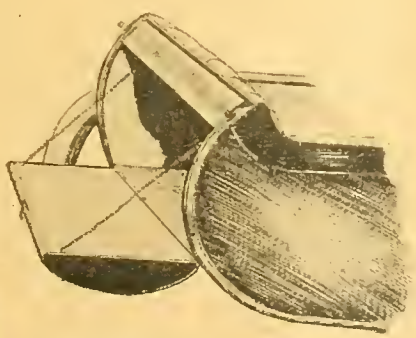
Facilities for carrying a spare tin of petrol do not receive as much attention as they deserve. If the can be thrust on the grid the luggage capacity of the latter is greatly curtailed; the same may be said of the locker position. But many bodies nowadays have some pretensions to a streamline tail and, where a special carrier is not incorporated with the sidecar chassis or luggage grid, the flat top portion of the tail in question makes a very suitable anchorage for the spare two gallons of spirit.

Even if a special position is provided there is no reason why this tail area should not be padded with rubber and railed in, as on the Sheffield-Henderson and B.S.A. At some time or other in the sidecar's career the extra luggage space afforded will be more than welcome.

On the more luxurious outfits the position of the spare wheel is another unsettled question—almost "problem," for the beauty-experts of the automobile body world discovered, some years ago, that a loose wheel at any angle or fixing does not tend to enhance appearance. Even now, however, sidecar bodies are barely commodious enough to adopt the neatest car expedient of stowing the wheel away in an entirely concealed compartment.

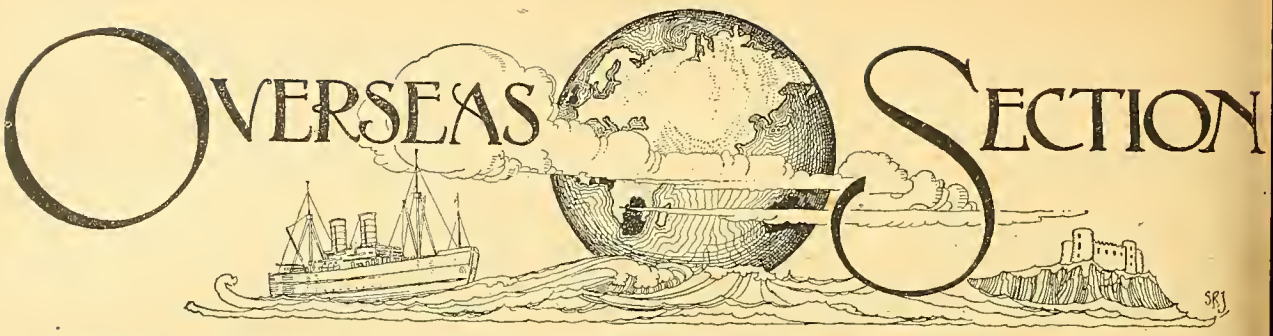
Probably about the same time in the future as unpuncturable tyres come into general use, one fixing and position for the detachable wheel will be universal; but at present we must rest content with various compromises.





(Right) The rear locker of the Chater-Lea sidecar.

(Left) Although a sporting model, there is ample luggage accommodation on this gracefully designed Zenith sidecar.



Commentary based upon Practical Experience and a Study of Overseas Opinions.

Service.

Now that most British motor cycles are in every way suitable for the needs of the Overseas buyer, fewer letters reach us setting forth "ideal specifications." Before the war such helpful suggestions were a feature of our postbag. Among the subjects upon which our correspondents now base their useful criticisms one stands out above all others. We refer to the question of a ready supply of spare parts, in short "Service."

Many times we have given prominence to this subject because we feel that until Overseas riders are able to obtain replacements for British machines as promptly as they can for those manufactured in America, British motor cycles will not secure their full share of popularity.

The service of American makers has often been quoted as an ideal for British makers to equal or emulate. Ideals, however, are not always practicable, and in this case the conditions anent American and British motor cycles are by no means identical.

American motor cycle manufacturers can be counted upon the fingers of one hand, but fully a hundred makers share the Overseas trade from this country. During the war, the U.S.A. products were able jointly to establish themselves in our Overseas Dominions, with the result that there are now in use sufficient machines of two or three makes to justify the expense of a very complete spare parts service.

It would appear that in the past the British motor cycle industry has considered that since it is impossible to organise "service" on the lines of their American contemporaries, there is nothing more to be done in the matter, instead of forgetting what has been done by U.S.A. makers and attempting to solve the problem which would still exist even if no American motor cycles were in use overseas.

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Solutions to the Problem.

THERE are several solutions, each worthy of consideration, but first of all British motor cycle makers must cease to regard their productions in the same light as commodities which, when worn out, are replaced by new goods. They must consider potentialities which accrue from usage. If the life of a motor cycle be taken as ten years, then it is in the interests of the maker to provide for the needs of every owner who is likely to use that machine.

The following are some of the ways open to provide spare parts service for British machines:

(1.) By syndicated representation by means of central depots in each country financed by groups of manufacturers.

(2.) By central depots organised and financed by a new branch of the Manufacturers' Union.

(3.) By private enterprise.

Regarding the last mentioned method, it is passing strange that Overseas towns have not concentrated upon the spare parts business such as has proved successful in the Home Country. Surely, if spare parts can build up a big business at home, there is a wonderful scope for houses working on similar lines in India, Africa, Australia, and New Zealand.

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Co-operation Necessary.

WITH the co-operation of the manufacturers, agents should be enabled to carry a reasonable stock of spares for the makes they represent, while in the more important centres quite a trade should be available in spare parts for the leading makes in general use in the district. In certain of the Overseas Dominions large importers of complete motor cycles are carrying stocks of spare parts for the machines in which they specialise, but taken on the whole this branch of the business has not received the attention due to it, partly, no doubt, on account of the necessity to lock up a large amount of capital for two or three years.

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Encouraging Overseas Trade.

THERE is every evidence that manufacturers are more seriously making a bid for Overseas trade than ever before, and no opportunity is being lost to regain their footing in those markets which have been more or less neglected since the war.

The British Industries' Fair, which opened this week simultaneously at London, Glasgow, and Birmingham, is well supported by members of the motor cycle industry, and, as a number of these firms exhibited last year, this fact may be taken as evidence that they have found the Fair profitable.

As on the last occasion, the Fair is purely a business proposition, *i.e.*, a place where buyers from Overseas and sellers can meet, and where the former can in a very short time examine lines of commodities produced by many manufacturers. There are no side shows or amusements, as is the case with the usual exhibition, and the catalogue is printed in three languages.

The presence of such commodities as motor cycles and accessories must be the means of interesting new buyers for these goods. In addition, trade buyers of goods outside the motor field are personally interested in motor cycles, so that Overseas traders should benefit materially from the visit to this country of their countrymen.

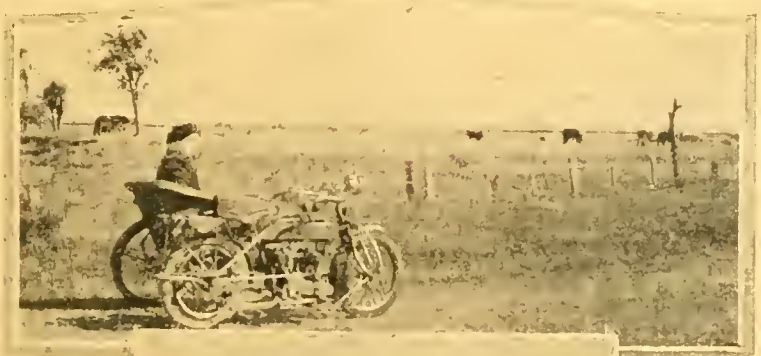
A Selection of Letters from Readers scattered all over the World.

In Baghdad.

Over the signature of "GHALBA," a military correspondent ith the forces in Baghdad sends us the following account conditions in that city:

"*The Motor Cycle* is a very pleasant connection with me even if it does sometimes cause attacks of home-ckness when thinking of what machine to buy on our turn. However, there will be at least one more Show mber before that comes off.

"This is not a motor cyclist's paradise; in summer it not so very bad, though it is hot, dusty, and bumpy—t now even 'Ixion' would rather walk on some roads. he rain will not soak in, so all the unmetalled roads nsist of a mass of hard bumps and ruts covered with incredibly slippery surface of clayey 'mud.' I have en an R.A.F. tender which could hardly keep on the ad at 5 m.p.h. To eet this sort of thing e chief motor agents Baghdad display in eir plate-glass win-w (the only one in e city) the *T.T. rect belt drive model* a famous maker, hose 4½ h.p. model ould be almost ideal r the country. Need-s to say they seem have reposed in the i n d o w for some nths now. I rather ink a two or three-ed lightweight for vn use only would l as well as anything re. In the summer there used be several ex-W.D. Douglases den by prosperous-looking ntlemen clad in spotless white ll and a fez. This kit would look ther well in the Six Days!"







IN THE HIGHLANDS OF NEW ZEALAND.

A King Dick outfit which our New Zealand correspondent has had in use for three years. The photographs convey a good idea of the fine scenery in the North Island. Both pictures were taken at the southern end of the Kaimanawa range of mountains, among which run fairly good motoring roads.

"Owner Going Abroad."

MR. JAMES OSCARD, writing om Karachi, gives his experi-ces in taking his own machine India. He also emphasises the tremely low figure at which erican motor cycles sell out ere:

"*The Motor Cycle* of December ue is to hand, and I am inter-ed in your correspondent's marks under above heading. rhaps my experience taking a Triumph idecar outfit to India ll interest him and ers who contemplate ing to India.

"I found the best n was to entrust the chine to the makers. ese people do their n exporting, or have ir exporters, and is 'know the ropes.'

"My machine was mantled, packed, in-ed, and put on ard, for quite a minal sum. The chine arrived safely Bombay one month er, and the total t was, with shipping es, etc., £21 9s. 3d. e Customs duty is % on the value of e machine.

"In the writer's opinion, however, one would do better to sell the machine in England and purchase a new machine in India. Good American big twins and fours are quoted as low as £125. The motor stores out here to-day are crammed full of British machines, too, especially two-strokes. Whilst British machines are very popular here, one cannot help but notice the wide popularity of the Americans, especially the Henderson (four-cylinder). When one considers that a four-cylinder machine can be bought for £125, as against £150 for a good 'single,' one can well see why this is so."

Italy and Exchange Difficulties.

An unfavourable rate of exchange is "G.F.H.'s" reason why there is no large export trade to Italy. He writes from Milan as follows:

"At present the position of the exchange is still greatly unfavourable to a large export trade in motor cycles from England to this country. At the present very high rate of exchange, a good English sidecar outfit, such as a Sunbeam or A.J.S., costs, delivered here, nearly as much as a good light car chassis (such as the Bianchi model 15 fitted with electric lighting and starting equipment). You will, therefore, understand that it is almost impossible to expect large orders from this country under the present conditions. If British manufacturers are really anxious to export on a large scale, they must study some means of overcoming the exchange difficulty, or otherwise business will be very slack."

Impressions from Swaziland.

MR. R. T. MACDONALD, Swaziland, writes:

"I trust you will excuse my picking a bone with you. In reproducing a few of my statements in *The Motor Cycle* of September 30th (Overseas Section), you have erred slightly to the detriment of my 'bus. I would not mind so much, but for the fact that a couple of African motoring papers copied your reproduction.

"First, I never ride solo, road surfaces and gates being troublesome, and comfort a primary consideration. My consumption of 90 m.p.g. was *with sidecar, passenger, and a considerable amount of luggage* (including six gallons of petrol and two of oil). I have several times exceeded 60 m.p.g., but normal running with many starts a day rather spoils the average.

"My actual statement with regard to 'spares carried' was to the effect that one cover (for rear wheel) and one main driving

Overseas Section.—

chain were my only spares since acquiring the outfit. (This is picking a bone with a vengeance, as I happen to carry a cover and tube habitually.)

"As a comparison. To travel from here to Johannesburg by the ordinary way—by post car to rail head (eighty-two miles) for two persons and luggage, £25; rail to Johannesburg about £5; total £30 to £40. By motor cycle and sidecar—petrol 6s. 6d. per gallon at 60 m.p.g. = nine gallons the double journey comfortably, £2 18s. 6d.; oil, 10s. 6d.; four days travelling there and back, twelve meals at 2s. 6d. = £1 10s.; two beds, 5s. (one person). For two persons, therefore, to Johannesburg and back, £6 19s.

"I think this emphasises the need for motor cycles and sidecars as a means of transport."

Advantages of C.O.D. Payment System.

Writing from Nawalapitiya, a reader who signs himself "CEYLON," supports a recent correspondent who advocated that spare parts should be sent by the "C.O.D. Post" system.

"A little time ago," he states, "I decided to get some spares for a well-known gear box, and so wrote to the makers. Not knowing the price, I asked them to send the goods C.O.D. post. After some delay I received a reply in the shape of a *pro forma* invoice, stating goods were ready for despatch, and would be sent on receipt of cash. This would have meant a further delay of at least a couple of months, before spares came to hand. In consequence I wrote and told them I would not take the spares. As it happened I was not in immediate need of the spares in question, getting them only in case of wear of parts, or emergency; had I required them urgently, it would have been most annoying.

"I know of other instances of the same treatment. I am open to correction, but I thought that manufacturers and others had been asked to stimulate overseas trade by the Government, and the C.O.D. post had come into operation more or less for this purpose."

Motor Cycle Spares Service.

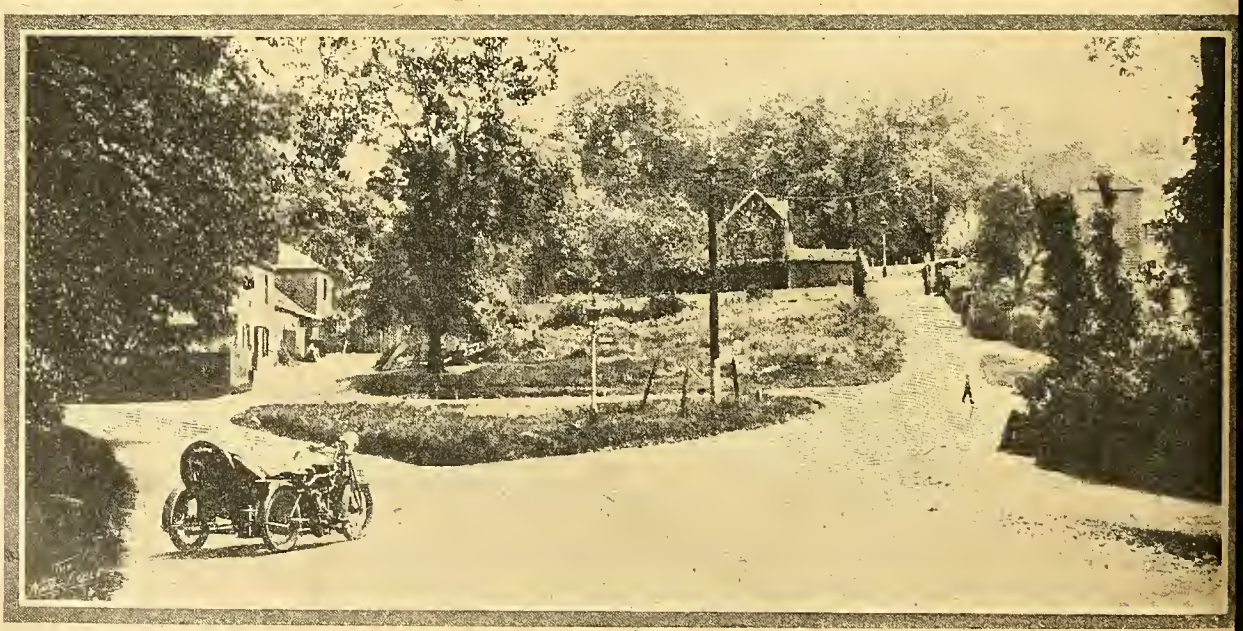
What may be Done by Private Enterprise. An Example at Home as a Pointer for Overseas.

THE most frequent and persistent complaint which reaches us from our overseas readers is that British machines do not accrue their full popularity abroad because they are not backed by efficient spare parts service.

Granted that British makers remain apathetic, it would still appear that the overseas retail trade remains blind to the possibilities which exist in specialising upon spare parts business. Wherever more than one or two machines of a make exist, there is a potential demand for replacements for those particular machines and a stock, complete and well chosen, will not only be drawn upon constantly, but will have the effect of drawing further machines of the same make into its vicinity—the owners feeling secure in the knowledge that they are insured against the delay entailed by the collapse of an essential detail only to be replaced by a tedious application to the parent factory.

That a highly satisfactory business in spare parts may be built up has been demonstrated at home in more than one case, and if a private firm can establish an almost world-wide business when located very close to the actual maker's works, surely there is still more scope for the man who establishes a comprehensive store where private riders have no means of immediate access to the parent factories.

We have in mind particularly the example which has been set up by Messrs. Herbert Robinson, Ltd., of Cambridge. Here we have the management of a provincial garage and repair business realising the existence of a continuous and certain demand for prompt spares service. Well equipped storerooms were furnished, a special staff detailed, and judicious advertising campaign inaugurated. The results have surprised even those responsible for the scheme, and the firm is now receiving orders for spares, not only from all parts of the British Isles, but from almost every place abroad where British machines are used. Complete stocks of parts for all Douglas, Triumph, J.A.P., Villiers, and Sturmey-Archer manufactures are maintained, and separate illustrated price list for each are available; approved credit accounts are opened, and orders on these as well as those covered by remittance are filled on the day of receipt. This businesslike method has resulted in ever growing orders and it appears abroad there would be even greater scope than at home. This is proved by the fact that Messrs. Robinsons receive a large proportion of orders from overseas



Although but ten miles from the metropolis, Mill Hill still retains some traces of the days when it was a "sleepy hollow."

What it Costs to send a Motor Cycle Overseas.

A Schedule of Inclusive Packing and Freight Charges, and Details of Import Duties in Various Countries.

(Compiled by Messrs. Davies, Turner & Co., Ltd., Lime Street, London, E.C.)

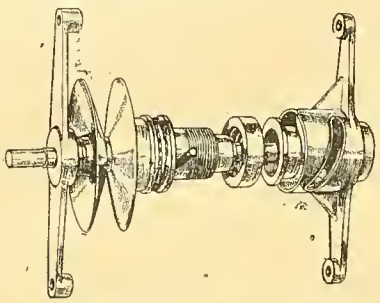
Name of Country to which the Rates and Duties Apply.	These Duties are Compiled from Official Sources, but without responsibility. %.= per centum ad valorem.	Port.	Rate per One Motor Cycle. £ s. d.
ANTIGUA (B.W.I.)	Under the British Preferential tariff, 10⅔% ad valorem	St. John's	8 5 0
	Under general tariff, 13% ad valorem		
ARGENTINE (South America)	32% of the valuation of 100 pesos each	Buenos Aires	8 17 9*
		Montevideo	8 17 9*
AUSTRALIA	Under the British preferential tariff, £10 each, or 25% ad valorem. (b) Under the general tariff, £12 each, or 30% ad valorem.	Adelaide	8 9 9
		Brisbane	8 9 9
		Melbourne	8 9 9
		Fremantle	8 9 9
		Sydney	8 9 9
	(b) Whichever rate returns the higher duty).		
AUSTRIA	150 Kr. per 100 kgs.	via Fiume	9 1 0
		Trieste	9 1 0
BAHAMAS (B.W.I.)	50% ad valorem, with an additional charge of 10% on amount of duty leviable at rate given	Nassau	10 10 9
BARBADOES (B.W.I.)	Under the British Preferential tariff, 9% ad valorem. Under the general tariff, 11¼% ad valorem.	Bridgetown	7 9 6
BELGIUM	120 Frs. per 100 kgs. (with or without sidecars).	Antwerp	5 13 6
		Ostend	5 13 6
BERMUDA (B.W.I.)	The use of motor vehicles in Bermuda is prohibited.		
BRAZIL (S. America)	Cycles, including motor cycle frames with one seat for adults, 50,000 Reis each.	Rio de Janeiro	9 7 0*
		Santos	9 12 0*
	The motors are dutiable separately at the rates of 15% ad valorem. Bicycles with more than one seat pay an additional 30,000 Reis for each seat.		
CANADA	Under the British Perferential tariff, 22½% ad valorem. Under the general tariff, 42½% ad valorem.	Montreal	7 13 0
CHINA: HONGKONG	Free	Hongkong	8 15 3
SHANGHAI	5% ad valorem	Shanghai	8 17 9
CEYLON	Used bicycles, including used motor cycles, brought with a passenger as part of baggage, free. Motor cycles, 7½% ad valorem.	Colombo	8 9 9
CYPRUS	10% ad valorem	Larnaca	10 17 0
DENMARK	Motor cycles, gilded, silver-plated, coated, enamelled, lacquered, painted, bronzed, oxidised, or nickel. Plated, 0.60 Kron. per kg. Other, 0.50 Kron. per kg.	Copenhagen	7 11 0
DOMINICA (B.W.I.)	Under the British Preferential tariff, 10% ad valorem. Under general tariff, 12½% ad valorem.	Roseau	8 1 3
EGYPT	8% ad valorem	Alexandria	8 1 3
		Port Said	7 0 6
FRANCE	Frs. 220 per 100 kgs. (1.3)	Boulogne	5 13 6
	The duties shown must be multiplied by the figures in brackets against them in order to arrive at the total amount of duty leviable.	Calais	5 14 9
GERMANY	Motor cycles weighing each 50 kgs. or less 100 Mks. per 100 kgs.	Hamburg	6 11 0
	From 50 to 100 kgs., 75 Mks per 100 kgs. From 100 to 250 kgs., 70 Mks. per 100 kgs		
GOLD COAST	Free	Accra	7 11 0
GREECE	45 Drachmas each	Piræus	11 3 0
GRENADA (B.W.I.)	Under the British Preferential tariff, 8% ad valorem. Under the general tariff, 10% ad valorem.	St. George's	7 16 3
GUIANA (BRITISH)	Under the British Preferential tariff, 13⅓% ad valorem. Under the general tariff 16⅔% ad valorem, with an additional charge of 10% on the amount of duty leviable at the rate given.	Demerara	7 0 6
HOLLAND	5% ad valorem	Amsterdam	6 16 0
		Rotterdam	6 16 0
HONDURAS (BRITISH)	15% ad valorem	Belize	7 14 0
		Genoa	8 15 6
ITALY	80 Lire each	Leghorn	8 15 6
INDIA	7½% ad valorem	Bombay	8 9 9
		Calcutta	8 9 9
		Karachi	8 9 9
		Madras	8 9 9
JAMAICA	16⅔% ad valorem	Kingston	7 11 9
JAPAN	93.60 Yen each	Kobe	8 15 3
		Yokohama	8 15 3
LIBERIA (W. Africa)	12½% ad valorem	Monrovia	7 5 6
MAURITIUS	12% ad valorem	Port Louis	8 1 3
MONTSERRAT	Under the British Preferential tariff, 10⅔% ad valorem. Under the general tariff, 13⅓% ad valorem.	Plymouth	7 9 6
MOROCCO	12½% ad valorem	Casablanca	8 5 3
		Mazagan	8 5 3
		Mogodor	8 5 3
		Tangier	8 5 3
NEVIS W. Indies	Under the British Preferential tariff, 8⅓% ad valorem. Under the general tariff, 11% ad valorem.	Charlestown	7 0 6
NEW ZEALAND	If the produce of some part of the British Dominions, 10% ad valorem, otherwise 20% ad valorem. Plus 1% ad valorem primage tax on all goods.	Auckland	8 9 9
		Dunedin	8 9 9
		Lyttleton	8 9 9
		Wellington	8 9 9
NIGERIA	Free	Lagos	7 11 0
NORWAY	Cycles 20 Kron. each. The engines of motor cycles are dutiable separately at the rate of 10% ad valorem.	Aalesund	7 11 0
		Bergen	7 11 0
		Christiansund	7 11 0
		Trondhjem	7 11 0
PORTUGAL	15 Escudos each. Plus Surtax of 30 Escudos each.	Lisbon	7 17 0*
RUSSIA	The position is so fluctuating that it is impossible to furnish definite information. Each of the Governments have a different tariff.	Batoum	11 3 0
ST. LUCIA	If classed as vehicles—Under the British Preferential tariff, 12% ad valorem (a). Under the general tariff, 15% ad valorem (a). If classed otherwise, 15% ad valorem (a). (a) With an additional charge of 10% on the amount of duty leviable at the rate given.	Castries	8 6 0
ST. VINCENT	Under the British Preferential tariff, 10% ad valorem. Under the general tariff, 12½% ad valorem.	Kingstown	7 16 3
SIAM	3% ad valorem	Bangkok	9 19 6
SIERRA LEONE	15% ad valorem	Freetown	7 5 6
SOUTH AFRICA	Under the British Preferential tariff, 17% ad valorem. Under the general tariff, 20% ad valorem.	Capetown	7 18 6
		Port Elizabeth	7 18 6
		East London	8 2 3
		Natal	8 2 3
SPAIN	3 Pesetas per kg.	Barcelona	8 19 3*
		Bilbao	8 9 9*
		Malaga	8 19 3*
		Santander	8 9 9*
STRAITS SETTLEMENTS	Free	Penang	8 12 6
		Singapore	8 12 6
SWEDEN	60 Krou each	Stockholm	7 17 0
SYRIAN COAST (Palestine) (Mesopotamia)	11% ad valorem	Beyrout	11 9 3
		Jaffa	11 9 3
TRINIDAD	Under the British Preferential tariff, 8% ad valorem. Under the general tariff, 10% ad valorem.	Port of Spain	7 0 6
TURKEY (Constantinople and Black Sea Ports).	1,200 Piastres per 100 kgs.	Constantinople	11 3 0
U.S.A.	25% ad valorem	Boston	7 13 0*
		New York	7 13 0*
		Philadelphia	7 13 0*

*Consulage charges extra. The above rates are liable at any time to alteration without notice.

WINTER WORK IN THE GARAGE.

Some Conversions and Adaptations that will Improve or Modernise Existing Machines.

NOT all motor cyclists appreciate the joys of winter riding, and those who do not object to laying up their machines for a week or two have open to them a wide field of activity in the garage.

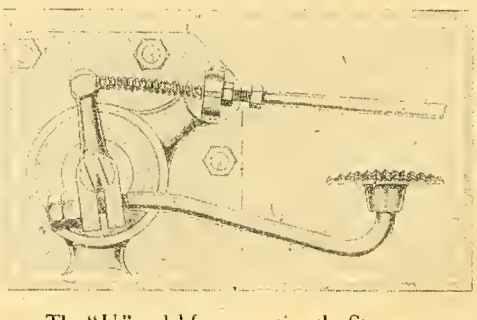


Component parts of the Grado pulley, illustrating the simplicity of this type of gear.

Renovations and overhauls form the generally-accepted procedure at this time of the year, but there is no reason why owners, particularly owners of old machines, should not go one better, and, instead of contenting themselves with renovation, endeavour to improve and modernise their machines and so improve their value.

Apart from the general tightness of money, and consequent inability to obtain a new mount, many motor cyclists have an affectionate regard for their old motor cycles, and an unvoiced opinion, sometimes based on fact, that there is little to choose between pre-war and post-war engines. Some go even further and stoutly declare that their 1913 XYZ is a better puller and has better material in it than its 1921 prototype.

Often, however, the "old love" is single-geared—clearly a case for conversion.

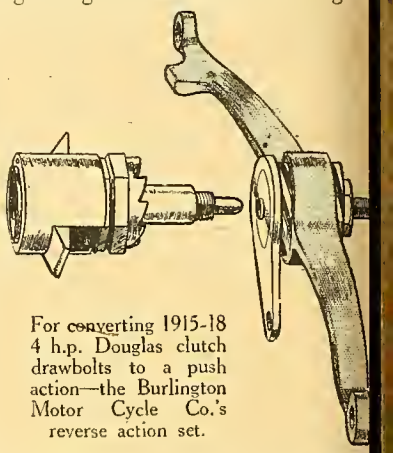


The "U" pedal for converting the Sturmey-Archer clutch to dual control.

Bottom bracket design and various constructional details prevent the majority of proprietary countershaft gear boxes of to-day from being fitted to fixed gear mounts of six to ten years ago, but there are several variable gearing devices that are specially marketed for this work. some are already well known, but one or two, that are not widely advertised, are probably not so familiar to the majority of our readers.

The Philipson pulley is so linked with the T.T. type of machine that its advantages to the tourist are somewhat neglected. It simply consists of a variable pulley which may be opened at will by hand or foot control, with the additional property of automatically lowering the gear ratio when the engine commences to labour. Most existing machines with direct belt drive usually may be readily fitted with this device.

Also on the variable pulley principle the Grado gear may now be obtained in a countershaft form, supplied with a detachable starting handle, and particularly suited to single-geared lightweights.



For converting 1915-18 4 h.p. Douglas clutch drawbolts to a push action—the Burlington Motor Cycle Co.'s reverse action set.

Other variations of this gear include a hand-lever operated engine-shaft pulley with or without a kick-starter. It is claimed for the Grado pulley that, however slack the belt, the inner flange of the pulley exercises a gripping stress that effectively prevents any possibility of slip. Two hours is the time that the makers calculate as necessary to fit the countershaft model.

There are at least two more well-known variable pulley gears sold as separate units that must not be forgotten. The "Pneu," manufactured by the Pneu Auto-Pulley Co., 22, Bassborough Road, Birkenhead, ranks among the very simplest of these devices; but the Mabon gear, sold by the Mabon Motor Works, Woodside Gardens, Bruce Grove, Tottenham, N.W.17, is also popular in its ball bearing countershaft form, when it is fitted with a tank lever control.

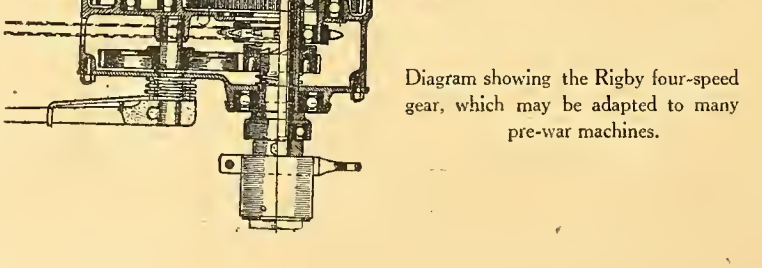


Diagram showing the Rigby four-speed gear, which may be adapted to many pre-war machines.

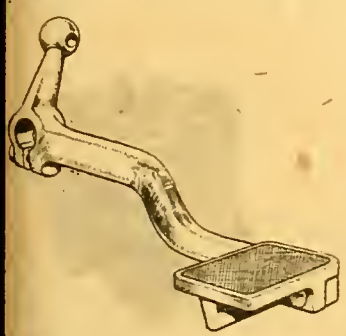
Those who require something more elaborate are catered for by several gear boxes people, notably Messrs. Knowles and Ramsbottom, Coddington St., Blackburn, who make the Rigby or Simplex two and four-speed gears, especially for single-geared

Winter Work in the Garage.—

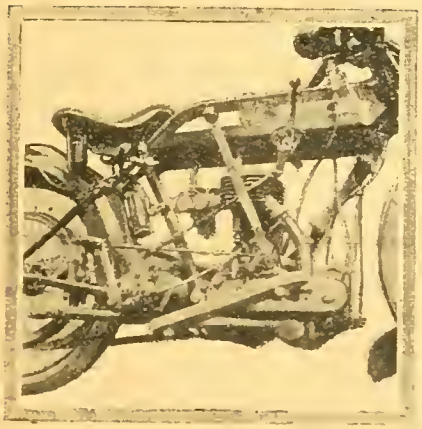
machines of pre-war manufacture. The two-speed model is on the expanding clutch principle, while a very interesting four-speed model combines this principle with a dog clutch box, giving two further ratios. Thus, on the latter type there are two direct and two indirect drives, and a simple kick-starter has now been incorporated. Both models are well designed, well made, and thoroughly sound propositions, and we should imagine that, say, an old Triumph (*circa* 1910) should be a very fascinating mount when equipped with either. The conversion in such a case is a simple task to a good mechanic.

Suspension is another item which might receive attention by the owner bent on improving his old machine. L.M.C., Flexa, and Mabon spring seat-pillars (all described previously in these columns) may be readily fitted to existing motor cycles, and are undoubtedly very efficient substitutes for a fully sprung frame.

So many ex-W.D. machines are there on the road nowadays that it is not surprising that special attention is being given to various details that tend to bring such machines up-to-date. A clutch-operating conversion set for 1915-1918 4 h.p. Douglases is a typical example of a small but very neat modification, which mainly applies to ex-W.D. models. It eliminates the draw bolt, which, unless carefully used, was rather apt to give trouble, substituting a short stiff push rod. At the inside of this rod there are two pawls pivoted about their centres which thus convert the push motion of the rod into a pull on the clutch. To obtain this pushing action, the arm of the quick threaded portion is reversed, and then connected to the clutch pedal in the usual way. The sole concessionnaires for this fitment are the Burlington Motor Cycle Co., Ltd., 7, South Side, Clapham Common, London, S.W.4.



Mills's pedal for Sturmey clutches.



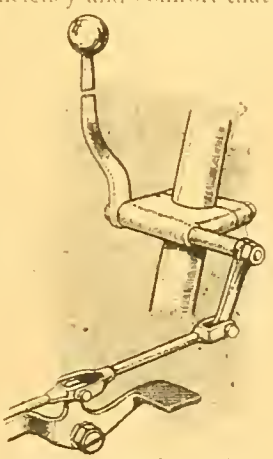
A simple hand lever control attached to the B.S.A. clutch pedal; it does not involve any alterations to the existing control, and is sold ready for fitting by the Ixion Motor Mfg. Co., Great Tindall Street, Birmingham.

This firm also makes a clutch pedal auxiliary to the hand control on Sturmey-Archer countershaft gear boxes. A. Uppadine, Longford, Coventry, is another to design a pedal on similar lines, which we illustrate. It will be noticed that it is only necessary to withdraw the existing clamping screw of the worm-operating lever and replace it with a long heel-operated pedal. Heavier and more elaborate, the Mills pedal nevertheless is on the same principle; the manufacturer in this case is Cyril S. Mills, Trent Lock, Sawley, near Derby.

Owners of machines with foot clutch operation only, who desire the dual system of control, are catered for by several enterprising firms. For example, B.S.A. clutches may be adapted for hand control by the hand-operated lever sold by the County Cycle and Motor Co., 307-314, Broad Street, Birmingham. The Ixion Motor Manufacturing Co., Great Tindall Street, Birmingham, is another firm which markets a somewhat simpler conversion set.

Apart from the improved efficiency and comfort that such conversions and adaptations as we have indicated will provide, there is a subtle satisfaction in possessing a "new-old" machine. For it is very often, in some respects, also a unique machine; and often, too, such modernised mounts are not one whit behind the equivalent capacity machine of to-day in pulling power or reliability.

Finally, the pleasurable sensation of achievement more than compensates for a few hours' toil in the garage at a season when, the same time might be wasted by the fireside.



Hand control set for B.S.A. clutches made by the County Eng. Co

MID-WEEK TRAFFIC.

THE Autocar recently contained a sunrise to sunset census made on February 1st of traffic on a busy trunk road. Although its purpose was mainly to arrive at some reliable data as to how the new licensing regulations were being complied with, some of the tabulated figures are of quite general interest. For example, while more than one hundred and eight cars and a similar number of lorries passed by, only fifty-two motor cycles and sidecar outfits appeared during the day. We venture to think that a Saturday afternoon or Sunday census would almost have reversed these figures. Again, solo motor cyclists at that date had apparently been just as lax as car owners in the matter of obtaining their licences (only 68% of each class exhibited the necessary blue card). 89% of the sidecarists, however, were licensed, and the only three three-wheelers were all conscientiously adorned.

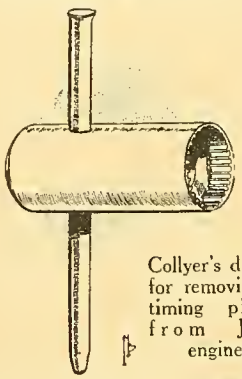
It is rather surprising that during the day only 106 pedal cycles (approximately double the number of motor cycles and sidecar outfits) were observed. Evidently the mechanically-propelled two or three-wheeler is ousting the ordinary bicycle to a greater extent than is generally imagined.



Removing the Small Timing Pinion.

A useful tool for garage owners and those motor cyclists who do their own repairs is one lately brought out by P. F. Collyer, 78, Snell's Park, Upper Edmonton, London, N.

It is a tubular spanner, the end of which is shaped like an internally toothed

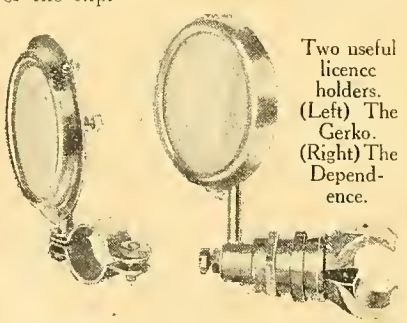


Collyer's device for removing the timing pinion from J.A.P. engines.

gear wheel, the object of which is to engage with the teeth of the small timing pinion on the J.A.P. engine, the small timing pinion of which is screwed on to its shaft. By means of the tool illustrated the timing pinion may be removed without fear of damage.

Two Licence Card Holders.

Made by the Great Eastern Rubber Co., 31, Norton Folgate, London, E.1, the Gerko licence card holder is a neat example of the conventional pattern of this fitment. One nut, however, is saved by the supporting arm also acting as a screw for the clip.



Two useful licence holders. (Left) The Gerko. (Right) The Dependence.

An exceedingly well-made licence holder provided with a very ingenious form of fitting is the Dependence, made by Messrs. J. and R. Oldfield, Ltd., 215, Shaftesbury Avenue, W.C.2.

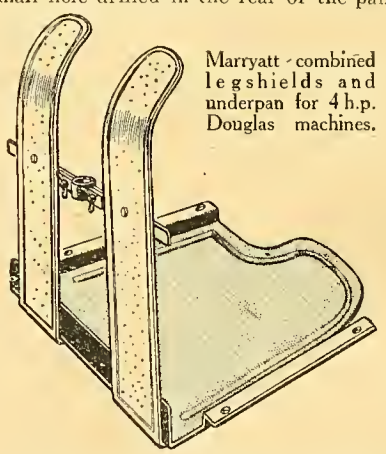
The clip works on the same principle as the jaws of a drill chuck, providing an unobtrusive but strong fastening to any tubular part of the machine.

A Douglas Legshield and Underpan.

There is a distinct tendency nowadays to design accessories specially for various popular makes of motor cycles. The fitments described below are applicable only to Douglas machines.

A neat and simply constructed accessory, which combines a pair of metal legshields and an underpan, is marketed by the Marryatt Engineering Co., Lurgan Street, Great Church Lane, Hammersmith, London, W.

Two models are made—one for the 4 h.p. Douglas machine, the footboards of which permit a simple method of attachment for the underpan by bolts passing through holes drilled in the side flanges. The second model, for the lightweight machine, is attached by a spring clip to the frame at the rear, whilst the front end is held by clips fitted around the forward footrest spindle. The side flanges are, of course, eliminated, and an oil trough drains the lubricant to a small hole drilled in the rear of the pan.



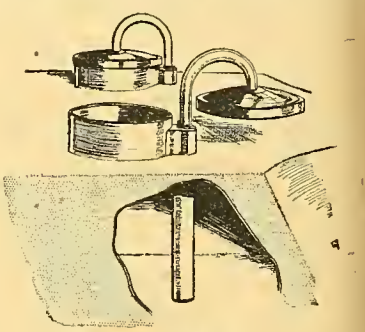
Marryatt combined legshields and underpan for 4 h.p. Douglas machines.

The legshields are attached beneath the front of the underpan, and are held in position by a cross member fixed at the centre to the front down tube of the frame.

Petrol Tank Filler Caps.

The filler cap of a motor cycle tank is a fitting which has undergone numerous improvements, but there is undoubtedly more work to be done in this direction. The experienced motor cyclist is well aware that filler caps should be amply large, should be leak-proof, should be incapable of being lost, and yet easily detachable. The latest invention of Mr. A. C. Davison, 163, Arlington Road, Camden Town, London N.W., the well-known tank maker, apparently adequately answers these requirements.

The actual cap, which is cork-lined, is carried on an inverted U shaped tube held down by a spring in an outer tube let into the tank. To detach the filler cap, it is pulled up sufficiently high to leave it clear of the orifice over which it fits. At the same time, a tongue on the small tube is raised so as to be sufficiently clear of the groove in which it rests to allow it to be turned to one side. The filler cap may now be swung clear away, and will not re-engage until it is dead square with the orifice.



Davison's filler cap.

In the sample tank submitted to us the two filler caps were placed fore and aft, and not side by side, as shown in the illustration. The idea strikes us as being ingenious and practical, while it is an undoubted boon when thick gloves are worn.

A Licence Holder for the Tank.

Quite a number of our readers have expressed their disapproval of licence holders which have to be fixed to the machine by means of clips, and others have stated that they consider the tank the ideal place for the new accessory. Very few makers have considered this position, perhaps for the reason that it is more a matter for the tank maker than those providing for accessories. However, Messrs. J. B. Brooks and Co., the well known saddle firm, have introduced a holder to be fixed by straps to the tank. A leather back prevents the holder from damaging the enamel. This fitment is made in polished aluminium, and sells complete for 7s. 6d.

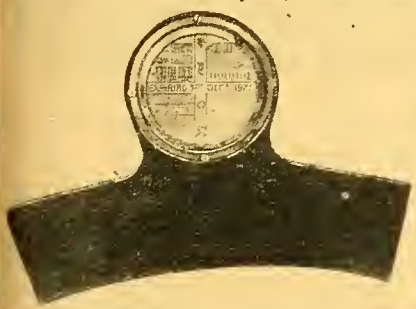


The J. B. Brooks licence holder for the tank.

Among the Accessories.—

Licence Card Holders.

An ingenious licence card holder has been brought out by Messrs. C. Bryant and Co., 34 and 35, Mortimer Market, Tottenham Court Road, London, W.C.1, which serves a dual purpose. Incorporated with the front number plate, it embodies

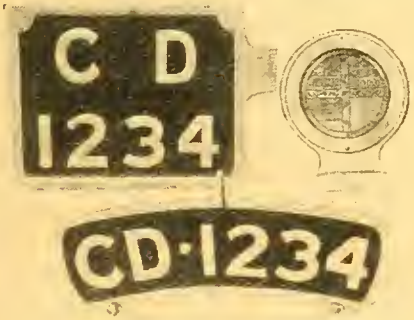


Bryant's licence holder and number plate combined. The reverse side takes the A.C.U. badge.

on the left-hand side the licence card holder, while on the reverse side the A.C.U. badge is displayed. This makes a remarkably neat fitting. We have suggested to the makers, however, how the two portions of the licence holder could be secured without the aid of screws, which would greatly simplify cleaning.

Provision for Licence Holder and Tail Lamp.

There is no doubt that cast aluminium number plates greatly improve the appearance of a motor cycle. Those lately brought out by Messrs. F. T. Turpin's



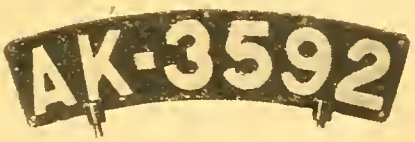
Turpin's aluminium plates with provision for fixing licence holder and tail lamps on the front and rear plates respectively

Motor Depot, 27, Preston Road, Brighton, are certainly attractive in appearance. The front number plate has lugs welded on to it for attaching directly to the front mudguard, and may be had provided with an attachment to which a badge may be fixed, so that a neat aluminium licence holder can be screwed on to it. This licence holder is practical in design. The two portions are held together by brass countersunk screws which barely project through the face plate. Reverting to the number plate, it will be noticed that the front number plate is curved, following the contour of the front guard, while there is a lug cast on the rear number plate, to which an electric or acetylene rear lamp can be fitted.

Aluminium Number Plates.

We illustrate here a very neat aluminium number plate, which is the product of Messrs. Ward Motors, Ltd., 32, Hustler Street, Otley Road, Bradford.

The letters and numbers are raised in bold relief, and are clearly indicated,



The aluminium number plates produced by Ward Motors consist of two plates riveted together.

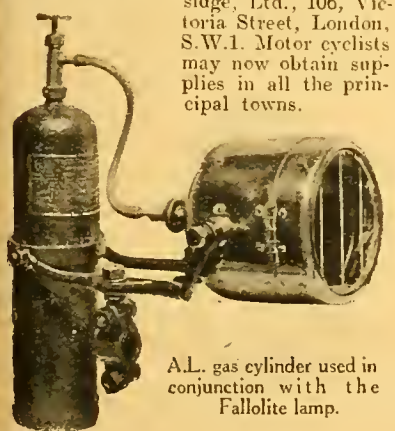
since the background is enamelled black. The two sides are held together by a number of rivets, whilst, at the purchaser's request, two substantial lugs may be securely fixed to the bottom of the plates.

DISSOLVED ACETYLENE.

An Always-ready System which gives the Gas Lighting Set many of the Advantages of Electricity.

THERE is no more satisfactory form of using acetylene gas for lighting purposes than by carrying it in steel cylinders. The gas stored in these cylinders is free from moisture, and consequently there are no impurities or water which can enter the supply pipes and clog the burners. These facts have been known to many motor cyclists for a long time, and it has always been a source of wonder to us why the use of these cylinders has not become more universal.

It was not, however, until the present time that any firm has tackled seriously the important question of distribution. Dissolved acetylene in steel cylinders has been taken up by Messrs. Allen-Liversidge, Ltd., 106, Victoria Street, London, S.W.1. Motor cyclists may now obtain supplies in all the principal towns.



A.L. gas cylinder used in conjunction with the Fallolite lamp.

The company have wisely come to the conclusion that there is more business to be done with motor cycle owners than with car drivers, and the needs of motor cyclists, therefore, have been carefully studied. The A.L. cylinder is of solid drawn steel, the bottom end of which is spun over. It is filled with a preparation known as Kapok, a vegetable fibre, and a certain amount of acetone, with the object of breaking up the gas in such a manner as to render it perfectly safe under compression. This method of storing acetylene has been exceedingly popular in the United States, but it has never been possible to import the Prestolite cylinders, as they are known over there, into this country because the pressure of the gas has exceeded that allowed by the Board of Trade.

What it Costs.

The A.L. cylinders are sold in two sizes, the five cubic foot size for ordinary motor cycles, 3in. in diameter 10½in. long, weighing 5½ lb., and sold full of gas and including a valve, key, and pressure gauge for 80s. A recharge for this cylinder costs 4s. The ten foot cylinder for sidecar outfits has a diameter of 4in., a length of 12½in., weighs 8 lb. and costs 90s. It is also sold absolutely complete and a recharge costs 6s. Of these two sizes, the smaller cylinder gives fifteen hours light with a 14 litre burner, while the larger cylinder gives about thirty-five hours light. The average tail light burner, which is also used in some sidecar lamps, consumes 3½ litres.

Messrs. Allen-Liversidge, Ltd., have also taken over the Fallolite lamp, which, our readers will remember, is fitted with a Bunsen burner, the flame of which impinges upon a special pastile composed of rare earths. It gives an extremely brilliant light, and with this burner the cylinders have double the burning capacity of that of an ordinary burner. It should be noted that when dissolved acetylene is used the cylinders should be either vertical or inclined at not greater angles than 45°.

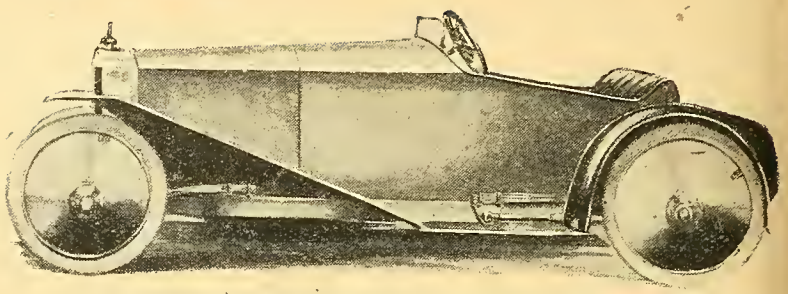


A.L. gas cylinders for solo and sidecar machines. The smaller cylinder has a 15 hr. capacity, and the larger 35 hr.

New Proprietary Units.

Single and Twin M.B. Two-stroke Engines. Two and Three-speed Gear Boxes.

Also a New Cycle Car.



The aim of the makers of the Wonder cycle car is depicted by our artist after examination of the working drawings.

CONSIDERABLE experiment has been made with large capacity two-stroke engines. From their behaviour in the big trials it is apparent that the higher powered two-stroke engine is capable of developing more power and attaining speeds greater than was at first generally supposed.

In the case of a twin-cylinder two-stroke engine, some difference of opinion has been expressed with regard to the disposition and relative angle of the two cylinders.

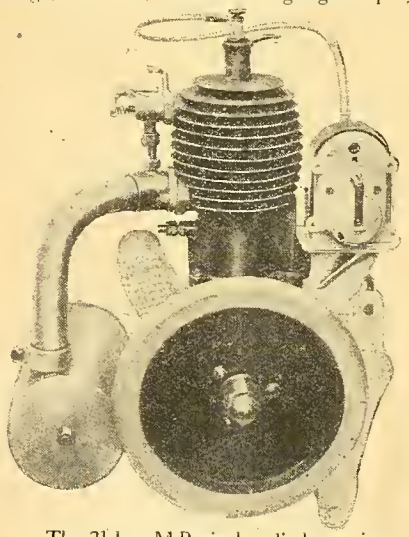
Messrs. Burts, of 245, Hammersmith Road, London, W.6, who have made prolonged experiments with a 2¼ h.p. single-cylinder two-stroke have selected the vertical side-by-side cylinder arrangement for their new 492 c.c. two-stroke, and since the larger model will be identical with the existing unit, with the exception, of course, of the addition of an extra cylinder, a brief description of the 2¼ h.p. unit will serve to illustrate the design of the new engine.

Single-cylinder Model.

The lightweight M.B. engine has a bore and stroke of 67×70 mm. (246 c.c.). It is of the three port type, and in most respects adheres to general two-stroke practice.

The cast iron cylinder is machined in the head, whilst great care has been taken to ensure a constant thickness of metal throughout its length.

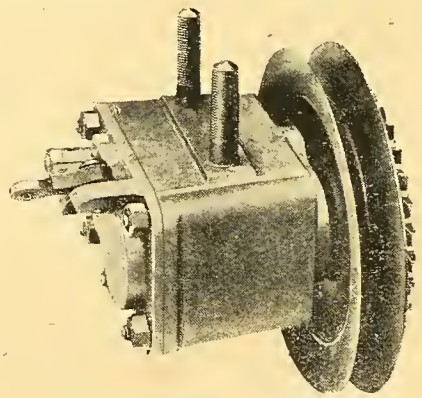
A cast iron piston, fitted with two rings, is used, whilst the gudgeon pin, which is a taper fit in the piston, is provided with a double spiral oil-way and an annular groove in the centre. This latter ensures that the spiral is supplied with oil should the pin turn.



The 2¼ h.p. M.B. single-cylinder engine. Two of these units are used to form the two-cylinder cycle car engine.

Attention to Lubrication.

The lubrication system has received considerable attention, which is essential, since the makers claim an exceptionally high r.p.m. A single oil union only is used, and directs the lubricant to a port in the cylinder wall which coincides with the circular groove cut round the piston when it is at the bottom of its stroke. Thus the oil is fed to the piston and cylinder wall at this point, whilst directly the piston rises, the oil is directed down an oil-way drilled in a boss cast on the cylinder and thence to a circular oil-way cut in the cylinder base and top of the crank case respectively.



M.B. two-speed gear box, which follows standard practice.

This groove is connected with holes drilled in the crank case walls, which communicate with the crankshaft main bearings. The crank assembly consists of two hardened shafts to which the internal flywheels are riveted. An external flywheel is also fitted. The two halves of the crankshaft are balanced and secured together by means of the crank pin.

The fitting of internal flywheels reduces the cubic capacity inside the crank case, which is an important factor in two-stroke design. In order to ensure a pressure tight crank case, two felt washers are fitted to the outer extremities of each main bearing. The usual type of compression release valve is fitted. The gas, however, is directed through a by-pass to the exhaust pipe. A chain-driven C.A.V. magneto is fitted.

The 492 c.c. twin engine is, as previously stated, similar in specification to the small unit.

Amongst the other products of this firm are the M.B. two and three-speed gear boxes. The construction follows standard practice, whilst the class of workmanship is good. The main shaft runs on two Hoffmann ball bearings, and the lay shaft on two phosphor bronze bearings. The gear change is effected by means of sliding dogs.

The gear ratios of the two-speed box are—top 5.8 to 1, low 10.2 to 1, whilst the ratios of the three-speed box, which is fitted with a clutch and kick starter, are top 6 to 1, middle 10½ to 1, and low 15½ to 1.

New Lines on the Stocks.

Another product which it is proposed to manufacture when the market resumes its normal condition is a small two-seater cycle car which will incorporate the twin two-stroke engine and the three-speed gear box units. It is christened the Wonder cycle car.

The illustration provides an idea of the appearance of the body. The transmission will be by chain from the engine to the countershaft, and thence by a flat belt to a large pulley on the back axle.

This pulley and that fitted to the gear box will be provided with a cork lining. We hope to be able to give a description of this machine in the near future.

AN ALL-WEATHER HELMET.

THE helmet illustrated appears to offer very certain advantages for all-weather riding. A speciality of Mr. H. Bednall, 55, Sutton Crescent, Walsall, it is made of soft leather lined with wool, and includes a flap in which are inserted two celluloid eye-pieces; this arrangement provides a very convenient type of goggle which cannot be lost or misplaced.



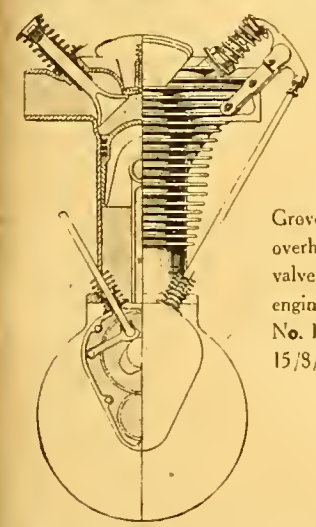
The Bednall helmet with eye-flap raised.

RECENT PATENTS.

REVIEWED BY B. H. DAVIES.

Cooling and Valve Gear.

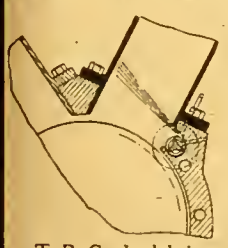
Capt. H. F. Groves is of opinion that existing air-cooled engines are still under-cooled, and that a "belster" on the cylinder head will mend matters. It would be interesting to know if his patent is based upon actual research or net. At any rate, he holds that a fan-shaped pad or pack of copper fins, secured to the centre of the cylinder head by a finned nut, will improve matters. His fins are so heavily splayed that they compel him to incline the axes of his overhead valves at an angle to the axis of the cylinder—an inclination which is further desirable because it tends towards a hemispherical combustion chamber. He has devised a special rocker and tappet system to operate his inclined valves, and the rockers are mounted on roller bearings. The engine is evidently of the "hetstuff" *de luxe* order.



Groves's overhead valve engine. No. 150,520. 15/8/19.

Equalising Oil Supplies.

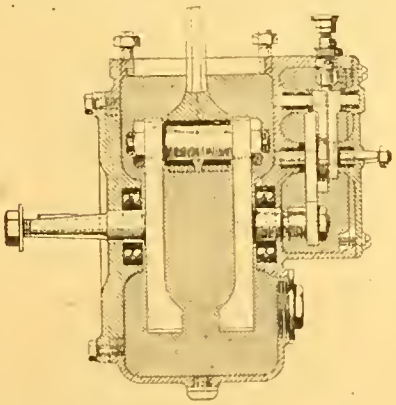
Mr. T. R. Castle suggests a novel method of oiling the front cylinder of a V twin. As the drawing suggests, the rear wall of this cylinder is not easily furnished with its fair share of the lubricant. He provides an oil channel at the base of its front wall, and in this channel he mounts an oil thrower, driven by spur gears off the crankshaft, and equipped with any suitable form of paddle or vane calculated to fling oil against the back wall of the cylinder. I much doubt whether such herculean measures are really necessary: surely a drip led to the point at which his oil splash hits the wall would obtain a similar effect much more simply?



T. R. Castle. lubrication. No. 139,978. 18/6/19.

Novel Crank Case Assembly.

Messrs. Malcolm think it desirable that we should be able in emergencies to take out our crankshafts, leaving the crank case in position in the frame.

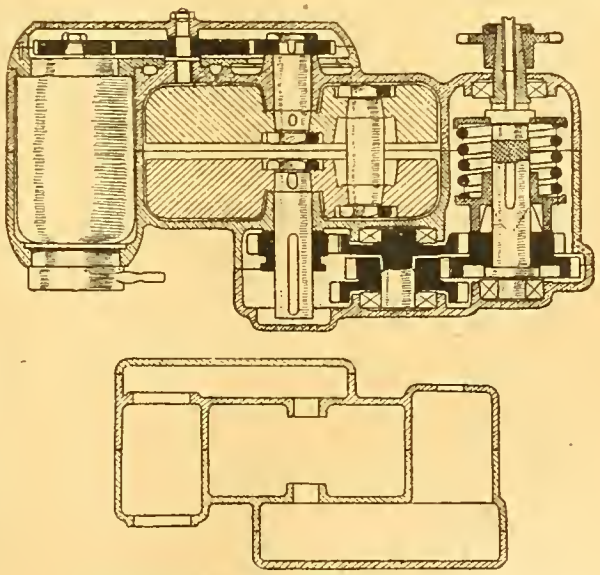


W. Malcolm and J. C. Malcolm, engine design. No. 139,980. 19/6/19.

Given an engine of the outside flywheel type, they mount the main ball bearing on the flywheel side in a detachable cover plate. The nut securing the crank pin to the crank web on the timing side is unscrewed by a box spanner inserted through a screwed plug in the crank case. The flywheel shaft, crank web, and crank pin are then withdrawn from the driving side, while the connecting rod and piston can be taken out if the cylinder is lifted. Can the average rider be trusted to re-assemble these parts satisfactorily?

Unit Construction.

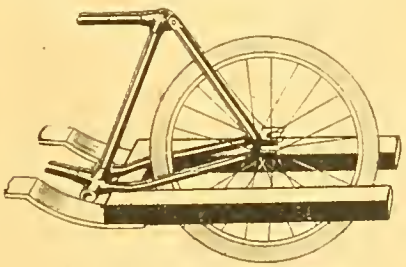
Signor Garelli, of Milan, is out to provide a cheap, neat, and compact power unit for motor cycles, which shall be cheap to manufacture, have a smooth exterior, and admit of easy adjustment. By using the Mea magneto, which has a cylindrical exterior, he contrives to pack his parts into a very neat housing, shown sectionally in the lower drawing. This section is taken on two lines forming a right angle in the vertical plane. The upper sketch indicates how the magneto, gears, clutch, and countershaft are arranged round the two-stroke single-cylinder engine.



Garelli's power unit. No. 135,497. 18/11/18.

Petrol Tank Position.

Jorgen Mygind, of Denmark, appears to have money to burn. He has gone to the trouble of patenting a U shaped petrol tank suspended below the chain stays on each side of the back wheel. His excuse for this eccentric construction is that it gives extra stability by lowering the centre of gravity, and further diminishes the wind resistance. If I understood Danish I would visit this inventer in order to hear his remarks after a heavy sideslip with such a vulnerable tank. He does not say whether he proposes to use an Autovac or exhaust pressure in order to feed his carburetter from such a low tank. In either case, I make a friendly



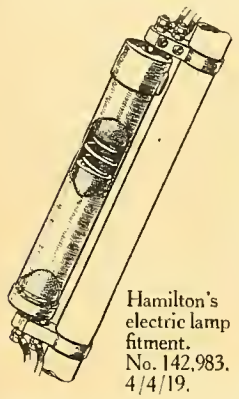
Mygind's petrol tank. No. 146,767. 28/9/19.

Recent Patents.—

appeal to him to abandon the design of motor cycles and to devote himself to producing butter.

Dry Battery Carrier.

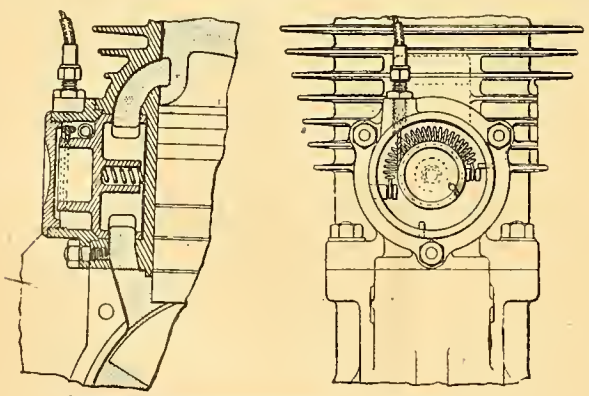
I can only find one snag in Mr. C. J. Hamilton's patent carrier, designed for containing two dry batteries for lighting purposes. The case is cylindrical, and is carried on the seat-pillar tube by two pinclips, similar to those which are now universally used for mounting tyre inflators. The electrical details are so cunningly arranged that the head and tail lamps are switched on and off by rotating the carrier in its clips; and the thoughtful inventor has even arranged that the head lamp may be switched on separately when a rider desires to economise current in the apparent absence of the police. Moreover, there is no need to detach any of the wiring when changing a battery. If only dry batteries could be relied upon to give a powerful light for a long period we need have looked no further for an ideal lighting system. As it is, the well-known deficiencies of the dry cell limit the practical utility of the invention.



Hamilton's electric lamp fitment. No. 142,983. 4/4/19.

Throttling the Transfer Port.

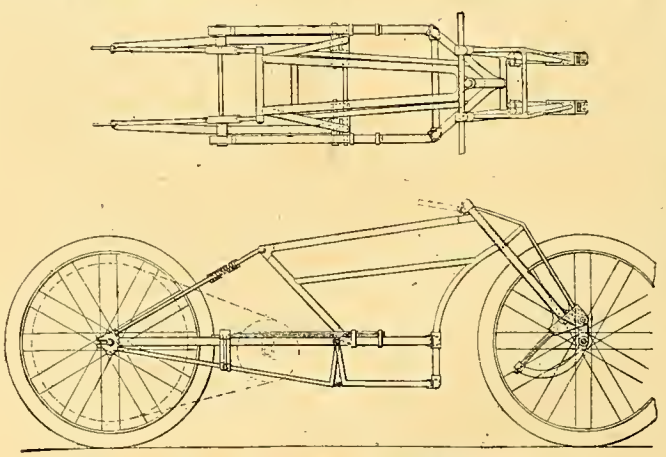
It is well understood by two-stroke enthusiasts that carburation presents special difficulties with this type of engine. Viewed as a pump, the crank case is a somewhat bulky and amorphous chamber. The timing of the inlet and transfer ports is limited in range, as compared with the possibilities of the poppet valve. Mixing with the exhaust gases is a serious problem. Mr. Cecil Robotham's invention attempts to minimise the first of these difficulties by transferring the throttle to the transfer pipe, in which he places a barrel type of throttle, opened by a Bowden wire, and returned by a coiled spring. He hopes by this means to get a larger charge into the crank case at low speeds than will be transferred to the combustion chamber, and hopes to reduce the tendency to four-stroke by maintaining the maximum crank case pressure for a longer period of time than is usual. Has he devised a carburetter which will give a perfect mixture at all engine speeds when attached to such an engine? And, if not, does he consider that riders will put up with an extra control?



Robotham's two-stroke engine. No. 144,468. 7/6/19.

De Luxe Springing.

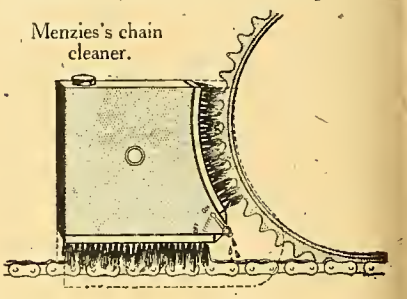
Mr. J. H. Anscombe has worked out a completely sprung frame, which very possibly furnishes extreme comfort on the road. I would, however, venture to draw the attention of many recent patentees of spring frames to sundry vital facts which are too often ignored. Rightly or wrongly, many practical riders are of opinion that a rigid frame conjoined with *(a)* big tyres, *(b)* a first-class saddle, and *(c)* a first-class fork, affords approximately the same road comfort as the best spring frames which have been manufactured up to date. The combination of big tyres, good fork, and good saddle is a little heavier and a little more costly than the sort of specification which was current in, say, 1911; but it is not a great deal heavier nor a great deal more costly. Before cerebral tissue and Bradburys are lavishly exhausted on perfecting and protecting any given spring frame, the inventor should surely be pretty certain not merely that his frame is comfortable, but also that it is cheap to make and light in weight. Mr. Anscombe's frame, illustrated herewith, strikes me as isolating the ideal of comfort too exclusively. It can hardly be light. It can hardly be cheap. One is sorry to press these sordid commercialities, but they dominate all motor cycle inventions, and are too often forgotten. One seldom sees a rear-sprung frame layout pivoted so far forward of the countershaft; the front chain tension will present problems in attaining constancy.



Anscombe's motor cycle frame. No. 150,227. 19/1/20.

A Valet for the Chain.

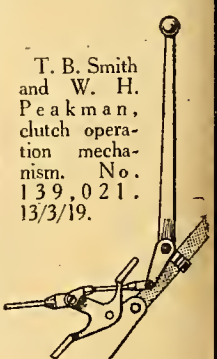
Mr. A. S. Menzies has provisionally protected, and is anxious to sell, a device for cleaning and oiling chains whilst they are at work. A small oil reservoir, fitted with drip valve and stop cock, is mounted immediately forward of the rear sprocket. Brushes sliding in grooves remove dirt from the chain and sprocket respectively, whilst an adjustable supply of oil drips on to the cleansed chain before it engages the cleansed sprocket. Where an enclosed chain runs in an oil bath no such apparatus is needed. Where the chain is naked, it is questionable how far the dirt swept off by the brushes would be thrown clear, especially as side screens are fitted to prevent dirt from the road reaching the lower brushes. Presumably Mr. Menzies has satisfied himself on this point. Encased rear chains inspire little affection either in designers or users, and there would be a good demand for a device which kept naked rear chains in good condition for long periods of use.



Menzies's chain cleaner.

Dual Clutch Control.

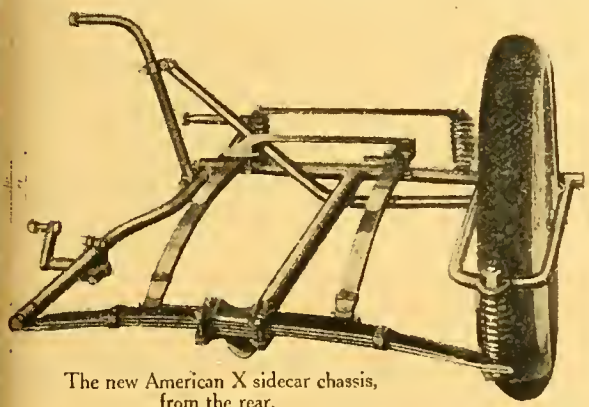
Messrs. Smith and Peakman, like many riders, have been excessively annoyed by the rocking type of clutch pedal, which on occasions compels the driver to hook his boot under the pedal plates to get the clutch right in or right out. I had supposed that this evil design had joined the dodo in oblivion, but the patentees disagree with me, and propose the interconnected hand lever shown in the sketch. Dual clutch control is becoming more popular lately, however.



T. B. Smith and W. H. Peakman, clutch operation mechanism. No. 139,021. 13/3/19.

AN AMERICAN SIDECAR CHASSIS.

FROM first glance at the illustration given here of the American X sidecar, one would conclude that the view was taken from the front end of the chassis, and it is first necessary to get accustomed to the idea that the transverse spring is at the rear before the principle of the construction can be grasped. Apparently, the only rigid member of the frame is the tube which is fixed longitudinally with the machine. The *front* tubular member, to which is connected the wheel frame, is free to swing on a bearing on the longitudinal tube, and carries the coil springs which support the front end of the body and a centre tube extending rearwards. On the end of this are (1) a transverse stay supporting the ends of the quarter-elliptic springs which extend from the rear of the body and (2) a long transverse spring, the ends of which are connected to the front ends of the wheel frame and the rigid member respectively.



The new American X sidecar chassis, from the rear.

Although patented in Great Britain by the American company, this chassis may not be available in this country, as it is the usual practice for American machines to be imported *sans* sidecars.

This design again indicates the popularity of flexible chassis abroad, although we have many spring wheel sidecars.

A 110 lb. TWIN RACER OF 1905.

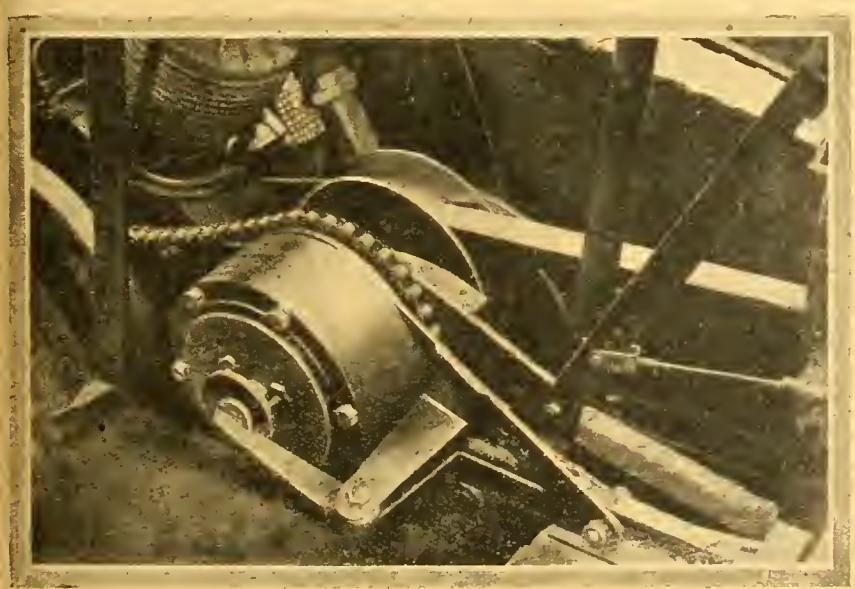
THE rider shown in the accompanying photograph is probably unknown to most of our readers, though he won the first speed event ever held over British roads. Mr. J. S. Campbell, of Greenock, proved the victor in the eliminating trials held in the Isle of Man to select a British team of three for the 1905 International Cup Race. The course was seven laps of a twenty-five-mile triangle, with Douglas, Castletown, and Ballachraine as its apices, and Campbell's 6 h.p. Ariel covered the 175 miles in 4h. 9m. 36s., H. A. Collier being second on a Matchless, and C. B. Franklin third on a J.A.P. The British team were outclassed in the International Cup Race, held at Dourdan a few weeks later, the Austrian Wondrick on a Laurin-Klement machine scoring an easy victory over the French.

A glance at Campbell's machine will rouse surprise that such an outfit should have been capable of sustained speed. Under the absurd rules then current, the total weight was limited to 110 lb. Note the Watawata belt, drilled pulley, cranked out rear forks, rigid front forks, and, above all the accumulator on the front of the machine. Even in those early days safety helmets were worn. Six months after the race Campbell had a bad smash, and retired from racing; otherwise his name would doubtless have been a household word, like those of the two men who hunted him home in the Isle of Man.

The small diameter of the tyres is also noticeable, while those who fear the effects of vibration upon their lighting accumulators, which are carried on modern large tyred machines, may well reflect that the batteries were strapped to the rigid front fork girders, and so take hope accordingly.



The winner of the first official speed event held on British roads—J. S. Campbell. His machine was a 6 h.p. Ariel weighing only 110 lb.



The Ballard epicyclic reverse gear for Blériot-Whippet and Morgan cycle cars fitted to one of the former vehicles.

A REVERSE FOR BLERIOT-WHIPPET CYCLE CARS.

MANY owners of a Blériot-Whippet have found the need for a reverse, and even though the vehicle is very light a reverse gear is often necessary for the purpose of manœuvring in a confined area.

The question of undertaking this work has received the careful study of Messrs. Ballard's Motors, 92, Gloucester Road, South Kensington, London, S.W., and they have evolved an epicyclic gear fixed to the countershaft and controlled by a lever working in the same rack as the clutch and hand-brake lever. The actual engagement is effected by means of dogs.

Naturally when running in the forward direction the epicyclic gear is completely idle, as it rotates as a solid disc. It seems that it might also be possible to incorporate a specially low emergency gear in a device of this kind, which would come in very handy at times. The actual diameter of the gear illustrated is 6⅜in., but this will be reduced in all future models to 4½in. It is also intended to fit this reverse to the countershaft of a Morgan.

LETTERS to the EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

PRICES OF CARBIDE.

Sir,—I wonder if one of your readers can tell me why I have to pay 1s. 2d. for a 1 lb. tin of carbide, while an advertiser in *The Motor Cycle* offers it at 31s. per cwt. (or 3.3d. per lb.). Allowing for tins, "tinning," and the retailer's profit, surely 1s. 2d. is a bit "thick."

CARBIDIER.

Birmingham.

HOLLAND V. GREAT BRITAIN.

Sir,—The International Trial with Holland is to be held again this year, this time over here. To be fully representative, it should be styled Holland (the challengers) *v.* Great Britain, and the best riders from England, Scotland, and Ireland invited to form our team. As a member of the organising committee, I propose to bring this point forward, and should be glad to have a note from any of your readers who agree with me, with suggestions as to possible members of the team.

FRANK A. HARDY.

COURTESY THAT MAY BE DANGEROUS.

Sir,—Referring to the recent paragraph in "Current Chat," I have experieneed this eourtesy (of dimming glaring head lamps) several times in the country roads where I live, but on one occasion, when it was extended to another, it was nearly my undoing.

I had just turned out to overtake a horse and trap, when immediately on top of me I saw the dull glow of doused lights, and I had a very narrow eseape of a "head on" eollision. The driver of the car had evidently doused his lights for the benefit of the horse and trap in front of me, a slight bend in the road preventing my seeing the head lights before they were "off."

If aeeidents of this kind are to be avoided, it will be necessary to insist on all ears having small subsidiary lights.

Brentwood. F.R.

BRITISH MACHINES WANTED IN SWITZERLAND.

Sir,—As a reader of your splendid journal, I know I am bringing to notice a much discussed question.

Out here one can purchase four kinds of machines only—two of these are American and two are Swiss. It seems to me a great pity that the English manufacturers are unable to realise that there is sueh a eountry as Switzerland. If some enterprising firm would send along a medium-powered, reliable machine, capable of taking a sidecar, I do not think it would be disappointed in the way in which its goods would sell.

Also, there is a chance not to be missed for a machine like the Brough Superior. The Swiss are good sportsmen, and love speed. It is depressing for an Englishman to watch speed trials in which England is not represented.

Why do not the British manufacturers wake up?

Geneva. S. N. TURNER.

WHERE WILL THE MONEY GO?

Sir,—It will be interesting to know the total revenue derived from the new scale of motor taxation, presuming that the authorities publish the figures at a later date when the majority of taxes have been paid.

I am told that all money collected by this taxation has to be spent either on the maintenance and repairs of existing roads or towards the construction of new roads.

It seems only right that this should be so, but the question which now exercises the minds of so many motor cyclists is whether some councils or boroughs actually intend either at once or at a later date to commence repairs.

Most of us would like to know whether any effective pressure could be brought to bear on those authorities who persist in adopting a "nothing doing" attitude whenever the question of road repairs is raised, for it is certain that practically all of your readers can name stretches of road where the surface is either very poor or similar in condition to the road in the New Forest, a photograph of which appeared in a recent issue. Unfortunately, this type of road is only too common at the present time.

I should like to know whether we are to get any return for the considerably increased premium we now have to pay for the privilege of being allowed on the road.

Chorley Wood. PAGHALED WALLAH.

CAUSES OF A SLIPPING CLUTCH.

Sir,—In your issue of February 3rd, under "Questions and Replies," a case of slipping in a clutch lined with Ferodo friction discs is mentioned. May we remark that, while your reply is perfectly consistent, there is still a further and very prevalent cause of slipping, *i.e.*, overloading.

Some motor cycle clutches, originally designed for small power engines, are now fitted to heavy sidecar outfits, and, instead of taking the drive of, say, a 4 h.p. engine on a single machine, many have twice the duty imposed on machines fitted with a sidecar. If such be the case, while frequent cleansing of the friction surfaces will effect something, the only real cure is to increase the number of driving and driven elements. Usually the clutch box does not readily permit of this, but if the clutch is of multi-plate type, a considerable mechanical advantage may be obtained by using thinner linings and additional driving and driven elements; or by taking out a number of the floating linings, and substituting them by steel plates with fabric insertions, an additional number of elements can be introduced. Undoubtedly, it is much better practice to obtain additional driving power in this way than by increasing spring pressure, which, generally speaking, is as high as it is convenient to apply.

FERODO, LIMITED.



A. R. Eglington, roller skate champion, and G. F. Ammon, motor cyclist, who will race at Holland Park Rink on March 19th.



In a modern garden village, St. George's Hill.

FOUR-STROKING.

Sir,—My riding experience does not actually coincide with that of "Engineer" in a recent issue. I am riding a 2½ h.p. Clyno, and from my 6,000 miles on this machine in all weathers, I have found that :

(1.) Over-oiling will upset two-stroking, whether it be by drip feed or petroil.

(2.) On a slight down grade or running with the wind a little more on the throttle will secure two-stroking.

(3.) Four-stroking occurs when crossing a field of pot-holes.

(4.) Four-stroking occurs when the machine is "running on the stand," or stationary with the gears in neutral. Two-stroking can be effected by use of the exhaust valve release.

(5.) When running slowly I keep the air fully open, shutting the throttle until it is nearly closed, and the machine two-strokes beautifully, smoothly, and singularly devoid of noise. On opening the throttle slightly, four-stroking occurs, and still more throttle (usual for ordinary running) produces two-stroking. From this I infer that the four-stroking stage is an intermediate one on the throttle.

When I experience four-stroking on my machine (which is very rarely), I feel that it is just pure "cussedness" on the part of the engine J. W. CLAMP.

MORE ABOUT THE MAGNETO QUESTION.

Sir,—Replying to your correspondent "Broke," we have in stock a brand new Bosch magneto and a B.T.H. Both of these are V twin magnetos (which, of course, is the most difficult type of any magneto to get perfect firing on both cylinders). We shall be pleased to give him a practical demonstration first as to efficiency of spark, and secondly detail and workmanship, of the superiority of the B.T.H. over the Bosch, and the price is equal. We can also supply him with a list of riders who have used these magnetos in all the important trials of 1920. We are still waiting to get one back for repair or adjustment.

EUSTON IGNITION CO.

Sir,—The views expressed in "Broke's" letter in the issue of the 10th inst. are shared by a very large section of the present, as well as prospective, motor cycling fraternity. Numbers of would-be motor cyclists are at the moment deterred from purchasing mainly because of high prices. If the industry, in common with other industries, wants to increase an effective demand for its products, prices must be lowered.

Protection involves artificially inflated prices; otherwise, no protection is afforded. High prices mean restricted demand and output; low prices, increased demand and production. This is an economic truth which the people to-day are beginning to realise. The existing import duty of 33⅓% should be abolished forthwith, as it is a cause of present high prices of motor cycles, and was only introduced as a "war measure."

If the British magneto, generally speaking, is equal to the Bosch, what have our manufacturers to fear, and why the need for protection? As an ex-D.R., I venture to say that a Bosch was a much coveted possession in the Army, and to-day is equally sought after.

Opinion and feeling against protection are very strong amongst motor cyclists, and I for one strongly endorse "Broke's" sentiments, and feel that if introduced permanently into the motor or any other industry it will have disastrous effects for British manufacturers as well as for the consumers. H. MORRILL.

Sir,—I was very glad to read your leader on this question some time ago, and only write because I think there are many others who think like "Broke" does, because they do not realise the unfairness of the position that the mark's rate of exchange places the British manufacturer and workman in.

I have a report in front of me from Germany which states "A workman who is not earning 24,000 marks per year is absolutely starving. On *pre-war* rates of exchange, this works out at £1,200 per annum, say £23 per week, which, for a forty-seven hour week works out at 9s. 9d. per hour.

The British workman, for the same work, is getting, shall we say, 2s. 6d. per hour, and yet with the rate of exchange of the German mark at 1d., instead of 1s., this German labour is being imported into this country at one-twelfth of 9s. 9d. That is, the German labourer is competing with the English at the rate of 9¾d. per hour against the Englishman's 2s. 6d.

If one adds 33⅓% on the 9¾d. one only gets somewhere in the neighbourhood of 1s. per hour; and if we buy German goods the Britisher is still walking the streets.

Speaking for myself, I have run my 1919 8 h.p. Enfield on a British magneto with absolute satisfaction and not the slightest trouble.

This country of ours has got to be top dog commercially, and it is only by everyone insisting on having guaranteed British mounts, British tyres, British magnetos, and British everything that she will get there.

Most British trades have only had two (difficult) years in which to make good since the Armistice, and while some have not yet equalled the Germans, others have overtaken them, despite the fact that Germany has had the experience of a lifetime. R. C. ROGERS.

["Broke's" denunciation of the 33⅓% protective tariff on imported magnetos and his failure to find a British magneto equal to the Bosch has inspired a number of letters, of which those printed above may be taken as representative of all sides of opinion on this question.—Ed.]

AMERICAN v. BRITISH SPEEDS.

Sir,—Mr. L. W. G. Hartley's ingenious explanation of the reason for American times being faster than ours suffers from one obvious defect.

Dry air is heavier than moist air, as any chemist will tell you, because water vapour is lighter than air.

Woolwich. GUNNER.

Sir,—*Re* the recent correspondence regarding the question as to why motor cycle speeds in America are greater than over here, Mr. L. W. G. Hartley, in your issue of February 10th, advanced the ingenious explanation that the air being less humid in America causes less resistance to high speeds than the damp air of this country. I fear, however, that this explanation scarcely "holds water." While it is true that the prevailing atmosphere of most parts of the States is "drier" (in more senses than one) than in England, and that "the chief factor militating against big speed is the resistance of the atmosphere," yet surely your correspondent has overlooked the fact that air containing water vapour is *less* dense than dry air. One has only to consult an ordinary barometer to ascertain this. Hence, since the resistance to motion of a body varies directly as the density of the surrounding medium, the fact that humid air is lighter (or less dense) than dry air ought to assist, rather than retard, the attainment of high speeds.

As a matter of fact, the difference is too small, I think, to be of any real account either way. Probably the true reason lies in the fact that the American speed merchant has always concentrated all his energies on the production of big high-powered machines, since the bad roads, etc., demand such engines. It is noteworthy that no records of any account have been put up, to my knowledge, in any but the "unlimited" class. Such high efficiency machines as our Sunbeam, Norton, etc., in the 500 c.c. class are unknown in America. D.D.B.B.Sc.

Stafford.

CONTINENTAL ROTARY ENGINES.

Sir,—In your issue of January 27th there is a short description of a rotary-engined wheel, the invention of a Finnish engineer.

Will you kindly permit me to state that this does not appear to be a very original idea, since there is already in existence a motor cycle called the "Megola," which has a five-cylinder rotary engine of the so-called opposed type? This machine is being built by a firm of engineers in Munich.

Up to a few months ago the engine of this machine was built into the back wheel, but since then the design has been varied, and the engine is now fitted to the front wheel, whereas the back hub contains an electric self-starter motor. This is of importance, as no clutch is required and no gear box is provided. The engine may be throttled down to a "tick over" without too great a loss of power, owing to the number of cylinders and the even torque. At full speed, the engine makes 3,000 r.p.m.—that is, the crankshaft 2,500 r.p.m. in the opposite direction to the cylinders, which revolve at 500 p.m.

The machine has several other features which have attracted my interest, so that I am very keen on it. Nevertheless, I have decided to stay with a machine of a little more conventional design for this year, and have taken delivery of a Mars. But when the makers of the five-cylinder have gained a little more road practice I feel sure that it will not require a great deal to persuade me to change.

Berlin, W.30. ENTHUSIAST.



D. R. O'Donovan and his Norton, with which he recently beat several records. The sidecar was designed by Mr. Muller, of Vickers, and was built alongside the track at Brooklands. O'Donovan's mean speed was 65·81 m.p.h.

SUMMARY OF CORRESPONDENCE.

In reply to "HC 1724," who wished to buy benzole in bulk, Mr. J. Hale recommends Messrs. J. M. Steele and Co., of Thames House, Queen Street Place, London. Also referring to the question of benzole supply, the R.A.C. gives favourable publicity to a large refinery at Church Path, Mitcham, Surrey.

Several interesting letters on the subject of "Car Practice or Simplicity" are unavoidably held over this week. The majority of these take the viewpoint that the average motor cycle is more reliable and a better hill-climber than the average car.

Inspired by the Rev. J. M. Philpott's letter on "Dog Catching," Mr. J. L. Aitkinson sends us an account of a very similar drama, where, however, a cat took the leading part. Somewhat too gruesome for publication is his description of how the unfortunate tabby had to be forcibly extricated in a very much dead state!

"Patient Pete's" observation in these columns some time ago that "an automatic carburetter will not supply sufficient power from cold to let the rider get away easily" has been productive of several denials from users of various automatic carburetters. A correspondent, signing himself "YX," praises the Cox-Atmos in this respect and on account of its general functioning. Mr. F. Mills, the maker of the Mills carburetter (described in *The Motor Cycle* of October 14th, 1920), points out that on his instrument allowance has been made for this by withdrawing the tapered needle a quarter of an inch out of the jet when starting from cold. He also states that any reader may try this carburetter.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	By post.
"MOTOR CYCLES AND HOW TO MANAGE THEM". The standard handbook on the motor cycle, its care and management. Twenty-first Edition	2/6	2/10
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"TRACING MOTOR CYCLE TROUBLES." A system for tracing motor cycle faults and of remedying them when found. Fourth Edition ..	2/-	2/3
"MAGNETOS." By A. P. Young. A complete treatise on magneto ignition for motor cars, motor cycles, and aeroplanes. Second Edition	4/6	4/10
"TWO-STROKE MOTOR CYCLES." A reliable treatise on Two-strokes, from the rider's point of view. Just published	3/-	3/3
"MOTOR CYCLE REMINISCENCES." By "Ixion," of *The Motor Cycle*	5/-	5/-
"THE MOTOR CYCLE" ROAD MAPS. **England and Wales, Scotland, London** (showing roads into and out of London and avoiding London). Mounted on linen. Set of three, complete in case.	5/6	5/10
"THE MOTOR CYCLE" ROUTE BOOK. With 32 pages of Road Maps of England and Wales, Scotland, and the London District. ..	5/-	5/-

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

QUESTIONS AND REPLIES

A selection of questions of general interest from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects

FACTORS IN CHOOSING A MACHINE.

As a novice I shall be glad of your kind assistance in the choice of a machine for 1921. My present and first mount is a 2¾ h.p. flat twin Douglas. The roads around my home, however, are in a terrible condition, and a heavier machine is indicated; also I shall want a sidecar. My requirements are: (1.) Comfort both for passenger and driver, including reasonable absence of engine vibration. (2.) A machine that can be readily disposed of without abnormal depreciation. (3.) Strength *(vide* remark *re* roads above). Any of the leading single, flat, and V twin outfits come within my present financial scope, and I shall be much obliged if you will kindly indicate which type you think would best suit me. (I assume that there is little to choose between them on the ground of reliability.)—E.G.

If absence of engine vibration is one of your essential requirements, we should recommend that you have a flat twin machine, of which type there are several excellent examples to be had. You would no doubt find, however, that depreciation would be less on the single-cylinder machines, but they are much less comfortable to drive. V twin engines occupy a middle class. They are smoother than the singles, but the torque is not so even as it is in the horizontally opposed engines.

TYRES AND TRANSMISSION.

(1.) I understand that certain 28 × 3in. tyres fit certain 26in. rims. I should be glad to know what makes and sizes of larger tyres I can fit to my 1914 B.S.A. with 2½in. rims? (2.) When I wheel this machine in free engine, a slight creaking noise comes from the back wheel, which I imagine is due to the wide belt rim giving under the tension of the belt as the wheel revolves. Is this usual and due to the additional strain of a wide rim on the spokes? The rim seems to be as securely fitted as the system permits. Will this kind of belt rim be strong enough for sidecar work? (3.) Sometimes when I change down to middle gear there occurs and continues a grinding or rubbing noise such as might occur if the piston or the gear box were dry. Neither is the case, and I cannot locate the trouble. Can you suggest anything? The engine and gear box are in quite good order.—S.A.P.

(1.) 28×3in. tyres can be fitted on 26×2¼in. rims, but they cannot be fitted to 26×2½in. rims. You can obtain 26×3in. tyres to fit 26×2½in. rims. These would serve your purpose, but first make sure that there is sufficient clearance between the wheel and the mudguards. (2.) In all probability, the noise you describe is due to the belt being rather too tight. As you are probably aware, however, the belt rims on the B.S.A. machines are now fitted with separate spokes, and if yours show any signs of coming adrift it might be worth while having one of the new pattern wheels substituted, if you intend taking up sidecar work. (3.) The noise you notice on middle gear may be due to the gear control being out of adjustment, or it may be that the middle gear pinions are rather worn. Without fuller particulars, we cannot tell you definitely what it is.

FITTING A SIDECAR TO A LIGHTWEIGHT.

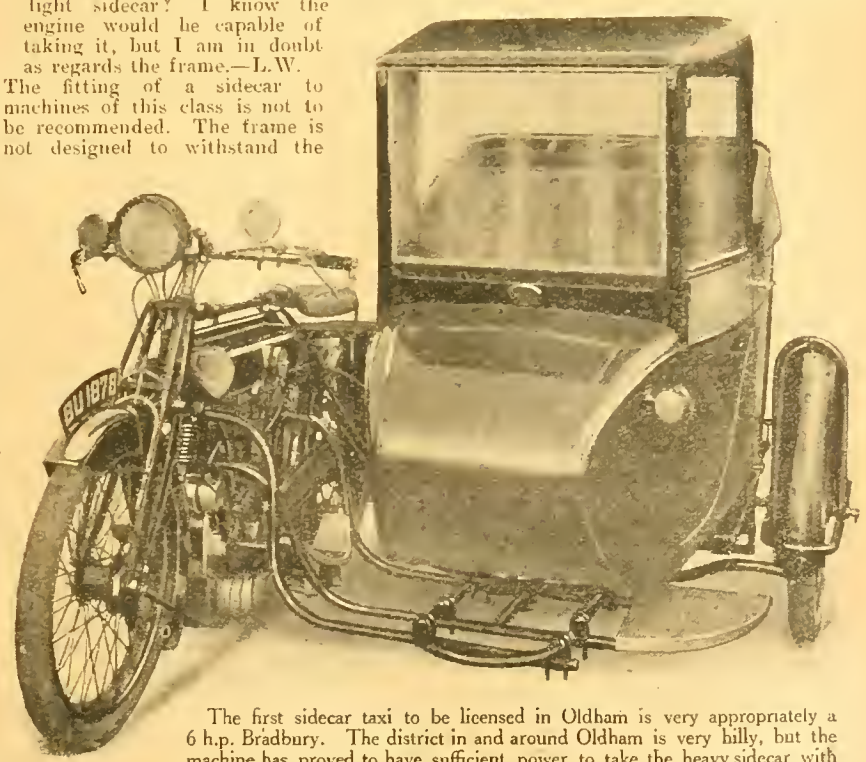
I have a 2¾ h.p. two-speed two-stroke which has given me great satisfaction in regard to power. Will you kindly tell me if I should be doing any harm by fitting a light sidecar? I know the engine would be capable of taking it, but I am in doubt as regards the frame.—L.W.

The fitting of a sidecar to machines of this class is not to be recommended. The frame is not designed to withstand the strains of sidecar work, and in many cases the makers themselves refuse to guarantee the machines when so used.

EFFECT OF OVERSIZE TYRES.

We were arguing the other night in the mess on the advantages of 3in. tyres over 2½in. on motor cycles. One said that 3in. tyres on a W.D. model Triumph gave you more speed owing to the greater grip on the road. Several of us, including myself, said that the heavier tyre produced more drag and possible sideways roll, and consequent loss of speed. I should like to know, as a matter of interest, which of us you would consider right?—POKO.

The increased speed due to the fitting of a 3in. tyre is, of course, the result of the slightly increased gear ratio resulting on the greater diameter of the rear wheel when so fitted. With the larger diameter tyre, especially when softly inflated, there is more possibility of side-roll, and this is particularly noticeable with some makes.



The first sidecar taxi to be licensed in Oldham is very appropriately a 6 h.p. Bradbury. The district in and around Oldham is very hilly, but the machine has proved to have sufficient power to take the heavy sidecar with two people in addition to the driver.

READERS' REPLIES.

THE RESULT OF PRE-IGNITION.

From my own experience with an Autowheel engine, I should say that the cause of the knock "C.E.L. de S." complains of in his query, on page 179 of the issue of the 10th inst., is that the flywheel is loose on the shaft and that the key is not a close fit, and that the cure is to screw up the nut on the end of the shaft as tightly as possible. (Without some means of holding the flywheel, I doubt if he will be able to screw it tightly enough.) There is no doubt that the keyway in the shaft and/or flywheel is distorted, and the new key does not fit in the same way as the original one. The fact that the knock disappears when the release is lifted bears out this diagnosis, as, when released, there is no compression to overcome and so drive the flywheel tightly against the following side of the key to have the crankshaft suddenly driven forward against the key at the moment of ignition.—D. G. TAYLOR.

I have had the same experience with my old 2½ h.p. Levis, caused through pre-ignition, which not only stripped the key but widened the keyway in the shaft about ½in., with the result that when I fitted another key (which was fitted to the flywheel) and tried the machine I got a bad knock, which was due to the clearance between the key in the crankshaft. This key suffered the same fate as the first key, and badly damaged the shaft. I bored out and bushed the flywheel, had the keyway welded up in the crankshaft, the shaft reground, and the flywheel fitted without a key. This machine has been driven hard in a very hilly district, and has given no trouble since removing the key.—S. H. BEAN.

I noticed recently a correspondent enquiring about the above; and, having had exactly the same experience myself, I think he would like to know what had to be done. I tried twice to put new keys in the flywheel, but each time they sheared off (with the ignition retarded). On examination I found that the shaft was somewhat worn, so I obtained a new one. This had no keyway in it, and I found the old flywheel would not keep on, owing to the taper fit not being correct. I therefore had to get a new flywheel, and have had no trouble since fitting, and have covered about 500 miles since.—R. HARTLEY.

NO SPARK AT FULL RETARD.

I notice that "W.R." gets an inefficient spark at retard. I was up against precisely the same trouble with a 3½ h.p. high-compression engine, and had great difficulty in starting (on retard) until I fastened a clean copper wire round the *lower* metallic part of the outside of the plug, connecting the other end of the wire to any convenient metallic rod near the magneto; so long as contacts at both ends were good, I got easier starting and much more flexible retard-running. I was simply trying, of course, to "coax" the spark across the points by giving the current a first-class passage back to the magneto; but the improvement was undoubted. I did not try the method of strengthening a spark—by interposing a small spark gap, easily fitted on between the plug and magneto (attached to the plug, in fact; *e.g.*, a $\frac{1}{64}$in. gap). Perhaps "W.R." would find it useful. I took off the wire fitting mentioned above last Christmas, and the old difficulties returned.—C.S.B.

EXPERIENCES WANTED.

"W.H.S." (Cambridge). — 28×3in. tyres on 4 h.p. Douglas.

"H.B." (London, S.E.).—Brooks B600 saddle; weight distribution and its effect on steering when used solo.

"S.B." (Ilford). — 8 h.p. Enfield (Vickers engine), lubrication, consumption, practical hints.

"J.F.C." (Nottingham).—Norton 1920 4 h.p., shock absorber, speed on hills, oil and petrol consumption, general reliability.

RECOMMENDED ROUTES.

CAMBRIDGE TO BRISTOL.—P.V.J.

Cambridge, St. Neots, Bedford, Newport Pagnell, Stony Stratford, Buckingham, Bicester, Oxford, Abingdon, Faringdon, Cricklade, Malmesbury, Acton Turville, Bristol.

MINEHEAD TO PORTSMOUTH.—A.J.J.

Minehead, Williton, Bridgwater, Othery, Langport, Sparkford, Wincanton, Shaftesbury, Salisbury, Southampton, Cosham, Portsmouth.

OTTERY ST. MARY TO TUNBRIDGE WELLS. —F.W.S.

Ottery St. Mary, Honiton, Yarcombe, Chard, Peasmarsh, Ilminster, Ilchester, Sparkford, Wincanton, Bourton, Mere, Willoughby Hedge, Hindon, Wylye, Deptford, Winterbourne Stoke, Amesbury, Parkhouse, Thruxton (edge of), Weyhill, Andover, Whitchurch, Overton, Basingstoke, Odiham, Farnham, Guildford, Chilworth, Dorking, Reigate, Redhill, Godstone, Tonbridge, Tunbridge Wells.

Important Dates.

Mon., Feb. 21st, to Mon., Feb. 28th—Paris Nice Trial.

Sat., March 5th—Co'more Cup Trial.

Fri., March 25th—Richmond Meet.

Fri., March 25th, and Sat., March 26th—M.C.C. London Land's End Trial.

Fri., April 8th, and Sat., April 9th—Western Centre A.C.U. Two-day Open Trial.

Fri., April 15th and Sat., April 16th—Ealing and District M.C.C. London-Holyhead-London 24 hr. Open Trial.

Sat., April 16th—Yorkshire Centre A.C.U. Open Hill-climb.

Wed., April 27th—A.C.U. One-day Trial.

Fri., May 13th, and Sat., May 14th—M.C.C. London Edinburgh Run.

Wed. May 25th—A.C.U. Silencer Trial at Brooklands.

Tues., June 14th—Junior T.T. Race.

Thurs. June 16th—Senior T.T. Race.

Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup.

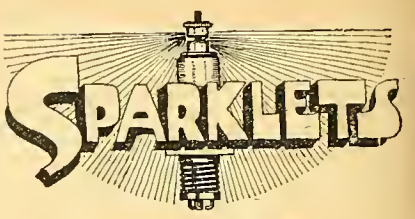
Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.

Sat., July 23rd—Motor Cycle Grand Prix Race in France.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.

Mon., Aug. 29th, to Sat., Sept. 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.



Paragon Motor Cycles.

Owners of Paragon machines, the manufacturers of which have ceased business, may obtain spares from the Motor Works, Cressing Road, Braintree. A new machine, to be called the New Paragon, will shortly be marketed from the same address.

A Midland Motor Map.

Prepared by Jones's Garage (Lichfield), Ltd., the pocket map bearing the above title is a form of advertising which commends itself to whoever receives a specimen. The folder contains a road map showing the principal places within a forty-five mile radius of Lichfield, while detailed routes to all parts of England and Wales are given.

Controls to Work Both Ways.

In view of the fact that there is some diversity of opinion regarding the ideal direction for the operation of carburetter levers, it is worth recollecting that all the Amac instruments are provided with levers which work either inwards or outwards. The handle-bar clip is also provided with serrations which mesh with similar ones on the control body, so that the whole fitting can be placed in any position on the bars.

Spares for American Two-speed Hubs.

A number of Henderson four-cylinder motor cycles in 1914 were fitted with Eclipse two-speed gears, for which it has not been possible to obtain spare parts for some considerable time. Messrs. Robertsons Motors, Ltd., 157b, Great Portland Street, W.1, inform us that they have just received a large consignment of these parts and can now supply them from stock.

Motor Cycles for Hire.

Although the provincial motor cycle dealer does not yet appear to favour the hiring out of machines, several London agents are developing this branch of the business. The motor cyclist without a mount may become the temporary owner of one (by the hour, day, or week) either through the agency of Messrs. Robertsons Motors, Ltd., 157b, Great Portland Street, W.1, or Messrs. Maudes' Motor Mart, 100, Great Portland Street, W.1.

Albion Gears.

In addition to their plain two-speed gear and the gear box with clutch and kick-starter, the Albion Engineering Co., Ltd., of Tower Works, Upper Highgate Street, Birmingham, are now manufacturing a gear box with a clutch but without kick-starter, as they find that there is a considerable demand for this type of box without the additional complication of the starting device. The clutch may also be fitted to the majority of Albion plain two-speed gear boxes.

CURRENT CHAT

Times to Light Lamps.

Feb. 24th	... ...	5.58 p.m.
,, 26th	... ...	6.2 ,,
,, 28th	... ...	6.5 ,,
Mar. 2nd	... ...	6.8 ,,

The Price of Petrol.

When will the price of petrol come down? The enormous importations during December last suggest that supply is overtaking demand.

On the Brighton Road.

That the Roads Improvement Association does not confine its activities to purely technical aspects is evident from its recent success in obtaining better level-crossing service at gates on the main London-Brighton road.

Widening Fields for British Trade.

China has hitherto been a very difficult trading country for the British manufacturer or merchant, but recently a comprehensive charter was granted to a British Corporation (in course of formation, and to be capitalised initially by traders and manufacturers only) which will considerably facilitate matters. There is undoubtedly a huge potential market in China for the British motor cycle.

Reliability Trials.

There are plenty of reliability trials in New Zealand. Most of the competitors, however, appear to be owners of American motor cycles.

At the monthly meeting of the Otago Motor Club some comments were made concerning the manner in which the competition was run. Complaints were made that the competitors did not keep up a consistent average speed—they had slowed down at times so as not to be at the controls before schedule, and accelerated in other parts of the journey. A suggestion was made that the system of secret checks should be reintroduced.

Imports and Exports.

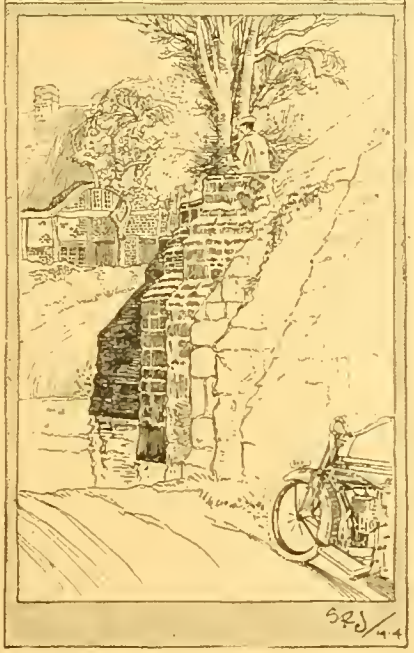
Importation of motor cycles, as shown by extracts from the Board of Trade returns for January given below, is on the increase. Approximately £10,000 worth more than in December entered this country last month. Export figures during the same periods, however, show an increase of almost identically the same amount. Comparative tables for three years follow:

IMPORTS.

	January, 1913.	January, 1920.	January, 1921.
No. of motor cycles..	137	767	136
Value of machines and parts	£10,529	£38,265	£27,260

BRITISH EXPORTS.

	January, 1913.	January, 1920.	January, 1921.
No. of motor cycles..	1,289	1,123	1,203
Value of motor cycles only	£54,526	£84,132	£106,172
Value of parts ..	£15,080	£42,698	£54,511
Total value ..	£69,609	£126,830	£160,683



Brooklands a. Easter.

The Brooklands Automobile Racing Club will hold their usual race meeting on Easter Monday, March 28th, beginning at noon prompt. There will be no motor cycle races, but the last race will be the Easter Cycle Car Handicap, distance about 5¾ miles, for motor cars and cycle cars in racing trim, propelled by means of internal combustion engine only, the cubic capacity of which is less than 1,100 c.c. There are five other car races down for decision, and a most interesting day is indicated.

Newly Licensed Harley Stolen.

A 1918 Harley-Davidson combination, with licence card in a Smith's holder, owned by Mr. R. Boxer, of the Woolwich Club, was stolen the other night from a garage at Wickham Road, Brockley, S.E. The burglars cut two padlocks. The carburetter jet was removed overnight, and the back tyre was flat! We understand that Mr. Boxer had not received his registration book. The following morning the sidecar was seen being pushed in New Cross Road towards London.

THURSDAY, MARCH 17th,
THE MOTOR CYCLE
ANNUAL SPRING NUMBER AND BUYERS' GUIDE

Special Features.

WINTER WORK IN THE GARAGE.
INTO THE TEETH OF THE STORM.
A ROAD TEST IN THE ALPS.

Native Support.

We understand that the Braddan Motor and Cycle Depot, 47, Athol Street, Douglas, Isle of Man, intend entering a 2¾ h.p. Blackburne motor cycle for the Junior Tourist Trophy Race.

To Manchester Readers.

A considerate Manchester club asks us to warn our readers of great police activity, particularly on Sunday afternoons, on the Manchester-Chester road. Danger zones exist in the neighbourhood of Bucklow Hill, and also Plumbley.

Magneto Manufacture a Key Industry.

Magnetos and permanent steel magnets are included in the Government's list of key industries which are to be protected by the new fiscal scheme. Imports are to be prohibited save by licence of the Board of Trade. The Key Industries Bill, which will not be presented until after Easter, does not include such a large number of industries as has been anticipated.

No Shortage of Petrol!

32,124,702 gallons of motor spirit were imported last month as against 12,381,806 in December, and 9,459,689 during January, 1920. The figure for the first month of 1921 is actually nearly double that of the monthly average for 1920. Truly, this promises to be a motoring year; although the removal of the tax may in part be responsible for this striking increase.

French Motor Cycle Championships.

The Competitions Committee of the U.M.F. has decided to consider the question of establishing motor cycle championships in France. Two classes are in view, the French speed championship which will be run off about the same time as the Motor Cycle Grand Prix, July 23rd, and the French touring championship, which will be run off during different touring events which will finally be decided by the Competitions Committee of the U.M.F. The first trial chosen is the Paris-Nice.

These championships will only be open to riders of French nationality. The touring championship of France will also serve to determine the French team in the International Six Days Trial to be held at Switzerland, August 1st to 6th, of which the preliminary details were given in the issue of *The Motor Cycle* of February 3rd. We understand that three trials (of which Paris-Nice is one) in the U.M.F. fixture list will serve to select the team to represent France in the above International competition.

Comparative Road Speeds.

A good rabbit can attain 25 m.p.h., says *The Autocar*. Recently a reader of *The Motor Cycle* asserted that the speed of a hare is 40 m.p.h.

Not an Unmixed Blessing!

Dry roads last week-end disturbed the Puncture Fiend's winter sleep somewhat prematurely. Considerable activity is reported in the repair outfit trade.

The London-Edinburgh Run.

Applications for membership to the M.C.C. for the purpose of competing in the London-Edinburgh Whitsuntide event must be received by the club before Tuesday, April 19th.

Institution of Automobile Engineers.

The next ordinary general meeting of the Institution of Automobile Engineers will be held on Wednesday, March 2nd, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W., at 8 p.m., when Dr. W. H. Hatfield will read a paper on "Automobile Steels." Cards of invitation for the meeting may be obtained by those interested on application to the secretary of the Institution, 28, Victoria Street, London, S.W.I.

Some Gems among the Queries.

The other day one query was accompanied by a letter to the effect that the writer enclosed a cheque for the half-yearly instalment of his income tax. [No cheque was enclosed.—ED.] Next day an envelope arrived, duly sealed, but with nothing inside it; while recently a reader wrote stating that he found the spanner he was using was attracted to the magnets of his magneto, but it was not attracted to the aluminium base plate—did we think there was a short-circuit anywhere?

Signs of Spring—On the Motor Cyclist's Calendar.

Starting on the first Saturday of March, with the Colmore Cup Trial, there will be at least one important competition each week-end until further notice.

A Belgian Motor Cycle Grand Prix.

A triangular course, Francorchamps-Stavolot-Malmedy, is the venue for a proposed Belgian Grand Prix race for motor cycles, towards the end of August, and immediately after a "three-litre" car event. Organisation and details of the motor cycle meeting are in the hands of the "Fédération Motocycliste de Belgique." We understand that the "F.-S.-M." circuit is not so difficult (of pronunciation!) as it looks.

The Racing Bugatti.

Motor cyclists who delight in obtaining the maximum amount of power from their engines should be particularly interested in an illustrated article which appears in to-morrow's issue of *The Autocar* descriptive of the sixteen-valve racing Bugatti which won the Grand Prix des Voiturettes at Le Mans. The engine, which has a capacity of 1.353.24 c.c., averaged 57.6 m.p.h. for 256½ miles on the road. Its total weight is 13 cwt.

Big Twin Solos in the London-Land's End.

Those competition riders of pre-war days who knew of the friendly rivalry between Harold Karslake and George Brough will be interested to know that the former will ride a Brough Superior in this year's London-Land's End event. Competition between these two expert riders will be very keen. Incidentally, Karslake has severed his connection with the trade, and will ride as a private owner.

BRITISH INDUSTRIES FAIR

AN admirable opportunity for examining British goods is provided for Overseas buyers by the British Industries Fair. Divided in three centres—London, Birmingham, and Glasgow—the Fair opened on Monday last, and will continue for a fortnight from the opening day. As far as motor cyclists are concerned, the chief interest lies in the Midlands display held at Castle Bromwich, for in the enormous buildings which lie beside the late aerodrome are housed the motor cycle exhibits. There is not a large number of exhibitors, of motor cycles, and there is little that is new in this line to be seen, nevertheless Overseas and foreign buyers will find worthy representatives of all classes. Such names as the Sunbeam, A.J.S., B.S.A., Beardmore-Precision, Blackburne, Levis, Radco, and others are included in the list; whilst among those who display accessories and fittings are Messrs. Herbert Terry, Apollo, Easting, Accles and Pollock, Miller, the Leatheries, Clayton-Wright, Cox Carburetters, Best and Lloyd, etc.

The exhibition is a purely business affair, but is nevertheless full of general interest. Plant and machinery, household fittings, sporting accoutrements—indeed, almost every branch of industry is represented; and on the occasion of our first visit (before the Fair was opened), a cold raw day and an atmosphere of straw and packing-cases made us feel particularly grateful to those manufacturers of patent grates who exhibited working models. The catalogue, sold at the somewhat high figure of 5s., is worth every penny of its cost. Printed in three languages, it includes such a wonderful method of cross indices that one can find the required exhibit with the minimum of trouble.

Prices of Second-hand Motor Cycles.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

MAKE, H.P., AND DATE.	CLASSIFIED PRICES.	AVERAGE PRICE.
A.B.C. 3 h.p., 1920	£95, £98, £110, £110, £112, £115, £120, †£140, *£140	£116
A.J.S. 6 h.p. sc., 1920	£170, £170, £180, †*£190, *£190, £195, £200, £200, †£210, †£225, ††£230	£196
Alloa 2¾ h.p., 1920	£44, £60, *£73	£59
American X 7-9 h.p. sc., 1920	†*£172, £178	£174
Ariel 6 h.p. sc., 1920	£140	—
Ariel 3½ h.p., 1920	*£105	—
Bat 8 h.p. sc., 1920	*£155	—
Beardmore 3 h.p., 1920	£74, £80	£77
Blackburne 4 h.p., 1920	£95, £100, *£115, *£120, *£120, *£120	£112
Blackburne 8 h.p. sc., 1920	£175, *£210	£193
B.S.A. 4¼ h.p. sc., 1920	£85, £97, £115, †£135, £135, £146	£122
Bradbury 6 h.p. sc., 1920	*£175	—
Cleveland 3 h.p., 1920	£60	—
Clyno 2¾ h.p., 1920	£53, *£58, *£63, *£63	£59
Connaught 2¾ h.p., 1920	£60	—
Coulson-B. 4 h.p., 1920	£98, *£99, *£109	£102
Coventry Eagle 2¾ h.p., 1920	£75, *£84	£80
Douglas 2¾ h.p., 1920	£77, £82, £83, £85, £85, *£90, £90, £92, £100	£87
Douglas 4 h.p. sc., 1920	£120, £130, £135, £140, *£140, £145, £150, †£155	£141
Edmund 2¾ h.p., 1920	£60	—
Enfield 8 h.p. sc., 1920	£125, £148, £153, £175	£150
Enfield 2¾ h.p., 1920	£45, £55, £57, £60	£54
Harley-Davidson 7-9 h.p. sc., 1920	£173, †£178, †£189, †£200, †*£225	£193
Harley Davidson 4 h.p., 1920	*£140, *£142, *£148	£143
Henderson 10 h.p. sc., 1920	£175, £220	£198
Hobart 2¾ h.p., 1920	*£63	—
Humber 4½ h.p., 1920	*£125	—

MAKE, H.P., AND DATE.	CLASSIFIED PRICES.	AVERAGE PRICE.
Indian 7-9 h.p. sc., 1920	†£145, †£145, †£150, £160, †£170, £180, £180	£161
Indian 4 h.p., 1920	£125, £130	£128
James 5-6 h.p. sc., 1920	£150, *£150, £169, £170, *£170	£162
Lea-Francis 3½ h.p., 1920	*£90, £100, *£115	£102
Levis 2¾ h.p., 1920	£44, £45, £48, £55	£48
Martinsyde 6 h.p. sc., 1920	£140	—
Matchless 8 h.p. sc., 1920	†£160, £165, †£175, £175, £175, †£180, †£185, †£195, †£195, †£200, †£220	£184
Metro-Tyler 2¾ h.p., 1920	£60, *£70	£65
New Hudson 2¼ h.p., 1920	£58, £63	£61
New Imperial 2¾ h.p., 1920	£65, *£78	£62
New Scale 3½ h.p., 1920	£80	—
Norton 4 h.p., 1921	£114, £120	£117
N.U.T. 3½ h.p., 1920	†*£120, †£125, †£150	£132
O.K. 2¾ h.p., 1920	£39, *£43, £45, *£46, £58, £59	£45
P. & M. 3½ h.p. sc., 1920	£140	—
Quadrant 4½ h.p. sc., 1920	£120	—
Rover 3½ h.p. sc., 1920	£140, *£155	£148
Rover 5-6 h.p. sc., 1920	£140, †£179	£160
Royal Ruby 3 h.p., 1920	*£90, *£99, £110	£99
Rudge 3½ h.p., 1920	£75, £84, £85, £85, £86, £90, *£92, *£92, £98	£87
Scott 3¾ h.p. sc., 1920	£130, £145, £145, £165, £175	£151
Sun 2½ h.p., 1920	£53, £60	£57
Sunbeam 3½ h.p., 1920	£140, £150	£145
Sunbeam 3½ h.p. sc., 1920	£165, £185	£175
Sunbeam 8 h.p. sc., 1920	£180, £230	£205
Triumph 4 h.p., 1920	*£115, *£118	£117
Triumph 4 h.p. sc., 1920	£130, £135, £135, £160, £180	£148
Wooler 2¾ h.p., 1920	£90	—
Zenith 8 h.p. sc., 1920	£140, £145, £145, £160, £165, £190	£156

*Unused. †Dynamo lighting.



The 1921 Paris-Nice Trial

The Start of the Trans-France Event. An Inspection of the Competing Machines. Many Two-strokes and Some Interesting Cycle Cars.

THE Paris-Nice reliability trial does not appear to have suffered in any way from the unfortunate incidents of last year, for the event attracted almost one hundred competitors in the ten different classes, who were started away early last Monday morning from the suburbs of Paris. There are not quite so many British riders as a year ago, but just as many English machines, entered by French agents. It may be estimated that 95% of the competitors are professional riders, for the French amateur shows no enthusiasm for trials and competitions in which only medals or diplomas can be won.

Cycle Car Interest.

The increased numbers are found in all classes of machines, from the lightweights of 250 c.c. to the 1,100 c.c. cycle cars. It is in this latter class, however, that there is the greatest increase, and this is indicative of the rapidly growing interest of the cycle car in France. The Morgans and G.N.'s are naturally well-known to British motor cyclists, and will be considered as British machines. Both these makes, however, are now built in France. The G.N. has been taken up by the Salmson Aviation Engine Co., and the Morgan is constructed under licence by the former agents. It has been found necessary to strengthen the frame of the Morgan for French roads; and, owing to the higher speeds obtainable on the Continent, the water-cooled engine is used to the almost total exclusion of the air-cooled type. The de Marçay machines, produced in a former aviation factory, made their first appearance in a public competition in France, and for their *début* two of the four mounts were handled by English drivers. The Griffon is another French cycle car appearing for the first time in a public competition. The Monitor also is a newcomer, built very much on the lines of the A.V., with a two-cylinder M.A.G. engine.

One of the features of the trial is the large number of two-strokes entered. Undoubtedly, the most interesting of these is the new Peugeot, with single-cylinder two-stroke engine and chain-cum-belt drive. As a contrast, there was entered one of the racing type Peugeots with a single-cylinder having four valves in the head. The Peugeot Co. not long ago purchased the Terrot and the Magnat-Debon motor cycle concerns, and it is obvious that much of the practice of these two firms has been incorporated in the new two-stroke machine.

The biggest single team in the trials is the A.B.C., with seven mounts. These machines are now produced entirely in France at the Gnôme and Rhône factory, and have several detail changes on the original English design. Belgium sent for the first time a team of Saroleas, composed of the new two-strokes produced since the war. Italy was represented by two makes—a Stucchi and a Frera. The American mounts were Indians, Harley-Davidsons, and Excelsiors, all ridden by French agents.

A Luxurious Machine.

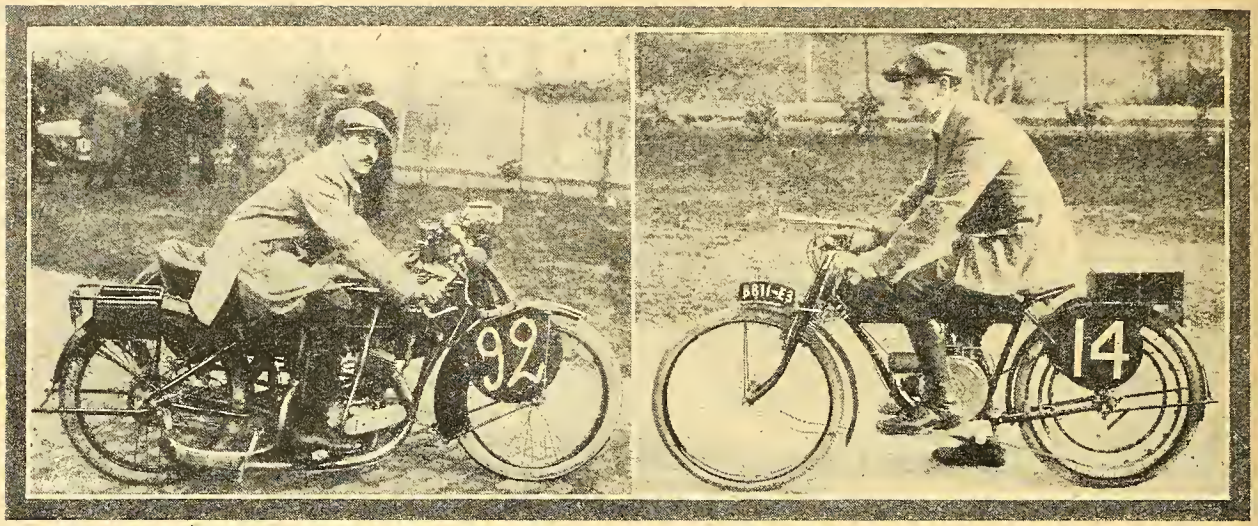
Motosacoche put in three machines, two of them being 500 c.c. solos, and the third a very handsome 1,000 c.c. twin with M.A.G. engine and three-speed gear. This machine was one of the most elaborately equipped in the competition. It had a really substantial V windscreen of pressed steel with Triplex glass, spare wheel, and electric lighting.

The route selected for the Paris to Nice trial is not the most direct, for, in order to add somewhat to the difficulties, a *detour* is made in order to in-

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THE STAGES OF THE TRIAL.

Monday (Feb. 21.)	*Montegeron, Fontainebleau, Sens, Auxerre, Avallon, Précy sous Thil, Sombernon, Dijon.*
Tuesday.	*Dijon, Beaune, Monceau les Mines, Paray-le-Monial, St. Martin-du-Lac, Roanne, Feurs, St. Etienne, Lyon.*
Wednesday.	*Exhibition of Machines at Lyon.*
Thursday.	*Lyon, Vienne, St. Vallier, Valence, Lortol, Montélimar, Pierlatte, Orange, Avignon.*
Friday	*Avignon, Orgon, Lambesc Aix, St. Maximin, Le Lue, Fréjus, Cannes, Nice.*
Saturday.	*Starting and Flexibility Tests. Flying Kilometre Speed Test.*
Sunday.	*La Turbie Hill-climb*



Big twin and auxiliary motor. Hughues (8 Frera sc.) and Trouche (1½ Evans cyclomotor).

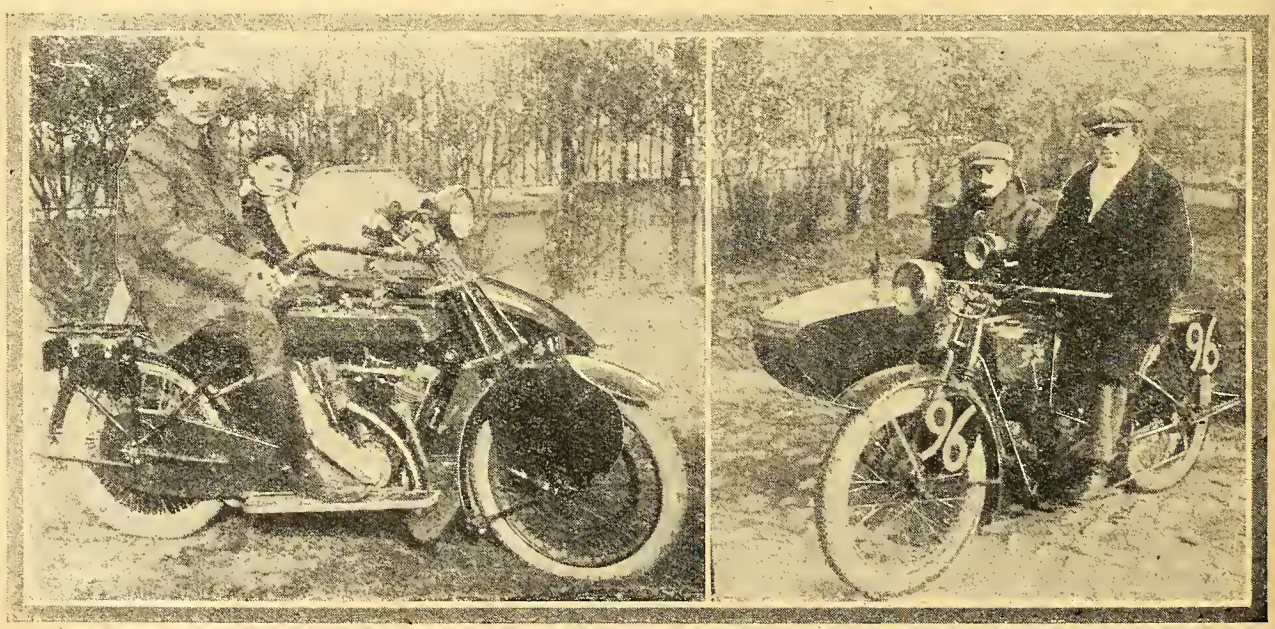
clude Dijon, and another one in order to get in the towns of St. Etienne and Lyons. In this way, the distance is increased from 560 miles by the most direct route to 694 miles, which have to be covered in four stages, namely, Paris to Dijon, 188 miles; Dijon to Lyons, 202 miles; Lyons to Avignon, 140 miles; and Avignon to Nice, 164 miles. A whole day is spent at Lyons, in order to exhibit the machines; and, after arriving on the Riviera, starting, flexibility, and speed trials are held, in addition to a hill-climb up La Turbie.

Road Conditions Not Severe.

Road surfaces have improved enormously since last year, and, as there are few hills, except in the neighbourhood of St. Etienne and Lyons, the trial cannot really be considered a very difficult test. The average tourist, whether on a car or on a motor cycle, makes the run in two and a half days, while three days may be considered a maximum for this journey under normal conditions. It is necessary, therefore, that the organisers should be very exacting in their application of the rules, which call for an average of thirty kilometres (18⅝ miles) an hour, and the accomplishment of the entire trip without changing any essential part of the machine. The preliminary work, in Paris, where the machines were weighed, measured, and sealed, was very carefully done; and if there is the same rigorous control on the road, the results of the competition, ought to be interesting. The officials objected to inefficient silencing on several of the French machines. The petrol situation this year is normal.

Last year there were sixty-nine entries (of whom forty-three finished). The paucity of British riders this year, if understandable, is, nevertheless, regrettable, for it is desirable that the representatives of the two great nations should meet in competition, and not only from the point of view of machine design. Of course, the main reason for the absence of English entrants in this particular event is the unfortunate *débâcle* that occurred at the conclusion of the 1920 trial; but there is also a strong feeling abroad, not without justification, that, while a very pleasant tour, the Paris-Nice is too easy to test thoroughly the ultra-reliable modern machine.

La Turbie, to be climbed on the last day, is a sinuous ascent, but as the road could not be cleared for the contest last year, accidents were narrowly averted.



Competitors on Swiss and American sidecars. (Left) Doerr on the 1,000 c.c. Motosacoche and (right) Suller with his American X.

LIST OF STARTERS IN THE PARIS-NICE TRIAL.

On Monday last the competitors started from Paris with Dijon as their first objective. The following is a complete list of machines in the trial with the drivers' names in parenthesis.

CLASS 1.—250 c.c.

Radco (Colombel).	Motosolo (Clech).
Radco (Girard).	Diamond (F. J. Price).
D.F.R. (Pierre).	S.C. (Lézin).
Velocette (Denley).	S.C. (Sexé).
Velocette (Humphreys).	Cleveland (Ponlet).
Velocette (Berger).	Cyclomotor (Pouget).
Alcyon (Lehman).	Cyclomotor (Trouche).

CLASS 2.—350 c.c.

D.F.R. (Dubost).	Yvel's (Pernette).
D.F.R. (Boulangier).	Yvel's (Sarradet).
Edmund (J. C. Walker).	Yvel's (Bauer).
M.C. (Moret).	Peugeot (Péan).
Yvel's (Vernisse).	Peugeot (Lessmann).

CLASS 3.—500 c.c.

Norton (Bastide).	Rudge (Duverne).
Norton (Barthelemy).	Norton (Dard).
Norton (Lazerge).	Blériot (Le Bris).
A.B.C. (———).	Blériot (Contant).
A.B.C. (Borgotti).	Blériot (Brunet).
A.B.C. (Detruche).	A.B.C. (Veringa).
A.B.C. (Bartlett).	Triumph (Gahriel).
A.B.C. (Smetts).	Motosacoche (Lapallud).
A.B.C. (Bernard).	Motosacoche (Robert).
A.B.C. (Rolly Gonnet).	



A French cycle car on the lines of the A.V.—the Monitor, driven by Rouquet.



To show the efficiency of a representative British two-stroke. The Velocette team—Denley, Berger, and Humphreys

CLASS 4.—750 c.c

Sarolea (Benlhoux).	Griffon (Jacquin).
Sarolea (Lefevre).	Triumph (Pinney).
Sarolea (Rivet).	Triumph (G. Wren).
Zenith (A. Ellison).	Rover (Sollet).
Zenith (Kaye Don).	Rover (Brandish).

CLASS 5.—1,000 c.c.

Harley-Davidson (Bonnard).

CLASS 7.—500 c.c. (Sidecars).

Rover (L. Psalty).	Cottin (Cottin).

CLASS 8.—750 c.c. (Sidecars).

Griffon (Bourry).	G.L. (Lacour).

CLASS 9.—1,000 c.c. (Sidecars).

Matchless (Gaillard).	Harley-Davidson (J. Kenneth Flemons).
Matchless (Leymarie).	Sunbeam (P. W. White)
Indian (G. Arnaud).	Frera (Hughues).
Indian (Vache).	Stucchi (F. Delaunay).
Indian (R. Berthe).	Indian (A. Temple).
Harley-Davidson (Vernault).	Harley-Davidson (Collet).
Harley-Davidson (Jean Psalty).	Excelsior (Chappaz).
Harley-Davidson (Marcel Walbrou).	——— (Sutter).
A.J.S. (G. Fenton).	Motosacocho (Doerr).

CLASS 10.—750 c.c. (Cycle Cars).

Monitor (Rouquet).	Chandron & Riconx (Riconx).

CLASS 11.—1,000 c.c. (Cycle Cars).

Elle (Mauve).	Morgau (Franquebalme).
De Marcay (Mundy).	Morgan (Sandford).
De Marcay (Pullin).	Morgan (Darmond).
De Marcay (Benoist).	Griffon (Maurer).
G.N. (A. Lombard).	Griffon (Couderc).
G.N. (P. Henel).	Major (Mourre).
G.N. (Ramon Buene).	Fournier (Pessé).
Bedelia (Bourbeau).	

A BUSINESS TRIP TO THE NORTH.

OWING to the abnormal state of the trade of the country a representative of *The Motor Cycle* devoted the greater part of last week to a tour amongst some of the Northern manufacturers, with a view to ascertaining how far existing conditions might influence future prices and the prospects of business generally.

In the Midlands there is already a growing spirit of optimism; it is felt that conditions are likely to "ease" somewhat, and that a normal springtime demand will be experienced. Signs are not lacking that the motor cycle public is already beginning to take interest in its annual selection of the new mount; and although many may be withholding their orders in the hope of a price reduction, makers are receiving a steady flow of enquiries regarding the specific details of particular models. This state of affairs is found to obtain in the Manchester district, where it is confidently felt that a new boom will be forthcoming.

Reception at New Royal Ruby Works.

On Thursday last the directors of the Ruby Cycle Co., Ltd., invited representatives of the technical press to inspect the new works erected at Altrincham. The party was conducted throughout the entire plant, which is on a most up-to-date and modern plan, operating in a large and well-lit factory comparable with the best of its kind in this country, and capable of dealing with an output of 5,000 motor cycles and 10,000 pedal cycles annually.

As is well known, the Royal Ruby has a very complete system of frame springing, and an examination of this throughout the process of manufacture showed the amazing amount of care and attention which has to be bestowed on the production of a high-class machine.

Some Manufacturers' Opinions.

The makers of the New Scale machines were quietly confident that increasing business would shortly be expected. Enquiries were being received in increasing numbers, the special lines of this firm (light and mediumweight sidecar outfits) being apparently of special attraction in these days of economy. Prospect of prices reduction on an extensive scale was remote, but slight improvements in the machines were possible owing to more favourable prices of certain components.

Mr. Harry Reed, of the Dot Motor Co. attributed the hiatus in the motor cycle trade largely to the difficulties in the way of export, but was optimistic in his views upon an improvement of the home market about Easter.

With only one exception, and that one an accessory manufacturer, every one with whom the motor cycle movement was discussed anticipated a plentiful influx of orders during the Easter-Whitsuntide period: while several predicted that the real boom in motor cycles was not the artificial rush of 1919 but the demand which may be expected in 1922-23.

FORTHCOMING TRIALS.

Particulars of the London-Land's End Run, Colmore Cup, and Victory Cup Trials, and the Western Centre (A.C.U.) Two Day Event.

THE VICTORY CUP TRIAL.

LAST year no fewer than 177 entries were received for the Victory Cup Trial, organised by the Birmingham M.C.C., being the largest entry in any open trial during the 1920 season. This year, however, it will be open only to members of the clubs forming the Midland Centre A.C.U., which embraces the Birmingham, South Birmingham, Sutton Coldfield and North Birmingham, Coventry and Warwickshire, Midland C. and A.C., Kidderminster, Nuneaton, and Wolverhampton Clubs. As practically all the competition riders who have supported the event in the past are members of one or another of these clubs, a record entry is again anticipated.

The trial will be a test of reliability and hill-climbing, at least two hills with a maximum gradient of 1 in 3 being included; but there will be nothing "freakish," in the way of hills or roads on which baulking might take place.

A novel feature is that four-wheelers, *under 8 cwt. and 1,100 c.c.*, may compete on equal terms with sidecars and three-wheelers. This year gold medals will be awarded to all competitors who lose no marks in non-stop sections, and are inside the three-minute time allowance at all timed checks. Competitors who lose not more than ten marks will be awarded silver medals.

There will be an acceleration test (*The Motor Cycle* formula being used) on a suitable hill, but marks cannot be lost in this test, which is simply to determine the winners of the following awards in the event of a tie or ties:

"The Victory Cup" (presented by the Right Hon. The Lord Calthorpe) to the competitor who makes the best performance of the day. (Present holder, A. Milner.)

"The Midland Cup" for the best passenger machine performance. (Present holder, J. E. Greenwood.)

"The Duke Cup" for the best performance by a solo machine over 275 c.c. (Present holder, F. A. Applebee.)

Entry forms and full particulars of the trial can now be obtained from the hon. secretary, Mr. W. H. Egginton, 76, Earlsbury Gardens, Birchfields, Birmingham. The trial takes place on Saturday, March 19th, entries closing on March 12th.

THE LONDON-LAND'S END.

THE M.C.C. intends to make this year's competitors in the London-Land's End run earn any awards they may secure. Several innovations have been introduced, which are in the nature of an experiment. For instance, a momentary stop on Porlock will not necessarily lose a competitor his gold medal, and a regulation has been introduced which, to a large extent, rules out the element of luck and trouble so often caused by baulking. This regulation is a time limit for the sections which include the test hills.

An indication as to the task set for aspirants to the premier award is shown in the following conditions which have to be fulfilled to win a gold medal, for it will be awarded to competitors who are:

(1.) Not more than fifteen minutes early at any point of the journey.

(2.) Not more than five minutes late at the bottom of Porlock.

* (3.) Not slower than 18 m.p.h. for the three miles commencing near the Ship Inn at Porlock.

† (4.) Not more than five minutes late at the top of Lynton Hill.

(5.) Not more than fifteen minutes late at any part of the journey.

* This section includes the ascent of Porlock Hill.

† This portion includes about nine miles of moorland road, the descent of Countisbury and the ascent of Lynton.

The start will be from near the Berkeley Arms Hotel, Cranford Bridge, Hounslow, at 10.1 p.m. on Good Friday, March 25th, the order of starting being as follows: Solo motor cycles, sidecars, three-wheeled cycle cars, and light cars. The route will be through Maidenhead, Reading, Newbury, Hungerford, Marlborough, Devizes, Trowbridge, Frome, Bridgwater, Minehead, Porlock, Lynmouth, Lynton Hill, Barnstaple, Holsworthy, Launceston, Bodmin, Truro, Penzance, and Land's End, at which place the first competitor will be due at 4.5 p.m. on the Saturday.

Controls will be arranged at Bridgwater (130½ miles) and Launceston (232½ miles), and the total mileage will be 314.

Entries close on Tuesday next, March 1st, and should be sent to the trials hon. secretary, Mr. B. Alan Hill, Apsley, Fellows Road, S. Farnborough, Hants.

THE COLMORE CUP TRIAL.

ENTRIES for the Colmore Cup Trial on March 5th close on Saturday next, February 26th, so that there is little time left for those who wish to enter in this classic Midland event, and have not already done so. Although not open this year, its scope is still very wide; for all members of clubs in the Midland Centre A.C.U. are eligible. The route is the same as in 1920, viz., Stonebridge *via* Warwick, up Saintbury down Willersey, and up Sndeley to Cheltenham and return, including Rising Sun, the Sudeley hairpin, and the ascent of Willersey; but in addition to the usual awards (the Colmore Cup, the Calthorpe Trophy for machines under 250 c.c., and the Levis Cup for the best single-geared performance) there is a special prize for the best performance of any team. Any three riders may constitute a team, which may be nominated by themselves, their club, or a manufacturer.

Additionally to motor cycles and both types of three-wheeled passenger machines, monocars are eligible provided they comply with A.C.U. definitions.

As in previous years, the event is a non-stop one throughout, and marks will be deducted for touching the ground with the feet. This method of scoring, given slightly wet roads, generally proves a very successful eliminating medium.

The entry fee is one guinea; and the secretary of the club from whom all information may be obtained, is Mr. Phil Mosedale, "The Nook," Maney Hill Road, Sutton Coldfield, Birmingham.

WESTERN CENTRE A.C.U. TWO DAY OPEN TRIAL.

IN *The Motor Cycle* of February 10th, we touched on the Western Centre A.C.U. Open Two Day Trial, to be held on April 8th and 9th, more particularly with regard to the checking system and award list. On this page will be found a map of the course with alternative routes. There are four non-stop hills each day, as follows:

Friday.—Llanfillo, Mynydd Effynt, Cynau, Ystwyth Valley.

Saturday.—Pencarreg, Caio, Llanddewfi Cwm, Trevador.

Entries at ordinary fees close on Tuesday, March 22nd, but late entries may be accepted at double fee up to Saturday, March 26th. Mr. J. A. Newman, of St. Moritz, Wyche Road, Malvern, is the hon. trials secretary.



Proposed course of the Western Centre A.C.U. Two Day Trial, Friday and Saturday April 8th and 9th.

Essex M.C. One Day Trial.

Double Circuit Event including Fast and Slow Hill-climbs.

THERE were very few failures in the One Day Trial held by the Essex Motor Club on Saturday last. Competitors assembled in the early hours of the morning at the Castle Hotel, Woodford, the route being *via* Chingford, Lippitt's Hill, High Beech, Church Waltham, Low Hill, Harlow, Moreton, Ongar, Standon, Kelvedon Hatch, Passingford Bridge, Abridge, Chigwell, and thence back to the Castle Hotel, Woodford. Two circuits of this course had to be made, one in the morning and one in the afternoon.

Tests *en route* included a fast and slow hill-climb up Low Hill in the morning, and a stopping and restarting test in the afternoon.

In giving the best performances in each class it would be well to bear in mind that all results are so far provisional pending any protests lodged by competitors or the reports of observers so far not to hand. The following riders claim non-stop runs :

B. Morris (2¾ Coulson B).
H. R. Harveyson (3½ Indian Scout).
S. M. Greening (3½ Sunbeam).
F. Roberts (3 A.B.C.).
A. C. Rhodes (3½ N.U.T.).
A. G. Martin (4 Triumph).
H. Le Vack (4 Indian Scout).
E. Elliott (4 Indian Scout).
E. J. Anderson (3½ Scott).
W. S. Parson (8 Matchless).
F. N. Edwards (6 Enfield).
C. W. Bairstow (7 Indian).

So far J. V. Prestwich (2¾ Diamond) is the only rider who is reported as having failed to finish.

In the slow and fast hill-climb held during the morning circuit the best performance in each class is reported as follows :

CLASS 1 (not exceeding 350 c.c.).—F. W. Applebee (2¼ Levis).
CLASS 2 (not exceeding 500 c.c.).—S. M. Greening (3½ Sunbeam).



E. A. Bridgman (7 Indian sc.) in the fast hill-climb.

CLASS 3 (not exceeding 750 c.c.). H. Le Vack (4 Indian Scout).

The following riders were penalised for failing to restart within the stated time after the luncheon hour :

B. Morris (2¾ Coulson B).
A. G. Martin (4 Triumph).
C. W. Bairstow (7 Indian).

In the stopping and restarting test held during the afternoon the best performance in each class may be given as :

CLASS 1.—B. Morris (2¾ Coulson B).
CLASS 2.—S. M. Greening (3½ Sunbeam).
CLASS 3.—H. Le Vack (4 Indian Scout).
CLASS 7.—E. A. Bridgman (7 Indian).

Weather conditions were favourable and the roads dry.

CLUB NEWS.

Yeovil and District M.C.C.

The annual general meeting of the Yeovil and District M.C.C. will be held at the Masonic Hall, Yeovil, to-morrow (Friday), at 8 p.m.

Wallington and District M.C. and L.C.C.

The club will hold a social run to the Hut Hotel, Wisley, on February 27th, when it is hoped a large number of members will be present. The first competition to be held will be a speed hill climb on March 19th.

Bristol M.C.C. and Bath M.C.C.

These flourishing Western clubs again met in a social manner on Saturday, February 12th, when the Bath Club paid a return visit to Bristol. A fine crowd of members met at Keynsham, and, riding into the city in single file, between fifty and sixty machines, solo and sidecar, with half-a-dozen cars, they caused a mild sensation. A tour of the city and Clifton, including the far-famed Durdham Downs, led to tea at the Bristol headquarters, where nearly one hundred assembled. Afterwards the party adjourned to a local theatre.

North London M.C.C.

The last social event of the winter season, held on February 12th, took the form of a concert by the "Sparklets." The evening was much appreciated, and the attendance very much larger than was expected. A further reminder is given of the opening run, starting from the Orange Tree, Friern Barnet Lane, at 2.45 p.m. on Saturday next, the 26th, to which a cordial invitation is given to all motor cyclists in the district.

Sunderland and District M.C.

At the annual general meeting, held on February 4th, there was a large gathering of old and new members. The coming season promises to be one of the most successful in the history of the club, which is in a prosperous condition financially.

A very attractive programme has been drawn up of social and competition events, and two valuable trophies have been presented to the club by local gentlemen for competition.

All motor cyclists in the Sunderland district who are not members are cordially invited to join the club.

Rugeley and District A.C.

This newly-formed club is holding an opening run to Bridgnorth on the 27th inst., starting at 10.30 a.m. from headquarters, the Vine Hotel. All local motor cyclists are invited.

Woolwich and Plumstead M.C.C.

Over a hundred, including many ladies, were present at the Woolwich Club's annual dinner at the "The Shakespeare," Woolwich, on February 17th. Capt. T. Ross said fourteen competitions had been arranged this year, and also several gymkhanas and picnics in Kent. Mrs. Collier presented the prizes.

Worcester and District M.C.C.

Mr. W. T. Thorne continued his series of excellent lectures at the Pack Horse Hotel, Worcester, on Monday, February 14th, his subject for the evening being "Tracing Troubles," which was an excellent guide to the amateur owner-driver in tracing the symptoms of any troubles that might arise, and the cure thereof. After this lecture questions were invited, and several new troubles exposed. His next lecture is on the 28th inst.

Club News.—

Proposed West Central London M.C.C.

Mr. Marcel Clement, 17, Russell Square Mansions, Southampton Row, W.C.1, would be pleased to hear from any enthusiastic motor cyclists in this district with the view to forming a club as above.

Rotherham and District M.C.

There was a large attendance of motorists at the first meeting of the club held in the Y.M.C.A. rooms, Rotherham, and the officers for the year were elected. It was decided to hold the first run on March 20th to Worksop, meeting in Corporation Street at 2.30 p.m.

Faraday House Engineering College M.C.C.

In spite of pouring rain, a keenly contested hill-climb (on formula) was held at Whelpley Hill, Herts. The hill has a gradient of about 1 in 8 for two hundred yards, which is followed by two hairpin bends. The surface, being of chalk, was not improved by the rain, and the small number of mishaps speaks well for the riding. The event was won by K. M. A. Ramsay (3½ Sunbeam). Second place was obtained by W. Rochford (4 Triumph), who made a fast, steady climb, and judged the corners well.

Midland Centre A.C.U.

Various matters in connection with forthcoming competitions were discussed at a meeting held at Birmingham on February 12th. Preliminary arrangements were made regarding an open reliability trial to start from Redditch on April 23rd. Two other open trials are fixed for September 17th and November 5th. On April 30th there will be a team trial open to teams from clubs in the centre only, each club to send seven riders, and the five best performances to count. Thus it is hoped to eliminate the luck-cum-puncture element.

South Birmingham M.C.C.

More in the nature of an enjoyable holiday run than a gruelling trial an Easter reliability run to Lynmouth will start on Saturday, March 26th. A return will be made on the following Monday. Prizes include the Mitchell and Cooper cups, gold, silver, and bronze medals, and marks towards the Joyce Shield and Allday Cup.

On Friday last week the club held their annual dinner at the Mermaid Hotel.

THURSDAY, MARCH 17th.
THE MOTOR CYCLE
SPRING NUMBER AND BUYERS' GUIDE.

Special Articles and Illustrations are in course of preparation for the Annual Spring Number of this Journal. In addition to topical features, this enlarged issue will contain an Illustrated Buyers' Guide of 1921 Models.

Westmorland M.C.C.

Motor cyclists in the North will be gratified to hear that the Westmorland M.C.C. is again holding its open hill-climb on Orton Scar, near Kendal, on Easter Monday, March 28th. Last year over 2,000 spectators spent Easter Monday on the bracing moorland, witnessing this well-conducted event. A full list of classes is arranged, and entry forms are available. Motor cyclists are reminded that Orton Scar is only fifty miles from Richmond, Yorkshire, at which the annual rally organised by the Yorkshire clubs is being held on Good Friday. A splendid opportunity, therefore, occurs of including both these events and of spending a week-end in the Lake District.

Brookdale M.C.C.

Sixty motor cyclists were present at the Brookdale M.C.C. opening run to Keston (Kent). All signed on, and agreed to attend the general meeting at the Brookdale Hall, Catford, when the re-formed club will be formally started.

Proposed Herts County M.C.C.

There is strong evidence that a club for the whole county of Hertfordshire, with central headquarters, would be very popular amongst keen men in the district, and a meeting has been arranged for 7.30 on Saturday evening, March 5th, at the Red Lion Hotel, Hatfield. It would greatly help the organisers if those intending to be present would send a card to Mr. C. F. Plowman, 37, Broadwater Avenue, Letchworth, Herts, beforehand.

Northern M.C. (Newcastle-on-Tyne).

At the recent annual general and committee meeting of the Northern M.C., the following officers were elected for 1921: President, Sir Alexander Leith; chairman, Major W. Anderson, D.S.O.; hon. secretary, Mr. O. L. Rütter; hon. treasurer, E. E. Oldershaw; and joint sports secretaries, Messrs. R. Detchon and Jas. Percy.

It will be remembered that this club originated out of the national coal strike in early 1920, when about forty gentlemen offered their services to the Government, and were employed by the local Food Controller. Out of this beginning, the club has grown to its present size of 150 members. It is essentially an amateur club administered by amateurs for amateurs, although trade members are welcomed, as co-operation with the trade is desired. The annual subscription is 15s., and an entrance fee of 5s. for new members. All communications to be addressed to the hon. secretary, Northern Motor Club, 194, Cartington Terrace, Heaton, Newcastle-on-Tyne.

ANNUAL DINNERS IN SCOTLAND AND IRELAND.

Glasgow Western M.C.C. and Dublin M.C.C. Successful Events.

THE annual dinner of the Western M.C.C. (Glasgow), held in the "Grosvenor" on Feb. 12th, was indeed a very enjoyable function. About 150 members and friends were present, and did justice to a very excellent repast. Among the guests were several well-known names in the motor cycling world, notably Mr. Geo. Stevens of A.J.S. fame.

In proposing the health of "The Western M.C.C.," Mr. David Black paid tribute to the excellent work the club was doing in fostering the pastime in the West, and as a member of the trade was greatly in favour of competitions, and emphatic concerning the benefits which these brought to manufacturers.

In reply, Mr. W. H. Simpson, the chairman and popular president, gave a short *résumé* of the life of the Western M.C.C. As instancing the enthusiasm of its members, he stated that the membership at the end of 1919 was fifty, whereas to-day there were 200 names on the roll. The club had held eleven competitions during the past season, and these had been very well supported indeed.

During the course of the evening musical selections were ably rendered by several well-known artists, who greatly assisted in making the evening a most enjoyable one. To judge by the enthusiasm of those present, the coming season promises to be a record one from the sporting standpoint, and speed merchants in the West are assured of a very full programme, including several hill-climbs.

The Irish Affair.

Curfew regulations notwithstanding, the annual dinner and distribution of prizes of the Dublin and District Motor Cycle Club at the Dolphin Hotel on the 12th inst. was a very merry affair, and for a few hours the members of the club and their visitors to the number of nearly 100 endeavoured to forget the fact that unless the regulations regarding the circulation of motor cycles are materially relaxed the prospect of being able to carry out the usual competition programme during the coming months is a very gloomy one.

The newly elected president, Mr. S. L. Hutchinson, was in the chair, and in his usual cheerful manner he set a note for the proceedings that was sustained throughout the evening.

After dinner, the awards won during the year were distributed, over a hundred trophies, cups, and medals being handed over.

The toast of "The Club" was proposed by Mr. Cormac Walshe, the local manager of the Dunlop Co., a firm, by the way, that largely contributed to the prize list.

It was responded to by the hon. sec., Mr. W. H. Freeman, who mentioned that, despite the troubled state of affairs in Ireland, the club had carried out the full programme of events arranged at the beginning of the year and two extra events.

The toast of the health of "The President" was given by his predecessor in office, Mr. G. A. M. Curtis, and when Mr. Hutchinson had suitably responded he sprang a surprise on the gathering by producing a beautiful rose bowl for presentation to the secretary. Several members joined in the compliments paid to Mr. Freeman's work on behalf of the club, and the recipient suitably replied.

Other toasts included "The Press" and "Our Musical Friends," the latter contributing in no small degree to the pleasure of the evening.

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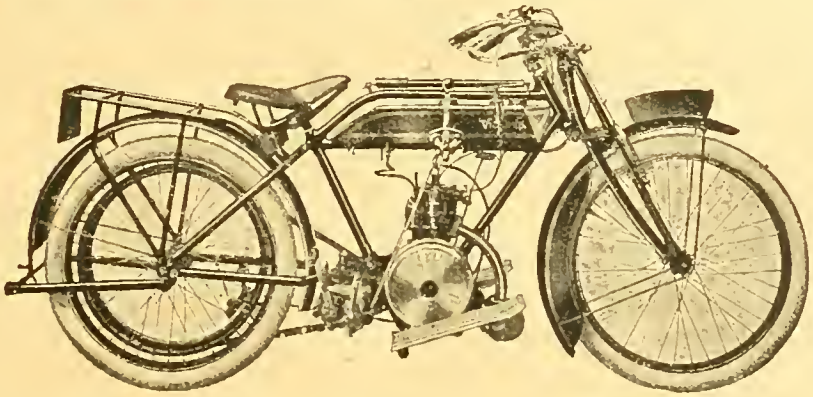
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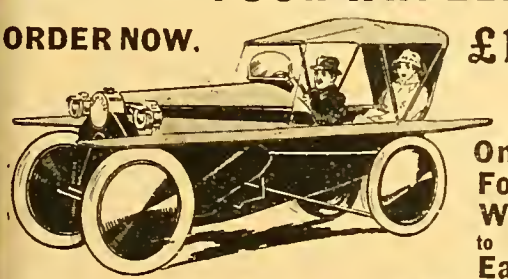
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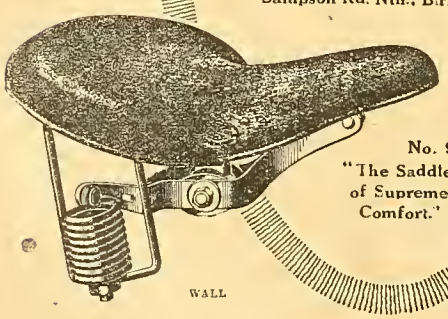
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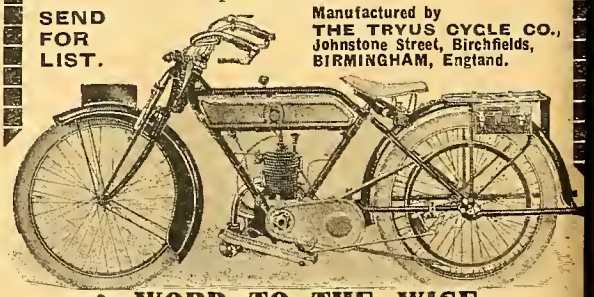
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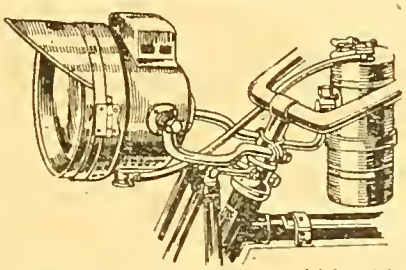
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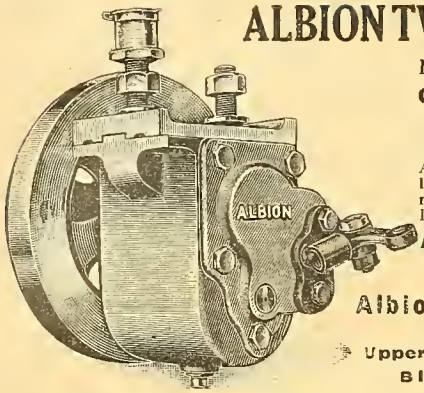
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We shall send cheque to pay the motor cycle tax of the person whose name is on the 13th order, opened on Tuesday next, for one of our Model C's. A sporting chance of your tax being paid for you. Send us name of your agent and his receipt for 7/6, you have paid to him for 1 Model C. M.A.P. Holder. No letters will be opened till after 1st post Tuesday, so do it now. Holder will be mailed to your agent Tuesday night.

TRY M.A.P. PLUGS.

MILLFORDS, LTD.,
BULLOCK ST., BIRMINGHAM.

THE BONNIKSEN ISOCHRONOUS SPEEDOMETER.

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Rocksteady and Unlimited Speed Reading

Governed by Balance and Escapement.



ACCURATE AT ALL SPEEDS.

PRICES—
Motor Cycle Type:
Trip, £6 5 0
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Send for Illustrated Booklet.

Rotherham & Sons, Coventry. Phone—752 & 753 Grams—"Rotherhams, Coventry."

Get Acquainted.

An early introduction to the machine bearing this transfer will soon prove to be to you

A Good Friend—

Not one that always needs your financial assistance, but—

MOTOR CYCLES LIMITED
FOREST HILL
LONDON

A Real Pal.

Its top hole specification includes the most satisfactory Spring Frame yet devised, and our Handle-bar control to Magneto flywheel gives Abnormal Range of Spark Control.

Ask your Agent to get you one.
TWO AND FOUR STROKE MODELS.

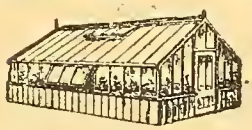
'ROCKSON'

Stourbridge M.M.C.C. Victory Hero Cup, 1st Prize in Class A; also Team Prize for three machines ridden by Rock Bros. *Cheapest machine on the market for the quality.*

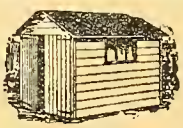
See our Models at **British Industries Fair, Castle Bromwich, Birmingham, February 21st to March 4th.**
STAND 500. BUILDING AA. BLOCK H.

Model A, single speed, **48 Gns.** Model B, 2-speed, **56 Gns.** Model C, 2-speed kick-starter, **62 Gns.**

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Greenhouses from **£10-5-0**


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Illustrated Booklet upon application.

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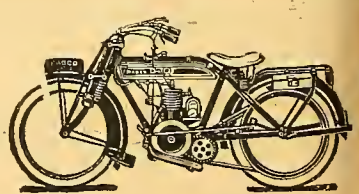
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Dartmouth Street, BIRMINGHAM.

Standard Model	£52 0 0
Two-speed „	£60 10 0
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Beware of overcharges by profiteers.



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Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed & Co. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, 1 %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited. The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

DAN GUY, Weymouth.—1921 A.J.S. in stock; £215. [2173

NEW 1920 A.B.C. 4-speed; £140; in stock.—Randall, Andover [0367

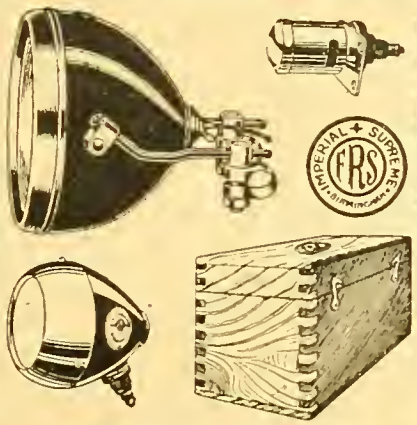
A.B.C. 1920 T.T., brand new, unregistered; £125.—166, High St., Cradley Heath. [2114

1920 A.B.C., in new condition, only ridden 500 miles; £100.—Clayton, Crown Point, Denton, Manchester. [2099

A.B.C. New Models from Stock, 1920; best cash offer entertained.—A. J. Young and Co., Ltd., Newmarket. [12S2

F.R.S. ACCESSORIES

ELECTRIC COMBINATION SET.



COMPLETE WITH SWITCH, WIRE, ACCUMULATOR & BULBS.

The most efficient and economical Electric Lighting Set on the market. Gives a powerful beam of light from a 4 volt, 8 c.p. bulb. Embodies a special parabolic reflector, patent Anti-Glare device, adjustable focus and adjustable One Nut attachment. Supplied in 6 Models.

Price: complete, from £7 15 0

GAS COMBINATION SET.

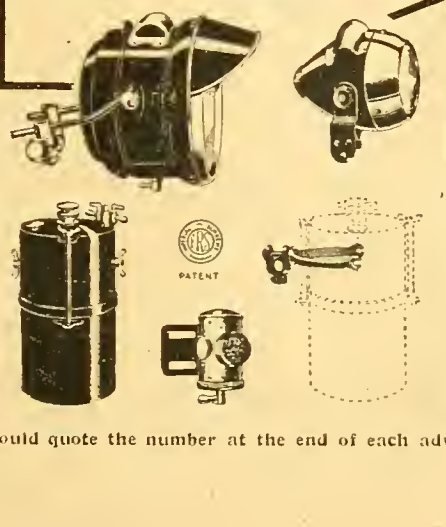
This is the ideal set for efficient and economical lighting. ONE big generator supplies all three lamps—saves time, trouble and labour. Supplied with either the famous "Major," 1,200ft. beam; "Big," 1,000ft. beam; or "Junior," 600ft. beam, head lamps.

Price: complete set, from £7 11 6

Write NOW for latest Catalogue, which illustrates many new lines of outstanding merit.

F.R.S. LAMPS,

Beam Works, Vere St., BIRMINGHAM.



MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C 1920 (Aug.), dynamo model, accessories and spares, perfect order and condition; £135.—Clarke, Lynn Rd., Ely, Cambs. [1339

A.B.C. 3h.p. (August, 1920), run about 500, good condition, tyres good, H.H. electric lamp set; 110 gns.—Osgood, 79, Alma Rd., Bristol. [2086

A.B.O. 1920 T.T., mileage 700, specially tuned for competitions, horn, tools, etc.; £115, or nearest.—Sowers, 2, Kemplay Rd., Hampstead. [8578

ARE your requiring a new combination for Easter? Julians, of Reading, have 1921 A.J.S. in stock. Secure one early, otherwise you may be disappointed. [0477

A.B.C., T.T., 1920, 3h.p., 4 speeds, clutch, lamps, etc., tax paid, just overhauled by makers, in the pink, ample spares available; £100, offers.—Potter, Henlow, Beds. [2678

A.B.C. (Aug., 1920), 4 speeds, lamps, Klaxon, speedometer, tool kit, in excellent condition, ride reasonable distance to purchaser; £110.—Flint, Chemist, Newport [9137

3½h.p. A.B.C. Combination, sporting, spring frame, 1915, electric light, speedometer, fast, splendid condition; bargain, £130.—O. Carter, 2, Westwood St., Moss Lane East, Manchester. [X7363

A.B.C. 1920 3h.p., 4 speeds, tyres perfect, 2 Lucas lamps and Lucas horn, copper exhausts, exceptionally fast machine, mileage under 500, machine in magnificent condition; £125.—Stirling, Broomfield Garage, Airdrie. [2087

A.B.C. Motor Cycle, late 1920 model, winner of several gold medals in reliability trials, complete with dynamo lighting, tools, etc., perfect condition, any reasonable trial; £135.—Pioneer Motors, Ltd., 50, Grindlay St., Edinburgh. [2309

A.B.C., specially tuned 1920 model, winner of several hill-climbs, very fast, in perfect running order, with specially strengthened parts, ideal machine for fast touring, and very reliable; £118.—Pioneer Motors, Ltd., 60, Grindlay St., Edinburgh. [2313

1920 A.B.C. Motor Cycle and sidecar, as new, perfect order, done 1,000 miles, Lucas dynamo lighting, extras; cost £223, bargain, 119 gns.; any trial; accept 1920-21 A.J.S. in exchange with cash difference.—Webber, St. Ives Hotel, Maidenhead. [2284

Abingdon.

1920 Combination, 6-7h.p. Abingdon engine, car tyres, tools, accessories, little mileage; £115, bargain; exchange.—78, Enell's Park, Edmonton. [2630

3½h.p. Abington C.B. Combination, 2-speed, clutch, Bosch, B. and B., lamps, etc., splendid condition; ride away; £45.—14, Credenhill St., Mitcham Lane, Streatham. [2336

1920 Abingdon King Dick 5-6h.p. Combination, 3 speeds, countershaft, all lamps, disc wheels, mileage 800, guaranteed; £135; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [2992

A.J.S.

A.J.S., immediate delivery, latest model.—Marston, 31, Bridge St., Chester. [3089

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [7313

A.J.S. 1921 Combinations in Stock, 2¾h.p., shortly.—Clifford Motories, Eastwood, Notts. [2773

BRIGHTON, Hove, and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. 6h.p. Twin, in excellent condition; first cheque £65 secures.—Godman, Union Lane, St. Albans. [X7313

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

A.J.S. and Sidecar, new condition; first £120 secures, tax paid.—Mosedale, 30, Canterbury Rd., Kilburn, N.W.6. [2498

1921 7h.p. A.J.S. Combination; immediate delivery, list price.—Morriss and Co., 139, Finchley Rd., N.W.3. [2217

A.J.S. 1921 6h.p., brand new, £195; A.J.S. 1921 7h.p. models, prompt delivery.—Taylor's Garage, Wednesbury. [2564

WAUCHOPE'S, 9, Shoe Lane, London.—7h.p. A.J.S. combination, latest 1921 model, standard model; £215. [3112

A.J.S. Combination, 1915, all accessories, completely overhauled in December last; first cheque secures, £120.—18, Lansdowne Rd., Wimbledon, S.W.20. [2782

A.J.S. Combination, Dec., 1918, hood, screen, Lucas accessories, spare wheel, Tan-Sad, unscratched; £152.—20, George Rd., Hay Mills, Birmingham. [X7473

A.J.S. 1921 Models, delivery guaranteed when required; deferred payments arranged.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4009

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. Combination, lamps, Stewart, Klaxon, speedometer, new Amac carburetter, perfect condition; £125.—Baker, 9, Berkeley Rd., Westbury Park, Bristol. [1539

A.J.S. (late 1919) 6h.p. Combination, side screen, hood, apron, spare wheel, acetylene and electric lamps, Tan-Sad, in splendid condition, tax paid; £160.—Tudor, Midland Bank, Carnarvon. [X7311

LATE 1920 A.J.S. Combination, Lucas Magdyno model, in perfect order, complete with hood, and including licence for 1921; 195 gns.; Midlands.—Box 163, c/o *The Motor Cycle*. [X6541

1921 A.J.S. Combination, 7h.p.; immediate delivery of the latest model; exchanges or easy payments.—Official agents, Honac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [2991

A.J.S. Twin 3-speed K.S. C.B. Combination, interchangeable wheels, speedometer, screen, luggage carrier, lamps, splendid condition; 105 gns.—De Ath, 10, Elaine Grove, Gospel Oak, N.W. [2530

BARGAIN.—A.J.S. combination, 5-6h.p., in perfect mechanical order, many spares, licence paid; any trial; £120 the outfit; any evening or week-end.— Greenwood, 19, Spencer Gardens, Eltham. [2235

A.J.S. 1921 7h.p. Combination, in stock, £215; exchanges or extended terms arranged.—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0069

A.J.S. 6h.p. Combination, 1919, dynamo lighting, spare wheel, screen, all black finish, splendid condition; £167/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3061

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

A.J.S. 2¾h.p. Motor Cycle, 2-speed, clutch, kick start, detachable cylinder head, tools, lamp, etc., perfect running order, tyres in good condition, great bargain; £65.—Pioneer Motors, Ltd., 50, Grindlay St., Edinburgh. [2311

A.J.S. 1920 6h.p. Combination, dynamo lighting, speedometer, hood, screen, hood cover, side curtains, Klaxon horn, Tan-Sad pillion seat, equal to new; £230. —Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X7403

A.J.S. 6h.p. 1920 Combination with Watford speedometer, Lucas dynamo lighting set, hood, screen, and spare wheel, excellent condition; £210, or near offer; done just over 4,000 miles.—Brannam, Pottery, Barnstaple. [0499

A.J.S. Motor Cycles: immediate delivery of the new 7h.p. combination, complete with interchangeable wheels and spare, £215; Lucas dynamo lighting set, £28 extra.—P. J. Evans, 81-91, John Bright St., Birmingham. [2459

A.J.S. Combination, luxurious outfit, Easting wind screen, speedometer, lamps, horn, spare wheel, 2 spare chains and valves, mileage 2,000, condition as new; £165; tax paid.—50, Church Lane, Normanton, Yorks. [2716

A.J.S. Combination, 1919, November, Lucas horn, generator, P. and H. lamp, Watford, insurance, tax, makers' accessories, perfect condition, mileage 3,000; £168; evenings.—Hopgood, 162, Brownhill Rd., Catford, S.E.6. [2628

A.J.S. Combination, 1920, beautiful condition, electric lighting, spare wheel, hood, side curtains, and wind screen, Cowey horn and speedometer, Tan-Sad, and all spares; accept £185, or near offer.—Baines, Broom Hall, Shrewsbury. [2330

F.O.C.H. have a brand new A.J.S. combination, shop-soiled); £190 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2404

EXTRAORDINARY Bargain.—Magnificent unused 1920 6h.p. A.J.S. combination for £185, a unique opportunity of acquiring the most luxurious outfit at £25 under manufacturer's list price; Midlands.—Box 2,241, c/o *The Motor Cycle*. [2982

1920 A.J.S. 6h.p. Combination, Nov., Eastings and glass wind screens, Watford speedometer, Stewart's car born, F.R.S. electric lighting, under 2,000 mileage, perfect condition, bought car; £200.—Coish, 21, Station Rd., Reading. [2659

LATE 1913 Early 1914 A.J.S., 6h.p., with good sidecar, luggage carrier, speedometer, watch, lamps, leg guards, latest front mudguard, gate change gear, new inner tube, first-class condition, motor suit, new Easting wind screen; best offer over £100.—F. Facer, Station Rd., Quorn, nr. Loughborough. [2670

Alecto.

ALECTO, the first 2-stroke to break records, a model to suit each individual taste, the speed model for the sportsman, the touring for the potterer, the complete combination for the family man, immediate delivery ex stock all 1921 models; catalogues and full particulars on request.—11L, Kramer Mews, West Brompton, S.W.6. [9991

Alldays.

2½h.p. Alldays, believed 1915, new tyre, good condition; £20, nearest.—76, Cromwell Rd., Luton. [2747



'Phone: Mid. 2910. 'Grams: "Lytcar, B'ham"

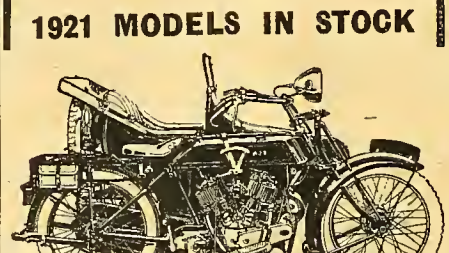
THE BIRMINGHAM HOUSE FOR MOTORISTS.

P. J. EVANS

FOR

MOTOR CYCLES

1921 MODELS IN STOCK



7 h.p. A.J.S. **£215**
Lucas Dynamo Lighting **£28**

7/9 h.p. INDIAN COMBINATION			£226
5/6 h.p. ROVER	do.		£195
8 h.p. NEW IMPERIAL	do.		£187
4 h.p. NORTON	do.		£177
4 h.p. TRIUMPH	do.		£195
4 h.p. BLACKBURNE, 3-speed			£135
4½ h.p. HUMBER FLAT TWIN			£140
4 h.p. INDIAN SCOUT			£157
4 h.p. TRIUMPH, 3-speed	£127	10	0
3½ h.p. ROVER, 3-speed	£135	0	0
3½ h.p. NORTON, 3-speed	£132	0	0
3½ h.p. NORTON, T.T.	£98	0	0
2¾ h.p. NEW IMPERIAL Kick-start	£89	5	0
2¾ EDMUND, Spring Frame	£95	0	0
2¾ h.p. MASSEY ARRAN do.	£90	0	0
2¼ h.p. ENFIELD, 2-speed	£65	0	0
2¼ h.p. TRIUMPH, 2-speed	£75	0	0

SPECIAL BARGAINS:

1920 Shop-soiled Models.

3½ h.p. ROVER, 3-speed	£125
4 h.p. INDIAN SCOUT	£145
4½ h.p. HUMBER, Flat Twin	£125
4 h.p. BLACKBURNE, 3-speed	£115
6 h.p. SPORTS ZENITH	£118
3½ h.p. ROVER, T.T.	£95
2¼ h.p. ENFIELD, 2-speed	£62
2¾ h.p. CALTHORPE-JAP, 2-speed	£63
2¾ h.p. CALTHORPE, 2-stroke, 2-speed	£58
2¾ h.p. METRO-TYLER, Type S.	£70
2¼ h.p. CONNAUGHT, 2-speed	£58
2¼ h.p. CONNAUGHT, single-speed	£50

81-91, JOHN BRIGHT ST.

MOTOR CYCLES FOR SALE.

Alldays.

ALLDAYS ALLON, 1918, 2-speed, lamps, etc.; 45 gns.—Sax, 619, Garratt Lane, Earlsfield, S.W.18. [3020

2¾h.p. Alldays Allon, 2-speed gear, thoroughly overhauled, complete; £45.—A. Mores, 119, Earle St., Crewe. [2738

2¾h.p. Allon, late 1920, 2-speed, kick start, lamps, mileage 1,000, perfect; £57/10.—Garaged, 261, Albany Rd., Camberwell, London. [2813

1919 Allon, 2-speed, and Canoelet sidecar, lamps, horn, tools, splendid condition; £65.—Write H.F., 15, Clarendon Rd., Leytonstone. [2072

1920 Allon, 2-speed, kick starter, lamps, horn, Tansad, etc., good condition, licence paid; £55, or near offer.—R. Hole, Broadway, Burgess Hill. [2778

1918 Allon 2-stroke, 2-speed, Lucas horn, P. and H. lighting, good running order and condition; £39.—436, Whitehorse Rd., Thornton Heath, S.E. [2831

1920 Alldays Allon, 2 speeds, clutch, and kick starter, Lucas horn, tools, etc., soiled only, under 500 miles, tax paid; £65.—Stewart, 7, Cleveleys Rd., Clapton, E.5. [2909

ALLDAYS Allon 2¾h.p., 2-speed countershaft, in new condition; genuine bargain, £40; after 6 o'clock or week-end.—Parkin, 51, Haydons Rd., South Wimbledon, London. [2532

1920 2¾h.p. Allon de Luxe, 2-speed, K.S., Binks, Cowey horn, lamps, Bonniksen speedometer, 800 miles, only used week-ends; reasonable offer: cost £105. —Walton, Hensall, Goole. [X7390

ALLDAYS Allon, 1919, Dec., 2 speeds, kick starter, hand clutch, legshields, tyres good, lamps, horn, splendid mechanical condition; £65.—Dare, Gloucester, Rd., Ross, Herefordshire. [2780

1920 Alldays Allon 2-stroke, 2 speeds, clutch and kick starter, Lucas horn, soiled only, mileage under 500; exchanges; £70.—Honac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3000

F.O.C.H. have a brand new Allon, shop-soiled; £73/5 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2410

American X

AMERICAN X 7-9h.p., speedometer, handle-bar clutch, new tyres, excellent condition; £60, or offer.—Godfrey, 25, London Rd., Luton. [2288

180 GNS.; 1920-21 American Excelsior, dynamo and underslung Canoelet, as brand new, never ridden.—54, Caval Rd., Mortlake. [X7439

AMERICAN X Combination, 7-9h.p., accessories, very fast, as new; £178.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0410

NEW 1921 American X for immediate delivery, 7-9h.p., 3-speed, 27×3½ tyres; liberal exchanges.—The Premier Motor Co., Aston Rd., Birmingham. [1874

7-9h.p. American X. Combination, 3-speed, etc., lamps, horn, very good condition, believed 1916 or 1917; £85.—Houlston, 658, King's Rd., Fulham, S.W.6. [2612

AMERICAN X Combination, late 1920, 7-9h.p., Canoelet MM4 sidecar, accumulator lighting system, perfect condition, very fast, tax paid; £195.—13, Norton Rd., Northampton. [2929

PRIVATELY Owned American X Combination, late 1919, 7-9h.p., 3-speed, K.S., special engine, brand new Millford Corvette de Luxe sidecar, fully equipped, and in perfect condition, tax paid, and insured for £200; accept £180, or best offer.—Gibbs, 68, South St., Bridport, Dorset. [2608

RACING Motor Cycle, American X, big valve model, fitted with Enfield 2-speed gear, etc., probably the fastest motor cycle in Scotland, ideal for fast touring or track work, special short wheelbase and low saddle position, with spares, perfect condition, a sure winner in any speed event; £205.—Pioneer Motors, Ltd., 50, Grindlay St., Edinburgh. [2312

Ariel.

DAN GUY, Weymouth.—Ariel agent, early delivery dates. [2174

6-7h.p. Ariel Combination, June, 1920; £140.—57, Chaworth Rd., West Bridgford, Notts. [1122

ARIEL 1914 3½h.p., Philipson, Bosch, Dunlops, good condition; £38.—146, Station Rd., Crayford, Kent. [3026

ARIELS, all models, orders now accepted for early delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0438

ARIEL 1920 New 3½h.p. Solo; list price £120, our price £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0422

ARIEL 6h.p. Combination, perfect, spares galore; any trial, licensed; £110.—Greenfield House, Whieldon Rd., Fenton, Staffordshire. [2475

1920 6-7h.p. Ariel Combination (late August), condition as new, Cowey speedometer, P. and H. lamps, luggage carrier, bulb horn; owner going abroad immediately; £155, or near offer.—18, Ladysmith Av., Seven Kings, Essex. [2362

MOTOR CYCLES FOR SALE.

Indian.

IDIANS 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 635 Central. [2437

IDIAN 1920 7-9h.p. Combination, good condition, dynamo lighting, speedometer; £180.—Max Syz, ım, Cheshire. [2423

IDIAN 7-9h.p., spring frame, 2-speed, clutch, K.S., splendid condition; £60.—122, Coventry Rd., ıd. [2420

)21 Indians.—Immediate delivery from stock.—E. Brown, Indian Specialist, 3 and 7a, Parker Lane, nley. Tel.: 1032. [X6090a

9h.p. Powerplus Indian Combination, 1919 model, condition as new, accessories; £125.—Jeffryes, 32, stead Rd., Wanstead. [2250

9h.p. Indian Combination, 2-speed, clutch, speedometer, luggage grid; £90; or exchange.—Heigh, Elton, Peterborough. [X7076

IDIAN 7h.p. Combination, overhauled, less engine and gears; £15.—Miller, Devonshire Cottages, row Hill, Chesterfield. [2805

IDIAN 1916 Powerplus, electric spring frame model, sporting sidecar, wind screen; £120, or offer.—Box 7, c/o *The Motor Cycle*. [2210

)19 7-9h.p. Indian and 1920 bulbous back sidecar, almost new; any trial; £135.—Conner, 86 touia Rd., Stroud Green, N.4. [2870

)14 Indian Combination, 7-9h.p., 2-speed, clutch, hood, screen, speedometer, electric lamps and ı; £95, offers.—85, Deodar Rd., Putney. [2355

85.—Indian 1918-19 Powerplus, 7-9h.p., 3 speeds, clutch, kick-starter, excellent condition, tax paid, away.—Cooper, 19, Julians Rd., Stevenage. [2230

IDIAN Twin Combination (70×65), light, fast, excellent order, discs, 3 speeds, chain drive; £90.—grim, 3, Castellain Rd., Maida Vale, W. [2108

IDIAN 1915 7/9h.p., spring frame, 3 speeds, clutch, kick start, good condition; £65.—Parker's, Brndgate, Bolton, and 245, Deansgate, Manchester. X7410

IDIAN Combination, 7-9h.p., 1914, 2-speed, lamps, horn, speedometer, quantity of spares; excellent dition; £80.—Harry Thrall, Wainfleet Rd., Skegness. [2121

OWERPLUS Indian New Luxurious Combination, fully equipped, dynamo lighting; best offer over 00 accepted.—90, Hugh Rd., Stoke, Coventry. [X7519

)20 Indian Scout, all lamps, etc., in perfect order, very fast, guaranteed; £130; exchanges.—mac's, 243, Lower Clapton Rd., N.E. 'Phone: Dal- n 2408. [3007

IDIAN 1920 7-9h.p. Powerplus Combination, electrically equipped, good condition: £160.—ker's, Bradshawgate, Bolton, and 245, Deansgate, nchester. A7411

IDIAN 1914 7-9h.p., clutch, engine No. 92F844, all accessories, spares, recently overhauled, many new ts; £45.—Banson, 120, Cranley Gardens, Muswell l, N.10. [3051

.T. 7-9h.p. Road Racing Indian, long copper exhausts, 60 m.p.h., 65 m.p.g., good condition oughout; trial; £49.—Ford, Sotwell, nr. Walling- l, Berks. [X7521

)20 Indian Combination, dynamo lighting, speedometer, tax paid, splendid turnout; £165, or hange lower power solo or combination.—Shaw, Dur- , Wakefield. [2700

)15 5-6h.p. Indian, 3-speed, K.S., clutch, dynamo lighting, just re-enamelled and plated, long copper aust, fast and powerful; £75.—St. Vincent, Chin- k Rd., Grove Park, S.E.12. [2500

IDIANS.—Powerplus 1919 and 1918 models, equal to new, £75; genuine aeroplane propellers, 2- led, new, 4/6; carriage extra.—Owen, 59, Scholel Rd., Upper Holloway, N. [X7443

IDIAN 1920 4h.p. Scout, with Grosvenor sporting sidecar to match, fully equipped, speedometer, as new; £155.—Parker's, Bradshawgate, Bolton, 245, Deansgate, Manchester. [X7409

)13 Indian Combination, 7-9h.p., 2 speeds, clutch and kick starter, electric lighting, leg guards, s well; accept £60.—Homac's, 243, Lower Clapton , N.E. 'Phone: Dalston 2408. [3004

)16 Indian 5-6h.p., 3 speeds, clutch and kick starter, all lamps, Bonniksen speedometer, guareed; £80; exchanges.—Homac's, 243, Lower Clapton , N.E. 'Phone: Dalston 2408. [2995

)15-16 Indian 5-6h.p., 3 speeds, clutch and kick starter, new Lucas lamps, Ford horn, Swan ıar, all in good order; must be sold; £90.—H. ter, 104, Moor St., Birmingham. [2297

)20 Latest Indian Combination, special Mills-Fulford sidecar, new spare chains, tyre, luggage grid, sting, 3,000 miles, overhauled by Godfrey's two weeks condition as brand new throughout; £180.—69, heby Rd., Highbury, N.5. [2482

IDIAN Motor Cycles.—Immediate delivery of these famous machines, electrically equipped. 7-9h.p. bination, £226; 4h.p. Scout, with speedometer, 67; lighting set £15.—Sole Birmingham Agent, P. Evans, 81-91, John Bright St., Birmingham. [1455

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19)20 Indian Powerplus Combination, big valve, T.T. bars, licensed, dynamo lighting, mileage 4,500, mostly solo, spare chain sprockets giving 3 ratios, hand clutch, unpunctured, wind screen, spare chains, valves complete; £190. 'Phone: 1111 Greenwich.—7, St. John's Park, Blackheath. [2152

19)17 5h.p. Indian, 3-speed, hand and foot clutch, lamps, horn, original front tyre, new back and new retread, spare chains, valves, engine thoroughly overhauled and guaranteed perfect, re-enamelled and plated, licensed; seen by appointment.—Faber, Croft Vale, Croft St., Renfrew, Scotland. [X7512

Invicta.

19)20 Invicta 3½h.p., perfect order, Lucas lighting set, speedometer, very little running, tax paid; £120, near offer.—Wem Motor Co., Wem, Shropshire. [2171

INVICTA 1920 3½h.p. Combination, fitted with all accessories and sidecar screen, run 400 miles only; accept £118.—Olympia Motor Co., 1, Hammersmith Rd., W.14. 'Phone: Western 4140 [1347

2½h.p. Invicta, 1920 model, run about 500 miles, single speed, lamps and horn. 26×2¼ Dunlop Magnum tyres, in almost new condition, cost £70; price now £50; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3082

Ivy.

IVY Cycles.—1921 models in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [1796

IVY 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5006

IVY, the aristocrat of its type: delivery of all models from stock; prices and catalogue post free.—Sole District Agents, The Walsall Garage, Walsall. Tel.: 444. [4011

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Henly and Co., London and District Agents, 91, Gt. Portland St., W 1. Mayfair 4084. [0022

IVY-PRECISION 3½h.p., T.T., fast machine, adjustable pulley, new wheels, tyres and tubes, Bosch, variable jet, disc wheels, long copper exhaust, Lucas King of the Road, excellent condition, all complete, tax paid; £55.—Lomas, Tunstead, Whaley Bridge, Stockport. [X7470

Ixion.

A POSTCARD Brings Particulars of bargain (Ixion-Villiers).—17, Gower St., Wolverhampton. [2363

James

DAN GUY, Weymouth.—James agent, early delivery dates given. [2178

19)20 James 2¼h.p., 2-speed, done 50 miles, lamps, complete; £62.—Chaston, Blackwood, Mon. (1) [2891

19)20 James 2¼h.p., lamps, horn, licence, spare cover, condition perfect; £60.—G. Sandy, Electricity Works, Launceston, Cornwall. [2245

JAMES New Combination, all models for immediate delivery from stock.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4012

JAMES 5-6h.p. Combination, 1920, used only for rural runs, fully equipped; £170.—Ratcliffe Bros., 230, Gt. Portland St., W. Mayfair 5042. [0423

JAMES Combination, Cancelet, 3½h.p. twin, 3-speed, all on; trial; gilt, £77.—M. Dettmer, 42, Falkland Rd., Kentish Town, London, N.W.5. [2092

JAMES 6h.p. Combination, 1920, new September, complete Magdyno lighting, wind screen, Tan-Sad; £160.—12, City Rd., Dunkirk, Nottingham. [2845

JAMES New 5-6h.p. Twin, Model de Luxe sidecar, £170, list £190; also new 3½h.p. twin solo, £120, list £135.—Stevens, 248, Gooch St., Birmingham. [X6602

NEW 1920 James 6h.p. Twin Combination, model de luxe sidecar, shop-soiled, at greatly reduced price; write for special bargain list.—The Premier Motor Co., Aston Rd., Birmingham. [3035

JAMES 1919 5-6h.p. Twin Combination, electric lighting, mileage 1,000, ridden by owner only, perfect, and like new; best offer over £160 accepted.—90, Hugh Rd., Stoke, Coventry. [X7518

JAMES 4¼h.p., 3-speed countershaft, all-chain, with canoelet sidecar, reliable outfit, special price; £72/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3065

DAN GUY, Weymouth.—1920 5-6h.p. James combination, complete, Lucas head lamp, Lucas horn, Lucas sidecar lamp, tail lamp, speedometer, Easting screen, mileage 1,195 only, as new; cash offers wanted. [2179

F.O.C.H. have a 1919 James 4¼h.p. combination, as new, completely equipped, electric set; £120.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2403

IMMEDIATE Delivery of any James Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0503

MOTOR CYCLES FOR SALE.

J.E.S.

J.E.S. 1921 Models from stock.—Gibb, Gloucester. 'Phone: 852. [0441

1920 Factory-built J.E.S., complete with lamps, tax, horn, as new; £30, or offer.—Badcock, British Workman, Exeter. [2908

J.E.S. Model de Luxe, fine order, dinky little engine; nearest offer £20.—Particulars, Lysaght, 34, Thomas St., Limerick. [2077

J.E.S. 1½h.p. 4-stroke, late 1920, done very little work, has been thoroughly overhauled, and carries makers' guarantee; first cheque for £35 secures this bargain.—J.E.S. Motor Works, Gloucester. [3009

Juno.

1918 Juno 2¾h.p., 2-stroke, 2-speed, new condition; £38.—29, St. Leonard's St., Bromley-by-Bow, East 4708. [2797

JUNO, 2¾h.p. Villiers, Amac, Thomson-Bennett, 2-speed Albion, in perfect order, tax paid; £47.—R. Marshall, Bracknell, Berks. [2368

Kerry.

BARGAIN.—Kerry motor bike, 3h.p., H.T. mag., B.B. carburetter, Whittle belt; £12/10.—Bottomley, 74, Lane Bottom, Thongsbridge, Huddersfield. [2806

Kingsbury.

NEW 1920 2¾h.p. Kingsbury, 2-speed, 2-stroke, undelivered; 60 gns.—Pellant, Harpenden, Herts. [2186

Lea-Francis.

1920 Lea-Francis 3½h.p., mag., complete, done 200 miles; £105.—Downing, Union St., Ryde. [2324

LEA-FRANCIS 1921 Models. Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2436

1914 Lea-Francis, Canoclet combination, Lucas accessories, Cowey, perfect; £85.—114, Brixton Hill. 'Phone: 1713 Brixton. [2906

NEW Lea-Francis, 2-speed, clutch, and kick starter, mag., engine, £130; deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [3076

£40 (slump price).—Lea-Francis, 2-speed, J.A.P., fast, and good running order, tax paid.—Seen Richardson's Garage, Rosslyn Mews, Hampstead. [2241

1920 Lea-Francis 3½h.p. Twin, lamps and horn, M.A.G. engine, used on road twice only, exactly as new; £100.—The Premier Motor Co., Aston Rd., Birmingham. [3038

LEA-FRANCIS 1920, shop-soiled only, list price £130; our price £115; orders now accepted for 1921 models.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0431

LEA-FRANCIS 3½h.p. M.A.G. engine, Millford sidecar, August, 1920, mileage under 400, detachable wheels, spare wheel and tyre, speedometer, D.A. lighting with spare cylinder, etc., condition as new; £135.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [9456

LEA-FRANCIS, Augnst, 1920, M.A.G. engine, 3½h.p. twin, 1,000 miles, P.H. set, speedometer, Lucas horn, Binks carburetter, 100 to gallon, spring seat-piller, T.T. bars, detachable wheels, enclosed chain drive, hand, foot clutch, spares, absolutely like new; cost £145, sell £105; tax paid; genuine bargain.—Apply, Farmer, 57, Biscot Rd., Luton. [2283

Levis.

LEVIS. Levis. Levis.

GENTLEMAN'S Popular Model, £60; lady's Popular Model, £60; immediate delivery. Levis specialists and sole distributors for London and district. Spare parts stocked, repairs undertaken.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., W.1. [0384

JULIANS, of Reading, have 1921 Levis in stock. [0483

DAN GUY, Weymouth.—Levis 1921 models in stock; £60. [2180

GIBB, Gloucester.—1921 Levis from stock.—'Phone: 852. [0442

1921 Levis, 2¼h.p., licence paid, all on, legshields, perfect; £56.—17, Station Rd., Bromley. [2541

LEVIS Late 1920 2¼h.p., all accessories; price 50 gns.—C., 15, Nightingale Lane, Hornsey, N.8. [2392

1920 Levis, mileage about 800, beautiful condition; 42 gns., very great bargain.—Julian, 84, Broad St., Reading. [0490

LEVIS, the finest 2-stroke in the world; delivery from stock; £60.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4013

NEW 1921 Models in Stock for immediate delivery; 2¼h.p. Levis touring, sports or ladies, £60.—The Premier Motor Co., Aston Rd., Birmingham. [3036

1921 Levis Popular.—We can give immediate delivery from stock; easy payments or exchanges; £60.—Official agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [2996

IN Stock, 1921 Levis, £60. Good wine needs no bush. Nuff sed!—Sole agents, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds 'Phone: Headingley 480. [0494

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L.S.D., 8 h.p., 3-wheeler	£245 0
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SCOTT, 3½ h.p., 2-speed	£130 0
***ROYAL RUBY,** 3 h.p., spring frame ..	£120 0
***SCOUT (INDIAN)** Twin.....	£140 0
TRIUMPH, 4 h.p., and Sidecar	£151 0
NEW IMPERIAL, 8 h.p., and Sidecar	£188 12
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B.S.A. 4½ h.p. 3-speed all-chain Comb.	£152 0
SCOTT Combination	£170 0
BRADBURY, 6 h.p., and Sidecar	£187 10
ENFIELD, 2¾ h.p., 2-speed, lightweight	£85 0
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B.S.A. twin Combination, Lucas dyno. spare wheel, etc.	£235 9
SUNBEAM 8 h.p. Combination, Lucas dyno lighting, spare wheel, etc...	£274 1

(*1920 models. Cash offers wanted.)

1921 DOUGLASES.

Including lamps, generator, horn, licence holder

2¾ h.p., 2-speed	£85 0
2¾ h.p., 3-speed, no clutch	£100 0
2¾ h.p., 3-speed, kick-start, clutch ...	£105 0
4 h.p., 3-speed, clutch	£130 0
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Guaranteed in Running Order.
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NORTON, 3½ h.p., T.T.....	£75 0
COVENTRY EAGLE, 1920, 3½ h.p., 3-speed. Very fine condition	£98 10
METRO-TYLER, 2-speed, red	£62 10
DOUGLAS, 1920, 2¾ h.p., 3-sp., accessories	£87 10
HOBART, 1920, 2¾ h.p., 2-speed, as new	£62 10
BRADBURY 3½ h.p., 3-speed	£47 10
MOTOSACOCHE magneto lightweight	£17 10

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LAGONDA, 1920, coupé, tax paid	£395 0
RICHARDSON, 1920, 2-seater, tax paid	£195 0
MORGAN, 8 h.p., Sporting, tax paid ..	£145 0
BUCKINGHAM, 2-seater, tax paid ...	£85 0
SCOTT 2-stroke Coach Comb.	£85 0
PREMIER, 3½ h.p., 3-sp., and Sidecar	£65 0
BRADBURY, 6 h.p., Grindlay Sidecar, lamps, etc., 1920 Combination	£162 10
B.S.A. TWIN, 8 h.p., new Sidecar	£127 10
ARIEL 3½ h.p. 1920 3-sp. Combination	£110 0
HARLEY, 7-9 h.p., 1920, and new latest type bulbous back Sidecar..	£195 0
HARLEY 1920 Combination, electric ..	£200 0
DOUGLAS 1919 4 h.p. Combination ..	£120 0
CHATER-LEA 8 h.p. 3-sp. Comb.	£85 0
BRADBURY, 3½ h.p., 3-sp., Sidecar ...	£75 0
BAT-JAP 6 h.p. 3-speed c/shaft Comb., speedometer, watch, lamps, etc....	£80 0
NORTON Big Four, 3-sp., Swan sporting Sidecar, electric lighting	£145 0

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Easting Windscreen, standard	£4 10 0
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Plated T.T. Bars, for Triumphs	£1 5 0

Carriage extra.

MOTOR CYCLES FOR SALE.

Levis

LEVIS 2¼h.p. 1917 Popular Model, in excellent condition, just overhauled, complete with lamp, horn, tools, good tyres, and aluminium footrests fitted; bargain, £35.—Thurgood, Bicknacre, near Chelmsford, Essex. [222

IMMEDIATE Delivery of the new Model S Levis with Sturmey-Archer 2-speed, handle-bar-controlled clutch; £68; the cheapest high-grade lightweight. Place your order now.—The Premier Motor Co., Aston Rd., Birmingham. [303

Lincoln-Elk.

2¾h.p. Lincoln-Elk, Bosch, B. and B., tyres excellent, re-enamelled, in good condition; £25.—35, Chiswell, Portland, Dorset. [26

L.M.C.

1914 4½h.p. L.M.C. Combination, C.B., 2-speed, K.S. lamps, etc.; £55; after 5, or Sunday any time.—Timbs, 43, Birnam Rd., Tollington Park, N.4. [207

Martinsyde

JULIANS, of Reading have 1921 Martinsyde in stock. [04

MARTINSYDE Combination, hood, screen, all accessories, electric and D.A. lighting.—Kenilworth Garage, High St., Putney. [28

1920 Martinsyde-Newman Combination, mileage under 100, absolutely for sale; offers.—Dorn, 20, Portland Rd., Oxford. [26

MARTINSYDE, delivery from stock of standard and de luxe combinations; also tradesman's outfit.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [24

5-6h.p. Martinsyde Combination, 1921, mileage 25, cost with all accessorise, including Tan-Sad, tax and insurance, £200, sell £175, or exchange for good modern 2-seater light car, cash adjustment.—D. Smith, Haslemere, Broadshard Lane, Ringwood, Hants. [28

Matchless

MATCHLESS

DON'T Hesitate.—If makers reduce prices before the end of May I guarantee to refund the difference.

1921 Combinations, any model from stock, or in few days. Gradual payments can now be arranged. Every outfit personally tested by the Matchless specialist. Spares of all dates in stock.—J. Tassell, 1a, Bloomfield Rd., Plumstead. [68

JULIANS of Reading have 1921 Matchless in stock. [04

1920 Matchless, Magdyno lighting, absolutely brand new, unused; £190.—Below.

ALL 1921 Models Immediate Delivery from Stock; deferred payments and exchanges if desired.—Edwards, 60, Harrington Rd., South Kensington. 'Phone: Kens. 3709. [18

GIBB, Gloucester, can deliver 1921 Matchless models from stock.—'Phone: 852. [04

MATCHLESS C.B. Combination; £60.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [27

MATCHLESS Combination; £110, bargain; must sell; stamp, particulars.—59, Ashburnham Rd., Bedford. [23

MATCHLESS, 1920, Magdyno, speedometer, as new; £185, near offer, or exchange car.—3, Kildown Rd., Goodmayes. [21

MATCHLESS Model H Combination to make specification; £205; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [30

MATCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [04

1920 8h.p. Matchless Spring Frame Combination, screen, spare wheel, all accessories, slightly soiled; £170.—Marston, 31, Bridge St., Chester. [30

MATCHLESS 1921 combinations from stock, changes; also 1918 8h.p. combination, lamps complete; £120.—Chaston, Blackwood, Mon. [28

MATCHLESS 1921 8h.p. Combination, accessories, used fortnight; £195.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 711 [25

MATCHLESS Combination, 7-9h.p. M.A.G., silencer, chain drive, 3-speed countershaft, Cameo, lamps, Pillion, tax paid; accept £105.—8, Squires Lane, Finchley. [22

MATCHLESS Model H Combination, hood, screen, leg shields, lamps, horn, etc., must sell; exceptional bargain; £168.—W., 2, Worship St., London. [15

MATCHLESS 1920 Model H. Combination, tax paid, Lucas lamps, horn, spare wheel, screen, speedometer; £165.—Hunter, 87, High St., Clapham, S.W.4. [25

1921 Matchless, Magdyno, hood, screen with side wings, legshields, speedometer; £210, or near offer.—Packman, 86, Bournbrook Rd., Bournbrook, Birmingham. [29

1921 Matchless, the combination of luxury and dependability, all models in stock; standard £205; electric, £230.—114, Brixton Hill. 'Phone: 1713 Brixton. [29

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Matchless.

MATCHLESS Combination, Model H2, Magdyno lighting, Easting wind screen, spare wheel, all accessories, as new; £195, or offer.—37, Winstanley Rd., Sheerness. [2514

MATCHLESS Brand New 1920 8h.p. Combination, dynamo lighting, just delivered; £195.—Clifford Wilson, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [2577

MATCHLESS Combination, 1920, model H, spring frame, spare wheel, lamps, etc.; £165.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3059

3½h.p. 1914 Matchless Twin, in perfect condition, 2 3-speed, K.S., chain-cum-belt, just overhauled by makers; £65, or lightweight and cash.—Gibbs, 68, Bath St., Bridport. [2609

BARGAIN.—Matchless 7-9h.p., M.A.G. engine, 3-speed gear box, running order, believed 1915; to first offer this week.—Thompson, Potato Merchant, St. Peter's St., Ipswich. [2822

H. B. CLARK and Co., Matchless agents.—Immediate delivery all models, including doubler; write for catalogue; exchanges arranged.—7, Exhibition Rd., S.W.7. [2964

1921 Matchless Combination; immediate delivery of these excellent machines; easy payments accepted.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [2997

MATCHLESS 8h.p. Combination, 1920, dynamo lighting, practically as new, guaranteed perfect; £185. Genuine bargain.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0418

MATCHLESS Service Depot. 'Phone: Greenwich 751.—All 1921 new models. Secure one now. Demonstration ride with pleasure at 8, E. Clapham (Motors), Peckwell St., Greenwich, S.E.10. [1030

MODEL H Matchless Combination, only run few miles, unscratched, best Lucas accessories, interchangeable wheels; sacrifice, £155; exchanges.—60, Hillingford Av., N. Kensington. [2639

8h.p. Matchless Combination, large coachbuilt sidecar, lamps, hood, screen, spares, insurance and tax paid; may trial; splendid condition; £85.—Athero, Middle Hillgate, Stockport. [2146

MATCHLESS 1920 Combination, Magdyno lighting, hood, screen, speedometer, spare wheel, splendid condition; 175 gns.; part exchange lightweight.—Darling, 8, Courthorpe Rd., Hampstead, N.W. [2352

1917 Matchless M.A.G. coachbuilt 8h.p., 3-speed, K.S., screen, hood, electric lighting, Tan-sad, gage and petrol carriers, oversize tyres, just re-enamelled; £150.—39, Kyrle Rd., Clapham Common. [3023

COMPETITION Matchless, 90mm. bore, o.h.v. twin J.A.P., Zenith type Gradua gear, coachbuilt torpedo sidecar, excellent condition; £75, or exchange and cash.—Davis, 30, Beaconsfield Rd., South Tottenham. [2257

1920 Matchless Combination, Magdyno, 8h.p. J.A.P., Kluxon, electric horn, Lucas bulb horn, speedometer, tax paid; £180; any trial; owner bought car.—Gray, Primrose Farm, Goodmayes, Ilford. 'Phone: Ilford 177. [2358

MATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models in stock. [5668

MATCHLESS, 1921 Models, from £205; demonstrations daily.—Agent (wholesale and retail), for London: George Smith, 268, Lavender Hill (opp. Ceiling and Hobbs), Clapham Junction. 'Phone: Battersea 1271. [9423

1920 Matchless Combination, 8h.p. J.A.P., hood, screen, spare wheel, Lucas horn and acetylene lamps, speedometer, sidecar step, mileage 2,000, tax paid, splendid condition; £190.—Bennett, Contes, Peterborough. [2662

MATCHLESS 1921 Models.—We specialise in the Matchless, and can supply from stock; exchanges; extended terms arranged.—Elce and Co., 15-16, Hopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0067

MATCHLESS Combination, new April, 1920, M.A.G. engine, Magdyno, Lucas horn, speedometer, legshields, splendid condition, tax paid; seen and tried any time by appointment; £190.—Hubbard, 126, High St. East Ham. 'Phone: East Ham 317. [2137

MATCHLESS 1914-15 8B Combination, 8h.p., M.A.G. engine, 3-speed, countershaft, Lucas dynamo lighting, electric horn, luggage grid, Easting, enamelled, very smart; £125.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3060

1921 Matchless.—We are the recognised agents for North Essex, and can deliver from stock, or, to your convenience, place your order with us now; we are experts and can guarantee you real satisfaction; exchanges.—Walbro Motor Cycle Co., 49, High St., Saffron Walden, Essex. 'Phone: 45. [X6978

1920 Matchless Combination, 8h.p. J.A.P. engine, newest model, Magdyno lighting set, wind screen, duplex glass, and side wings, trip speedometer, hood, shields, spare wheel, tax paid; no faults; owner buying 1921 model; £200, or nearest offer.—Freeth, 5, Cornwall Parade, C.E., Finchley, N.3. [1245

COPPEN ALLAN & Co

Sole Distributors for

Reading Standard

The WORLD'S MASTER Motor Cycle

PRICES.

Solo	.. .. ..	£184
Comb.	Standard ..	£229
,,	de Luxe ..	£270
,,	with PLUS ONE Sidecar, a Single or Double Seater at will	£250

Above prices include Dynamo Lighting (not combined with magneto), all Electric Lamps, Electric Horn, Shock — Absorber, Coverall Apron, etc. —

"PLUS ONE"

A Single or Double-Seater at will

Specification. Sidecar body and chassis (finished in any one of the six standard colours). Coverall apron, complete with turn-buttons. Adjustable lamp bracket. Aluminium step plate. Self-locking sidecar wheel stand. 26in. or 28in. wheel, tyre. Four point suspension complete with steel sidecar lugs for attachment to most makes of motor cycles. The whole of these guaranteed for six months. Total weight—185 lb. No irritating extras. Will carry two adults in comfort. **Catalogue with pleasure on request. Agents now being appointed.**

Deliveries have commenced with fittings complete for attachment to the undermentioned makes of cycles—

Reading Standard, Sunbeam, 3½ and 8 h.p. Zenith, Enfield, Harley-Davidson, Triumph, Douglas, 1h.p. Blackburne, 8 h.p. B.S.A., 4 and 6-7 h.p. Rudge, 6 h.p. Henderson, Excelsior (American), **British Excelsior, Indian, Ace, Matchless, A.J.S., James.**

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NEW HUDSON

Lightweight 2-stroke Types. All 30 - tax. The New Popular Utility Model.

Latest introduction. Simple—Light—Efficient—Inexpensive. With refined appearance, finish, and equipment, ensuring good service and complete satisfaction. **50 Guineas (complete)**

ACE 4-CYLINDER.

Agents for the Counties of Herts, Surrey, Kent, Sussex, Middlesex, Essex.

89, Gt Portland Street London.

MAYFAIR 5399

MOTOR CYCLES FOR SALE.

Matchless.

1920½ Matchless M.A.G. Combination, tax paid, insurance to Nov., fully equipped, including Lucas lamps and horn, spare wheel, speedometer, mud shield, hood, wind screen, sidecar step, extra storm apron, tyres unpunctured, mileage 2,000, faultless condition; Bristol district; £175.—Box 2,236, c/o *The Motor Cycle*. [2959

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock; for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley [0381

1920 Model H Matchless Combination, disc wheels, speedometer, dynamo lighting, hood, Tan-Sad, only done 1,700 miles, a bargain, £200; also similar model with full accessories, done 1,200 miles, £190; also 1919 Victory Model, very nice order, Lucas lamps, £140; and also late 1914 8B Model, dynamo lighting, disc wheels, £138; 3 months' guarantee given with each of above machines.—Ross, 86, High Rd., Lee, S.E. [2264

Metro.

METRO-TYLER 2¾h.p., 1919, good condition, 2-speed, drip feed, long plated exhaust, disc wheels, lamps; £55.—Trethmine, Engineer, Honiton, Devon. [2847

METRO 1920 2¼h.p., 2-speed, T.T., K.S., clutch, very little used, perfect running order, tax paid, lamps, etc.; £60, offers.—Mannox, Henlow, Beds. [2677

METRO-TYLER, 1920 model, Type S, 2-speed, unused, shop-soiled only; list price £96; accept £70.—P. J. Evans, 81-91, John Bright St., Birmingham. [9408

1920 Metro-Tyler, single-speed, long exhaust, disc, tax paid, just overhauled, splendid condition; £55, nr. 6.—Luckhurst, 51, Stormont Rd., Clapham Junction, S.W. [2676

Monarch.

1920 Monarch-Jap 2¾h.p., 2-speed, K.S., small mileage, fine condition; best over £60, tax paid.—Fieldside, Wroxham, Norfolk. [2151

Moto-Reve.

FOR Sale, 2¼h.p. twin Moto-Reve, Bosch mag., splendid running order, sound belt and tyres; £18.—Gulley, Post Office, Filleigh, N. Devon. (D) [X7422

Motosacoche.

MOTOSACOCHE, mag., splendid order; £20, or push cycle and cash.—57, Kenbury St., Camberwell, London. [2873

New Hudson.

1920 2¼h.p. New Hudson, brand new, unused; £58.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [1903

NEW HUDSON 1916 2¼h.p., 2 speeds, splendid condition, speedometer, lamps, etc., licensed; £37.—Bishop, Holly Walk, Enfield. [2427

NEW HUDSON Combination, 4h.p., 3-speed, kick start, chain, belt; £88; take lightweight part.—57, Kenbury St., Camberwell, London. [2872

1920 New Hudson 2¼h.p., 2-stroke, 2-speed, mileage 100, perfect condition; giving up, health reasons; 58 gns.—Thomas, Silchester Villas, Wokingham. [2369

NEW HUDSON Combination, 4h.p., 1919, accessories, little used; a bargain, £95.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0412

NEW HUDSON 1914 3½h.p., just overhauled, new 3-speed clutch fitted, good sidecar machine; £35, or exchange lightweight.—M.C., Denstone College, Staffs. [2136

1920 New Hudson 2¼h.p., 2-stroke, spare tyre, lamps, horn, £65; Triumph 4h.p., clutch model, lamps, Tan-Sad, £50.—Taylor, High St., Rawcliffe, Yorks. [2838

1914 New Hudson Big Six Combination, good throughout, £70 or nearest; also unused 650×65 Dunlop heavy cover, 40/-; also Isochronous speedometer, £4 10.—Rowe, Wexford. [2472

NEW HUDSON Lightweights, all models, on view; Popular, 50 gns.; de luxe, 65 gns.; Ace, 75 gns. Spares for 2¼h.p., 3½h.p., and 6h.p. machines stocked. Catalogues and any information by return.—New Hudson Depot, 45, Gray's Inn Rd., Holborn, W.C.2. [1982

New Imperial.

JULIANS, of Reading, have 1921 New Imperial in stock. [0485

£28; 2¾h.p. New Imperial, 2 speeds, lamps, good running order.—King, Egrove, Oxford. [X7447

WAUCHOPE'S, 9, Shoe Lane, London, E.C.—New Imperial, 2¾h.p., 1917; £40. [3105

1919 New Imperial, 2-speed, fully equipped; £40.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [2796

NEW IMPERIAL-J.A.P 2¾h.p., 1914-15, T. model, good condition; £42.—Box 2,205, c/o *The Motor Cycle*. [2302

1920 New Imperial, 2¾h.p., 2,000, fully equipped, speedometer; 69 gns.—52, Chatham Rd., Kingston, Surrey. [2924

NEW IMPERIAL 2¾h.p. J.A.P., 2 speeds, lamps, etc.; £58.—W., Holly Cottage, Bruce Grove Rd., Tottenham, N.17. [2393

MOTOR CYCLES FOR SALE.

New Imperial.

1915 2¾h.p. New Imperial-Jap, Albion 2-speed, good condition; £38; exchanges entertained.—21, Brent St., Hendon, N.W.4. [2483]

NEW IMPERIAL Motor Cycles and Combinations supplied at manufacturer's list prices; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3079]

NEW IMPERIAL-J.A.P., 2¾h.p., 2-speed, semi-T.T. bars, Seaspray carburetter, complete, splendid condition; £45.—Apply, Harben, 14, Old Swan Lane, E.C.4. [2202]

W.D. New Imperial and Sidecar, 2 lamps, 8h.p. Jap engine, all 3 speeds, tyres good, and general condition perfect; £95.—Ashville, Honor Oak, S.E.23. [2201]

NEW IMPERIAL.—All models for immediate delivery; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3071]

NEW IMPERIAL, 1916, 2¾h.p. J.A.P., equipped speedometer, sound throughout, good tyres; £37.—Write, F., 7, Albert Bridge Rd., Battersea, S.W.11. [2614]

NEW IMPERIAL 8h.p. Combination, new Easter, 1919, not done 6,000, just overhauled, tools, Klaxon, lamps, speedometer, licence, spare tyre; £140. —Gould, Wellington College, Berks. [2880]

1921 New Imperials.—Immediate delivery of all models from stock; easy payments or exchanges arranged.—Official agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [2998]

NEW IMPERIAL 1919 8h.p. Model, 3 speeds, kick start, hand-controlled clutch, fitted with Sunbeam sidecar. Easting wind screen, fully equipped; £145.—Parker's Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X7405]

IMMEDIATE Delivery of any New Imperial Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0506]

8h.p. New Imperial Combination, chain drive, complete with lamps and horn, bought new Aug. last and very little used, in excellent condition throughout; cash £145; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3081]

NEW IMPERIAL Motor Cycles.—Immediate delivery of these popular lightweight machines. 2¾h.p. 2-speed model with clutch and kick starter, 85 gns.; 8h.p. 3-speed combination, 178 gns.—P. J. Evans, 81-91, John Bright St., Birmingham. [1454]

F.O.C.H. have a brand new New Imperial, 2¾h.p., kick starter, shop-soiled; £78 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2405]

New Scale.

1920 New Scale Combination, 3½h.p. Precision engine, kick start, clutch, 2-speed, first-class condition and running order; £80.—A.L., 12, Oakley Sq., N.W.1. Seen after 6. [2479]

SCALE 3½h.p. Precision, £94/10; 4 h.p. Blackburne, £126, motor cycles you will hear more about. I have always a stock of each model; trade supplied.—Davies 229, Deansgate, Manchester. 536 Central. [2440]

Norton

JULIANS of Reading have 1921 Nortons in stock. [0489]

GIBB, Gloucester, can deliver 1921 Nortons from stock.—'Phone: 852. [0444]

NORTON.—Immediate delivery all models.—Marston, 31, Bridge St., Chester. [3087]

HORSMAN for Nortons.—Victor Horsman, Ltd., 7, Monat Pleasant, Liverpool. [0471]

WILLIAMS' Garage, Cheltenham, can give immediate delivery of any model Norton. [X6444]

NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [6126]

NORTON 1921 Models from stock.—The Premier Motor Co., Aston Rd., Birmingham. [3039]

1920 (Whitsuntide) Big Four Norton, sports sidecar.—Reynolds, 303, Western Bank, Sheffield. [1537]

NORTON 1921 3½h.p., 3-speed, T.T., from stock; £132; exchanges.—Chaston, Blackwood, Mon. [2893]

NORTON'S for immediate delivery, each machine specially tuned.—Evans's Garage, Newport, Salop. [X6557]

NORTON 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5005]

NORTON 3½h.p., T.T., Philipson, brand new, unregistered, cost £107; what offers?—Padget, Howden, E. Yorks. [2775]

NORTON 1919 3½h.p. B.R.S., Philipson, aluminium discs, lamps, horn, knee grips, etc.; £100.—39, Mosack Rd., Balham, S.W. [2492]

3½h.p. Norton Sports Model, 3-speed countershaft, all chain drive, lamps, Klaxon, tax paid; £90.—45, Pelham Rd., Wimbledon. [2739]

NORTONS.—Alec Jackson (ex Dispatch Rider) rides them and sells them. Immediate delivery. Can deliver anywhere.—East Parade, Keighley, Yorks. [2062]

H.A.H. Accessories. H.A.H. Complete Electric Lighting Sets.

REGISTERED H.A.H. TRADE MARK

H.A.H. Specialities. Genuine Hellesen Dry Batteries.

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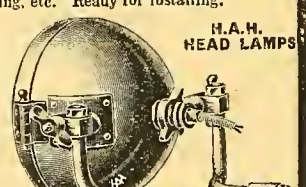
between Feb. 21st, 1921, and June 1st, 1921, to grant a REBATE of any difference in price on goods purchased after Feb. 21st, 1921, and actually held in stock on the date

ANY REDUCTION IS MADE.

H.A.H. COMPLETE SETS.—Head, Side, and Tail Lamps, Accumulators, Carrying Case, Switch, Wiring, etc. Ready for installing.

Fig. 895. Best quality finish throughout. Very massive and strong. Adjustable focus. Adjustable brackets. Special dust and weather-proof front. Price as illustrated, 72/6 each Nickel plated.

H.A.H. HEAD LAMPS



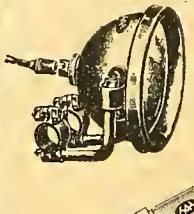


Fig. 878. Similar to Fig. 895 but smaller, and with special "pull on" front. Rubber ring casting for glass. Price as illustrated, 55/- each.

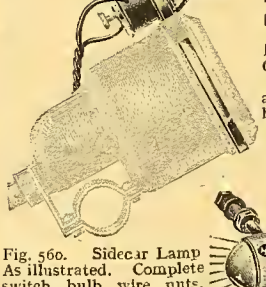


Fig. 347. **'Speedolite.' H.A.H.** Patent Speedometer Lamp, 7/6 each Clips direct on to Speedometer and has coloured bulb to prevent glare.

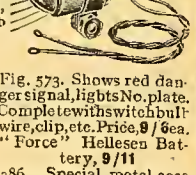


Fig. 560. Sidecar Lamp As illustrated. Complete switch, bulb, wire, nuts, washers, etc. Price 8/6 each.



Fig. 573. Shows red danger signal, lights No. plate. Complete with switch bulb wire, clip, etc. Price 9/6 ea. "Force" Hellesen Battery, 9/11 386. Special metal case for "Force," 10/6 Complete rear set, 29/6.

Postage extra on the above.

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MOTOR CYCLES FOR SALE.

Norton.

1919 3½h.p. T.T. Norton, Philipson, Cowey speedometer, knee-grips, lamps, horn, tools, tax paid; £85.—68, High Lane, Chorlton-cum-Hardy, Manchester. [2

NORTON 1919-20 Big Four Model, Sandum sidecar, Cameo wind screen, fully equipped; £130.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X74

DAVIES, of Manchester, can deliver 1921 Norton from stock; the machine you will eventually buy, all spares stocked, prompt attention.—229, Deansgate, 'Phone: 536 Central. [24

NORTON Agents.—Motor cyclists in or near Oldham call. Our Mr. Mitchell will demonstrate to you the finest machine in the world.—Bulloughs Motor, Waterloo St., Oldham. [20

1921 Big Four Norton, with family sidecar, chilled seat, wind screen; delivered by makers this week; £184/10; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [30

1920 3½h.p. T.T. Norton (Nov.), complete with licence, lamps, horn, speedometer, etc., tyres unpunctured, small mileage; price 90 gns.—Capt. M. Fryar, Orchard End, Thaxted, Essex. [21

NORTON Motor Cycles.—Immediate delivery of all models; combination £177, Big Four solo £13 3½h.p. sports £132, 3½h.p. T.T. £98, sporting sidecar £35.—P. J. Evans, 81-91, John Bright St., Birmingham [94

LATE 1920 Norton Big Four, fitted with Henderson latest Elite sidecar, wind screen and storm apron, electric lights, insurance £5 from January and £4 tax paid, not done 250 miles, finest turnout seen on road, any trial; bought car; bargain, £165 cash; cost over £200.—Guest, Owston Ferry, Doncaster. [21

N.S.U.

N.S.U. 2¾h.p., fine running order, Bosch, Duplex £20.—Hatcher, Vicarage, St. James' Rd., Hampton Hill. [211

N.U.T.

NUT-J.A.P. Motor Cycle, brand new; £150.—Pollard, Broomfield Rd., Chelmsford. [301

N.U.T., Magdyno lighting, new Dec., only run 5 miles; nearest £125.—Bishop, Casa Mia, Horn church. [265

N.U.T. Latest Electrically-equipped 3½h.p. Models at makers' list prices from stock.—A. J. Young and Co., Ltd., Newmarket. [125

N.U.T. 1920 3½h.p., 3-speed Magdyno, horn, tools, splendid condition; £118.—103, Thurlow Park Rd., West Dulwich. [252

N.U.T. 1920 3½h.p., 3 speeds, clutch, T.T. bars, dynamo lighting, as new; £125.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X741

N.U.T.—Delivery from stock of all models. Sole wholesale and retail agents for Staffordshire; the trade supplied.—The Walsall Garage, Walsall. Tel. 444. [401

4-5h.p. Twin Nut-Jap, 3 speeds, kick start, lamps, horn; sell £54, or exchange lower power and cash; understung coachbuilt sidecar, suit same, with hood; £10.—125, Canal Rd., Mile End, E. [225

N.U.T. 1916 3½h.p. Racing Model, fitted with J.A.P. o.h.v. engine, exceedingly fast and in really good condition, just re-enamelled dark red, long plated exhausts, T.T. bars, adjustable pulley, smart sporting speedy machine, seen in Manchester; best offer near to 50 gns.—Apply, Box 2,179, c/o *The Motor Cycle*. [2212

1920-21 N.U.T., 3½h.p., semi-T.T. model, Sturmey Archer 3-speed countershaft gear, Binks carburetter, ebony black finish lamps, Lucas Magdyno, Cowey speedometer, spare belt, tools, Lucas horn, costing £180, scarcely soiled, mileage negligible, Dunlop oversize tyres; will accept £130, inclusive of tax. —H. Baker, The Crossways, Yelverton, S. Devon. [2629

O.K.

JULIANS of Reading have 1921 O.K. in stock [0481

O.K., 2-speed, splendid condition, any trial; £38.—3a, Standen St., Tunbridge Wells. [2665

2-SPEED O.K., latest model from stock at list price.—A. J. Young and Co., Ltd., Newmarket. [1258

DAVIES, of Manchester, can deliver 1921 O.K.'s from stock.—229, Deansgate. 'Phone: 536 Central. [2435

1921 O.K. Union; immediate delivery, list price.—Morriss and Co., 139, Finchley Rd., N.W.3. [2221

£28; O.K. 4-stroke, about 2h.p., 2 speeds, handle starter, splendid running order.—King, Egrove, Oxford. [X7448

2¾h.p. O.K., J.A.P., 1917 believed, lamps, 2-speed, fast, tax paid; £36; photo stamp.—181, Newton Rd., Burton-on-Trent. [2586

O.K. Union 1920, run a few miles only, fitted with all accessories; cost £56; accept £39.—Chinery, 1, Hammersmith Rd., W.14. 'Phone: Western 4140. [1346

F.O.C.H. have a brand new O.K., 2-speed, shop-soiled; £59 cash; exchanges and easy payments arranged. —5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2406

MOTOR CYCLES FOR SALE.

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall, Andover. [0368

OMEGA 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2438

OMEGA.—Immediate delivery of all models.—The Rochester Auto Supply Co., Corporation St., Rochester. [0465

T.O.C.H. have a brand new Omega, 2¾h.p., kick started, shop-soiled; £73/10 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 52. Hours 9-7, including Saturdays. [2408

P. and M.

JULIANS, of Reading, have 1921 P. and M. in stock. [0488

P. and M., about 1918, condition as new; 48 gns.—36, High St., Hampstead. [3029

£48.—1918 R.A.F. model P. and M., fast and reliable.—Rae, 245, Hammersmith Rd., W.6. [2731

1918 P. and M. Combination, R.A.F. model; £62; tax paid.—9, Church Rd., Willesden. [2079

P. and M. Combination, R.A.F., Canoelet sidecar, tools, 2 lamps; £80.—Pine Farm, Wokinghnm, Berks. [2384

P. and M. 1917 3½h.p., first-class condition; trial; £55.—Cowdell, Wallace's Garage, Enville St., Tunbridge. [1265

P. and M. 3½h.p., mag., 2 speeds, countershaft, runs splendidly; must sell; 29 gns.—53, Swaffield Rd., Wandsworth. [2836

£35; P. and M., R.A.F. models, less mag. and carburetter; magnetos for same, £3.—24, Church Walk, Hampstead. [3027

1919 P.M., handsome sidecar, electric horn, lights, whole as new, Saturday or Sunday; £75.—55, St. James Rd., Bermondsey. [3016

P. and M., 1918 Model R.A.F., in splendid order, complete with accessories, tools, licence, one new tyre; £70, or near offer.—Bevan, Tisbury, Wilts. [2282

£40; 1914 (Dec.) 3½h.p. P. and M., not W.D., all accessories, tax paid, perfect condition, trial; privately owned.—Wilson, 32, High St., Peckham. [2647

P. and M. Combination, 1917, with lamps, new tyre back, perfect order; any trial; £78, or offer.—38, Parklands Rd., Tooting Bec Common, S.W. [2916

1919 3½h.p. P. and M. Combination, full spares and accessories, licence and insurance; what offers? Sheffield district.—Box 2,207, c/o *The Motor Cycle*. [2304

1917 P. and M., in good condition, splendid running order, recently overhauled, tyres done under 200 miles; £45, no offers.—Box 2,232, c/o *The Motor Cycle*. [2839

P. and M. 1919 Combination, lamps, spares, horn, etc., 1920 colours, in absolutely new condition, any trial given; 78 gns.—A. Southorn, 12, Thiule Rd., Streatham, S.W. [9842

1919 P. and M. Combination, engine No. 8151, fully equipped lamps, Klaxon, apron, tools, spares, 2 spare tubes, excellent condition; £80.—Thring, Zarin, Broadwater Rd., Worthing. [1795

1920 3½h.p. P. and M. Combination, mechanical lubrication, Easting, Bonniksen trip speedometer, Lucas acetylene, electric side and rear, Klaxon, spare tube, chains, tools, tax paid and in excellent condition; £128.—Mitton, Orchard, Norton, Letchworth. [2736

P. and M. Combination, Jan., 1920, Canoelet touring sidecar, Cowey speedometer, Lucas lamps, mileage 1,700, insured to June, guaranteed perfect and unpunctured, licence paid; cost to-day £175; will accept 115 gns.—67, The Avenue, Bruce Grove, Tottenham. [X7368

Paragon.

1920 3h.p. Paragon; £45.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [2725

PARAGON 3h.p., 2-stroke, 2 speeds, free engine, spring frame, brand new, unpacked from makers; sacrifice, £55.—Box 2,237, c/o *The Motor Cycle*. [2960

Peugeot.

6h.p. Peugeot Twin Combination, engine rebushed, new rings, good tyres; first cheque £15.—2, Queen St., Bideford, N. Devon. [2138

Precision.

WAUCHOPE'S, 9, Shoe Lane, London, 4¼h.p. Precision, 1914, 3-speed gear model; £35. [3100

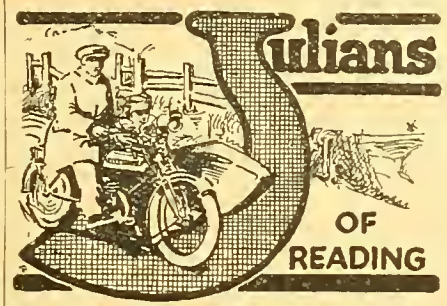
3¾h.p. Precision, Bosch, new B. and B., Dunlops, ¾ discs, lamps, horn, mechanically sound; £35.—158, London Rd., Kingston-on-Thames. [2389

PRECISION 4¼h.p. Sports Combination, 3-speed, clutch, etc., smart lot; sell, £55, or exchange lightweight and cash.—9a, Brightwell Crescent, Tooting, S.W. [2549

Premier.

5h.p. Twin Premier, complete, Amac, Bosch, exhaust pipes; £15.—Woodwards, Chiltern Green, Luton, Beds. [2130

PREMIER 2½h.p., running order, licence paid, lamps, horn; £26, or near offer.—118, Pembroke Rd., Canton, Cardiff. [2107



6
BIG BARGAINS

NEW IMPERIAL - J. A. P., 2-speed, slightly shop-soiled ..... **67 Gns.**

1920 **MARTINSYDE,** and Sidecar, hood, screen, electric lamps, horn, etc., tyres unpunctured, magnificent condition ..... **137 Gns.**

8 h.p. **NEW IMPERIAL,** and Sidecar, absolutely new, never been ridden, slightly shop-soiled ..... **150 Gns.**

1920 **LEVIS,** mileage about 800 ..... **42 Gns.**

1920 6 h.p. **ZENITH-GRADUA,** Sports model, absolutely new, slightly shop-soiled ..... **110 Gns.**

MATCHLESS Combination, slightly shop-soiled, never ridden, Magdyno, screen, detachable wheels, etc., magnificent outfit **195 Gns.**

JULIAN,
84, Broad Street,
READING.

'PHONE: 1024.

MOTOR CYCLES FOR SALE.

Premier.

1914 3½h.p. T.T. Premier Motor Cycle, good condition; £28 for quick sale.—Butt, Sandy Down, Boldre, Lymington. [2164

1915 7-9h.p. Premier Combination, Swan coach sidecar, countershaft gear; £55.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [2801

PREMIER Coachbuilt Combination, 3-speed, clutch, kick start, dynamo lighting, good condition; £55.—Ainsworth, 24, Springfield Rd., New Southgate. [2828

PREMIER 1915 3½h.p., 3-speed countershaft, K.S., solo, or wicker sidecar, excellent condition, tax paid, lamps, horn, tools; £75-£80.—28, Old Dover Rd., Canterbury. [2095

PREMIER 1914-15 3½h.p. Combination, 3-speed countershaft, K.S., speedometer, lamps, makers' overhaul, new condition; £85.—Dyke, Lindfield French Garden, Haywards Heath. [2687

PREMIER 4h.p., late 1916, first-class condition, just overhauled, tyres good, 3-speed gear, kick start, countershaft gear box, speedometer, lamps, complete; £75.—Apply, A. H. Brown, Broad St., Thatcham, Berks. [2449

PREMIER 7-9h.p. Combination, 1914, double-seater sidecar, perfect condition, 3-fold wind screen, just home from overhaul, ready to ride away, 3-speed clutch, kick start, lamps, nearly new tyres, tax paid; £110; photo.—Gillatt, 2, Mascotto Rd., Putney, London, S.W.15. [3093

Priory.

PRIORY 2¼h.p. 2-stroke, 2-speed, price £66/10; kick start, £75. Sub-agents required for Lancashire, Cheshire, North Wales, Isle of Man.—Liverpool and County Motor Co., 16, Preesons Row, Liverpool. [2351

Quadrant.

1920 Quadrant and Sidecar, nice order; £95.—Ross, 86, High Rd., Leo, S.E. [2266

HORSMAN for Quadrants.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0472

1920 Quadrant Combination, new condition, Easting wind screen; £115.—Taylor's Garage, Wednesbury. [2568

1920 Quadrant Combination, tradesman's sidecar, equipped; £85.— 59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [2726

QUADRANT Specialists, sole agents and distributers London, Southern and Eastern Counties, Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kens. 7113. [2572

QUADRANT Combination, 3 speeds, free engine, K.S., coachbuilt sidecar, all accessories, engine overhauled by makers; £75; solo £60.—Spratt, 35, Fourth Av., Queen's Park, London, W.10. [2397

QUADRANT 1920 4½h.p. 3-speed Combination, Easting, acetylene head with electric stud-by, electric tail and side, horn, tools, etc., new condition, registered; £135, or offer.—60, Cresswell Rd., Twickenham. [2692

Radco.

RADCO 2¼h.p., in running order; £25.—Duff, King's Rd., Thame, Oxon. [2254

£23; Radco 2-stroke, in good running order; bargain.—King, Egrove Farm, Oxford. [X7449

RADCO 1915 2¼h.p., 2-speed, fully equipped; £35; tax paid.—84, Dawlish Rd., Leyton. [2263

1920 2¼h.p. Radco, single speed, new; £46; licensed.—Herring, 20, High St., Petersfield. [2103

30 GNS.—Radco 2-stroke, electric light, etc., excellent condition, tax paid, ready for road.—35, Pregrove Rd., Holloway, N.7. [2878

Raleigh.

1921 Raleigh 5-6h.p., flat twin, in stock; catalogue on application.—Roe's Cycle Depot, West Bridgford, Nottingham. [2936

RALEIGH 5-6h.p., solo or combination, in stock; orders now accepted.—Ratcliffe Bros., 200, Gt. Portland St., W.1. 'Phone: Mayfair 5042. [0425

RALEIGH 4-6h.p. twin, the motor cycle superb, in stock at list price.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3067

1921 Raleigh, 5-6h.p., flat twin, spring frame, chain drive, solo, 155 gns.; sidecar, 195 gns.; first as usually with anything really good, we now have both in stock.—Sole Birmingham Agents, The Premier Motor Co., Aston Rd., Birmingham. [3041

Reading-Standard.

READING-STANDARD 10h.p. Combination, dynamo lighting, Canoelet MM4 sidecar, shop-soiled; £180, or offer.—H. E. Williams, Motor Engineer, Exeter. [2734

Rex.

REX 6h.p. Twin Combination, handle start; £28.—Smith, 20, East Hill, Dartford. [2149

3½h.p. Rex, old model, good; nearest £12/10.—A. Tallack, Bissoe, Perranwell, Cornwall. [2356

REX 6h.p. Combination, Bosch mag., new tyres, 2-speed; sacrifice £45.—Small, Butcher, Ludlow. [2849

REX, 3½h.p., mag. ignition, B.B. carburetter, running order; £15.—63, Arlingford Rd., Brixton. [2625

MOTOR CYCLES FOR SALE.

Rex.

5-6h.p. Rex Combination, 2-speed, clutch, Stewart, lamps, £2/10 tax paid; £65.—17, High Rd., Tottenham. [2490

5-6h.p. Twin Rex, splendid condition, coil ignition, stored 5 years; what offers?—22, Eastbourne St., Rochdale, Lancs. [2580

Roc.

ROC Motor Cycle, less engine, low built, 26in. wheels; £6/10.—56, Sutton St., Aston, Birmingham. [X7465

ROC, 3½h.p., new Triumph forks, new B.B., Bosch, perfect going order; £25, offers.—Hoggard, 30, Anchor St., Chelmsford. [2633

Rover.

1914 Rover 3-speed Combination, equipped, coachbuilt; £55.—Shaw, Park St., Wellington, Salop. [X7433

3½h.p. Rover, 1914, 3-speed, clutch, sporting sidecar, perfect condition; £55.—54, Graham St., Sloane Sq., London. [2203

ROVER 3½h.p. 3-speed Countershaft Combination, Cameo, fully equipped; £80; tax paid.—84, Dawlish Rd., Leyton. [2262

ROVER 1918 5-6h.p., 3 speeds, clutch, and kick starter, as new; best offer.—Smith, 20, Church Rd., Southgate Rd., N.1. [2585

ROVER 1920 3½h.p., shop-soiled; list price £135, our price £125.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0426

5-6h.p. Rover Combination, W.D. pattern, in excellent condition; any trial; £100.—Wallis, Bayley's Hill, Sevenoaks, Kent. [2618

ROVER, 1919, T.T., perfect, with Philipson pulley, absolutely fine machine; £85; any trial.—H. Dawson, 60, Regent St., Cambridge. [2952

NEARLY New Rover 5-6h.p. Twin, with Mills-Fulford sidecar, splendid condition; £105; bargain.—Beecher, 472, Archway Rd., London, N.6. [2721

ROVER 3½h.p., 1920 model, complete with Rover sidecar, unused, shop-soiled only; £155.—P. J. Evans, 81-91, John Bright St., Birmingham. [9404

6h.p. W.D. Rover Combination, just re-enamelled, Easting wind screen, in perfect condition; £100.—Nunn, Farmer and Co., 73, Union St., Torquay. [2348

1920 3½h.p. Rover, coachbuilt sidecar, 3-speed, kick starter, fully equipped, Cowey speedometer, mileage 800; £145.—Bungalow, Llawhaden, Narberth. [2089

1919 Rover 3½h.p., 3-speed, kick start, sidecar, new tyres, lamps, Klaxon, all spares and full kit, excellent condition; 90 gns.—Hoare, P.O., Wilton, Salisbury [2777

1920 6h.p. Rover Combination, discs all round, all lamps, beautiful condition; £145; tax paid. Exchange 1920 Triumph and cash.—6, Abbotsford Rd., Redland, Bristol. [2650

'XTRA Hot.—5-6h.p. Rover combination, large exhausts fitted, specially tuned, small mileage, electric lighting, Easting; £125 cash.—Blencathra, Maidstone Rd., Chatham. [2795

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery; hire purchase if desired.—Collard, Cock's Garage, Shifnal. [2684

1919 (late) Rover, 6h.p., J.A.P., Rover sidecar, 3-speed, chain drive, 28×3 tyres, small mileage, carefully used, fully equipped; reasonable offer accepted. —89, Oak Lane, (Tel.: 2190), Bradford. [2846

Royal Ruby.

DAVIES, of Manchester, can deliver 1921 Royal Rubys from stock.—229, Deansgate. 'Phone: 536 Central. [2433

8h.p. Royal Ruby Combination, late 1918, electric lighting, very little used.—Davies, Adcote, Baschurch, Shropshire. [2244

4h.p. Royal Ruby-Jap Combination, 3-speed S.A., H.C., lovely condition, lamps, hood, accessories; any trial; £78.—19, Valney St., Tooting. [2677

1920 3h.p. Royal Ruby, spring frame, 2-speed, K.S., lamps, horn, good condition; offers or exchange Harley. — Fisher, Craigmore, Pontypool Rd., Mon. [2827

ROYAL RUBY 1919 8h.p. Combination, mechanically perfect, engineer owned, electric lighting, all accessories; any trial; £150, or nearest offer.—J.D.M., 62, Church Rd., Northwich. [2603

1920 8h.p. Royal Ruby, with Dunhill sidecar, £160, in perfect condition, almost as new, has just done 3,600 miles, and does over 60 miles to the gallon, tax paid.—G.M., The Grange, Hendon Av., Finchley, London, N.3. [2344

3h.p. Royal Ruby, spring frame, 2-speed, clutch, and kick starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used, and condition as new; reduced to £100; deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [3077

Rudge.

NEW 3½h.p. Rudge Multi, unridden; £95, or offer.—88, Park Rd., Dulwich. [2842

1919 T.T. Rudge; £65.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [2728

Burlington Motor Cycle Co. Ltd.



'Phone Rates are Rising. Ring us Now.

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DOUGLASES & TRIUMPHS

Stove-enamelled and plated in makers' colours. Engines and gear boxes thoroughly overhauled in our own workshops. Fitted with new tyres, belts, and chains. In appearance practically indistinguishable from new. Every machine complete with Tool Bag, Kit, and Pump, and carries our

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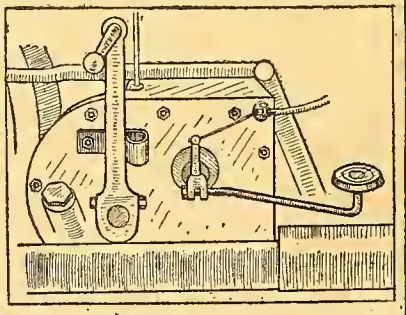
TRIUMPHS

4 h.p. 3-speed Countershaft £100
4 h.p. 3-speed Combination with new Burlington Sidecar £130

DOUGLASES

2¾ h.p. 2-speed £65
4 h.p. 3-speed, kick-starter, Solo £85
4 h.p. 3-speed, kick-starter, Combination with brand new Burlington Sidecar £110

We have large stocks of Douglas and Triumph Spares, and shall be pleased to quote you upon receipt of your enquiries. **Trade Supplied.**



TO TRIUMPH RIDERS. Convert your clutch into Foot as well as Hand-Control. A neat pedal finished in dull plate, and so designed that it can be fitted in a few moments by an amateur. Its effect is to convert the standard machine into a Foot and Hand Operative Clutch Model. Price 4/- Postage 4d.

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TO 4 h.p. DOUGLAS OWNERS.

Write for particulars of our Clutch Conversion Set.

No more broken drawbolts.
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CASH OR DEFERRED PAYMENTS.

The BURLINGTON MOTOR CYCLE COMPANY, LTD.,

7, South Side, CLAPHAM COMMON, S.W.4.

'Phone: Brixton 2417.

Grams: "Burlington Motors, Clapham."

(50 yards from Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

Rudge.

1921 I.O.M. Rudge, brand new; £89.—Ramsden's, 8, May Bell Av., Blackpool. [286

I.O.M. Rudge Multi at makers' list price, from stock.—A. J. Young and Co., Ltd., Newmarket. [125

1912 F.E. Rudge, licence paid, new tyres, guaranteed; £27.—Shaw, Park St., Wellington, Salop. [X743

RUDGE Multi Combination, in new condition; £55; any trial.—Wright, 12, Albert St., Poplar, London. [305

1920 Special All-red 7-9h.p. Rudge Multwin, mileage 200, fast and powerful; £135.—6, Fleet St., Preston, Lancs. [2100

1920 5-6h.p. Rudge Multi Combination, Montgomery sidecar; £90, bargain.—Bradbeer, Friday St., Minehead. [242

RUDGE-MULTI 3½h.p., late 1919, excellent condition; best offer over £85.—Geake, 4, Whitehangh Terrace, Paisley. [216

£36.—Rudge 1914 3½h.p., clutch, good condition, accessories, goes splendidly.—143, Ravensbury Rd., Earlsfield, S.W. [295

1919 Rudge Multi, 56h.p., only ridden 400 miles, as new, lamps, etc.; £82, no offers.—364, Lillie Rd., Fulham, S.W.6. [221

1920 (late) Rudge and Watsonian sidecar, Easting, mileage 200, like new; £95.—Central Garage, Lord St., Southport. [X748

RUDGE Multi, 1920 I.O.M., done about 300 miles, like new, lamps, tools, etc.; £90.—Hora, Rainsford Rd., Chelmsford. [212

RUDGE Multi, 1921, I.O.M., unused; cost £110/5; cash wanted, what offers?—82, Queen's Rd., Nuneaton, Warwickshire. [292

RUDGE Combination, 5-6h.p., 1919, splendid condition, privately owned; £120.—Seen at Booth's Garage, Frodsham, Cheshire. [236

RUDGE 1920 Combination, appearance and condition as new, lamp, and spares, tax paid; £125.—Morgan, Jeweller, Gravesend. [292

RUDGE Multi 3½h.p. Combination, lamps, insurance, good running order and condition; £60, offer.—60, Bromar Rd., Camberwell Grove. [227

RUDGE Multi 1916 5-6h.p., perfect mechanical condition, lamps, horn; seen any time; £76.—Bindon, Rushey Green, Catford, S.E.6. [235

1920 5-6h.p. and 7-9h.p. Rudge Multi Combinations, new; £152 and £175.—Shepherd, Enfield Highway, Enfield. Tel.: Waltham X31. [034

RUDGE, I.O.M., 1920, as new, done under 100, guaranteed perfect and unscratched; £98, bargain. —S. Dawson, 60, Regent St., Cambridge. [295

RUDGE Multi, I.O.M., late 1920, mileage under 100, Lucas lighting; absolutely as new; £90.—198, Sheen Lane, East Sheen, S.W. 'Phone: Richmond 1112. [232

1913 3½h.p. Rudge Multi, exceptionally fine engine, whole machine in perfect condition, very fast; £50.—Foreman, Southbrae, Bramhall, Cheshire. [X736

RUDGE 1919 I.O.M. 3½h.p. Model, full T.T. bars, long exhaust pipe, very fast; £73.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X740

RUDGE, I.O.M. T.T., 1918, lamps, discs, licence, etc., splendid condition, fast; £65; will exchange for late model Enfield 2-stroke.—11, Ellerby St., Fulham. [208

RUDGE Multi Coachbuilt Combination, June, 1913, recently overhauled makers, lamps, tools, spares, £50.—Yates, 151a, Clapton Common, E.5. Dalston 1475. [208

RUDGE 1920 3½h.p., Multi-gear, I.O.M. frame, speedometer, electric horn, equal to new; £90.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X740

RUDGE-WHITWORTH, coachbuilt sidecar, 1912, 3½h.p., 2-speed gear, accessories, good mechanical order; £45.—Taylors, Ltd., 52, Sussex Place, S.W.7. Phone: Kensington 7260. [046

1920 3½h.p. I.O.M. Rudge, nearly new, Henderson sidecar etc., property of client, ordered new model; £110.—Seen S. E. Clapham (Motors), Stockwell St., Greenwich, S.E.10. [294

RUDGE 3½h.p., 1913, clutch model, overhauled by makers June, 1920, new tyres, etc., same time to £25, licence paid, very fast; £55, or best offer.—Horseman, Haworth-on-Tees, Darlington. [209

I.O.M. T.T. Rudge Multi, Nov., 1919, lamps, Klaxon, knee-grips, overlap cams, just thoroughly overhauled, fast and reliable, tax paid; snip; must sell; £75.—C.J.W.T., 1, York St., Norwich. [225

1920 Rudge Combination, 7-9h.p., F.R.S. electric lamps, Grindlay sprung sidecar, Cameo screen, in splendid order, very fast, guaranteed; exchanges; £140.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [299

Scott.

GIBB, Gloucester, can deliver 1921 Scotts from stock. —'Phone: 852. [044

IMMEDIATE Delivery 1921 Scott motor cycle and combination, in stock.—Millards, Chesterfield. [400

MOTOR CYCLES FOR SALE.

Scott.

1919 Scott, semi-T.T. bars, lamps, horn, and tools, in perfect order; £85.—12, Bridge St., Cambridge. [2299

1920 Scott, 3in. Palmers, Binks, lamps, horn, spares, perfect order; £107, or offer.—Foster, 8, Monica Rd., Wisbech. [2274

SCOTT 1920 Combination, ridden 125, lamps, horn, speedometer, 3in Palmer; snip, £128.—7, Exhibition Rd., S.W.7. [2965

1914-15 Scott, splendid order; exchange for late 2¾ h.p. Douglas; or sell £65.—Burns, 17, North Row, Moorcose, Barrow-in-Furness. [2785

1914 Scott, thoroughly overhauled, new replacements where required, running order; £46, or nearest.—Mayo, 28, Kingston, Yeovil. [2702

SCOTT Solo, semi-T.T. bars, Binks, oversize rear tyre, 1919-20 model; must be sold; £95; Coventry. Box 207, c/o *The Motor Cycle*. [X7385

SCOTT, 1920 sports model, horn, tools, very small mileage, enamel as new, plating fair, perfect order; £110.—D. Lavin, Old House, Sonning, Berks. [2097

1920 Scott Combination, 3in. Palmers, Lucas lamp set, speedometer, many spares, perfect condition; £135.—Alan Hill, Apsley, Fellows Rd., S. Farnborough, Hants. [X7314

SCOTT 1920, small mileage, lamps, horn, speedometer, Binks carburetter, excellent condition, tyres unpunctured; 110 gns.—13, Clifton Crescent, Folkestone. [2296

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. Phone: Brixton 2417. [0510

NEW 1921 Scott Squirrel, £130, delivery from stock; new 1921 sporting model Scott, £150, immediate delivery; special 1920 competition model Scott, slightly soiled, £110.—Marston, 31, Bridge St., Chester. [3085

1920 Scott, with Reunoc sidecar, P. and H. lamps, Lucas horn, etc., magnificent condition, guaranteed perfect, tyres unscratched; £145; exchanges.—Scott agents, Homac's, 243, Lower Clapton Rd., N.E. Phone: Dalston 2408. [3002

1920 Scott Combination, Godfrey's electric lighting (accumulator), Cowey speedometer, Lucas horn, Easting screen, mileage 1,000, tax paid, cost £209 last Aug.; price £160; absolutely as new, guaranteed; exchanges.—Scott agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3001

Singer.

1916 3½h.p. Singer Combination, 3-speed, hub gear, tyres and condition good; £35, for quick sale.—Carnforth, Haywards Rd., Cheltenham. [2667

Sun.

SUN-VILLIERS 1917 2-stroke, single gear, lamps, speedometer, spares, excellent condition; £42.—Write, 28, Foxley Hill Rd., Purley, Surrey. [2531

SUN-VITESSE, 2¾h.p., 1920, 2 speeds, clutch, kick-starter, lamps, run 500 miles, new condition, bought car; £55.—Redfern, Thurlow Park, Torquay. [2224

NEW 2½h.p. Sun-Vitesse, 2-stroke engine, single speed, £52/10, ditto with clutch and kick starter, £70; lady's model ditto, £73; easy payments.—Harrods, Ltd., 118 Brompton Rd., London. [3078

4¼h.p. Sun-Precision, 1914, stored 5 years, thoroughly overhauled, perfect condition. Armstrong 3-speed, clutch, £58; also spare Hutchinson tyre, 26×2½in., 52/-; mechanical horn, 30/-, both brand new; head light, 14/-.—Webster, Belford, Merthyr Rd., Abergavenny. [2327

Sunbeam

NEW 1920 Sunbeam 3½h.p. Solo; £155/8; in stock.—Pandull Andover. [0366

SUNBEAM 1921 3½h.p. in stock; makers' list price.—Chaston, Blackwood, Mon. [2895

WILLIAMS' Garage, Cheltenham, can give immediate delivery of any model Sunbeam. [X6445

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. Sunbeam, new 1921 model, just delivered; £155/8. [3101

3½h.p. Sunbeam, late 1920, new condition, Lucas lamps, horn; £140.—C. Parrish, 28, Cavendish St., Keighley, Yorks. [2080

2¾h.p. Sunbeam, hand clutch, K.S., all accessories, mileage under 3,000; £70.—McIntire, Christ's College, Cambridge. [2233

1914 Sunbeam Combination, in good condition, complete with lamps and sidecar screen; £100.—Clark, Builder, Billericay. [2599

1920 Sunbeam 3½h.p., nearly new, would exchange Ford van or sell; £130.—Write, A. E. Harling, 123, Gt. Suffolk St., Borough, S.E. [3030

SUNBEAM Brand New 3½h.p., solo model, complete with Lucas lamps and horn; £157/10.—The Walsall Garage, Walsall. Tel.: 444. [4008

3½h.p. Sunbeam, 1916, 1920 engine, Canoelet sidecar, Lucas lighting, guaranteed as new, renovated; £124.—Pearse, Nursery Walk, Worcester. [X7469

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

Burlington Motor Cycle Co. Ltd

What's Yours?

We can give immediate delivery, if desired, of any of the following makes. Cash or deferred payments.

Quarter down, balance in eleven monthly instalments.

F.N.
B.S.A.
WOLF
SCOTT
VERUS
UNIBUS
ALECTO
DOUGLAS
TRIUMPH
CALTHORPE
NEW IMPERIAL
ETC.

TUITION FREE.

THIS WEEK'S BARGAINS

1921	**CALTHORPE** Combination, Sturmey-Archer 2-sp. (Tax £2 10s.)	110 gns.
1920	**SCOTT,** Sports Model, 2-speed ..	£130
1920	**DIAMOND-VILLIERS,** 2¾ h.p., 2-stroke, 2-sp., clutch, and kick-starter	78 gns.
1920	**COULSON-B.,** 4 h.p., 2-speed ..	£90
1920	**NEW IMPERIAL-J.A.P.** ..	£60
1920	**PRIORY,** 2¾ h.p., 2-stroke ..	£55
1920	**NEW IMPERIAL** Combination ..	£150
1919	**HARLEY-DAVIDSON,** electric model	£150
1919	**TRIUMPH** Combination, complete with electric lighting	£135
1920	**A.J.S.,** spare wheel, electric lighting, speedometer, hood, screen, Tax paid, perfect condition. All accessories and spares	£200

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BURLINGTON SIDECARS.

Special Models for the TOURIST OR SPEED MERCHANT.

THE BURLINGTON MOTOR CYCLE CO.,

LIMITED,

7, SOUTH SIDE, CLAPHAM COMMON, S.W.4.

'Phone: Brixton 2417
'Grams: "Burlington Motors, Clapham."
(50 yards from Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

Sunbeam.

1920 3½h.p. Brand New Sunbeam and Sidecar, interchangeable wheels, at list price, from stock.—A. J. Young and Co., Ltd., Newmarket. [1254

1921 Sunbeam 3½h.p., double purpose gears, footboards, T.T. handle-bars, delivery May; Glasgow; £5 deposit paid; offers.—Fernhill, Stranraer. [2560

3½h.p. Sunbeam, guaranteed indistinguishable from brand new, cost £155/8; will sacrifice for £139 (unregistered).—Beck, Thornhill Hoole Rd., Chester. [2749

3½h.p. Sunbeam, sporting sidecar, Lucas accessories, spares, Bonniksen, licence, insurance, overhauled makers; £129.—Borlund, 139, Newport Rd., Stafford. [X7471

SUNBEAM 1920 3½h.p. Model fully equipped, mudshields, equal to new; £150.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X7404

1920 Sunbeam, brand new, immediate delivery; £155; exchanges or easy payments.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3006

8h.p. Sunbeam Combination, Nov., 1919, delivery, all accessories, including spare wheel, trial by appointment; £190.—M.D., 145, Harley St., W.1. [2196

8h.p. 1920 Sunbeam Combination, hood, screen, 4 interchangeable wheels, accumulator lighting, speedometer, Klaxon; £225.—C. V. Goddard, Avenue Rd., Leicester. [2347

1920 Sunbeam, 3½h.p., horn and lamps complete, equal to new, with nicely built sidecar; ill-health reason for selling.—Hossell, West Harptree, near Bristol. [2598

1919 Sunbeam 3½h.p. Combination, with Lucas lamp, horn, speedometer, wind screen, pillion seat and leg guards, splendid condition; £135.—Poulton, 4, Brighton Rd., Cheltenham. [X7301

1914 Sunbeam 3½h.p. and sidecar, carefully used, foot and hand control clutch, speedometer, suit overalls, etc.; owner bought car; £110; tax paid; or offer.—Bovey, Farnborough, Kent. [2338

1920 3½h.p. Sunbeam Combination, electric lighting, speedometer, horn, etc., mileage negligible; cost new £225, accept £185.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0435

SUNBEAM 3½h.p., 3-speed, all-chain, coachbuilt sidecar painted black to match, lamps, horn, and Easting; £110.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3064

1920 3½h.p. Sunbeam, Grindlay sidecar, Lucas accessories, wind screen, Binks carburetter, spares, excellent condition, tax paid; £160; Morgan wanted.—Fisher, 11, Middleborough Rd., Coventry. [X7423

SUNBEAM.—We are Wolverhampton agents. Spare parts in stock. Repairs and overhauls. Estimates upon request for re-enamelling and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

SUNBEAM, 1915, 3½h.p. engine, gear box, and clutch, thoroughly overhauled, lamps, and horn, excellent running order; £82.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles [2970

SUNBEAM Combination, black and gold, 3½h.p., 1916, little used, excellent condition and mechanically perfect, Easting screen, 4 almost new tyres, Lucas lamps, spares; nearest £125.—Sunnycroft, Roundhill, Leicester. [2663

SUNBEAM Late 1919 3½h.p. Combination, coachbuilt sidecar, Easting screen, Tan-Sad, full set lamps, speedometer, horn, etc., really smart outfit, practically as new, tax paid; £140.—85, Shirland Rd., Paddington. 'Phone: Padd. 3889. [2354

SUNBEAM 3½h.p., New Easter, 1919, 3 speeds, splendid machine, carefully used, small mileage, excellent condition throughout, Lucas acetylene lamp, tools, horn, etc., complete; first cheque £125.—H.T.S., 26, New Rd., Shoreham, Sussex. [2834

LATE 1920 Sunbeam Combination, 3½h.p., detachable wheels, registered Sunbeam sidecar, screen, legshields, lamps, horn, fur-lined muffs, Tan-Sad, knee grips, licence, very small mileage; £195.—Tipper, Deighton, Church St., Brierley Hill, Staffs. [2737

SUNBEAM Late 1919 3½h.p. Sporting Model, 1920 cylinder and piston, Binks or Amac, Lucas lamps, generators, and D.A. cylinder, Klaxon, new tyres, spares, etc., tax paid, perfect condition; £120.—Guthrie, 24, Overstrand Mansions, Battersea Park, S.W.11. [2332

SUNBEAM 3½h.p., 1918, W.D. model, new in 1919, very little used and in good mechanical order, Dunlop tyres, lamps, generator, and mechanical horn; owner wants to dispose at once; what offers?—Leeding, High St., Sutton. 'Phone: 235. [2561

1920 (July) 3½h.p. Sunbeam Combination, mileage 2,000, Cowey speedometer, detachable wheels, Dunlop Magnum manufactured tyres, Lucas lamps and horn, tax paid; cost £228 (receipt shown); accept £175, or near.—White, San Remo, Solihull, Warwickshire. [X7475

SUNBEAM (Oct., 1920), 3½h.p., Magdyno lighting set, horn, knee grips, Bonniksen speedometer, ridden few hundred miles only, perfect condition and appearance; £160.—Anderson, c/o Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [2975

MOTOR CYCLES FOR SALE.

Sunbeam.

1920 3½h.p. Sunbeam Combination, F.R.8, electric, Lucas horn, Cowey, leg shields, Brooks laminated spring saddle, back rest, Terry's pillion, spare wheel and tyre, luggage carrier, screen; £190, cost over £250; trial by appointment.—Dalrymple, 9, Lyndhurst Rd., Wolverhampton. [X7474

1920 8h.p. Sunbeam Combination, Lucas electric lighting, Klaxon; Cowey speedometer, Tan-Sad, petrol carrier, Bluemel wind screen, spares, new tyres, insurance, mechanically perfect, excellent appearance, tax paid; £224, or nearest offer; owner buying car.—Tyers, Trade Division, Admiralty. [2331

8h.p. Sunbeam Combination, purchased new October, 1919, mileage 1,600, fully equipped and in first-class condition throughout; cost £260; great sacrifice at £200; must sell immediately; photograph and particulars on application; trial or expert examination.—Percy Hart, Bradley, Wylam, Northumberland. [2562

Triumph.

JULIANS, of Reading, have 1921 Triumph in stock. [0487

TRIUMPH, 1921 Models.—George Smith, Clapham Junction, S.W. [9424

ALL 1921 Triumph Models in Stock.—Premier Motor Co., Birmingham. [3042

NEW 1921 Triumph S.D. Solo; £140; in stock.—Randall, Andover. [0365

TRIUMPH Model H and S.D. from stock.—Chaston, Blackwood, Mon. [2894

BABY Triumph, splendid condition, just overhauled; £46/10.—Carters, Ibstock. [X7366

NEW 1921 Triumph S.D. Combination; £195; in stock.—Randall, Andover. [0364

1912 Triumph, fine condition, lamps; first decent offer.—20, Valnay St., Tooting. [2583

1918 T.T. Triumph, Mabon gear; seen any time; £50.—18, Farm Av., Streatham. [2480

1920 Triumph Junior, not ridden since October; £55.—196, Church Rd., Hove. [2246

TRIUMPH 3½h.p., running order; £35, or nearest offer.—G. Addis, St. Briavels, Glos. [2619

TRIUMPH 3½h.p., 1912, perfect condition, equipped; £26.—17, Heaton Rd. N., Mitcham. [2690

1919 Triumph, Millford sidecar, speedometer, lamps, horn, excellent condition; £110.—Below.

ALL 1921 Models Immediate Delivery from Stock; deferred payments and exchanges if wished.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [1902

T.T. Triumph, engine 71779, mileage 200, tax paid; nearest £90.—2, Chudleigh Rd., Ladywell. [2509

TRIUMPH.—Immediate delivery all models, from £75 to £140.—Marston, 31, Bridge St., Chester. [3088

TRIUMPH C.B. Combination; £48.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [2729

CLUTCH Triumph, splendid condition; £40; tax paid.—170, Parnell Rd., Bow, London. [2281

1919 T.T. Triumph, lamps, Klaxon, etc., perfect; £70.—L. Bull, 44, Hills Rd., Cambridge. [2694

TRIUMPH, ridden 50 miles, as new; £95.—Walker, 769, Romford Rd., Manor Park, London, E. [1380

DAN GUY, Weymouth.—1921 Triumph combination, £182/10; Triumph 2-stroke, £75; in stock. [2181

1911 Clutch Model Triumph, new tyres, mechanically sound; £35.—Springett, Billericay, Essex. [2600

DAN GUY, Weymouth.—1920 Triumph combination, complete, Lucas lamps, and spares, guaranteed; £110. [2182

1914 Triumph, 3½h.p., 3-speed hub, lamps, mechanically perfect; £47.—Dickins, Rose St., Wokingham. [2370

1911 Triumph, smart appearance, good tyres; bargain, £25/10.—Shaw, Park St., Wellington, Salop. [X7434

£29.—Triumph 1913 3½h.p., clutch, accessories, perfect running, tax paid—145, Leander Rd., Brixton. [2496

1921 4h.p. Triumph, S.A. 3-speed; immediate delivery, list price.—Morriss and Co., 139, Finchley Rd., N.W.3. [2219

TRIUMPH, new, 1921, renovated by makers, 3-speed, guaranteed by them; £90; several in stock.—Below.

TRIUMPH, new, 1921, renovated by makers, 3-speed, guaranteed by them, fitted 1921 Montgomery sidecar (new), all lamps, horn, etc., no better value; £120.—365, King St., Hammersmith, W.6. [2819

1914 Triumph 4h.p., 3-speed, clutch, nearly new tyres; trial; £55, or offer.—Box 2,160, c/o *The Motor Cycle*. [2127

1918 Triumph, perfect condition; £68.—Edwards, 50, Harrington Rd., South Kensington, 'Phone: Ken. 3709. [3097

TRIUMPH Combination, countershaft, not earlier 1916; cheap; genuine; letters only.—70, Farringdon St., City. [2421

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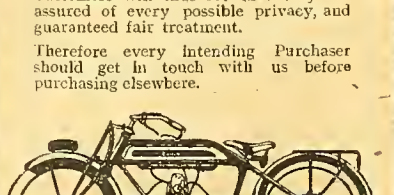
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TRIUMPHS.—A fine selection of Triumphs in stock fully guaranteed; inspection invited.—Ross, 86, High Rd., Lee. [667

1921 2¼h.p. Junior Triumph, 2-speed; immediate delivery, list price.—Morriss and Co., 139, Finchley Rd., N.W.3. [2220

TRIUMPH 4h.p., countershaft, W.D., renovated 1919, accessories, licence paid; £68.—4, Green St., Cambridge. [2512

1920 4h.p. Triumph Combination, 3-speed, little used, perfect; £128, quick sale.—Dr. W., 2, Holford Rd., Hampstead. [2804

TRIUMPH, T.T., 1920, absolutely perfect, and very fast, must sell; £80 only.—J. Dawson, 60 Regent St., Cambridge. [2949

1920 Baby Triumph, good condition, small mileage; £55, or near offer.—D. Harris, Hampstead Farm, Henley-on-Thames. [2610

1912 Triumph 3½h.p., mechanically sound, new lamps, good tyres, licenced, fast; £38.—Gibbins, Cambridge Rd., Hounslow. [2774

TRIUMPH and Torpedo sidecar (renovated), only done 50 miles, in beautiful condition; £90.—L. Bull, 44, Hills Rd., Cambridge. [2693

1921 4h.p. Triumph, countershaft model, in stock for immediate delivery.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0354

TRIUMPH 1918 4h.p., lamps, spares, etc., very fast; £80; or with light coachbuilt sidecar, £100.—29, Denmark Rd., Camberwell, S.E. [2493

TRIUMPH, all models in stock, W.D., fully guaranteed by makers; £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0436

TRIUMPH 4h.p., 1921, brand new, immediate delivery.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3068

1920 Triumph, use 3 months, 200 miles, speedometer, horn, spare valve; £115, or near offer.—Write Collins, 97, Upper Richmond Rd., Putney. [2350

1920 Triumph and Sidecar, £115; also 1920 model, new last October, with sidecar and accessories, £130.—Ross, 86, High Rd., Lee, S.E. [2265

1921 Triumph Combination, all-chain drive, deliver at once; £195.—P. Ellis and Co., 364, Lillie Rd., Fulham, S.W.6. 'Phone: Hammersmith 1553. [2215

TRIUMPH 4½h.p., 1920, countershaft, indistinguishable from new, perfect, lamp and horn, complete, any trial; £110.—P. Dawson, 60, Regent St., Cambridge. [2951

TRIUMPH 4h.p. bought July at Triumph firm, full equipment, sidecar, £100; Frenchman leaving England.—Bertin, 33, Store St., Tottenham-Court Rd. [3017

TRIUMPH Junior, 1920, appearance and condition as new; £62/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3069

1921 Triumph Junior, all models, now arriving; also every leading make of motor cycle.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [1029

TRIUMPH 1919 4h.p., countershaft, new Swan sidecar, lamps, horn, tools, etc., excellent condition throughout; £130.—Horn, Rainsford Rd., Chelmsford. [2123

1921 Triumph, run 150 miles only, £115; 1919 Triumph, Henderson sidecar, Lucas accessories, £115.—114, Brixton Hill. 'Phone: 1713 Brixton. [2903

1920 Triumph Countershaft Combination, mileage 400, beautifully equipped, exceptional engine; £130; exchange.—60, Wallingford Av., N. Kensington. [2641

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, mileage about 500; £68.—D. Lavin, Old House, Sonning, Berks. [2093

1920 Triumph, T.T., 4h.p., perfect condition, all accessories, Cowey horn, knee-grips, under 2,000, licensed; £90.—Squires, 29, Harsnett Rd., Colchester. [2116

TRIUMPH 1914, 3-speed, clutch, stored war and after, perfect condition, any trial; £60; sidecar cheap if wanted; Sussex.—Box 2,204, c/o *The Motor Cycle*. [2301

TRIUMPH 3½h.p., 1910 standard model, overhauled, with Eagles-N.S.U. 2-speed gear, tax 30/-; price £32/10.—Eagles and Co., 275, High St., Acton, London. [X7453

TRIUMPH, 1917, 3-speed, hand clutch, K.S., good tyres, new plated lamp set, horn, fast machine, £78/10; or with sidecar, £90.—261, Mitcham Lane, Streatham. [2915

1919 Triumph and Sporting Sidecar, absolutely as new, unscratched, condition guaranteed, all lamps, tax paid; £110.—30, Herold Rd., Upper Norwood, S.E. [2883

1914 Triumph, 3-speed and clutch, in excellent order, all accessories; price £55; with nearly new Millford sidecar £70.—Menton, 37, Naunton Crescent, Cheltenham. [2810

TRIUMPH 1920 4h.p. T.T. Model with Philipson pulley, good condition, equal to new; £85.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X7400

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1914 3½h.p., 3-speed, just been overhauled, excellent condition, back tyre new; £50; Sunday mornings.—19, The Mall, Southgate, N. [2396

TRIUMPH 1920 4h.p. Model, Triumph sidecar, horn, Watford speedometer, equal to new; £160.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X7401

TRIUMPH 4h.p. Combination, late 1918, practically new outfit, electric lighting, all accessories; any trial; best offer secures.—41, Cowley Rd., Brixton, London. [2713

1920 T.T. Triumph, only done 500 miles, horn, machine too fast for owner; will sell cheap or exchange for Douglas and cash.—Reynolds, Watercach, Cambs. [2943

1920 Triumph Model H., done 500 miles, with unused Montgomery purple sidecar, lamps, Cowey horn, spares, £135, or exchange solo.—The Poplars, Durkar, Wakefield. [2701

1911 Triumph, free engine, good tyres, and new belt, lamps, etc., good running order, must sell thrmgh unemployment; £35, or best offer.—J. Griffiths, Myrtle Villa, Potter's Bar. [2495

COUNTERSHAFT Triumph, in splendid condition, with £30 Montgomery sidecar, plating and enamel unscratched; any trial; £98.—37, Rye Hill Park, Peckham Rye. [2534

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TRIUMPH 3½h.p., clutch model, low position, re-enamelled, very smart, toolbags, lamps, etc., £39; exchange late Levis, tax paid; before 8.30.—Coote, 12, Broadway, Streatham. [2507

1914 4h.p. Triumph, coachbuilt sidecar, 3-speed, clutch, lamps, horn, tools, etc., just been overhauled, perfect condition, licence; £70, or nearest offer.—22, Muswell Hill, N.10. [2866

1920 Triumphs.—A few slightly shop-soiled machines at greatly reduced prices, solo and sidecar; write for special clearance bargain list.—The Premier Motor Co., Aston Rd., Birmingham. [1882

1919 Countershaft Triumph, with Montgomery sidecar, complete with Easting wind screen, lamps, Klaxon, tax paid; £110.—R. S. Rage, Lower Chute, near Andover, Hants. [2604

TRIUMPH, W.D.B., renovated by makers, in stock for immediate delivery, new tyres, £95; another £90; Montgomery sidecar to match, £25.—The Premier Motor Co., Aston Rd., Birmingham. [3043

1920 Triumph, Grindlay de Luxe sidecar, wind screen, hood, all accessories, Tan-Sad, and A.J.N. child's seat, luggage grid, unscratched; £135, or nearest offer.—Ferrier, 1, Nelson Terrace, Dundee. [2101

TRIUMPH Combination, 1919 (Nov.), engine No. 65609, Lucas accessories, many spares, very carefully ridden, condition excellent; £125.—The Fruiterers, 63, Bath Rd., Cheltenham. 'Phone: 1083. [2932

TRIUMPHS.—We are the North London agents, and can give immediate delivery; chain drive, chain-rim-belt, and renovated models.—Jones Garage, Muswell Hill, N.10; and at Woodside Parade, North Finchley. [0382

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1920 (May 17th) 4h.p. Model H Triumph, with Douglas sidecar, Cameo screen and apron, lamps, generators, and horn, complete, condition equal to new; £155.—James Coultert, 12, Main St., Kirkby Lonsdale. [2709

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LATE 1918 4h.p. Countershaft Triumph, lamps, Lucas horn, pump, tools, spare belt, plating and enamel like new, in beautiful tune, exceptionally smart machine, tax paid; £75, bargain.—436, Whitehorse Rd., Thornton Heath, S.E. [2833

THOROUGHLY Sound Countershaft Triumph, footboards, special legshields, overalls unnecessary, ideal for professional or business calls, Lucas horn, large head lamp, rear lamp, tools, spares; £80.—Leonhurst, Priests Lane, Sheffield [2158

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3½h.p. Triumph (20010), semi-T.T., foot control Philipson, lamps, horn, makers overhauled engine December, 1920, really good condition externally and mechanically, 30/- tax (paid); £35; adequate reasons for selling.—9, The Crescent, Surbiton. [2473

1920 Triumph 4h.p., chain drive, leg shields, Gloria sidecar, spring wheel, 3 lockers, luggage grid, petrol can carrier, 3 lamps, 2 generators, Stewart horn, mirror, 2 new spare chains, new valve complete, spare tyre and tube, tax paid, and holder; £170.—16, Winchester St., Basingstoke. [2584

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WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4h.p. 1921 Triumph solo, delivery from stock, £127/10; also new 1921 4h.p. Triumph combination, all-chain drive, £195; new 4h.p. 1921 Triumph solo, all-chain, £140, and 4h.p. W.D. Triumph solo, from £90. [3108

TRIUMPH C.B. Combination, 4h.p., late 1914, 3-speed, kick start, lamps, horn, speedometer, waterproof cover, wind screen, new tyres, just overhauled, perfect condition, carefully used, looks like new, tax paid; nearest £90.—Pearce, Hollington, Clarence Gardens, Church End, Finchley. [2143

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4h.p. Trump-Jap, T.T. bars, long exhaust, Bosch, B.B., Dunlops, large adjustable pulley, enamelled Indian red, fast; trial; £33.—Ford, Sotwell, nr. Wallingford, Berks. [X7520

Velocette.

JULIANS, of Reading, have 1921 Velocette in stock. [0486

HORSMAN for Velocettes.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0473

1914 Velocette, 2-stroke, good condition, lamp, horn, etc. Bergholt, High St., Harpenden. [2696

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [4708

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.—Velocette 2¼h.p., new 1921, 2-speed, all-chain drive, delivery from stock; £75; easy terms arranged. [3110

IMMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¼h.p., 2-speed, all-chain drive; £75.—Agents: W. Sparrow, Ltd., Osborne Garage, Yeovil. [1632

VELOCETTE, late 1920, special machine, lamps, horn, licence paid, leg shields; £67 10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3070

1921 Velocette, Model D3, 3-speed, £85; Model D2, 2-speed, £75; Model DL2, lady's open frame, £78; all in stock for immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [3044

Verus.

VERUS 1920 2¾h.p., 2-speed, K.S., licensed; £65.—Jenkin, 137, Tredegar Rd., Bow, E. [2353

VERUS 2-stroke, 2¼h.p., 1920, as new, with lamps, Lucas horn; £48.—Virgo, 125, High St., Hounslow. Tel.: 125. [2917

IMMEDIATE Delivery of any Verus Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0502

£88; 1920 4h.p. Verus-Blackburne, 3-speed, electric lighting, Tan-Sad, knee grips, footboards and undershield, spare footrests, solo and sidecar sprockets, only 30/- tax paid.—Tong 143, Masons Hill, Bromley, Kent. [2515

Villiers.

2¾h.p. Villiers-Hobart, 2-speed, little used, guaranteed; £32/10.—Shaw, Park St., Wellington, Salop. [X7436

V.S.

V.S. 5h.p. Twin Combination, 2-speed, needs slight adjustment; £25, or near offer; cash wanted urgently; mornings 10-11 a.m.—Rhodes, 74, Grosvenor Rd., Pimlico, S.W.1. [2074

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WILLIAMSON Combination, 8h.p., splendid condition; best offer.—West, 72, Dynevor Rd., Stoke Newington, N.16. [1262

WILLIAMSON Combination, 8h.p. water-cooled Douglas engine, beautifully equipped, spare wheel; £110; exchange.—60, Wallingford Av., N. Kensington. [2642

1914 8h.p. Williamson Coachbuilt Combination, water-cooled, 2-speed, clutch, kick start, fully equipped, excellent condition; £69, or lightweight part.—436, Whitehorse Rd., Thornton Heath, S.E. [2832

WILLIAMSON Combination, 1916, beautiful outfit, 8-10h.p. Douglas engine, w.c., countershaft, kick starter, cush drive, spring footboards, speedometer, lights, hood, screen, Tan-Sad, horn, etc., recent overhaul costing over £60, new crankshaft, pistons, gears, and chains, also new 700×80 best tyres all round; drives like a Rolls-Royce, and as silent, can crawl at 3 m.p.h. or pass anything; bargain at £135; tax paid; trial with pleasure.—17, George Lane, Woodford, E.18. [2865

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Wolf.

WOLF 2h.p. Lightweight, C.A.V. mag., fine condition and appearance; bargain, £16.—26, Brigstock Rd., Thornton Heath. [2371

WOLF 2¾h.p. 2-stroke, complete, excellent condition; any examination; bargain, £10.—35, Benson St., Bradford, Manchester. [2070

WOLF 2½h.p. 2-stroke, believed 1916, good tyres and belt, perfect running order; any reasonable trial; £30, or nearest offer.—F. Godwin, Hill Ridware, near Rugeley, Staffs. [2106

WOLF 2¾h.p., 1915, 2-speed, countershaft, lamps, in excellent condition, tax paid; £37; ride reasonable distance to purchaser; Wiltshire.—Box 2,239, c/o *The Motor Cycle*. [2979

WOLF.—Sole agents for London, South of Thames and district. We are now fixing sub-agencies, and invite enquiries.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0508

1920 Wolf-Villiers 2¾h.p., 2-stroke, 2-speed, very low mileage, fully equipped, perfect condition, licence paid, thorough inspection invited; £50; owner buying combination.—Shipley, Tatenhill, Burton-on-Trent. [X7302

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6h.p. Zenith, countershaft; £68.—Ross, 86, High Rd., Lee, S.E [2270

DAN GUY, Weymouth.—Zenith agent, early delivery all models. [2183

1920 Zenith 8h.p. Combination, in new condition; £120.—Shanks, Chertsey. [2096

ZENITH 4h.p. C.B. Combination, lamps, Tan-Sad; £60.—156, Henniker Rd., Stratford. [2192

35 GNS., near offer; Zenith-Gradua 4h.p., nice condition.—12, Stanley Rd., Bromley, Kent. [2658

WAUCHOPE'S 9, Shoe Lane, London, E.C.—Zenith, 5h.p., 1920 sporting model; £110. [3106

90mm. Bore Twin o.h.v. Zenith, delivery from works 3-4 weeks; list price.—Barton, Coln, Fairford. [2166

ZENITH C.B. Combination, equipped; £75.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [2727

3½h.p. Zenith, Gradua gear, perfect condition, all lamps, etc.; £40, or nearest.—20, Valnay St., Tooting. [2582

1921 8h.p. Clutch Model Zenith; immediate delivery, list price.—Morriss and Co., 139, Finchley Rd., N.W.3. [2218

2¾h.p. Flat Twin Zenith, slightly shop-soiled; accept £100 cash, a bargain.—A. J. Young and Co., Ltd., Newmarket. [1255

ZENITH 6h.p. Sports Model, 1920, shop-soiled, unused; bargain, £118.—P. J. Evans, 81-91, John Bright St., Birmingham. [9407

ZENITH 4h.p., 1914, J.A.P., Bosch, clutch, K.S., good condition; £48.—Hanscomb, 4, Elmslea Villas, St. Cross, Farnham. [2746

ZENITH 1921 Models for immediate delivery.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3073

1920 5-6h.p. Zenith Sporting, electric lamp, practically brand new; £110.—Arthur G. Daw, 114, Brixton Hill. 'Phone: 1713 Brixton. [2901

1921 Zenith Sports Model or Combination; immediate delivery.—Taylors, 52 and 53, Sussex Place, S.W. 'Phone: Kensington 7260. [0497

ZENITH-J.A.P., 3½h.p., overhauled; £29/10; tax £1/10, paid, C.B. sidecar, same £7/10; trial Saturday.—96, Wickham Rd., Brockley, S.E.4. [2881

ZENITH-GRADUA 8-10h.p. Sporting Combination, J.A.P. clutch and kick start, all on; £100.—Dawson and Hackett, Grey Friar Gate, Nottingham. [2428

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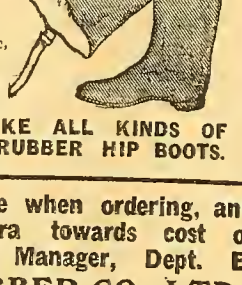
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4h.p. Zenith-Gradua-Jap Combination, licenced, cane Enfield sidecar, good tyres, new belt, speedometer, splendid condition; £55.—Pearson, Thetford, Norfolk. [2508

1920 8h.p. Zenith Combination, lamps, horn, leg shields, knee-grips, excellent condition; cash wanted; accept £115.—2, Eastbank St., Southport. Tel.: 607. [2125

ZENITH 8h.p., clutch, kick-starter, unscratched, magnificent machine, lamp, and horn, perfect, deposit sale terms; £110.—G. Dawson, 60, Regent St., Cambridge. [2948

ZENITH 1921 Models, orders now accepted for early delivery; 1920 models at greatly reduced prices; write or call.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0457

1919 (late) Zenith 4-5h.p. Twin and Sandum sidecar, complete, condition as new, mileage 2,000; only wants seeing; bargain, £115.—Cumoing, 90, Higher Drive, Purley. [2234

8h.p. 1920 Sports Zenith, speedometer, horn, knee grips, in magnificent condition, small mileage; trial any week-end; 115 gns.—Midwood, Norwood, St. Anne's-on-Sea, Lancs. [2133

ZENITH 1915 5h.p., countershaft, tyres, belt nearly new, engine thoroughly overhauled, accessories, licensed, insured; 70 gns.—Saker, Wentworth, Chessington, near Surbiton. [2398

1920 8h.p. Sporting Zenith, lamps, horn, tools, perfect throughout, mileage under 2,000, over 60 m.p.h.; £125, or exchange faster mount.—Cunliffe, Walpole House, Eton. [2688

1920 8h.p. Zenith Combination, clutch, kick-starter, all lamps, carrier seat, many extra fitments, cost over £200, as new, run 500 miles; £150.—Barnard, The Elms, Watford. [2675

EASTER Awheel.—Zenith 1915 8h.p. coachbuilt Combination, excellent condition, lamps, horn, luggage grid, hood, wind screen, spares, accessories; any trial; 86 m.p.g.: £82.—75, Elthorne Rd., Holloway. [2150

ZENITH 4-5h.p., 1917, countershaft, clutch, K.S. model, new type of bracket, watertight Bosch mag. been fitted, aluminium number-plates, and all accessories and spares.—F75., 14, Phoenix St., Euston. [2501

1920 Zenith 8h.p. Clutch Model, Henderson Elite sidecar, disc wheels, hardly used, absolutely as new, and guaranteed perfect; cost £218, sacrifice £175. —Scott, 433, Brixton Rd., S.W. 'Phone: Brixton 704. [2280

ZENITH 1920 6h.p. Sporting Combination, Lucas head, rear, and sidecar lamps, Cowey speedometer, knee-grips, Ace disc wheels, luggage grid, equal to new; £160.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X7399

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ZENITH 8h.p., overhauled June, 1920, receipts shown, coachbuilt sidecar, new June, 1920, screen, hood, electric lighting, tools, year's tax paid, etc.; sacrifice £110.—Foucar, Coldfall Lodge, Fortis Green Rd., Muswell Hill. [2907

ZENITH-GRADUA 3½h.p., 1920 colours, and quick detachable sidecar, J.A.P., B. and B., Bosch, lamps, tools, and spares, recently overhauled, licence paid; trial after 7 p.m. or week-end; real bargain, £50 cash.—3, Danecroft Rd., Herne Hill, S.E. [3022

ZENITH-GRADUA 6h.p. Combination, late model, countershaft, clutch, K.S., discs, copper exhaust, low underslung coachbuilt sidecar, Klaxon, lamps, speedometer, good tyres, excellent appearance and perfect mechanical condition, recent thorough overhaul by makers, receipts shown, licensed, insured, real sporting outfit; £88, must sell; after 5 p.m., or appointment.—20, Treen Av., Hoggers Corner, Barnes, S.W.13. [2542

Ladies' Motor Cycles.

1920 Lady's Motorcyclette, 2¾h.p., 2-stroke, clutch, Amac, trip cycleometer, Klaxon, very powerful, done 55 miles; nearest £29, genuine bargain.—Hilliard, Harlow, Essex. [2422

Miscellaneous.

8h.p. Combination, pawned £30; ticket £25.—Box 2,224, c/o *The Motor Cycle*. [2455

1½h.p. Open Frame Lightweight, 2-speed, as new; £27, bargain.—Sanguinetti, Egerton, Kent. [2715

MOTOR and Sidecar with spare wheel; £25; separated if desired.—Box 2,227, c/o *The Motor Cycle*. [2458

B.S.A. 1914 4h.p., splendid condition, £45; Douglas 2¾h.p., buffer forks, £45; Douglas 2¾h.p., less mag., fork shackles, £35.—Hutton, Red Lion Hill, East Finchley, N.2. [X7413

PEUGEOT 7-9h.p. Combination, 3-speed, chain-cum-belt, clutch, kick start, Bosch, new tyres, £42; also Rudge, sidecar, clutch, perfect, lamps, £36.—47, Cowley Rd., Mortlake, S.W. [2787

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MOTOR Cycles, solo, Saturday to Monday, 42/6, 1 week, 85/-; combination, 52/6 and 115/-; write for further information.—Maudes', 100, Gt. Portland St., W.1. [8160

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1¾h.p. Young Engine Cycle Attachment, new, unridden; £18, or nearest.—Huxley, Ruyton Eleven Towns, Salop. [2418

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INVALIDS' Tricycles and Motor Tricycles; catalogue free.—Rayner, 10-12, George St., Blackpool. [X7038

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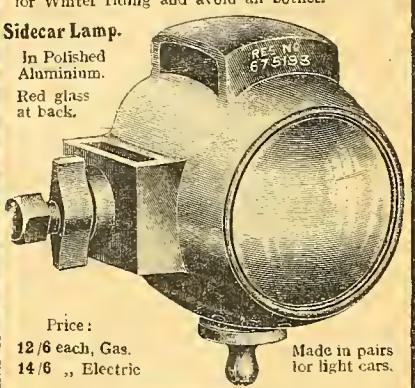
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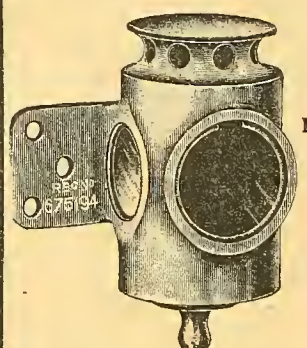
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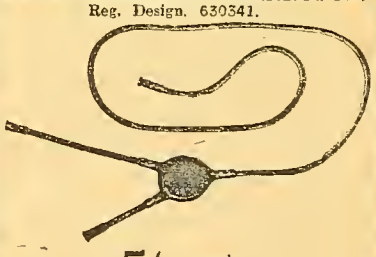
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NDUM Featherweight Streamline Body, smart and racy, weight 18 lbs.; price £4/17/6.

NDHAM Engineering Co., Ltd., 336, Gray's Inn Rd., W.C.1. 'Phone: Holborn 933. Factories: to 165, Pentonville Rd., N.; and Britannia ks, Britannia St., W.C. [0019

AMBER.—Lightweight sidecars, £16/10.

AMBER.—Semi-touring sidecars £20/15.

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AMBER.—Makers: Bright and Hayles, 78, Church St., Camberwell, London. 'Phone: Brixton 2951. [1803

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IDDLETON'S Spring Wheel Sidecars are guaranteed for 3 years.

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METRO-TYLER, "S" Type.
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NEW IMPERIAL, 6 h.p.

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SIDECAR, slightly soiled, but unused, coachbuilt; price £15.10, original price £22/10.—64, Bishopsgate, London. [0399

BARGAINS.—C.B. sidecar, £7/10, off Triumph; tradesman's sidecar, £5/10.—Scarles Stores, Southborough. [2666

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SIDECAR Coachbuilt Torpedo, underslung chassis, suitable Triumph; £15.—6, Brondesbury Villas, Kilburn, London. [2544

DOUGLAS Sidecar, late 1920, Cameo screen and apron, splendid condition; £36.—James Coulter, 12, Main St., Kirkby Lonsdale. [2710

BURBERRY Dickey Seater, wind screen, Coverall apron, very little used; £30, or nearest offer. Box 2,222, c/o *The Motor Cycle*. [2452

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BRADBURY Sidecar, underslung chassis, coachbuilt large roomy body, child's seat, 650×65; £14.—Minett, 1, St. Julian's Rd., Kilburn, N.W.6. [2885

SACRIFICE.—New Williamson £40 model 1921 sidecar, B.S.A. coachbuilt bulbous body, 4-point couplings, Dunlop; £25.—Holt, Albany Rd., Coventry. [X7392

UNDERSLUNG Chassis, standard, new, splendidly made, 4-point attachments, left side, plated fittings, 26×2½ new Dunlop, black, cost £17/17; bargain, £7/15.

COACHBUILT Indian Red Splendid Sidecar Body, with hood; bargain, £8/10.—Owner, 77, Salmon Lane, Stepney Station, E. [3055

SIDECARS.—Many designs, bodies and chassis sold separately; hood, screen (all makes), renovations.—T. Williams, Manufacturer, 9, Lower Chatham St., Oxford Rd., Manchester. [X7465

1920 Swan Sporting Sidecar (blue), 4-point, off Zenith, locker, spring seat, apron, tyre unpunctured, mileage 200, unscratched; cost £36, accept £28.—Bowyer, 36, Oxford Av., Merton Park, S.W. [2247

COACHBUILT Sidecar, Mills-Fulford chassis; £12.—Ramsden's, 8, May Bell Av., Blackpool. [2860

DOUGLAS Sidecars, complete, as new; £16.—Motors, 39, Essex Rd., London, N.1. [2825

D. J. EVANS can supply a number of shop-soiled sidecars, consisting of Concelet, Mills-Fulford, and Henderson at greatly reduced prices; send for bargain list.—81-91, John Bright St., Birmingham. [9414

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CALTHORPE 1921 Light Cars; exchanges quoted.—Motories, 25, Horton St., Halifax. [2381

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GIBB, 100, Northgate, Gloucester, can deliver 1921 Morgans from stock.—'Phone: 852. [0446

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A.V. Bicar 2-seater, new; list £235, accept £160.—Ramsden's, 8, May Bell Av., Blackpool. [2864

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COVENTRY Premier 1921 3-wheeler; 275 gns.; cash or exchange.—Motories, 25, Horton St., Halifax. [2380

TAMPLIN 1921 Cycle Cars, immediate delivery; £165.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [2012

1914 Morgan, a.c., renovated, fully equipped; £135; motor cycle part considered.—Allston, High St., Harpenden. [2695

1916 Grand Prix Morgan, disc wheels, electric lighting, very nice order; £175.—Ross, 86, High Rd., Lee, S.E. [2271

G.N. Cycle Cars; latest models always in stock.—Best deliveries from Drake and Mount, Ltd., Motor Agents, Bracknell. [3936

SEVERAL Second-hand Morgans, in good condition, various models.—Rey, 378-384, Euston Rd., N.W.1. 'Phone: Museum 6436. [2465

ROVER Light Car, 1921 model, 8h.p., in stock for immediate delivery; £300.—Godfrey's, Ltd., 208, Gt. Portland St., London, W.1. [0350

MORGAN de Luxe, 1921, M.A.G., water-cooled, full equipment; list price.—Rey, 378-384, Euston Rd., N.W.1. 'Phone: Museum 6436. [2463

ROVER Light Car, £300; Premier runabout, 275 gns.; Morgan runabout; immediate deliveries from stock.—Marston, 31, Bridge St., Chester. [3090

BUCKINGHAM Cycle Car, 1914, 10h.p., water-cooled, electric lights, accessories; £90; exchange Norton.—Box 211, c/o *The Motor Cycle*. [X7429

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CYCLE Car, complete, but gear box, etc., requires reassembling, 8h.p. J.A.P. 2-seater, 2-speed, 4 wheels, etc.; £60.—75, Redland Rd., Bristol. [2191

MORGAN Grand Prix, 1921 M.A.G., lamps, and full equipment; list price; extended payments.—Rey, 378-384, Euston Rd., N.W.1. 'Phone: Museum 6436. [2462

MORGAN 1921 De Luxe, M.A.G. w.c., lamps, and full equipment, in stock; list price.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [3098

MORGAN Aero, Model 19, dynamo lighting, disc wheels, beautiful condition, smartest car on the road; £210, offer.—Want, The Cottage, Addlestone, Surrey. [2674

G.N.—Immediate delivery of latest models, with or without dynamo lighting, from the main Kent agents, The Rochester Auto Supply Co., Corporation St., Rochester. [0466

COVENTRY Premier Runabout, 3 speeds and reverse, dynamo lighting; 275 gns.—Special agents, Ratcliffe Bros., 200, Gt. Portland St., W.1. 'Phone: Mayfair 5042. [0385

G.N., Morgan, and Premier super runabouts for immediate or future delivery; extended payments, exchanges.—Rey, 378-384, Euston Rd., N.W.1. 'Phone: Museum 6436. [2460

FOR Sale, special aluminium A.V. Monocar, 8h.p. J.A.P., electric side lights, liquid acetylene headlight; best offer.—Can be seen at 14, Brookes Mews, Davies St., Berkeley Sq., W.1. [2503

MORGAN Runabouts.—We can deliver the de luxe model from stock; early delivery other models; book now.—Walbro Motor Cycle Co., 49, High St., Saffron Walden, Essex. [X6981

A.C. Runabout, 2-seater, new hood, lamps, horn, just overhauled, redecorated, in new condition; good lightweight part exchange; sell £85; tax paid.—4, Railway St., Aylesbury, Bucks. [2349

SECOND-HAND MOTOR CYCLES

(Guaranteed Perfect).

A.B.C. 1920 3 h.p. dynamo lighting, accessories	£140	0
A.J.S. 1914 6 h.p. Combination, and accessories, tax paid	£95	0
ARIEL 1916 5-6 h.p. Combination, and accessories	£110	0
BRADBURY 1920 4 h.p. Combination, accessories	£125	0
BROUGH 1920 5 h.p., accessories	£110	0
BROUGH, 1920, 5 h.p., 3-speed, kick-starter, Henderson Elite Sidecar, accessories	£140	0
B.S.A. 1919 4½ h.p. Combination, and accessories	£120	0
CLYNO, 1920, 2¾ h.p., 2-speed, clutch. Tax paid	£50	0
DOUGLAS, 1920, 2¾ h.p., 3-speed, clutch, and kick-starter, accessories. Tax paid	£55	0
DOUGLAS 1915 2¾ h.p., 3-speed, clutch, and kick-starter, accessories	£55	0
BRITISH-EXCELSIOR, 1920, 2½ h.p., 2-speed, accessories	£65	0
JAMES 1919 4½ h.p. Combination de luxe	£110	0
MATCHLESS 1920 8 h.p. Combination, Lucas accessories	£175	0
METRO-TYLER, 1920, 2½ h.p., 2-speed, accessories	£55	0
NEW IMPERIAL W.D. 8 h.p. Combination, and accessories	£120	0
NEW IMPERIAL W.D. 8 h.p. Combination, and accessories	£120	0
OMEGA, 1919, 2¾ h.p. J.A.P., 2-speed, accessories. Tax paid	£50	0
P. & M., 1918, 3½ h.p., 2-speed, clutch, and kick-starter	£70	0
ROYAL ENFIELD 1914 6 h.p. Combination, and accessories	£80	0
SCOTT 1920 3¾ h.p. Combination, and accessories	£150	0
SCOTT 1920 3¾ h.p., Henderson sidecar, accessories	£135	0
SUNBEAM 1914 6 h.p. Combination, and accessories	£120	0

1920 MODELS

(Guaranteed New)

	Makers' List Price.	Our Cash Price.
ARIEL 3½ h.p. Combination	£157 10	£138 0
ARIEL 6-7 h.p. Combination	£177 10	£155 0
INVICTA, 3½ h.p., 3-speed, clutch, and kick-starter	£117 12	£102 0
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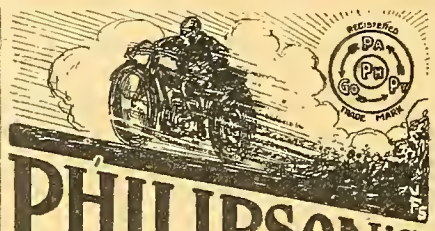
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26×2½ to Fit 2¼ Rims.—Clincher de luxe rubb studs 45/-, Englebert heavy rubber stud 42 Wood-Milne 3-ply (special) 36/-, 4-ply extra stro 45/-, ditto combination 57/6.—Below.

THE Above Tyres are Government surplus, not any way perished or soiled. All orders 7 da approval against remittance. If not satisfactory mon refunded. Country orders despatched passenger tra same day as order received.—Below.

H. EMANUEL, Tyre Factor, 27, Belgrade Rd N.16. Stores: 37a, Balls Pond Rd. 'Phone Dalston 3161. [023

MORE Bargains.—Every transaction brings a tes monial per return.

NEW Beldam Clearance Covers, 26×2, 25/- each 26×2¼, 26×2⅜, 26×2½, 26×3, 30/- each; 28× 40/- each; 700×80, 60/- each.

GOVERNMENT Surplus, Dunlop heavy second-hand covers, 26×2¼ and 26×2⅜, 12/6 each; 28× 17/6 each; new Dunlop and Bates tubes, 26×2¼, 2⅜ and 2½, 6/6 each. All goods cash approval; money re funded if returned within 7 days in the same conditio as received.—Homerton Rubber Works, Brooksby's Wall Homerton, E.9. 'Phone: Dalston 3483. 'Grams: Emar rubwor, Hack, London. [033

BASTONE'S for new clearance covers and tubes (n better or cheaper house).

BASTONE'S.—26×2¼ Ganlois ribbed, 28/-; Hutchin son T.T. 34/-, Passenger 39/-; Goodrich Safet tread, 39/-; Englebert (wired edge only), ribbed 26×2¼ or 26×2½, 25/-; rubber-studded, 30/-.

BASTONE'S.—26×2⅜ Hutchinson T.T., 35/-; ditt Passenger, 40/-.

BASTONE'S.—26×2½ Michelin, 21/-; Wood-Milne 30/-; Hutchinson Passenger, 39/-; Avon Sun stone, 39/-.

BASTONE'S.—650×65 Hutchinson ribbed, 45/- Goodrich Safety tread, £3/10; Hutchinso ribbed, 700×75 for 650×65, 50/-; Goodrich Safet tread, 700×80, £3/15.

BASTONE'S.—28×3 Palmer Cord heavy, 45/- Hutchinson ribbed, 50/-; Goodyear all-weathe tread, 60/-.

BASTONE'S.—Michelin tubes, 26×2¼ or 26×2½ 8/6; Goodyear butted, 28×3, 10/-.—228, Penton ville Rd., King's Cross, London, N.1. Tel.: 248 North. [200

26×2½ New Macintosh and Spencer-Moulton tyres 30/- each.—Dooley.

DUNLOP Retread Tyres, sizes 2¼, 2⅜, 2½in.; 15/- as new; special quotations to the trade for minimum of 50.—Dooley.

INNER Tubes, new Dunlop, 26×3, 28×3, 7/- each, plus carriage.—Dooley.

NEW Heavy Dunlop Tyres, sizes 700×65, 650×65, 26×2⅜; prices £2/5, £2, and £1/10 respectively.—Dooley.

PLEASE Apply for the above to J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [2988

TYRES and Tubes Vulcanised, also covers retreaded.—11L, Kramer Mews, West Brompton, S.W.6. [999

TYRES.

ŒNIX for reliable and cheap tyre repairs; all work guaranteed to give satisfaction.—Below.

/6 retreading any old cover with extra heavy studded or ribbed tread. Send for section list.—Below.

D Covers retreaded by us will wear better than many new covers. Why buy new? Try a retread 5/6.—Below.

is the most your cover can cost you for repairing and retreading.—Below.

TT Ends fitted, chafed beads repaired, vulcanising, bursts, etc., from 2/6.—Phœnix Tyre iring Co., 224, Sherlock St., Birmingham. [X7476

RAND New Clincher Tyres, 26×2¼ 33/6, 26×2½ 39/-.—Wandsworth Motor Exchange, Ebner St., dsworth. [6171

TRES. Great Sale.—Don't buy any until you have seen our list. It is a revelation.—Bancroftian 64, and 78, Bishopsgate, E.C. [0054

CONOMIC Tyre Co.—Special offer of new Wood Milne Keygrip covers, unwrapped, and carrying usual warranty; sent carriage free against re ance.

CONOMIC.—Wood-Milne 24×2¼ heavy 31/-, listed £2/12; 26×2 heavy 30/-, listed £2/10; extra y 36/-, listed £3.

CONOMIC.—Wood-Milnes: 26×2⅜ heavy 34/-, listed £2/16/8; extra heavy 39/6, listed £3/8/6.

CONOMIC.—Wood-Milne: 26×2½×2¼ heavy 37/6, listed £3; extra heavy 42/6, listed £3/10.

CONOMIC.—Wood-Milne: 26×3×2½ O.S. heavy 38/6, listed £3/4; extra heavy 49/-, listed £4/2.

CONOMIC.—Wood-Milne: 28×2½ American heavy, 38/9, listed £3/4/8; extra heavy 45/-, listed 0/8.

CONOMIC.—Wood-Milne: 700×80 heavy 52/6, listed £4/7; extra heavy 55/-, listed £4/13.

CONOMIC.—26×2¼ Dunlop heavy W.D. 37/6, listed £2/11/3; Kempshall clearance anti-skid -, listed £2/17/4; non-skid 35/-, listed £3/10/10; nlop tubes, W.D., 7/6.

CONOMIC.—26×2⅜ Dunlop heavy W.D. 39/6, listed £2/13/9; Dunlop tubes, W.D., 8/-; 28×3 Kempll non-skid clearance 45/-, listed £5/12/2.

CONOMIC.—Fully guaranteed: Dunlop rubber stud, 24×2 27/9, 26×2 28/9, 26×2¼ 31/6.

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URST Motor Cycle Tyres, chafed heads remoulded, made perfect, tube vulcanising, butt-ends fitted, reading; send for list.—Melton Rubber Works, Melton wbray. [0347

EMPSHALL Heavy Non-skid Clearance Covers, 26×2½, to fit 2¼ rim, 40/-; 26×2½, 32/6; 0×65, 40/-; approval against cash.—H. Robinson, , Mina Rd., Merton Park, S.W.19. [2075

ELDAM Retreads of a motor tyre give thousands of extra miles at a fraction of cost of new tyre. nd old cover (any make), and we will quote cost of read or repairs.—The Beldam Tyre Co. (1920), Ltd., entford, Middlesex. [0310

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HERBERT ROBINSON, Ltd., Green St., Cambridge.—Wood-Milne 24×2¼ special, 32/6, listed /-; 26×2 special, 31/6, listed 50/-; extra strong, /6, listed 60/-; combination studded, 55/-, listed /-.

HERBERT ROBINSON, Ltd., 32-35, Green St., Cambridge.—Wood-Milne 26×2¼ special, 33/6, sted 53/8; extra strong, 42/6, listed 68/-; combinaon studded, 57/6, listed 96/6; special, 35/6, listed 5/8; 28×2½, to fit 26×2¼, special, 37/6, listed 60/-; tra strong, 44/-, listed 70/-; combination studded, 5/8, listed £5/1/6.

HERBERT ROBINSON, Ltd., 32-35, Green St., Cambridge.—Wood-Milne 26×2⅜ special, 35/6, sted 56/8; extra strong, 42/11, listed 68/6; combination studded, 52/6, listed 96/6.

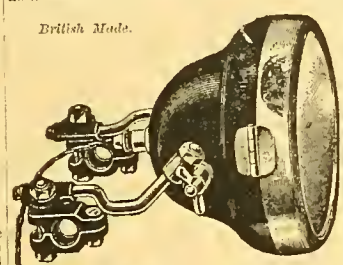
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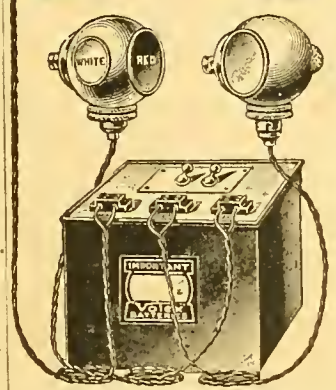
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Giant	4	6½x3x3	10 8
"	6	6½x3½x3	15 0
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26×2¼ New Beaded Covers, 30/-; new best quality tubes, 24×2¼, 6/-; 26×2, 6/6; 26×2¼, 7/-; 26×2½, 7/9; 26×2½×2¼, 8/6; 26×3, 9/6; 700×80, 10/6; 750×75, 12/6; new rubber belts, 6ft. 2in.×1in., 10/6; 15in. inflators, 2/6; sent approval, carriage paid, receipt remittance.—Palmer's Garage, Tooting, S.W. [2768

TYRES. Tyres. Tyres. Money back out of the war. We have the pick of these covers. Others have what we have left. Salved from discarded Army machines, and guaranteed good condition. All sizes: ordinary, which are partly worn, but sound, 10/-; best, which have run under 1,000 miles, and are like new, 15/-; state make preferred; approval against cash. Tube, brand new, guaranteed stock, 5/6.—Central Garage, London Rd., Thornton Heath. [2703

MOTOR Cycle Tubes.—Best red quality, with small patch vulcanised by makers: 24×2, 5/3; 24×2¼, 5/6; 26×2, 5/9; 26×2¼, 6/-; 26×2⅜, 6/3; 26×2½, 6/6; 26×2½×2¼, 6/9; 26×3, 7/-; 28×3, 7/6; 650×65, 8/-. Surplus brand new tubes, leading makes: 26×2, 6/9; 26×2¼, 7/3; 26×3, to fit 2½, 8/6; 28×3, 10/6; carriage paid; approval. All leading makes and sizes in stock.—H. Emanuel, Tyre Factor, 27, Belgrade Rd., N.16. Stores: 37a, Balls Pond Rd. 'Phone: Dalston 3161. [0346

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TANKS Re-enamelled, makers' colours and transfers, from 10/-; tank repairs. All work executed in our own workshops.—Exeter Engineering Co., Sternhall Works, Peckham Rye, S.E. New Cross 1778. [2685

TANKS of every description replaced, repaired, and re-enamelled at our own works; all kinds of fittings stocked; quick service and reasonable charges.—Send postage for illustrated price list to A. Green, Water St., Chapel St., Salford, Manchester. Tel.: 2191 Central. [0256

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BELT, Clincher rubber, ⅞in., 8ft., shop-soiled; price 11/6, postage 9d. extra, original cost 24/-.—64, Bishopsgate, London. [0390

TRIUMPH and Douglas, etc. Belts, slightly used, 7/6 each.—Anthony, 1, Townshend Cottages, St. John's Wood, N.W.8. [2792

TRY a Pollin Leather Belt. Trial offer ⅞in. 2/-, 1in. 2/3, 1¼in. 2/6 per foot, post free.—W. Pollin and Son, Holington, St. Leonards-on-Sea. [X6484

A LARGE Quantity of second-hand belts. These belts are like new, sizes ¾in., ⅞in., 1in.; price 6/- per length; by taking 50 5/- each, by taking 100 4/6 each. Some of these are complete with fasteners.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [2989

SURPLUS Government Stock, made by Pedley, Silvertowa, Lycett, and Dunlop; perfectly new, cash refunded if not approved; ⅝in.× any length, at 1/7 per ft.; ⅞in.× any length, at 2/1 per ft.; 1¼in.× any length, at 2/10 per ft.; special offer of ⅞in. belts in 6ft. 6in. lengths, at 10/- each, and 10½in. lengths at 17/6 each.—H. Emanuel, Tyre Factor, 27, Belgrave Rd., N.16. Stores: 37a, Balls Pond Rd. 'Phone: Dalston 3161. [0348

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"THE Motor Cycle" Insurance Policy is the policy authorised by "The Motor Cycle," and covers motor cycles or cycles and sidecars used for private purposes. Complete comprehensive cover. Maximum benefits, minimum rates. Full particulars and prospectuses on application.—The Autocar Fire and Accident Insurance Co., Ltd., 77, Cheapside, London, E.C.2. [0007

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AGENTS Wanted, North, South of England, and Wales, to represent manufacturers and factors of motor and motor cycle accessories; good terms offered to gentlemen with connection.—Apply, Box 2,226, c/o *The Motor Cycle*. [2457

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CONSULTING Patent Agency, 253, Gray's Inn Rd., London.—Aero and aircraft engines. [2373

PATENTS Advice, handbook free.—King, Registered Patent Agent, 146a, Queen Victoria St., E.C. 35 years' references. [0129

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VULCANISING Business, complete H.P. plant, joiner's tools, benches, vices; sound connection; motor van and garage; £150.—Box 2,119, c/o *The Motor Cycle*. [2048

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26×2 Clincher Ribbed	29/-
FOR 2¼ RIM.	
26×2¼ Heavy Rubber Non-skid	27/6
" Avon Sunstone	39/6
" Wood-Milne Combination	79/-
" Goodrich Safety Tread	56/6
26×2⅜ Heavy Rubber Stud	42/6
" Palmer Cord Heavy	39/6
" Bates' Special Heavy	44/-
" Wood-Milne Extra Heavy	37/6
" Avon Tricar	34/6
" Hutchinson Passenger	36/-
26×2½×2¼ Hutchinson Rubber Stud.	52/-
" Englebert Super	55/-
" Englebert Touring	47/6
" Goodrich Safety Tread	61/-
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26×2½ Heavy Non-skid	37/6
" Extra Heavy Non-skid	39/6
" Wood-Milne Combination	55/-
" Clincher de Luxe Heavy	50/-
26×3×2½ Extra Heavy Non-skid	46/6
" Englebert Passenger	47/-
" Pedley Heavy Three-rib	67/-
FOR AMERICAN RIMS.	
28×2½ Hutchinson Passenger	38/6
" Kempshall Non-skid	45/-
28×3 Extra Heavy	46/6
" Palmer Cord	49/6
" Clincher de Luxe Extra Hvy.	50/-
" Wood-Milne Extra Heavy	55/-
" Englebert Super Heavy	69/6
FOR 650 x 65 RIMS.	
700×80 Grooved	80/-
" Wood Milne Special	52/6
" Wood-Milne 4-ply	63/6
650×65 Grooved	57/6
" Avon Square	59/-
" Avon Three-rib	59/6
" Clincher de Luxe Extra Hvy.	58/-
" Lightweight	27/6
NEW CLEARANCE TUBES.	
26×3×2½ Heavy	10/6
26×2¼ Endless	7/6
26×2½ Butted	9/6
26×2⅜ Endless	7/9
26×2½×2¼ Endless	7/6
26×2½×2¼ Butted	10/-
26×2¼ Endless	6/6
26×2¼ Butted	9/6
28×3 Endless	8/6
28×3 Hutchinson	13/9

Sent carriage paid on 7 days' approval against remittance.

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PALMER'S Garage, Tooting.—The pre-eminent for disposing of motor cycles.

PALMER'S Garage, Tooting, will make you a offer at sight.

PALMER'S Garage, Tooting.—You will be sure good cheque if you sell your machine at Palm Garage.

PALMER'S Garage, Tooting.—Thousands of have sold their machines here.

PALMER'S Garage, Tooting, make a specialit motor cycles in the weekly auction sale, Thursday at 2.

PALMER'S Garage, Tooting.—Auction fee for m cycles under £50 reserve 5/-, over £50 res 10/-. No garage charge is incurred until 7 notice is given.

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WANTED, old motor cycles and parts.—17, Wi Rd., South Lambeth, London, S.W.8. [1

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SCOTT Footboards, gear and engine parts, han bars.—77, Upper Warwick St., Liverpool. [2

N.S.U. Gears or parts, also Grado and Philip pulley.—Box 2,235, c/o *The Motor Cycle*. [2

WANTED, Tyneside pillion seat, good condit cheap.—6, Essex Grove, Walthamstow. [2

WANTED, 2¾h.p. Douglas engine, any spares.— Crystal Palace Park Rd., Sydenham. [2

WANTED, 2¾h.p. Douglas or other lightweight exceeding £35.—King, Egrove, Oxford. [X7

ELECTRIC Lighting Set wanted, suitable for Scott.—Higgen, 23, Abbey St., Paisley. [X7

SIDECAR Chassis wanted, Triumphs, Scotts, cheap.—6, Lower Cobden St., Bradford. [2

1920 Combination, also solo, cheap; cash waitin 48, Warlock Rd., Paddington, W.9. [2

A LATE Combination Douglas Preferred.—Full p ticulars to 268, Portobello Rd., W.10. [2

2¾h.p. Douglas, must be in good condition, and che —1, Cromwell Mansions, King St., W.6. [2

MODERN Combination, 8h.p., 2-seater sidec cheap.—Box 2,168, c/o *The Motor Cycle*. [2

J.E.S.—Wanted, 1½h.p. engine and fittings; appro deposit.—Harding, Grange School, Bradford. [2

COUNTERSHAFT Triumph wanted, up to £60 offer —Springfield, Albany Crescent, Claygate, Sur [2

WANTED, 1920 combinations and solos, reasons price.—60, Wallingford Av., N. Kensington. [26

LIGHTWEIGHT, not earlier than 1914, for s cash.—75, Warwick Rd., Bowes Park, N.11. [26

WANTED, sidecar for 1920 Scott, must be fi class condition.—Mussellwhite, Basingstoke. [26

DOUGLAS 2¾h.p., 1919, wanted, perfect condit essential.—Batemau, 43, Draper St., Leicester. [X68

SCRAP Motor Cycles and Parts bought.—Anthon 1, Townshend Cottages, St. John's Wood, N.W [27

WANTED, Triumph clutch wheel, complete with co trols.—Holderness, Sleaford Rd., Boston. [D [24

WANTED, 90×77½ o.h.v. Matchless; must genuine.—Box 2,240, c/o *The Motor Cycle*. [D [29

EASTING Wind Screen, trip speedometer, 26 wheels wanted.—Letter, Wall, 33, Royal St., Liv pool. [21

GOOD Combination and Lightweight, not earli 1919; cash waiting.—Clark, 7, Exhibition R S.W.7. [29

WANTED for cash, motor cycle of best make a condition.—Wallis, 23, Hartingtou Grove, Ca bridge. [84

WANTED, 2¾h.p. Snubeam, 1914 model, with acce series; prompt cash.—Darville, Stanmore, Middl sex. [24

WANTED, old motor cycle engine, cheap.—Full pa ticulars, Hood, 15, Totteridge Lane, Whetston N.20. [22

WANTED, T.T. Snubeams, Nortons, Zeniths, any co dition. Cash on sight.—Howe, Warren St., Le ham. [21

WANTED, Enfield combination, perfect conditio for cash.—Headmaster, The Shirley Schools, Cro don. [25

WANTED, Morgan, part exchange 1920 Sunbea combination; (see Sunbeam advert.)—Flsher, C entry. [X74

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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Sidecar Taxis.

IN the House of Commons on February 16th, Viscount Curzon questioned the Home Secretary as to whether the licensing of sidecar taxi-cabs for the Metropolitan police area would be considered. The reply was to the effect that such a course was considered undesirable, and that "I know that there are three in Birmingham, three in Nottingham, I think two in Brighton and another south coast place, and I am told that they are not very popular." Considering the facts of the case, this reply is so extraordinary as to merit remark. How can a vehicle prove its popularity or otherwise if its very existence is nipped in the bud, as the Home Secretary's action clearly indicates? The statement, too, that "there are not many taxi-sidecars" is almost amusing in view of the refusal to permit such vehicles to ply for hire. Indeed, they are too new to have had a chance to prove their popularity. In those progressive towns and cities which have already granted licences, the sidecar taxi has already made good, and its number is already increasing.

The sidecar taxi is handy in traffic and economical to run, yet even in these days when economy is, at any rate, a political catchword, we find certain authorities barring the way to an advance in that direction. What is the real reason for this ultra conservative action? Are the authorities still imbued with the out-of-date notion that the modern high-class sidecar is unsafe and unreliable, or is it considered that the interests of taxi-cab owners are at stake? The whole question is important, and unless this discouraging attitude is dropped, we shall once again have the chagrin of seeing British enterprise developed in Continental countries at the expense of British industries. Paris and Naples have not been slow to take advantage of the latest form of economical public transport, and other Continental cities have the question in hand, while the British Government sets an example by publicly discouraging a distinct advance in economcial transport for the public.

Revive the Benzole Industry!

QUITE recently a Government sub-committee which enquired into the price of motor fuel, after showing how dependent this country was upon the petroleum supply of the U.S.A., pleaded that the "urgent necessity for action" to meet the present need for an unbounded supply of liquid fuel was "evident and vital."

In view of the fact that there appears to be little hope of an amelioration of the situation as far as America is concerned, possible alternatives may be reviewed. It is known that benzole could be obtained as a by-product from the gas making companies to the extent of thirty-five million gallons annually, as against the present production of under two million gallons, and that it could be sold at a price considerably lower than the existing price of petrol. To prevent the monopoly of benzole by the present petrol distributing interests, a compulsory maximum price should be enforced to prevent the cornering of supplies by a trust which might embark on a policy of ruinous underselling in order to make production an unprofitable industry.

In the present state of affairs it appears obvious that the benzole industry is the key to the problem, and if the above suggestion was adopted by the Government, in conjunction with a law making it obligatory for the gas companies to scrub their product for benzole, an all-round drop in fuel prices would result, especially when the investigations of the committee show that there was no possible justification for the last rise of 7d. per gallon.

That the benzole question is the crux of the whole position cannot be in doubt, when we are told that "it is highly improbable that Great Britain will ever produce" a sufficient quantity of crude petroleum to meet our requirements, that shale oil still remains "a fruitful field for development," and that, with regard to power alcohol, "no immediate relief can be expected."

An Index to the advertisements in this issue will be found on the page facing the back cover.

Occasional Comments by "Ixion"



A Poser.

A DEVON rider submits the following harrowing experience, sustained with a 2¾ h.p. Excelsior two-stroke. The machine ran well until half a mile after replenishing the tank at a local garage, when the engine began to splutter, and in the course of the next mile stopped altogether and refused to re-start. The usual tests proved abortive, and the machine was left at a cottage. Next day a man went for it, and after forty-five minutes discovered the trouble. The plug was sparking perfectly, the timing was correct, the magneto O.K., the controls were acting properly, the fuel was passing the jet satisfactorily, and the engine compression was excellent. What was the matter? I will give the solution next week.

Country House Lighting.

OUR query department often receives evidence that the ownership of a motor cycle renders readers resident in the country rather dissatisfied with paraffin lamps. Many of these readers cannot afford to install dynamos, or petrol gas, or acetylene plants. For the benefit of such I may perhaps for once wander from our chief topic, and recommend two lamps which I use in my country house. One is the Dargue acetylene lamp with self-contained generator (57, Grey Street, Newcastle-on-Tyne). It gives a splendid light and is cleaner and less troublesome than paraffin. Properly managed, it is also economical, for the glass chimneys of modern paraffin lamps are not as good as the old Hun stuff (more's the pity); carbide is quite cheap when bought by the cwt., but some discretion is needed in charging each lamp according to the varying length of the evenings at each season of the year. A far finer lamp is the Coleman Quick-Lite (61, Lower Mosley Street, Manchester), which burns upwards of twenty-one hours on a filling, and gives up to 300 c.p.

Such lamps provide an attractive half-way house between the cottager's paraffin lamp and the rich man's £300 "plant."

A Dog Nuisance.

TO judge by current correspondence some of our readers are ignorant of the vital fact in canine psychology. The dog has a very sensitive nose and is a more adept dodger than any international threequarter back. In other words, it only gets "wind up" when its proboscis is in danger (this is why it never makes a frontal attack on a stationary cat, so that the pussy which can maintain an absolutely immobile bluff is perfectly safe from doggy). Moreover, owing to doggy's dodging powers, he does not fear anything dodgable. Remove your toe from the footrest and wave it at him—he merely grins; the speed of your toes does not approach piston speed, and he can elude it with ease; you know you have never yet landed a kick home from the saddle except on a very young and green puppy; and even then not more than once on the same pup. On the other hand, there are things which doggy cannot dodge. He would fear Mailey, the Australian googly bowler, as a Puritan feared the devil.

Now, gentle reader, you are not Mailey. But the dog doesn't know that. You might be Mailey, camouflaged in a Brooklands helmet. So pretend to throw or bowl at him, and he will pull up dead in his tracks with his non-skid paws biting the road hard. As he blenches, you slip past. He recalls the last occasion when he got a stone plumb on the quivery part of his proboscis. He gives a final yap of defiance and despair, and awaits some motor cyclist less sophisticated than yourself.

No dog has fetched me off since I mastered these elementary facts. The feelings of dogs towards me resemble those of the Jaeger battalion on being asked to storm Verdun after twelve previous attempts. Yet I am not a dog hater, neither am I at present a dog owner.

SPRING IS COMING!

The

Annual Spring Number of

THE MOTOR CYCLE

will be published on MARCH 17th, and, in addition to many special features of interest to all motor cyclists, will contain a complete

Illustrated Buyers' Guide

giving the fullest particulars and current prices of the different makes of motor cycles on the British market.

The Cloven Hoof.

THE notion that the rolls-roycey gentlemen who control the R.A.C. could ever take an honest interest in such midgets as the G.N. and the Morgan was so absurd on the face of it that I could not understand why some sections of opinion grudged the A.C.U. any power over four-wheeled cycle cars. It is now freely stated that the A.C.U. is under the thumb of the motor cycle trade, and that this industry desires to squelch the cycle car so that the side car can have an open field. I cannot credit this innuendo. The A.C.U. has exhibited considerable independence of late, and I should estimate that it is less amenable to trade pressure than ever it was, powerfully as the trade is organised to-day. The "trade" is a very comprehensive term, and includes plenty of people who are always on the look-out for new employment

Occasional Comments.—

for plant and capital. There are, of course, firms who do not exactly hunger for anti-sidecar competition; but they are tolerably well balanced by other concerns who will never sacrifice a good selling line. For example, the 8 h.p. Rover and the G.N. have both made good without any real help from the leading motoring organisations, for they have won over a class of driver who values personal comfort and protection from the elements—in short, the class which is left rather cold by the average performances of the stunt sidecarist. Moreover, these timid gentry quite ignore the amateur motor cyclist, who in the ultimate issue is the master of both the trade and the A.C.U. The general mass of riders have no intention of allowing fear or favour to squelch the cycle car. If the A.C.U. confounds the cycle car with the chamois, as it may do, it will soon be forced to revise its policy; but, personally, I have considerable confidence in the *personnel* which at present governs the A.C.U., and I do not think it will need much gingering from anybody.

Too Much Zeal.

WAS it a French archbishop who concluded his discourse with the moral: "Above all, my brethren, *point de zèle!*" The maxim is wiser than it looks. One of our most ardent readers has long since grasped the fact that the vim and vigour of a two-stroke engine are largely dependent on the tightness of the compression. He has cautiously increased the girth of his piston rings until his 'bus is m.p.h. faster than the standard. The other day he was indulging in what he calls "a mild flutter" (knowing him as I do, I imagine his speedometer had passed the 60 mark, and was working back round towards the 10 mark again) when the engine seized, and the machine became stationary within ten yards. Being some lad, he arrested himself in a vertical position. A mile further on it repeated the performance, and deposited him roughly on mother earth. The point of the prelate's peroration is now obvious—perhaps his grace was a motor cyclist.

Cycle Car Engines.

IT was with unusual interest that I perused Mr. F. E. Schofield's letter on the merits of the sidecar as compared with cycle cars. The coming struggle between these two types of passenger mount is bound to be frightfully interesting. The average Briton always feels a certain sympathy with the under dog, and for that reason some of us are keen on the cycle car's chances, though it has a long furrow to hoe before it overhauls the best sidecars.

Technically, the sidecar has all the worst of the argument. Practically, it is further crabbed by the exposure of its driver. Actually, the cycle car suffers from two very serious handicaps. The first is that it is in its infancy, whilst the sidecar has undergone intensive culture for nearly twenty years. So we get a deal of "potty" trouble with a cycle car; one friend of mine recently shed his oil tank, which was secured by a pair of woodscrews to a piece of that curious timber unknown to botanists and foresters, but freely employed by coachbuilders of the cheap and nasty breed. This sort of thing would never be tolerated in the sidecar world.

The cycle car's second crab is usually vibration, and vibration accentuated by a noise, which seems to synchronise with the vibration, and to make the vibration audible. Much of the vibration is road vibration, for very few cycle cars have been as well sprung as a first-class sidecar outfit. But where road vibration is adequately suppressed, engine vibration still lingers. This is an unpardonable folly. The high-powered sidecar is practically limited to the V twin, which is not a very steady engine, and never has too smooth an exhaust. The cycle car can readily house any type of engine—miniature four-cylinder, big flat twin, multi-cylinder two-stroke, and the like. But in practice the cycle car seldom has a quiet or well-balanced engine; and the owner is usually encouraged by faulty design of the starting facilities to run his engine in neutral oftener and longer than the average sidecar owner need.



SPRING-LIKE WEATHER AND THE LURE OF THE ROAD.

Every week end at any motor cyclists' rendezvous, spring shows of new models are being held. It is the interest taken by motor cyclists in one another's mounts that is one of the foundation stones of the great brotherhood of the road.



Winter in the Highlands.

BY H. MORTIMER BATTEN.

The Economical 3½ h.p. Sidecar Outfit for General Utility Work in the North.

THE 3½ h.p. sidecar outfit is unquestionably the poor man's vehicle—not only because the initial outlay is comparatively small, but because a good machine of this type is absurdly cheap to run, its oil, petrol and tyre consumption being very low. My petrol consumption riding always with sidecar attached over Highland hills, Highland pot-holes, and through every abomination of Highland weather, has, this winter, worked out at 74 m.p.g. Oil consumption I do not know. The machine is mechanically lubricated, and the oiling looks after itself. I fill the tank on special occasons, such as cook's birthday, and proceed thereafter to forget all about it. The engine is always perfectly oiled—just a blue puff of smoke when one accelerates violently. The hand pump ceased to function for want of some trivial adjustment early last autumn, and I have never troubled to put it right. The tyres were new just before the English Six Days—heavy Palmers, by which I swear. At the end of the Six Days the rear ribs were not unduly prominent, though the front wheel ribs were hardly rounded. I changed the tyres over, and both are still going strong—perfectly evenly worn, with not a suggestion of a cut. They must have seen well over 3,000 miles, including the English Six Days, which in itself is supposed to represent at least the life of a tyre. Unhappily, I have never aspired to making out my running costs, but from the foregoing it will be seen they are very low.

Two or Three Speeds.

My experiences with this machine will, I hope, be of some little value to those numerous readers who desire as cheap a mount as they feel to be consistent with their demands. The P. and M., it must be borne in mind, is provided only with a two-speed gear, which, by the way, is of practically infallible design. A three-speed gear would, undoubtedly, add to the speed of the outfit, but so far as climbing, etc., goes, I have not really felt the need for it.

Unquestionably, the chief bugbears for the low-powered sidecar outfit are head winds and heavy roads. The least headwind brings down one's average speed at once, and I remember a few years ago it was no uncommon thing for the driver of a P. and M. and sidecar to have to travel for miles on low gear. Those days, however, seem to be past, for the present-day engine is very much more powerful than its predecessors. Goodness knows we get enough wind in Scotland, and owing to the wildness of the country, and the great distances between villages, one is compelled to travel very fully equipped. My daily load com-

Winter in the Highlands.—

prises the following extras—two head lamps, two generators, wide leg shields, Bluemel windscreen, spare heavy cover, two inner tubes, complete set of chains, handle-bar muffs, valves, and, of course, the usual array of minor spares and tools. In the case of an 8 h.p. outfit a few pounds extra in the way of accessories make no difference, but with a 3½ h.p. every pound tells. It is a fact, indeed, that there is a hill near my home which I can just climb with passenger, but no extras. If I have my lamps on and a gun in the sidecar I have to push on each of the hairpins during the ascent. The total weight of the outfit is 4 cwt. 30 lb.

It will be seen that the machine is ridden very much in touring trim, but certainly I have never yet had to progress on low gear on the level owing to head wind, heavy roads, snow, or anything else I can think of. One of my regular journeys takes me through Glenogle, a rugged and romantic spot which will be known to many of my readers, and ascending the pass from Lochearnhead I can romp up the four-mile gradient provided there is no wind, never falling below 24 m.p.h., and at times picking up to over 30 m.p.h. For those who do not know the climb I may add that the family Ford cannot scramble to the summit on top gear unless there is a hurricane helping from the rear—indeed, during normal conditions there is less gear changing with the P. and M. than with the Ford carrying two people and their luggage, and as cars go the Ford is certainly "a top-gear" vehicle.

So much for the ordinary conditions of the year, but those who know the Highlands in all their summer beauty, when the lochs are radiant with silver birch and the deepest blue of unrippled waters, have really no conception of the conditions of winter in these lands. Referring again to Glenogle—there is a point at the foot of the pass about two miles above the loch at which the winds, blowing down all the glens and corries of the vast highlands above, meet and concentrate their energies on one particular part of the high road. This point, even on a comparatively still night, is like the core of a typhoon; on a windy night the conflicting forces of the air strive to pound one into a pulp, then to suck the pulp heavenwards. Regularly I have to make the journey by night, and I always anticipate the approach of this fifty yards of road with mingled dread and wonder.

Highland Weather.

I shall never forget the first time I struck it. The rain was coming down solid. I had travelled from London during the day, leaving Euston at breakfast time and arriving at Callander about 10 p.m. There I had previously left my machine so as to get home in the one day. The hurricane was behind me for the most part, and simply whirled me homewards in a stationary atmosphere. Suddenly I struck the danger point. It was like running into a haystack. I was bowling along at about 32 m.p.h. when, in about five yards, I was pulled up short with pinking engine. I grabbed the change speed lever and jammed in low gear, but immediately came to a stop with a series of savage jerks. The wind was so terrific that, using the kick starter, I simply could not tell when my engine was firing; but somehow, dazed and dripping, I reached navigable waters again, where the comparative quietude was almost frightening.



Near the summit of the long ascent of Glenogle.



Killin, on the Dochart River—a typical Highland village.

Living in this northerly land, it would be utterly suicidal for a rider to employ any machine but one in which he had the utmost faith. Take my own position. Very often train services compel my leaving some point for home late in the night. My journey lies over bleak mountain tops, and one hardly dares to anticipate what the failure of one's machine might mean on a winter's night. Many a roadfarer perishes on these roads during winter, and though I am no more afraid than anyone else, I realise that to be stranded in the midst of some of these "no-man's-lands" might be fatal. The cold is so intense that, coupled with fatigue, a single mis-step in the darkness might lead to one becoming lost, in which case it is almost impossible to regain one's bearings. I have participated in too many hunts for lost people to underestimate the danger. Only last winter I was a member of a search party which, for three days, searched the hills for a farm girl who, during a fine though frosty night, had wandered off the road into the interminable heather. Blizzards had followed, and we knew that we were looking for the dead. We killed numbers of white Alpine hares with our sticks, and the man on my right knocked a roe deer off its feet by throwing his stick into its legs as it rose from the heather, but we did not find the girl. It was early spring when finally she was found by a shepherd with the melting of the drifts—seated quite naturally with her face between her hands.

Personal risks are not of much consequence; one can usually get out somehow, but the P. and M. sidecar outfit has been in daily commission by way of giving my wife and year old infant a fresh air spin. The greatest exhilaration and the grandest scenery are afforded by the roads over the hills, and one can imagine that such jaunts could not be regarded with much pleasurable anticipation unless one were very sure of the machine. Most of the roads we traverse are utterly deserted, and a breakdown with a small infant would really be most serious. But, as a matter of fact, no thought of breakdown ever mars the pleasure of these outings, and I have not touched my machine, except for lubrication and one chain adjustment, since the English Six Days.

The Question of Cost.

Again, why should we use a car, which costs at least six times as much to run as the sidecar, when the latter fulfils all our requirements? I, personally, obtain far more pleasure from driving the sidecar than I do from driving a car, and my passengers are more comfortable and warmer in the sidecar—chiefly because there are no draughts.

In justice to the maker of the Bluemel windscreen, however, I must say that this fitting has alone made our winter jaunts possible. None of the many windscreens that I have tried, excepting the Bluemel, were really fit to place a very young infant behind. Most of them created back draughts or down draughts, or were objectionable in some other way, whereas the Bluemel seems to fill the bill in every respect. It has given unqualified satisfaction, and though not so adjustable as many on the market it at least fulfils its purpose when in use.

(To be continued.)

Road Tests of New Models



THE 350 c.c ARMIS SIDECAR.

WHETHER it is the new taxation scale which automatically divides sidecar outfits into two classes (*i.e.*, those taxed £4 and those which escape with £2 10s.), or whether it is the present tightness of money, there is no gainsaying that the two-stroke lightweight sidecar outfit has of late come rapidly to the fore. The improvements made in two-stroke engines during the past few years make possible the attachment of a light sidecar to motor cycles which, a short time ago, were regarded only as indifferent solo mounts. Of course, one cannot expect to maintain the same average as with a more powerful outfit, but for any ordinary main road running such a machine as the 350 c.c. Precision-engined Armis will meet the requirements of a large number of people who are content with a moderate speed

We recently tested one of these little outfits, and found its maximum speed to be in the neighbourhood of 35 m.p.h. True, its acceleration was not of the big twin order, but the way in which it "slogged" along at a steady 20 to 22 m.p.h. was really remarkable.

Although the Armis pleased us before parting, it sadly disappointed us initially. Within the first ten miles it developed all sorts of symptoms of internal derangement — particularly a periodical falling off of power accompanied by choking and recurrent backfires.

We might well have turned suspicious glances right away on the state of the lubricating arrangements were it not that we had been given to understand that there was sufficient oil in the sump to last another hundred miles; and



A high power-weight ratio is a great advantage when one is in a hurry on country lanes—unexpected corners and gradients, naturally, do not necessitate so many changes down as on a heavier mount with the same engine capacity.

Road Tests of New Models.—

we knew that, given these conditions, there is practically nothing in the Precision system of oiling that could go wrong.

Therefore, much mystified, we, perforce, adjusted or checked everything else that might or might not have any bearing on the trouble. Ignition and carburation, however, were apparently quite in order; and, as a last resort, it was decided to try a much greater opening of the oil valve than should ever have been necessary. This improved things at once, and, incidentally, turned our attention to where it ought to have been at first, viz., the crank-case oil-level window. There was practically no oil in the sump!

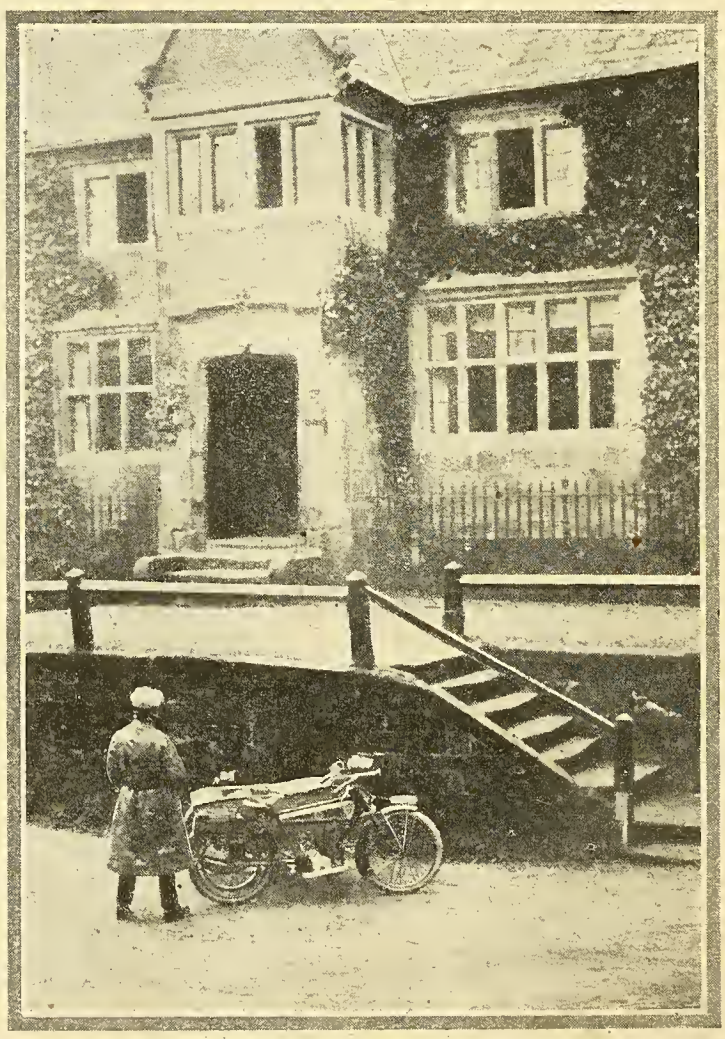
This rectified—well, exit trouble *tout de suite*.

It is often said that confession is good for the soul; does it lessen the efficacy of confession to plead extenuating circumstances? In this case there were two: (1) the symptoms were not very indicative of under-lubrication, and (2) the oil setting was (we understood) as fixed by the makers.

Power Maintenance.

At any time a successful adjustment is inclined to prejudice one in favour of the ensuing behaviour of the machine upon which it is effected. Perhaps this happened in the case of the Armis; but there can be no doubt but that it is a remarkably good puller and, what is even more important, apparently able to maintain its power under load for long periods, just on the illegal side of the legal limit.

Regarding hill-climbing it easily took a passenger up the majority of the main road hills that we encountered, on top gear: and, on the only two occasions that it was necessary to change down, the lower ratio appeared to be considerably lower than necessary. A three-speed gear would, no doubt, be a great improvement, both for the high second ratio and an emergency low. Although, during our test, we never found any call for the latter, we can readily imagine conditions in the normal life of such an outfit where the third ratio would prove more than helpful.



The small size of the Armis sidecarette is shown here while its driver attempts to decipher the tablet over an old schoolhouse door.

Fuel consumption was heavy—on (admittedly wasteful) short runs we averaged a bare 50 m.p.g.—but, again, our tinkering at the Cox aimed more at power than at economy. We should imagine that 70-80 m.p.g. would be a much fairer estimate of the machine's capabilities when normally adjusted. It must be remembered, too, that tyre wear on such an outfit must be extraordinarily light, and consequently the running costs per passenger should pan out as low as, if not lower than, those on any other self-propelled vehicle on the road.

Criticism.

Several points must be criticised, and it is noteworthy that all these faults (if we may call them so) might be eliminated at little or no increase in selling cost. The brakes are quite inadequate for sidecar work: in this respect the Armis sins in good company, but it sins nevertheless. Secondly, the sidecar *body* (as distinct from the sidecar) could be more comfortable; the addition of six inches more of back-rest should literally transform it. Lastly, the final drive (a $\frac{3}{4}$in. belt) is not quite capable of meeting the heavy demands of that most efficient little engine. Modern belts are so reliable that it is an exception nowadays to find one that pulls through. Ours did, twice.

At a cursory glance, or on a more critical examination, the Armis outfit is quite taking: beyond the points already mentioned the design is both clean and sound, and the workmanship and detail finish deserve nothing but praise. Further, it is most controllable and docile to handle. One word of warning here may not be out of place—a warning that also applies to the majority of sidecarettes.

Great care must be exercised in driving with an empty sidecar. It is as fatal to take sharp left-hand bends unladen at speeds over 6 m.p.h. as it would be to race at a Brooklands with the banking inside—fatal that is, to the maintenance of an even keel, if not to bodily safety. With a cargo, of course, it is only appreciably more "tricky" than the average 4 h.p. outfit.

The Protection and Lubrication of Chains.

Some Opinions based on a Long Experience of Chain-driven Machines.

THAT the chains of motor cycles give the best service by far when enclosed in an oil bath is a fact that can hardly admit of two opinions. When totally enclosed chains are properly enclosed so that oil cannot escape, and dust or mud cannot enter, the chain will always be running under ideal conditions, and will give extraordinarily good service; but it should be added at once that completely enclosing cases are worse than useless if they do not adequately fulfil the object with which they were designed.

A complete cover for the front chain, or chains, is fairly simple of achievement. It can fit snugly around the engine boss and up against the gear box, and nothing need project from it in front. For this purpose I know of nothing better than a cast aluminium case split horizontally into a top and bottom half, and having a machined flange where the two halves fit together. Sheet steel cases can also be made quite effective, but they are rather more likely to rattle.

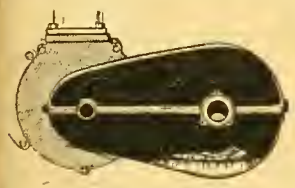


Fig. 1.—Oil bath for the front chain—a very simple matter.

The rear chain cover is, however, a much more difficult piece of design. A revolving part must project from it at the back, viz., the rear hub, and the axle in front, while in most cases the chain stay must pass obliquely through it, for this is invariably outside the rear sprocket and generally inside that in front. It will be seen then that the fitting of really effective oil-proof cases is a more difficult problem than many people suppose.

Mud and Water Traps.

If live rear axles were used on motor cycles and the rear sprockets placed outside the frames, the problem of effectively enclosing the chain would become much more simple, but this is a form of construction that I have never yet seen applied to a motor cycle.

A friend of mine once had an expensive outfit equipped apparently with excellent chain protection, but when taking down his machine for its spring clean, after a winter of dirty riding, he was astonished and disgusted to find that his case contained a mixture of mud and water. Obviously naked chains would be better than this. If, therefore, the best method does not go hand in hand with the best in design and workmanship, then it is preferable to be content with less ambitious methods of protection and make use of a simple cover.

It is sometimes argued that a chain will, by virtue of its speed, throw off any mud that may fall upon it. There is something in this, but it does not cover the whole question. Most of the mud will doubtless be thrown off, but, before this happens, it may do a considerable amount of damage, and, although the chain may look fairly well at the end of a ride, by next morning it will bear very convincing evidence of the treatment it has received.

On muddy roads the tyres are continually picking up dirt and throwing it about; on some machines the rider's legs get a fair share of this, and the chain gets its quota of that picked up by the rear wheel. Side flaps, or valances, on the mudguard will keep off a certain amount of this mud, but not all, and I have found a light chain cover turned well over the top run of the chain, combined with a leather flap, as shown in fig. 2, extending below the bottom run, a real advantage. Not only does this protect the chain to a very great extent on the road, but it intercepts all the mud and water which drip from the mudguard during the night, and would otherwise cause the chain to become red with rust and caked with mud before morning.

Inspection Facilitated.

In one respect the light cover has an advantage over the complete case, it enables the chain to be inspected and the adjustment checked a little more easily; though even when we think of this small advantage we must remember many chain cases are fitted with inspection doors for this very purpose, and that adjustment is not often required when the chain runs in a well-made oil bath.

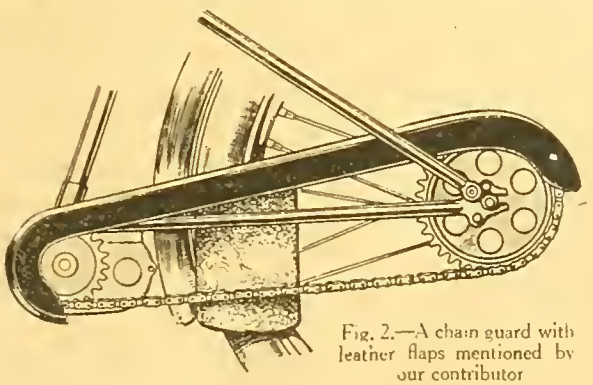
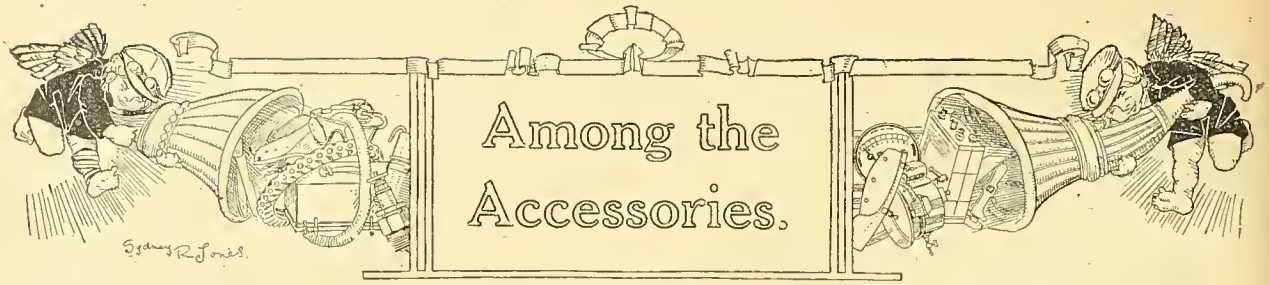


Fig. 2.—A chain guard with leather flaps mentioned by our contributor

To sum up, well made complete cases with an oil bath are an easy first, full protection without oil second, and light covers a good third; naked chains and cases full of mud and water are among the "also rans."

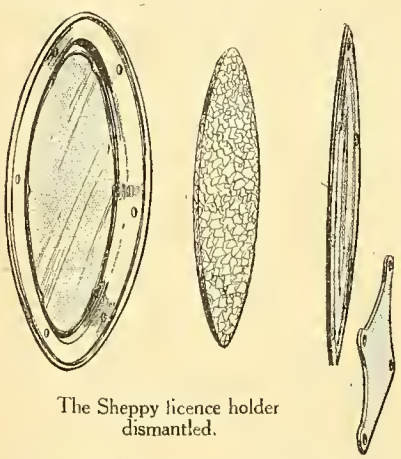
No chain should be lubricated with oil unless it is completely enclosed in a dust-proof case, for the oil will mix with the road dirt and form a grinding paste that will speedily wear away both chain and sprockets, causing the latter to become hooked. For this reason an oil spray from the engine is bad for an exposed chain, though all right in a case. I once tried this, and never knew my sprockets to wear so quickly. Exposed chains should be lubricated with grease and graphite. Prices' Rangraphine—a mixture of graphite and Rangoon jelly—is excellent, as I can testify from experience. The chains can be soaked in this when it has been melted (not boiled—this is very important, as boiling oil is hot enough to spoil the temper of steel), or the mixture can be softened with paraffin and rubbed on with a brush. The former method is the better when time admits of the chain being removed from the machine, but the latter is not to be despised.

CHAIN DRIVE.



The Sheppy Licence Holder.

AT first glance the Sheppy licence holder does not present any startling features; but, on examining it closely, several interesting points are revealed. In the first place, the glass is of the Triplex variety permanently held in position so as to be perfectly watertight. Behind the licence itself is an accurately fitting cork back. The back plate is strong, and is secured by several small bolts and nuts, while the edge of the rim holding the glass is spun over.



The Sheppy licence holder dismantled.

Mr. Walter Sheppy, 3, Bury Court, E.C., claims that the licence holder is unbreakable, and is completely watertight. The Sheppy licence holder is handled by Messrs. Brown Bros., 15, Newman Street, Oxford Street, London, W.1.

Mercury Detachable Sparking Plugs.



The Mercury detachable sparking plug.

THE distribution of the Mercury sparking plugs, one model of which is illustrated here, will shortly be taken over by the East London Rubber Co., 29-33, Great Eastern Street, London, E.C.2.

Eight models are made, all of which are detachable, and six of them are provided with ceramic insulators.

The type illustrated is specially adapted for use on single-cylinder motor cycle engines, whilst there is also a special two-stroke pattern.

Aluminium Handle-bar Grips.

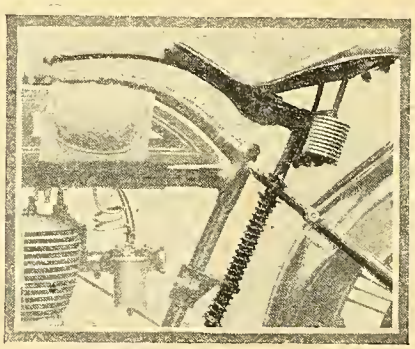
THERE is no doubt that aluminium accessories are "fashionable." They add considerably to the appearance of a machine, and impart a finishing touch. Messrs. Clement, Butler, and Co., 32-33, Borough High Street, London, S.E., evidently appreciate this, for they have recently introduced aluminium handle-bar grips, which are very well made and finished, and should meet with a ready demand from those who take pride in the appearance of their motor cycles. They cost 4s. per pair.



The Evabrite aluminium handle-bar grip.

Auxiliary Seat Springing.

THAT so many modern machines are fitted with spring frames or spring seat-pillars suggests that our roads are still a source of trouble to the rider who desires some degree of comfort. Rigid frames are still in the majority, however, and, therefore, auxiliary spring devices adaptable to any machine are receiving much attention.



Pivoted well forward on the top tube, the Perfect seat-pillar acts against coil load and rebound springs.

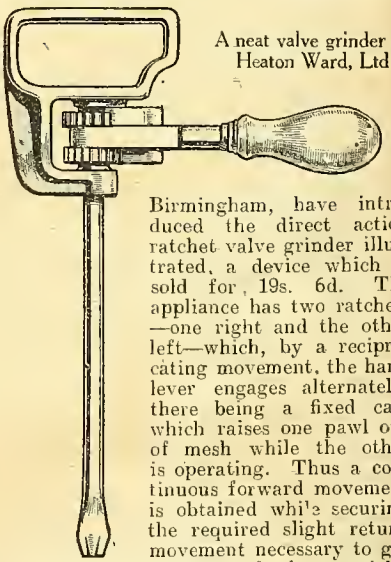
The device illustrated, which will be known as the Perfect seat-pillar, explains itself; but it should be noted that saddle height is not unduly increased by its use, and also the fact that the finish is a special process all-black.

Provisional protection has been taken out by the Perfect Seat-pillar Co., 12, Barrack Road, Newcastle-on-Tyne.

A Valve Grinding Device.

VALVE grinding is a tiresome task unless one has proper tools, and, for this reason, is often put off until it becomes absolutely necessary. In these days, when economy is the keynote of everything, it behoves every motor cyclist to keep his engine in good tune, and thereby obtain greater m.p.g. and sweeter running.

With this object in view, Messrs. Heaton Ward, Ltd., of Cleveland Street,

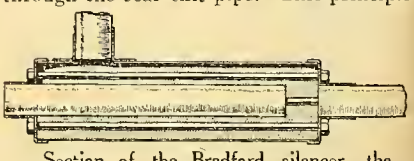


A neat valve grinder by Heaton Ward, Ltd

Birmingham, have introduced the direct action ratchet valve grinder illustrated, a device which is sold for 19s. 6d. The appliance has two ratchets—one right and the other left—which, by a reciprocating movement, the hand lever engages alternately, there being a fixed cam which raises one pawl out of mesh while the other is operating. Thus a continuous forward movement is obtained while securing the required slight return movement necessary to get the even distribution of the particles of emery in the valve seat.

Silencing by Induced Draught.

IN the Bradford silencer (illustrated) an air draught (induced by the motion of the machine) down a central tube running nearly the whole length of the chamber, tends to suck the gases out through the rear exit pipe. This principle



Section of the Bradford silencer, the left-hand end of which, when in position, faces the direction of travel.

has been used before to minimise back-pressure, but not in quite the same manner. A patent has been applied for by the inventor, Mr. J. T. Bradford, Colne, Lancs., who claims that the device gives most satisfactory results in practice.

Improvements in Sidecars.

Some Details of a Sporting Model, a Convertible Double-seated Body, a New Type of Springing, and a Tradesman's Carrier.

THERE is a great deal more activity in the experimental departments of manufacturers of sidecars than in the majority of factories producing the motor cycles which will propel these sidecars. Signs are not lacking that the former now fully appreciate that comfort and convenience are just as important as correct chassis design.

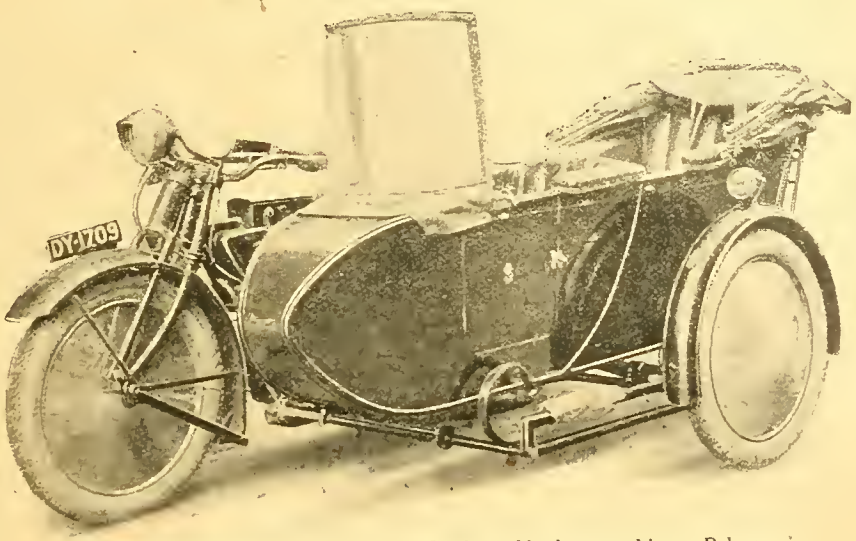
On this and the following page we illustrate several of the latest developments in sidecar attachments, from which it will be seen that every class of sidecar buyer and sidecar passenger is being catered for.

The term "sporting sidecar" conveys the impression of a light featherweight body mounted on a chassis of simple and light construction; in fact, a body which lends itself for speed work and is constructed with the object of minimising the total weight. Usually, this type of body is not expected to stand up to the great strain imposed upon it when used with a big twin machine. With the object of providing a body of this type, well-finished, but more substantially constructed and capable of receiving hard wear, Messrs. Capjon and Mudd, 5, Fenchurch Street, London, E.C.3, have designed the sporting body illustrated on page 257.

Concealed Body Joints.

On a recent visit to their works at Hammersmith, we were able to inspect the skeleton framework of the body, which has all screwed joints, and is made of unusually stout wood. Great care is exercised in the endeavour to produce a highly-finished surface, and the joint between the top and sides of the body is neatly concealed. We are also informed that the paint and varnish will not crack, since strip canvas is placed over the joints—a really desirable feature.

An attractive V pattern windscreen is fitted on the dash, whilst a spacious locker located behind the backrest is provided for holding, in addition to other things, a two-gallon tin of petrol.



A handsome Millford double-seated sidecar fitted to a Henderson at Messrs. Robertson's Motors, Ltd., Great Portland Street.



Cantilever spring of the M.P. sidecar, showing also the method of attachment to the motor cycle.

The general appearance is boat-shape, whilst the V shaped top is distinctly attractive, and gives the body a streamline appearance.

In the heading is depicted a full tandem sidecar of Millford design suitable for the larger types of motor cycles, such as the four-cylinder Henderson. With the addition of a pillion seat, this outfit provides the same accommodation as a four-seated car. It is certainly one of the most handsome full two-seaters we have seen.

A Disappearing Hood.

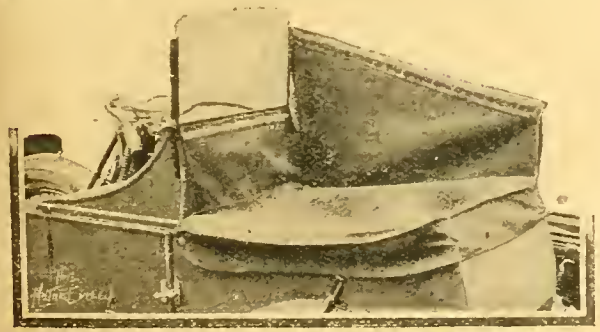
Another body provided with a disappearing hood, which excited considerable attention at the last motor cycle show, is also illustrated.

It is essentially a touring body and is exceptionally strongly constructed. It may be remembered that the hood folds up and is placed inside a deep locker at the rear of the seat. Side curtains are provided which totally enclose the passenger when desired.

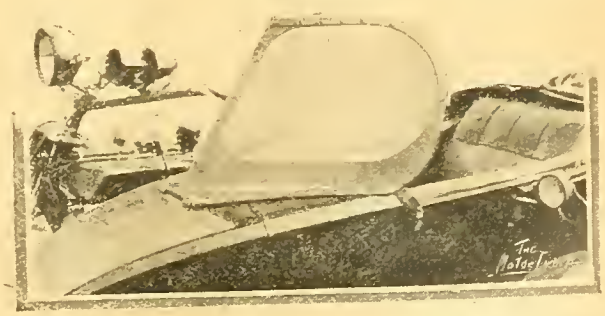
Another model is made, in which the locker in the bulbous back may be converted to a dickey seat for a child.

The chassis provides for the suspension of the body from two C springs at the rear, and inverted C springs at the front. It has a four-point attachment, and the lugs, a common cause of trouble, are of generous dimensions.

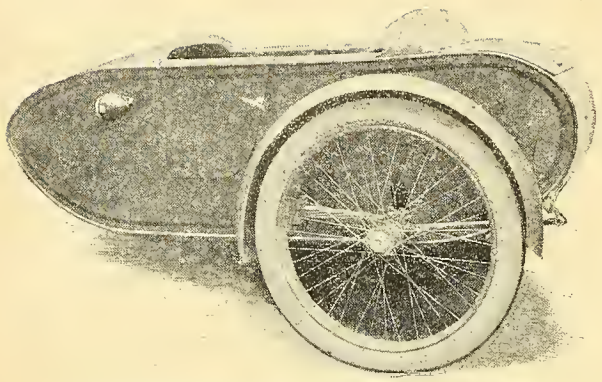
All the bodies will be finished in colours to suit individual requirements. A



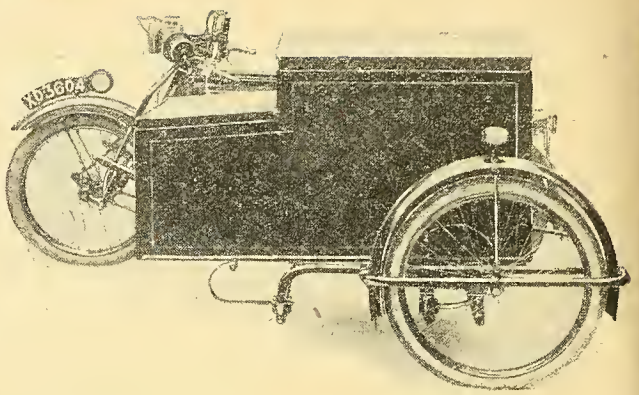
A new side screen for sidecars by Messrs. Vivian Hardie and Lane.



Vee windscreen on a Motosacoche in the Paris-Nice trial.



M.P. touring sidecar. Observe the short leaf spring on the near side.



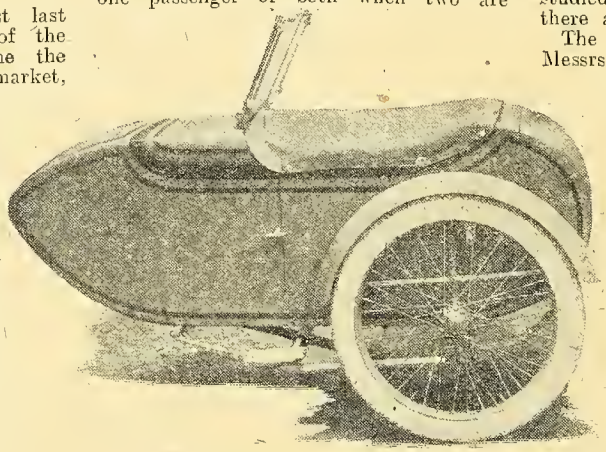
A side view of the Corona carrier box. A 4 h.p. Corona motor cycle is used

speciality, however, is made in bodies suitable for Harley-Davidson and Reading Standard motor cycles.

The Plus-One Sidecar.

In our issue for October 21st last we gave preliminary details of the Plus-One sidecar. At that time the sidecar was not actually on the market, and it was not then fitted with a hood. Further details concerning the body cannot fail to be interesting, as the design has been studied with great thought and care. Access to the front seat is obtained by swinging over the scuttle to which the screen is attached. The screen is capable of being set to any angle, and can be pushed forward out of the way if its presence is not desired. The seat is of the hammock variety with springs at the top so as to obviate the necessity for a cushion. It is adjustable, so that a position may be assumed to allow room for a passenger in the back seat. It can also be set in a comfortable reclining position or folded away altogether when it is intended to place luggage in the interior, in which case a storm apron spreads over the whole of the body. By undoing a few screws the seat framework can be removed altogether, so as to allow ample space for the carriage of goods only.

Behind the main seat is a bag in which is carried the storm apron, hood, and side curtains. The hood is detachable, and can be adjusted so that it either protects one passenger or both when two are carried. Access to the back seat is obtained by lifting up a lid which is provided with rubber strips, so that, when the extra seat is not employed, luggage may be carried on it without damage. The upholstery is in khaki, and the finish is excellent, there being walnut fillets to the top of the side panels, while the paintwork leaves nothing to be desired. The sidecar chassis has also been carefully studied. It is provided with a stand, and there are aluminium steps to each seat.



The C. and M. touring model. The seat is provided with a waterproof cape. A collapsible hood is neatly concealed in a locker at the rear.

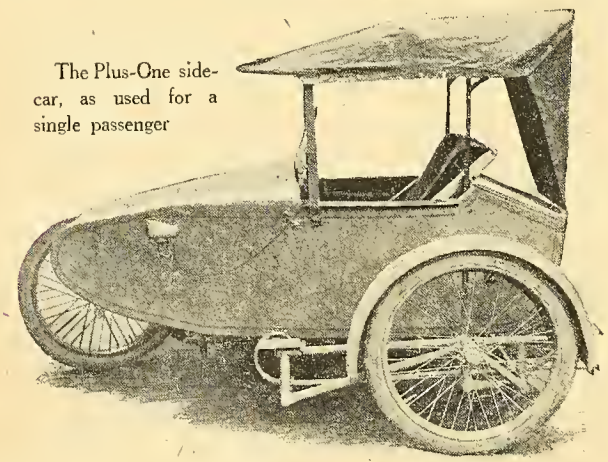
The Plus-One sidecar is handled by Messrs. Coppen, Allan and Co., 69, Great Portland Street, London, W.1. The same firm also deals in another sidecar, named the M.P., the most interesting feature of which is the springing. The off side of the body is suspended on a long cantilever spring, while a short leaf spring supports the body on the other side. The body is hinged in front on one of the cross members of the chassis, and a five-point attachment is provided.

The New Tradesman's Carrier.

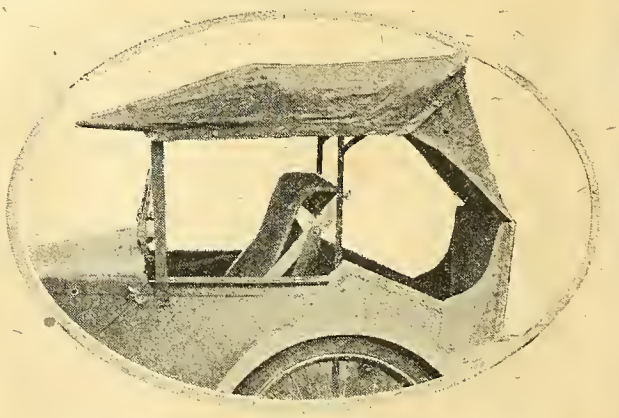
The manufacturers of the 4 h.p. Corona motor cycle have extended their activities, and are now producing a tradesman's carrier outfit with a 2 cwt. carrying capacity.

The carrier box is provided with a hinged top, giving access to the interior, which is divided into three compartments.

It is estimated that the cost of upkeep is less than 1¼d. per mile. It will be remembered that the Corona engine is fitted with an automatic oiling system,



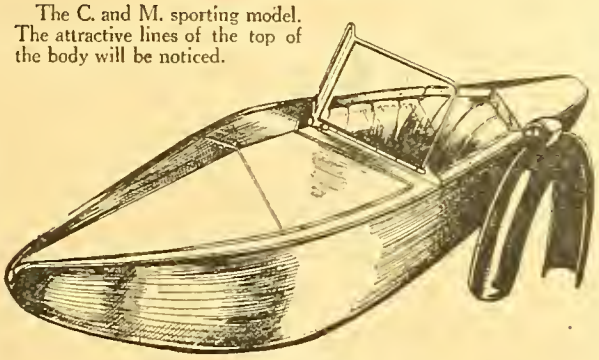
The Plus-One sidecar, as used for a single passenger



How the second passenger is accommodated on the Plus-One sidecar. Observe the hammock seat

Improvements in Sidecars.— with which the machine may cover a distance of 400 miles without any replenishment of lubricant.

So as further to protect the passenger in a sidecar from side winds a new side screen has been placed on the market by Messrs. Vivian Hardie, and Lane, 24, Woodstock Street, London, W.1. It is shown fitted to a 4 h.p. Douglas sidecar outfit. It consists of an extra side shield supported at the rear by means of a metal pillar fitting into a socket at the back of the sidecar, while the top of the shield is attached to the off side upright of the windscreen. The idea has often been carried out by owners, but hitherto has not been available on the open market; an illustration appears on page 255.



The C. and M. sporting model. The attractive lines of the top of the body will be noticed.

It may be noted, both from the immediately foregoing description and from the two illustrations of V-shaped windscreens, that the elimination of side draught is at last receiving the attention it deserves. In the past many sidecars were very bad offenders in this respect; 1922 should see a complete improvement.

Reducing Second-hand Values to a Formula.

A Reader's Ingenious Attempt to Evolve a Means by which the Value of any used Machine may be Ascertained.

THE thousand odd advertisements regarding second-hand motor cycles in the miscellaneous columns of *The Motor Cycle* and our readers' close study of the schedule given each week are proof that second-hand values are a matter of great interest. Many times we have had submitted to us various schemes to arrive at the value of a used machine, but we cannot recall seeing the problem reduced to a formula such as is given below, and which has been sent to us by Mr. Frank Hall, of Stockton-on-Tees, who writes:

The following formula will give a good approximation of the value of a second-hand machine, for the present state of the market, based on 1921 prices of new machines. This formula serves the dual purpose of being a guide in the fixing of the price for a mount for sale or for verifying the price of a machine advertised for sale.

$$V = x\left(\frac{(y-1)^n}{y^n}\right)$$

V = Unknown value of second-hand machine in £.

x = Price in £ of 1921 model of similar pattern (inclusive of 1921 prices of lamps, horn, and accessories, etc.).

n = Years of age of second-hand machine.

y = A constant of 10 for January, February, March, October, November, and December.

y = A constant of 10.8 for April, May, June.

y = A constant of 10.4 for July, August, September.

The constant allows for the fluctuation throughout a year, being at the highest in April, May, and June.

(1.) To find the present value of a late 1915 motor cycle, with lamps, horn, taxation, mechanically sound, and good condition in so far that tyres are half worn only.

Let price of 1921 machine be	£120	0 0
,, ,, ,, ,, lamps and generators be ...	4	10 0
,, ,, ,, ,, horn be	2	0 0
	126	10 0
Taxation ...	3	0 0
Value of new outfit ...	£129	10 0

$$V = x\left\{\frac{(y-1)^n}{y^n}\right\}$$

$$\therefore V = 126.5\left\{\frac{9^{3\cdot5}}{10^{3\cdot5}}\right\} \quad \text{Then } V = £70.82$$

V =	£70	16 0
	3	0 0 Taxation.
	£73	16 0 = Value of second-hand machine to-day.

(2.) To find the present value of an early 1917 motor cycle and 1916 sidecar with lamps, horn (fitted in early 1920), two tyres badly worn, mechanically sound, taxation included, speedometer four months old.

This problem requires treating in staged detail.

(I.) PRICE OF 1921 OUTFIT.

Let price of 1921 machine be	£107	0 0
,, ,, ,, ,, lamps and generators be ...	5	10 0
,, ,, ,, ,, horn be	3	0 0
,, ,, ,, ,, sidecar be	42	0 0
,, ,, ,, ,, speedometer be	6	0 0
	163	10 0
Taxation ...	4	0 0
	£167	10 0

(II.) TREAT MOTOR CYCLE ONLY.

$$V = x\left(\frac{(y-1)^n}{y^n}\right)$$

$$\therefore V = 107\left(\frac{9^{3\cdot5}}{10^{3\cdot5}}\right) \quad \text{Then } V = £73.28 = £73\ 5\ 0$$

This value would have held good if the two tyres had only been half worn, so deduct half the price of two new tyres (say £6) from this value = £73 5 0 — £3 = £70 5 0.

(III.) TREAT LAMPS, HORN, AND GENERATORS (FITTED IN EARLY 1920).

$$V = x\left\{\frac{(y-1)^n}{y^n}\right\}$$

$$V = 8.5\left\{\frac{9^1}{10^1}\right\} \quad \text{Then } V = £7.65 = £7\ 13\ 0.$$

(IV.) TREAT SIDECAR (1916).

$$V = x\left\{\frac{(y-1)^n}{y^n}\right\}$$

$$\therefore V = 42\left\{\frac{9^5}{10^5}\right\} \quad \text{Then } V = £24.73 = £24\ 15\ 0.$$

(V.) TREAT SPEEDOMETER (FOUR MONTHS OLD).

$$V = x\left\{\frac{(y-1)^n}{y^n}\right\}$$

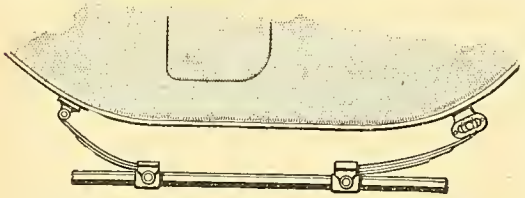
$$\therefore V = 6\left\{\frac{9^1}{10^1}\right\} \quad \text{Then } V = £5.793 = £5\ 16\ 0.$$

TOTAL VALUE OF OUTFIT.

II. ...	£70 5 0
III. ...	7 13 0
IV. ...	24 15 0
V. ...	5 16 0
Taxation ...	4 0 0
	£112 9 0

IMPROVED SIDECAR SPRINGING.

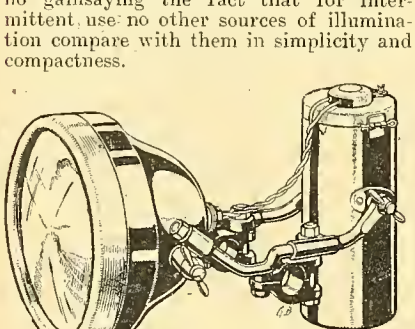
AT the last Olympia Show one of the outstanding machines was the 8 h.p. Royal Ruby sidecar outfit, which has made a reputation for the luxury of its system of springing. The sidecar chassis is insulated from the wheel through an adjustable laminated spring, and the body was carried on double-ended C springs. It was found, however, that these springs, being the same at each end, allowed the rear of the body to bump, and a new springing system is now in use. As may be seen in the illustration, the body is carried on four quarter-elliptic springs, the front extremities of the forward ones being pivoted, while the ends of those at the rear carry hardened rollers which run in guides secured beneath the load-carrying portion of the body. From actual test we found the springing to be most efficient, while the system of guides and rollers prevents any side sway.



New type of body springing on the Royal Ruby spring-chassis sidecar.

DRY BATTERY LIGHTING.

ALTHOUGH many people have the opinion that dry batteries are unsuitable for continuous use, there is no gainsaying the fact that for intermittent use no other sources of illumination compare with them in simplicity and compactness.



A self-contained lamp and dry battery set—the Rayonite.

A dry battery, if properly constructed, may have remarkable powers of recuperation between its periods of service, and in the ordinary case the average rider uses a lamp so seldom, and usually for such short periods, especially during the summer months, that a good battery is entirely satisfactory. Moreover, if the cells are of the correct design, they will hold up in stock (when out of use) for long periods, three years being by no means uncommon.

In order to provide a compact and self-contained dry battery head lamp set, Messrs. Ward and Goldstone, Ltd., Frederick Road, Pendleton, Manchester, have brought out a new cylindrical four-volt battery, constructed on the Volex multi-carbon principle, which gives the qualities above mentioned. This battery is carried in a metal container, the lid of which carries the wires, switch, and battery contacts, thus making the replacement of a battery the simplest of operations. Similar in shape and size to an acetylene generator, the battery container is carried on the rearward projecting forks of the head lamp bracket; thus the whole set is self-contained, and detachable from the handle-bars on removing two nuts.

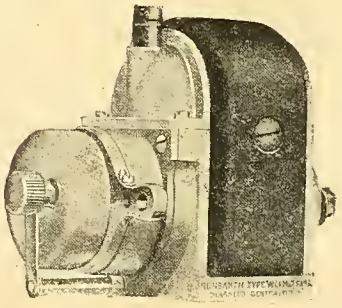
A 5in. diameter head lamp, taking a four-volt small bayonet cap bulb, is normally included in the set, which is known as the Rayonite, but a 7in. lamp may be had if required. Moderate in price, and involving no attention during its life, the set is one which should appeal to all who have no need to encumber their machines with a troublesome set of acetylene lamps, a weighty and attention-demanding accumulator, or an expensive and complicated dynamo outfit.

Another product of the extensive Ward and Goldstone factories is the motor cycle Voltalite generator. This is an improved model of the well-known pedal cycle friction-driven dynamo. Its armature is carried on ball bearings of the journal type, and although it only weighs a few ounces it is quite capable of brilliantly illuminating an eight-volt head lamp and four-volt tail lamp bulb in series. The current generated is alternating, and therefore unsuitable for battery charging, but a dry battery could be used when the lights are required and the engine is stationary.

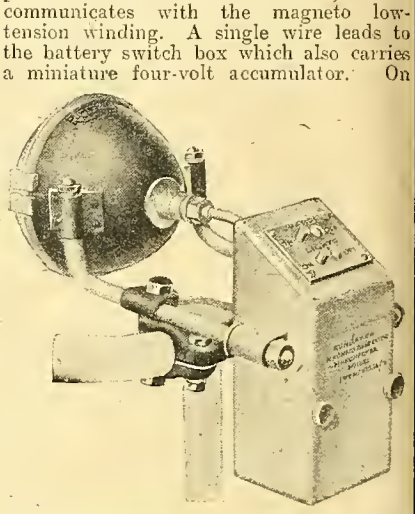
MAGNETO LIGHTING.

DURING a recent visit to the works of the Runbaken Magneto Co., Ltd., at Manchester, we examined a special lightweight ignition and lighting outfit which will shortly be placed on the market.

Simplicity is the keynote of the device, which consists of a special end cap for the contact breaker of a standard Runbaken magneto, a head lamp, tail lamp, and combined battery and switch box, the latter unit being carried on the head lamp bracket. The set utilises the idle primary voltage wave, which is generated in single-cylinder magnetos (and which is of some intensity when the armature runs at engine speed). The current is distributed to the collector face in the ebonite end cap referred to above by means of a copper gauze brush carried on the insulated portion of the contact breaker, which communicates with the magneto low-tension winding. A single wire leads to the battery switch box which also carries a miniature four-volt accumulator. On the top of the box are press button switches marked "charge" and "lights." The automatic switch comes out of engagement when the engine is stationary, and an indicator shows whether the battery is on charge or not.



A slightly enlarged end-cap on the contact breaker is the only outward difference between the Runbaken magneto generator and the standard magneto.



Handle-bar bracket carrying head lamp and battery and switch box of the Runbaken magneto lighting set.

The high-tension ignition is in no way interfered with, nor is the accessibility of the contact breaker reduced. A useful feature of the rear lamp is that the bulb holder may be withdrawn from the lamp body and used as an inspection lamp, an advantage which will be appreciated by most riders.

AUTOMATIC EXHAUST CHOKE VALVE.

NUMBERS of baffles, some mechanically and some automatically operated, for open exhaust pipes are finding their way on to the market. The one we illustrate belongs to the latter class, and consists of two drilled flaps hinged on a bar in the pipe and held in the "shut" position by a light spring. It is claimed that the exhaust pressure at low speeds will not open this valve, and thus a certain degree of silence is obtained for town riding, passing restive cattle, etc. The device is the design and patent of Mr. F. C. Ebbutt, "Woodcote," Stafford Road, Wallington, Surrey.



Baffling the exhaust—and the police.

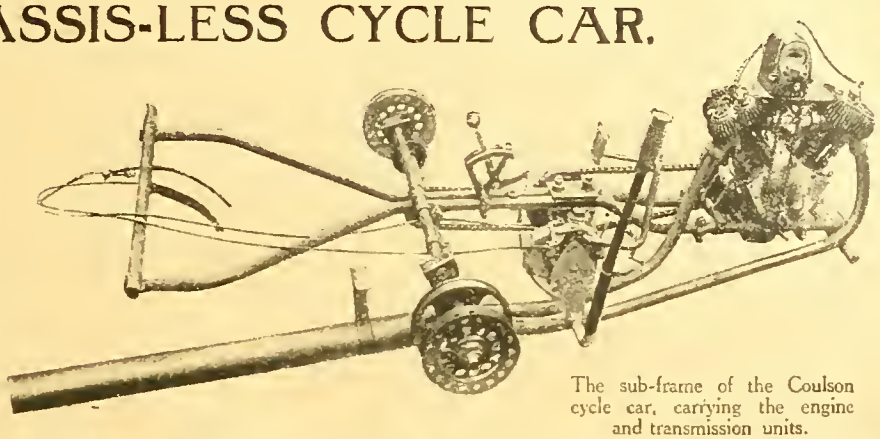
A CHASSIS-LESS CYCLE CAR.

Experimental Four-wheeler Produced by the Makers of a Well-known Motor Cycle.

THE well-designed cycle car may in the future prove to be a serious competitor to the *de luxe* sidecar outfit. The makers of the Coulson-B motor cycle (the F. Aslett Coulson Engineering Co., Ltd., Albion Works, Albion Street, King's Cross, London, N.1) realise this, and have lately been experimenting with a view to introducing a light four-wheeler of the cycle car type, and their first experimental machine bristles with ingenuity.

A first model of any motor vehicle naturally has considerable room for improvement, but there is very little doubt that the new Coulson shows distinct promise. There is no chassis proper, the engine and transmission units being carried on a sub-frame bolted to the body at three points, so that, in case of a serious repair being necessary, the whole sub-frame may be lifted out bodily with the minimum amount of trouble.

The actual vehicle under review has clearly too little ground clearance, but in subsequent models this point will be remedied. At present the final transmission is by belt, but we understand that the production model Coulson cycle car will drive direct from the countershaft to the rear wheel by chain and without a differential.



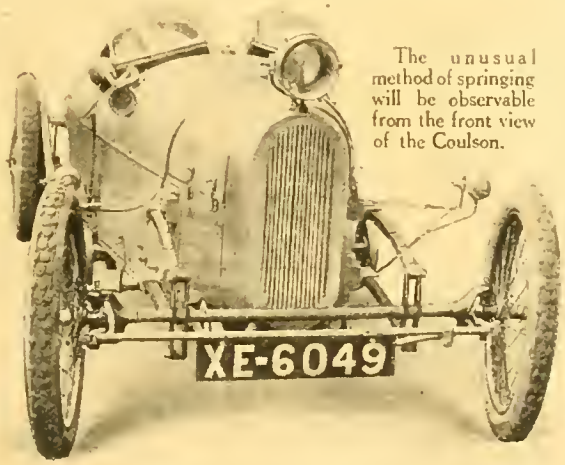
The sub-frame of the Coulson cycle car, carrying the engine and transmission units.

A 6 h.p. Blackburne Engine.

One of the new 6 h.p. Blackburne engines provides the power, and is attached to the forward end of the sub-frame. The bore and stroke of this engine are 71 × 98 mm. respectively, the capacity being 777 c.c. This engine is composed of two cylinders of the well-known 2¾ h.p. Blackburne type, and it is interesting that it is provided with the same crankshaft as the 10 h.p. engine. The magneto, it will be noticed, is placed on a platform above the engine, midway between the cylinders, and consequently it is in a very accessible position.

The present gear box fitted is of the three-speed kick-starter variety, but future models will be fitted with a new gear box containing a reverse and three forward speeds.

In the model we are describing, the starter mechanism is worked by means of a handle, which telescopes on to an arm projecting outside the body, enabling the engine to be started by hand from the driver's seat. The transmission continues by chain to the countershaft, the ball bearings of which are swung on a cross member of the sub-frame, so that adjustment of the chain is easily effected. On this secondary countershaft are two pulleys, the drive being by belts to the rear wheels. Adjacent to the off side pulley is a drum for a hand brake actuated by the side lever, and there are also two brakes upon the rear wheels. The first motion of the clutch pedal releases the clutch, and a further movement applies the brake. The steering is direct, the front wheel stubs being carried in well-designed steering heads.

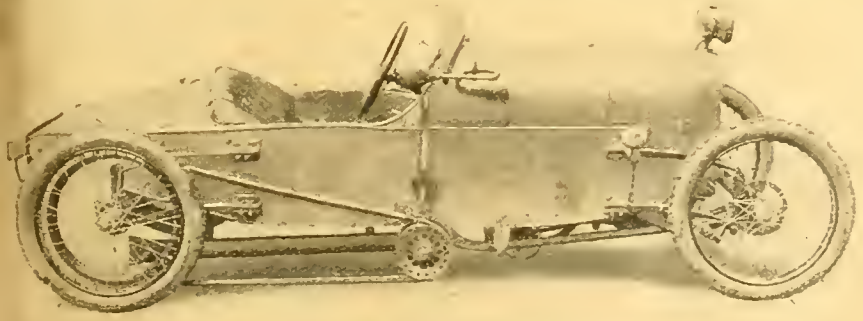


The unusual method of springing will be observable from the front view of the Coulson.

Comfortable and Fast.

The body is suspended fore and aft on pairs of super-imposed quarter-elliptical springs, and attached to long shackles. The body is comfortable, and in all future models will be amply wide, while at the rear there is a dickey seat for a juvenile.

As will be seen, the photographs were taken before the vehicle was actually complete, as there were no wings; but when we were taken for a short run it proved to be comfortable, steady, and fast.



Off side of the Coulson cycle car. The final model will have all-chain drive, and the body will be raised considerably, giving greater clearance.

An Italian Team for the T.T.

OUR Italian correspondent writes that the Motor Cycle Club of Italy is taking a very active interest in the F.I.C.M., to which international body it has proposed the institution of an annual International motor cycle Grand Prix—a road race to be held on the same conditions as the International Six Days Trials, viz., each country to be represented by one or more teams, and the winning country to organise the race on its own territory in the following year.

It is to be hoped that British manufacturers in their own interest will find their way to support some of the most important Italian events this year.

The best British motor cycles are in great favour in Italy, despite their high cost owing to the rate of exchange.

Italy, on the other hand, hopes to be able to send a team for the T.T. this year, the greatest difficulty, however, being the low value of the lira, which makes this proposition rather a tall order. Anyhow, it is very probable that it may materialise, and it would, no doubt, be very interesting to see Italian riders and machines in close competition with the best British riders. Not since 1914 has the T.T. had anything of an International character.

The Balance of Motor Cycle Engines.

Further Opinions on this Important Question.

ALTHOUGH the discussion which has followed our article on the balance of motor cycle engines, which appeared in the issue for February 3rd, is not one in which the average motor cyclist can take part, we have received a large number of letters, which prove that its interest has not been confined to experts. The subject covers points which are of vital importance to all riders. A large number seem to appreciate this, but leave the discussion to those qualified to debate on the points raised.

Below we are able to give some more opinions from designers, which, we venture to think, will be read with interest by the large coterie of engineers among our readers, and which will at least show the uninitiated some of the factors with which designers of motor cycle engines have to grapple in order to produce smooth running engines for the use of the motor cycling community.

An Opinion from T. S. Bentley, A.M.I.M.E.

The writer of "The Balance of Motor Cycle Engines" was quite right when he stated that the alteration should be made "at a distance from the centre exactly equal to the crank radius."

The matter has been queried by Messrs. Georges Funck and Arthur Booth in their communications quoted in the issue for February 17th, but *they have both overlooked the distinction between static and dynamic balance.*

It is quite true that, as far as static balance is concerned, it is immaterial at what distance the counterbalancing is done provided that the product of the weight and radius gives the required amount.

Following our comprehensive article on engine balancing which appeared in the issue for February 3rd, we have received many interesting letters from designers, debating on the several points raised. Two of these were given in "The Motor Cycle" for February 17th, and we are now able to quote the opinions of several more engineers qualified to discuss the problem.

When we come to running balance, however, this is no longer true. *The radius or leverage is constant at all speeds, but the effect of the weight varies as the square of the velocity.* In practice it is often impossible, or at any rate very inconvenient, to balance at the same radius as the crank, and as the balancing is only an approximation anyway, it is almost always done at the flywheel rim. As the effect at this greater radius is magnified when running—the amount depending upon the speed—it is usual to underbalance so as to average the result. This must not be forgotten when considering Mr. Funck's recommendation to "overbalance."

Your article could only give definite figures by barring out the variable introduced by differences in velocity due to unequal radii.

Balancing a Two-stroke.

Mr. R. E. Coleridge, of Yarlet Hall, Stafford, gives a personal experience in rebalancing.

The article which appeared in *The Motor Cycle* was of exceptional interest to me. My machine is a two-stroke of a new design, and I was much troubled by engine vibration, which was so bad that various parts of the engine were continually breaking. Among other things, the roller crankshaft bearing broke the cage, and a roller broke the piston. After this, I thought it was time to rebalance the engine. I had an aluminium piston made, which I found to be 9 ounces lighter than the original. According to your article the piston is still 1 ounce too heavy for perfect balance. Originally, then, the piston was 10 ounces too heavy (weighing 27 ounces). I wrote to the makers, who replied that the balance of the engine was carried out by their own special formula, and could not be altered.

The improvement in running smoothly is a revelation, and needless to say, I do not think much of the makers' balance and design. There is still a slight transverse couple owing to there being only one balance weight.

The writer of the article remarked that new engines should be found correct, but my experience shows that there are exceptions. Has any other reader had similar experiences?

Relative Unbalanced Forces.

Mr. F. Strickland, who is well known in the mechanical world, draws attention to the point first raised in our article on the best angle for a twin cylinder engine, and the effect of connecting rod length.

I was very much interested indeed in your excellent article on the subject of engine balancing in the issue of February 3rd. The question of the effect of the length of connecting rod on the best weight for balance, and the best angle between the cylinders of a twin, is a matter I do not remember seeing raised before, and is of considerable importance.

The information as to the actual relative unbalanced forces is also of very great interest, as it enables one to see at a glance the main results of varying the essential points of design. Such a table of results is given in Professor Sharp's book, "Balancing of Engines: Steam, Gas and Petrol," but I find on referring to it that the values are not in the same proportion as those in your article. The differences are shown in the enclosed table. The first two columns give the actual units as in your article and Professor Sharp's book respectively, and the latter two give the relative values of the twins and radial, taking the single as unity.

Now Professor Sharp did not take the same proportion of connecting rod to stroke as your author, his rod being $2\frac{1}{2}$ strokes long in place of $1\frac{3}{4}$. Also your author takes slightly different weights of balance weight for the twins and radial, viz., .54, .53, and .52 in place of .5. I should like to ask the author whether this entirely accounts for the different relative unbalanced forces, or whether there is some other cause for the divergence? In the case of the 60° twin it will be seen that there is a very great divergence indeed. In the case of the radial there is also a great divergence as compared with the 90° twin, but I am not sure that I have understood the author correctly with regard to the sized cylinders he has assumed. He says that the radial is of "the same total capacity as the twin," which I have read to mean that *each* cylinder of the radial is two-thirds the capacity of each cylinder of the twin. As Professor Sharp assumes that all the cylinders are the same size, I have therefore added 50% to the units given in the article. If the units given in the article were for *cylinders* the same size as the twins and

	Actual Units given.		Relative Units, taking Single-cylinder Half-balanced Engine as 100.	
	The Motor Cycle.	Professor Sharp.	*The Motor Cycle.*	Professor Sharp.
Single-cylinder, reciprocating parts half-balanced	44	14.24	100	100
60° twin, reciprocating parts half-balanced	31	24.67	71	173
90° twin, reciprocating parts half-balanced	20	8.14	45	57
Three-cylinder radial, reciprocating parts half-balanced	33	8.63	75	61

Rotating parts assumed to be fully balanced and cylinders same size in both cases.

The Balance of Motor Cycle Engines.—

the single, the units would be 22 and relative units 50 in place of 75, and this would agree much more closely with Professor Sharp.

There is another point with regard to balancing on which it would be very interesting to have some more information: that is, whether the theoretically best balance gives the best result in practice. In single-cylinder engines, for example, a mathematical treatment assumes that it is best to reduce the unbalanced force to a minimum, which involves the vertical and horizontal forces being practically equal. It is then possible to reduce either of these by increasing the other. It is quite likely that evenly dividing them is the best compromise, but it does not necessarily follow, and it would be very interesting to know whether it is found in practice that vertical vibration is more objectionable than horizontal, or *vice versa*. I trust the author will realise that it is simply because it appears to me that his information is very interesting that I am asking for more.

OILING EXPOSED PARTS.

Careful Attention that may prove Destructive.

MOST riders are in the habit of anointing external working parts, such as springs, brake connections, etc., with periodical doses of oil—in fact, it may be said that practically every careful rider tends his machine in this way; but the writer has come to the conclusion that more harm than good may result from too liberal a use of the oilcan. Very often the oil thus left about merely serves to accumulate grit, which works between the friction faces, and, while entirely defeating the ordinary purposes of lubrication, it further unites with the oil to form a fine grinding paste, which causes the moving parts to wear far more rapidly than they would wear if left entirely dry.

A Case in Point.

To quote a case in point: The foot brake of one of my machines passes through a bearing directly under the crank case, and any overflow of oil working out of the timing cover flows straight down to this bearing, which, resultantly, is always in a "perfectly lubricated" state—that is, simply squelching oil. But this same bearing and its adjacent joints are also exposed to a good deal of grit, and recently, taking the whole brake mechanism to bits, I found these "well lubricated" parts to be completely worn out, while the other joints, which are subjected to an equal amount of wear, but which always worked dry, were entirely unworn. It may be said that engine vibration was the cause of wear of the parts so adjacent to the crank case, but this is not so, as I have repeatedly noticed that the worst vibration takes place at the other end of the adjustable rod, which sets up a perceptible dither at its back wheel extremity. It is merely that the oil has gathered with it a considerable amount of grit, and in future I intend to keep all such comparatively idle joints as brake joints bone dry. If the design of the brake is anything like correct, oil is not really necessary for its working.

I do not mean to infer from the foregoing that spring forks, etc., should be run dry, but I certainly think that if such parts are exposed to grit one needs to use considerable discretion in oiling them, and it is thoroughly worth while to devise some grit-excluding cover. The lubricating of all these parts should be by Stauffer greasers, so that the grease is injected internally, instead of the oil being applied externally, and thus bearing the grit with it as it works in. At one time I used to drop oil on to the shackles of my sidecar springs, heedless of this, till I found that they were wearing rapidly. I now enclose these parts in little leather jackets, and they seldom require any attention at all.

"Dry" Lubrication for Chains.

The same applies to open chains. In my opinion it is a mistake to keep an open chain in what is considered to be a "well lubricated" state, for the accumulation of grit merely defeats the lubricant and grinds the chain to bits. Exposed chains should be kept well lubricated but dry—that is, they should be soaked in hot, stiff graphite, and all external grease should be removed ere they are fitted. All the lubrication it is desirable to give a chain is internal, not external. There is no object whatever in having the teeth of the sprockets wet with oil. For the reasons already set out the chain will run much better if the teeth are entirely dry. This applies, of course, only to an exposed chain, which lives a fairly hectic life in any case. The ideal conditions would, of course, be for the chain and its sprockets to run entirely immersed in clean oil: but since we have that fiend grit to contend with, we can merely choose the lesser of two evils.

H.M.B.

SIDECAR TAXIS IN LONDON—AND ELSEWHERE.

IT was stated by the Home Secretary in the House of Commons last week that sidecar taxis are not to be licensed in the Metropolitan Police area, a committee having advised against them. Mr. Shortt further affirmed that there are very few of these vehicles in commission in provincial *towns*, and that *they are not popular*. Probably he mentioned "towns" advisedly; or is it that he has no information from the cities of Birmingham and Nottingham?—to name only two large provincial centres where the movement has been in existence for some months now, continues to make rapid headway, and, to quote the words of the Chief Constable of the latter city, is "giving every satisfaction to the public." There are now a dozen sidecar taxis in Birmingham alone.

Popularity, as recorded by numerical strength, cannot be expected of a branch of transport so young; but, surely, actual popularity with the Man in the Street is better judged from a demand which is steadily increasing the number of outfits already in commission, and which has led to the important additions of Glasgow, Leeds, and Coventry within the last six weeks. Bradford and Brighton, too, have approved one type of sidecar taxi outfit; and both in Liverpool and Oldham the matter is receiving favourable consideration by the licensing authorities.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

WHO ORIGINATED DISC WHEELS?

Sir,—Referring to the correspondence about "Who Originated Disc Wheels?" am I not right in believing that Julius Cæsar and Co. took out patents for the fitting of disc wheels to their 2 h.p. and 4 h.p. chariots?

And, at any rate, did not that progressive lady Queen Boadicea have not only disc wheels on her sporting model, but also well-designed hub caps to do away with the use and encumbrance of a hooter in her frequent T.T. speed events? T.E.M.

Cambridge.

PREVENTION OF CREEPING TYRES.

Sir,—Reverting to your correspondent "S.A.B.'s" tip for the prevention of creeping tyres in the 10th February issue, I think I can go one better. Make one or two applications to the whole of recess of the rims with French polish; of course, allowing it to harden off before replacing tyres. It will be just "tacky" when tyres are removed.

I have found it not only a prevention to "creeping" tyres, but renders them impervious to moisture, and hence rusty rims. When tyres have been removed the rims are in splendid condition, even if after a long period. J.B.B.

London, S.E.3.

SHORT MEASURE FROM PETROL STAND-PUMPS.

Sir,—A few days ago I was supplied with a gallon (?) of petrol from one of the latest petrol pumps installed in a town near London famous for its motor traffic. I complained at the time of what I believed to be hopelessly short measure, but was assured this could not possibly be the case. At the time I said no more, and went my way. However, on covering nearly twenty miles less on my gallon than usual, I determined to have the accuracy of the pump tested.

This the garage owner agreed to do, and, as I expected, a "measured half gallon" proved to be but three to three and a quarter pints! And, mark you, I was assured this pump had been passed three hours before by an authorised inspector as correct! Is this good enough? DISGUSTED.

Weybridge.

TRACING AN ELUSIVE NOISE.

Sir,—It would be interesting to know if any of your numerous readers have ever experienced a similar occurrence to that which befel me recently with my 7 h.p. twin.

For no apparent reason, as there was no lack of oil, the engine developed an annoying squeak, which was most persistent. In the course of my investigations, I made certain, as far as possible without dismantling the engine, that it actually was getting the correct amount of oil. However, after considerable time had been spent, the squeak could still be plainly detected while the engine was running; with the machine stationary, and in spite of my efforts to trace it, it remained as elusive as ever. Finally, as I was on the verge of despair, I noticed a small oil bubble ejected between the timing cover and the crank case, and its appearance synchronised with the squeak. This gave food for thought, and, on closer scrutiny, I discovered that one of the timing cover screws had slackened. Although it was hardly perceptible, it was sufficient to allow the paper washer between the two surfaces to form a very effective reed, through which escaping crank case pressure produced the squeak. In addition, I found the release pipe partially choked with mud, which, naturally, accentuated the escape of pressure from the joint.

JOHN WITHAM.

FOLLOWING THE SPORT ON PAPER.

Sir,—After reading "T.P.'s" letter in *The Motor Cycle* of February 10th, I started wondering how many, like "T.P." and myself, are readers but not riders.

I have been a regular reader for some time, but, so far, funds have not run to the purchase of a machine. However, being a "non-owner" does not prevent me from taking a great interest in the more fortunate ones. N.G.F.

Jarrow-on-Tyne.

UNNECESSARY DANGER SIGNS.

Sir,—Now that the designs for road signs are being standardised, I think it advisable that the following rule should be made regarding them: "That no person be allowed to erect any road sign without first obtaining permission and approval of the proper authorities."

My reason for suggesting this rule is that large numbers of owners of private carriage drives opening on to main roads erect one or more of the following signs: "Caution," "Drive slowly," "Carriage drive," or a red triangle. The erection of these signs causes every motorist to slow down unnecessarily, as the responsibility for caution in these circumstances lies in the hands of the user of the carriage drive, who probably only uses it on an average of three or four times daily. CYRIL C. TWISS.

ORDER OF MERIT IN THE SIX DAYS TRIAL

Sir,—In *The Motor Cycle* of the 10th inst. you commented on the Rev. J. M. Philpott's classification of the Six Days Trial performances.

With reference to your sentence, "Obviously a cautious rider who was content merely to tour round the track at his qualifying speed is disadvantageously compared with the reckless rider who could not resist the track's 'all-out' invitation," I should like to point out that in a big event like the Six Days most riders use great care, with the hope of thereby attaining a first-class award. Obviously, therefore, a rider who felt confident that his machine would stand up to "all-out" work is worthy of greater praise than one who thought it necessary to drive only at his qualifying speed so as not to risk trouble.

Oxford. PEGASUS.



It will be seen from the above photograph that all big twins are not unwieldy. Few machines larger than lightweights provide the low riding position obtainable with a Zenith. The rider is A. O. Gruzelier, hon. trials secretary of the very live Surbiton and District M.C.C

SPEEDS OF AMERICAN BIG TWINS.

Sir,—In reply to my letter concerning the high speeds of American motor cycles, as compared with the speed of British machines of the same capacity, published in the issue of January 13th, Mr. L. W. G. Hartley states that if American machines were to compete at Brooklands their speed would be found to have dropped to a considerable extent.

This may be true to a certain extent, but it does not alter the fact that American machines are faster than British ones equipped with engines of similar cylinder capacity.

If Mr. Hartley were to look at the records made in Class E at Brooklands, and recently published in *The Motor Cycle*, he would find that out of the thirty records obtainable exactly seventeen are held by the Indian ridden by H. Le Vack, the remaining thirteen being held by smaller machines, such as the Norton and Rudge singles and the A.B.C. flat twin.

And, again, in Class 1, for motor cycles of 1,000 c.c. with sidecars, twenty-eight records are obtainable, and all of these are held by American machines, notably Indian and Harley-Davidson.

Does not this prove that, as far as machines of big cylinder capacity are concerned, America takes the lead for speed? J.K.D.C.

London, S.W.1.

Sir,—In your issue of January 27th, under the heading of "The Lure of Speed," one of your correspondents, who signs himself "Hanlindex," states that, after owning several American big twins, he has now turned to a British-made twin of 8 h.p., and finds that his machine is nearly 10 m.p.h. slower than his former mount.

I own a British big twin, famous as a sporting solo mount, which is fitted with a well-known proprietary engine. Not having owned an American machine myself, I cannot speak from experience as to its speed capabilities, but I am certainly disappointed to find that my machine will only just exceed 50 m.p.h.

The machine was returned to the engine manufacturers to be tuned up, when I was informed that it should exceed 60 m.p.h. The machine, by the way, is one of this year's models.

After "tuning" (which, incidentally, cost over £3), the machine was not even 1 m.p.h. faster. The makers now say that the engine is well up to standard for power and cannot be tuned for more speed.

Imagine the makers of an American machine stating that they could not tune the engine for more than 50 m.p.h. There is evidently something wrong somewhere if a British machine of this power cannot be made to exceed this speed when ridden solo.

I, too, have pondered over this difference between the products of the two countries, and should very much welcome some explanation. DISAPPOINTED.

London, N.7.



WHO ARE THE MYSTERY MEN?

Not an advertisement for a cinema serial, but Douglas-mounted, hooded men associated with the Wood-Milne mystery man, in which connection £2 is offered to persons able to identify him. Here he is seen in Bristol with a considerably mystified policeman.

DEVELOPING "JOHN CITIZEN'S" MACHINE.

Sir,—In your issue of January 20th your correspondent, Mr. H. Mortimer Batten, accuses the A.C.U. of crabbing the development of the light solo mount by its proposed enforcement of sidecars for all machines over 350 c.c. capacity in the 1921 "Six Days." Surely there is another point of view from which the matter may be regarded. The average motor cyclist is, as "Ixion" has frequently pointed out, very much of Poy's "John Citizen" type, and what he requires most is some test which will tend to evolve a machine of the cab-horse variety, with an ability to perform a fair amount of moderately heavy work, with the minimum of attention and sustenance. The light solo is more of a thoroughbred; this, to the majority of its users, constituting its great charm. In devising any sort of a test it is, after all, usual to approximate as nearly as possible to actual running conditions—more than half of the machines in the class under consideration will have sidecars buttoned on to them sooner or later, so why try them solo?

Let the A.C.U. "Six Days" be "John Citizen's" week; there are any number of other events by which the prospective purchaser of a light solo can be guided. The type of man who rides such a machine is usually a keen and moderately experienced motor cyclist who devours the trials' reports with avidity, whereas they probably bore poor John stiff. He only reads them under force of necessity, and then very naturally turns to some classic and highly respectable event such as the A.C.U. Six Days.

Devonport. HALF LITRE.

IDEAL CONTROLS.

Sir,—Seeing the question of ideal controls again making its appearance in your correspondence columns, I have yielded to the temptation to express what has been my opinion for several years past.

Although I agree that it is not possible to put car practice into all details of motor cycle construction, the matter of actual control is one which seems to be more or less followed in the motor cycle, not so much in the mode of operation of the various levers, etc., as the theoretical functioning of the whole system.

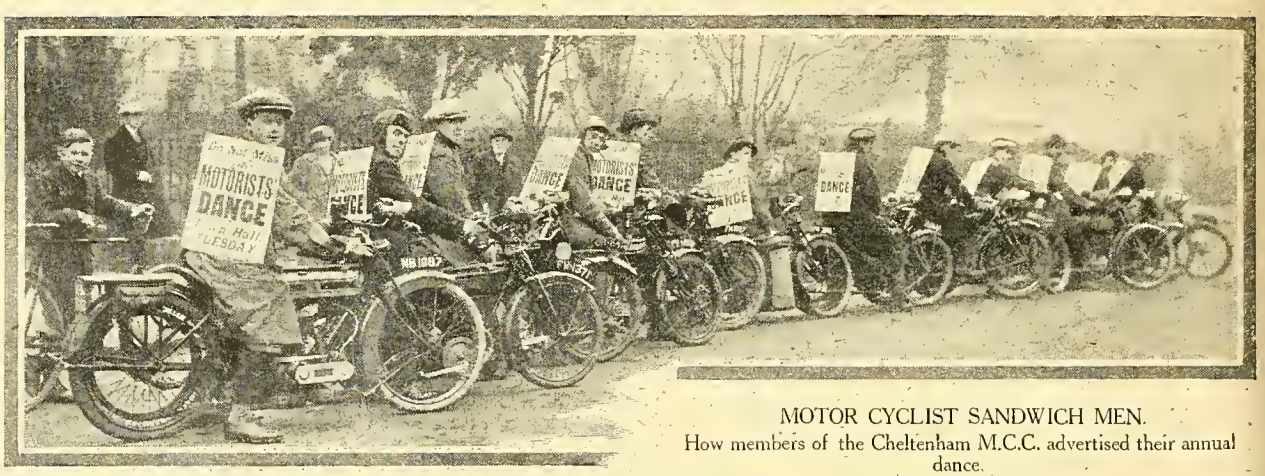
For instance, in car practice, the controls are so arranged as to allow of the operation of the clutch and throttle during the changing of gears; but in some motor cycles this is not possible owing to the same hand being given the two jobs of throttle control and gear changing.

The type of machine which gave an almost ideal "lay out" of controls was, in my opinion, the Triumph of 1916 and 1917. There we had the right hand to control the throttle; the left hand the clutch and exhaust lift. The gear lever lending itself to adjustment for foot control, we had that on the right, and the left foot mastered the brake. The magneto control was also with the left hand, and the half-compression device with the right-hand foot, as also the kick-starter.

For instance, when astride the machine, the half-compression raised with the right foot, the kick-starter, the throttle, and (if necessary) the exhaust, can all be used together to encourage an easy start. Then half-compression lowered (right foot), first gear engaged (right foot), during which time the clutch is held out (left hand). For getting away both feet can be resting on the ground (a great asset on greasy and frosty roads). For changing up, the clutch and throttle combined, in conjunction with the gear change, allowed of a much smoother and more car-like change than the usual bump of the exhaust lift change. The hands need never be removed from the handle-bars except for oiling. That, I must admit, might be improved upon.

In the case of the "lay out" on a sidecar outfit, I would not be so emphatic, as then one has not to think about balance in the case of riding in slow moving traffic. As long as one can operate the throttle, clutch, gears, and brake, all at the same time when necessary, that should suffice. What is objectionable is that in many cases the attention given to one movement means the neglect of another.

Cambridge. BASSO.



MOTOR CYCLIST SANDWICH MEN.
How members of the Cheltenham M.C.C. advertised their annual dance.

AUTOMATIC LUBRICATION.

Sir,—Being the happy owner of a Sunbeam solo mount, I have read with great interest the letters of Mr. D. Esdale (January 20th) and "K.B." (February 10th).

I think a great many owners of British four-stroke motor cycles would find it very valuable to get to know if the system of the Doncaster Eng. Co. is practicable on four-stroke singles and with what result. Is a non-return valve necessary? By what means is it possible to avoid contaminating the oil with soot from the exhaust gases?

I suppose I need not mention that on my Sunbeam I intend to retain the existing Best drip feed pump unaltered, letting the exhaust pressure feed the oil through the pump, and the sight feed glass. N. E. BERGSTROM.

Stockholm.

A PLEA FOR REFINEMENT FROM SWITZERLAND.

Sir,—May I trespass on the valuable space of your very interesting paper, of which I am an ardent reader every week. In the present days of *de luxe* outfits, it seems rather strange that machines like the famous and excellent Harley-Davidson and others are not supplied with such an up-to-date refinement and convenience as quickly detachable and interchangeable wheels, as is the case with most really first-class English machines.

I am an all-weather rider, and, owing to the difficulty of obtaining British machines and their spare parts in this country, my choice fell on the Harley-Davidson, which is very well represented here, and with which, I may add, I am otherwise entirely satisfied. When taking delivery, I was rather struck by the absence of the above-mentioned refinements. Another item, which could be expected on such a high-priced machine as the Harley, is a fully enclosed transmission, with the chain automatically lubricated. I am sure this would lengthen the life of the driving chain considerably.

Sursee, near Lucerne, Switzerland. WINDY.

THE LONDON-LAND'S END.

Sir,—With reference to your article on the "Land's End" regulations, I quite agree that too little distinction is allowed by club officials for differing powers of competing machines, and makes one think that the ruling body are out to make lightweights "small" in more senses than one. It would be a good object lesson for one of them to ride a two-stroke through the "Land's End" or "Edinburgh." My experience is that many riders of "big 'buses," who rely on plenty of reserve power, would make a poor showing on a lightweight, and yet when they "tear up" a hill, perhaps passing a lightweight *en route*, they are generally applauded by the onlookers, as doing something wonderful, whereas in nine cases out of ten, they've only opened the throttle a little wider. Take, for instance, in the case of puncturing, a high-powered machine, capable of touching fifty to sixty, can soon make up the time lost, whereas a lightweight rider doing thirty to thirty-five is again handicapped.

Hills do not worry a two-stroke in good condition and suitably geared, but without any reserve power you cannot get it both ways, *i.e.*, speed and hill-climbing. I admit it is nice to ride a high-powered machine with the feeling that nothing, bar accidents, will stop you, but the boredom must be painful, and my advice to those who want more to do on a trial is "ride a lightweight." The fact of cars entering always strikes me as a joke; but I could expound on that for hours. GEO. T. UDALL.

BRRRH!

Sir,—I should like to draw your attention to what is, perhaps, the greatest insult which the poor old British climate has ever had to suffer. I admit we have all said hard things about it: but there *are* limits. When the A.C.U., in announcing a trial for April 27th, expressly describes it as a "winter" trial, I feel that these limits are by way of being overstepped. "Winter," forsooth!—and Whitsuntide less than three weeks away. This gratuitous provocation is likely to make "rude Boreas" ruder than ever. If the 1921 Derby is abandoned owing to deep snow, and if T.T. entrants find the sparks frozen at their plug points, nobody need be surprised.

R. D. C. GRAHAM.

WHEN WILL PRICES FALL?

Sir,—In the article headed "When will Prices Fall?" you give your opinion that prices of machines will not fall while motor cycle manufacturers have still stocks of material bought when prices were high, and that the price of the finished machine will be proportionate to the prices then paid.

If this is so, motor cycle manufacturers are in a very favoured position. The prices of nearly all materials have fallen, and those people who have stocks in hand are now compelled to cut their losses. The general thing is to buy at to-day's price, which, being low, allows a profit to be shown as against the loss on the material purchased at a higher figure.

All traders, or nearly all, are having a bad time at present. But to tell them that, if they are going to purchase a new motor cycle, they will have to pay a price sufficient to allow the makers a profit on material bought at about double the present market price is, in my opinion, the one thing to make them to decide not to buy at all. J.W.D.

Manchester.

PETROL-VAPOUR LAMPS FOR ROAD USE.

Sir,—The other evening I had the privilege of inspecting a petrol vapour lamp in operation at the house of one of our customers. I was very much struck with the nice steady light which it gave out. Could not such a system be made practicable for motor cycle lighting?

I will admit the greatest difficulty would be in getting a mantle sufficiently strong enough to withstand vibration, but this should not be impossible. Otherwise I should think such a system would have much to commend it. It ought not to cost more than an acetylene outfit either in initial cost or in upkeep; and as long as there was petrol in the tank for the engine there would always be a supply for the lamps.

I suppose the petrol for the lamps would have to be carried in a separate tank, so that the air could be pumped into it.

H. V. GOOSLING.

GETTING OUT OF LONDON.

Sir,—In answer to Mr. R. W. Watts's lament in your issue of the 17th ult., which I heartily endorse, I suggest, for his assistance, the following two routes of escape from the tram route horrors when travelling north and north-west from town:

For Barnet.—Leave the North Road at Highgate G.N.R. Station, turn right to Muswell Hill, then Colney Hatch Lane, "follow your nose" right to Whetstone. Better still is to strike right on to the Hornsey Road just before the G.N.R. crosses over Holloway Road, and follow straight ahead through Crouch End, bearing left at the Clock Tower to Muswell Hill, etc.

For Edgware.—Leave the Great North Road after East Finchley Station, turn left along East End Road, cross the Regent's Park Road (trams), turn left along Hendon Lane, and continue towards the Aerodrome, but turn right just before the railway (M.R.), thence more or less straight (but winding) to Edgware. M. A. WINSTONE.

Sir,—I was interested to read the opinion of your correspondent, Mr. R. W. Watts, regarding the condition of the main Cricklewood-Edgware road; and, being one who has watched it change from what was, ten years ago, an excellent highway, into little better than a third-rate B.E.F. gun track, I can fully substantiate all he says. (I know Mr. Watts will tell me that a gun track is not spoiled by tramlines!)

As a matter of fact, early last year I wrote warning your readers against the use of this road as a route to the North, and remarked at the time that the trams enjoy a permanent way several inches above the "river bed," which your correspondent and his taxpaying fellow motor cyclists are condescendingly allowed to use.

If Mr. Watts requires an alternative route out into Bucks, I would suggest he turn off into Dollis Hill (the third turning to the left after passing under the railway bridge by the Cricklewood L.G.O.C. garage), keeping straight on through to Neasden, and taking the left-hand fork at the top of Blackbird Hill. This is purely a country lane route, and is narrow and circuitous; but, after leaving Cricklewood, provides a pretty and *safe* means of reaching Harrow, which, I am sure, Mr. Watts will agree is an excellent centre for the district he appears to like so much, and which I, too, think is hard to beat for the "average Sunday runs" of which he speaks. STANLEY J. BOND.

MOTOR CYCLE WHEEL DESIGN.

Sir,—Mr. Douglas Leechman's paper on "Motor Cycle Frame Design," given in a recent issue, should stimulate manufacturers to pay more attention to that very important part of their product. As a designer of structures, I have often been amused by the curious ways in which the gap between the front and rear axles of a motor cycle is bridged.



THE PARIS-NICE TRIAL.
F. J. Price, a British rider, on a British machine—the lightweight Diamond.

In the design of wheels also the study of elementary mechanics appears to be neglected. The ordinary motor cycle wheel is represented in diagrammatic section in fig. 1 of the drawing enclosed. It would offer considerably greater resistance to shocks inclined to the plane of the wheel if constructed as shown in fig. 3, while its vertical or weight-carrying

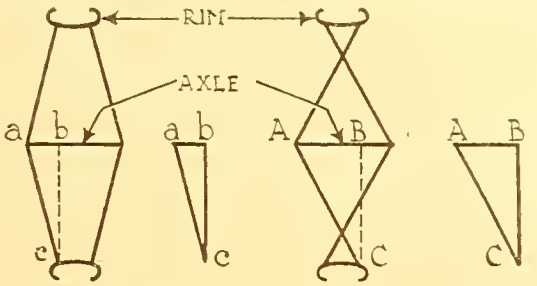


FIG. 1 FIG. 2 FIG. 3 FIG. 4

Diagrams of wheel stresses referred to in the letter of Mr. Edwin Smith, A.R.I.B.A., P.A.S.I.

strength would be only very slightly reduced. This is easily proved by comparing the triangles of forces (figs. 2 and 4). If *a c* and A C represent the strength of the spokes, then *a b* and A B represent their resistance to a force acting on the rim in a direction inclined to the plane of the wheel. Inspection of the triangles will show that A B is considerably greater than *a b*, which proves my argument.

EDWIN SMITH, A.R.I.B.A., P.A.S.I.

SUMMARY OF CORRESPONDENCE.

An Aberdeen reader, signing himself "M.J.R.," asks if any of our readers have had trouble with the A.B.C. transmission, and desires their opinions on the cause. He states that his own bevel-drive gave out in the first 800 miles.

"J.E.J." (Glam., S.W.) sounds a warning of the dangers of stowing away a lighted pipe in the pocket—particularly if the pocket be in an oil and petrol soaked overall jacket.

Mr. E. Hosier writes in praise of the Simplex motor attachment, and cites Meriden Hill, on the Birmingham-Coventry road, as an example of its climbing capabilities without pedal assistance.

Mr. H. Nelson Clark desires to thank all those who rendered assistance on the occasion of a recent accident at Pocklington in which his sidecar passengers and self were involved.

Letters continue to reach us regarding wonderful "dog (cat and other quadruped!) catching" feats. One, from a Naval correspondent, who frankly signs himself "Münchausen," deals with the adventures of a small fox in a 4in. exhaust pipe.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	Book post.
"HINTS AND TIPS FOR MOTOR CYCLISTS" Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Seventh Edition	2/	2/3
"TRACING MOTOR CYCLE TROUBLES." A system for tracing motor cycle faults and of remedying them when found. Fourth Edition ..	2/	2/3
"MAGNETOS." By A. P. Young. A complete treatise on magneto igoition for motor cars, motor cycles, and aeroplanes. Second Edition	4/6	4/10
"TWO-STROKE MOTOR CYCLES." A reliable treatise on Two-strokes, from the rider's point of view. Just published	3/-	3/3
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"THE MOTOR CYCLE" ROUTE BOOK. With 32 pages of Road Maps of England and Wales, Scotland, and the London District ..	5/-	5/1

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20 Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

THE T.T. RACE.

CONSIDERATIONS of safety make it imperative that the total number of competitors in the T.T. race should be limited. The Competitions Committee of the Auto-Cycle Union therefore made an announcement in the regulations issued in September, 1920, "That the total number of acceptances for each race is limited. If the number of entries exceed such limit, preference will be given to those received earliest."

Owing to the large number of entries already received, and to the fact that there is no limit to the entries that may be made by any one entrant, it is just possible that, if the date of entry is the sole limiting factor, some injustice may be caused.

The following further announcement therefore is now made:

(1.) Any number of entries may be sent in by any one entrant.

(2.) The whole of these entries, if in order, will be accepted, unless the maximum permissible for safety, *i.e.*, 100 in each race, be exceeded.

(3.) It is not anticipated that the entries will exceed the said limit to any great extent, but if this proves to be the case, the list will be reduced by cutting down multiple entries from manufacturers so far as may be necessary, but in no case to less than three per manufacturer; and in the event of a further reduction being called for, by reducing entries received from other than manufacturers.

So far seventy-three entries have been received, forty-two being for the senior, and thirty-one for the junior event. Particulars of these are given below.

It will be observed that most of the best known manufacturers of single-cylinder machines are represented in the senior list, including several who did not enter the race last year.

Senior Race.

No. of entries.	Entrants and machines.
1.	W. Royle (3½ Norton).
5.	Norton Motors, Ltd. (3½ Norton)
1.	H. Minton (3½ Norton).
1.	H. Mason (3½ Norton).
1.	Eric Williams (3½ Sunbeam).
1.	T. Mullon (3½ Sunbeam).
1.	Vivian Olsson (3½ Sunbeam).
4.	John Marston, Ltd. (3½ Sunbeam).
1.	H. F. Mase (3½ Sunbeam).
3.	Douglas Motors, Ltd. (3½ Douglas).
1.	Thos. Thompson (3½ Douglas).
1.	C. F. Edwards (3½ Rudge Multi).
1.	Fl.-Lt. J. O. Groves (3½ Rudge Multi).
3.	Birmingham Small Arms (3½ B.S.A.).
2	A. J. Stevens, Ltd. (2¾ A.J.S.).
2.	Frank Whitworth, Ltd.
3.	Triumph Cycle Co. (3½ Triumph)
1.	J. Mitchell.
1.	R. Carey.
2.	G. A. Miller and Co. (3½ Martin).
4.	Hendee Manufacturing Co. (3½ Indian).
1.	Alexander and Co. (3½ Norton).
1.	W. Hollowell (3½ Norton).
42	

Junior Race.

1.	Tudor Thompson (2¾ Douglas).
3.	Douglas Motors, Ltd. (2¾ Douglas).
1.	J. Blake, Ltd. (3 Ivy).
1.	S. A. Newman, Ltd. (3 Ivy).
1.	Maudes' Motor Mart (3 Ivy).
1.	Dr. C. H. Hopwood (Royal Enfield).
3.	Birmingham Small Arms (B.S.A.).
6.	A. J. Stevens and Co. (A.J.S.).
1.	H. G. Henley, Ltd.
1.	A. H. Haden (New Comet).
1.	R. Carey.
2.	C. A. Miller and Co. (2½ and 2¾ Martin).
3.	New Imperial Cycles, Ltd (New Imperial).
1.	Alexander and Co. (2¾ Douglas).
4.	Butterfields, Ltd. (Levis).
1.	G. S. Davison (Levis).
31	Total of entries to date, 73

ANOTHER NORTON RECORD.

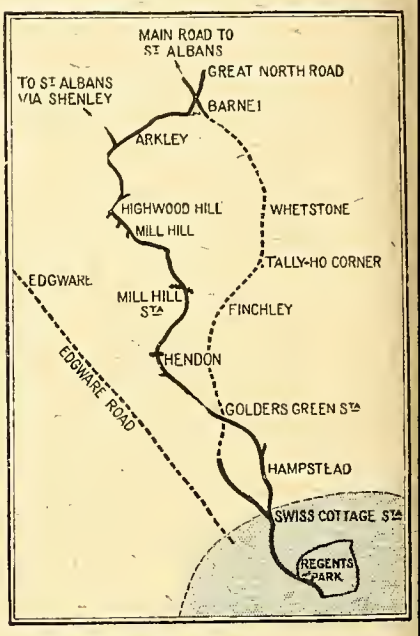
A GALLANT attempt on the international kilometre record was made on the 22nd ult. by R. N. Judd, riding a 3½ h.p. Norton, 79 mm. × 100 mm. standard model 16H. D. R. O'Donovan would have been the jockey on this occasion had he not unfortunately had a spill the previous day. However, Judd made a good attempt in glorious weather with a strong south-easterly wind blowing, which in no way aided him in his ride. His time was 26.21s., making a speed of 85.35 m.p.h. Owing to the failure to take his time in the reverse direction the record could not stand as an international one, but stands as a British record. He then made a second attempt for the International record, but just failed to get it, his time being 27.28s., a speed of 82.10 m.p.h. This record stands in the name of E. Walker, single-cylinder Indian, 82.5 mm. × 93 mm., 497 c.c., time 27.21s., speed 82.21 m.p.h., was made on Daytona Beach on April 15th, 1920, and is one of the records passed at the International Congress in Brussels.

Judd's equipment consisted of Dunlop tyres, Binks carburetter, C.A.V. magneto, K.L.G. plug, and Coventry chains, while he used Speedwell oil and Pratt's motor spirit.

TO GET OUT OF LONDON FOR THE NORTH.

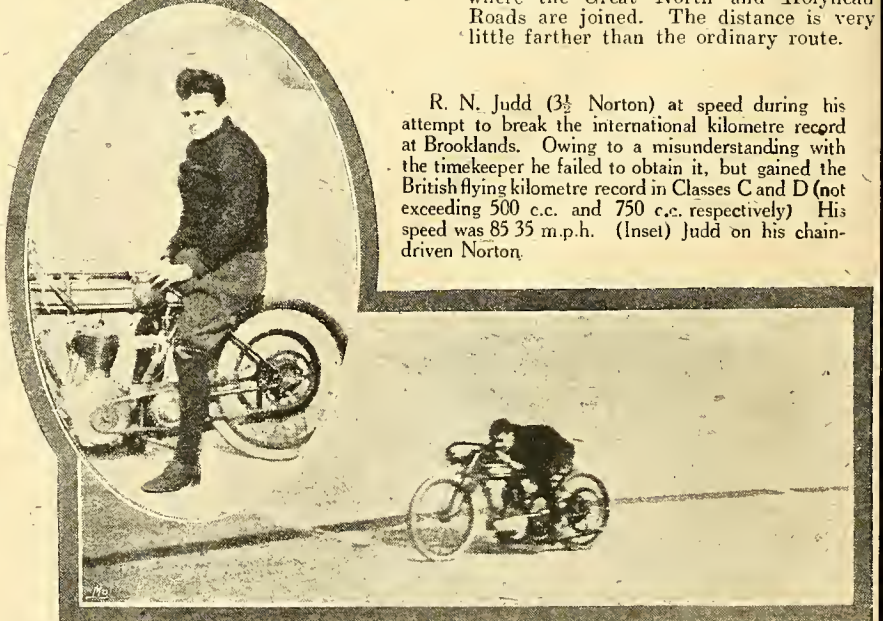
THE main Great North Road (western branch) out of London is in very bad condition, especially from Finchley to Barnet. Mr. W. H. Wells, captain of the Motor Cycling Club, has sent us a route which avoids the bad surface, is just sufficiently hilly to be interesting, and at the same time passes through some very pretty country.

There are two ways of reaching this route. One is to take the right-hand road at Swiss Cottage up Fitzjohn's Avenue, over Hampstead Heath, then down North End Road, past the Bull and Bush, crossing the Finchley Road and the tramlines at Golders Green; or to take the left-hand fork at Swiss Cottage Station, continuing straight on, turning left by Golders Green Station. The tramlines in this section of the road are in fairly good condition.



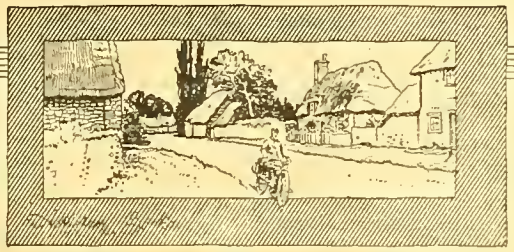
Avoiding bad roads out of London to the North. The dotted portions show bad surfaces and tramlines.

Leaving Golders Green Station, the route is continued through Hendon and Mill Hill to the bottom of Highwood Hill, where very pretty country is reached. Here turn sharp right for half a mile, and then left to Barnet Gate. At Barnet Gate turn right for Barnet, where the Great North and Holyhead Roads are joined. The distance is very little farther than the ordinary route.



R. N. Judd (3½ Norton) at speed during his attempt to break the international kilometre record at Brooklands. Owing to a misunderstanding with the timekeeper he failed to obtain it, but gained the British flying kilometre record in Classes C and D (not exceeding 500 c.c. and 750 c.c. respectively) His speed was 85 35 m.p.h. (Inset) Judd on his chain-driven Norton.

CURRENT CHAT



Special Features.

WINTER IN THE HIGHLANDS.
IMPROVEMENTS IN SIDECARS.
PARIS NICE TRIAL (ILLUSTRATED).

Times to Light Lamps.

Mar.	3rd	6.10 p.m.
,,	5th	6.14 ,,
,,	7th	6.17 ,,
,,	9th	6.21 ,,

Words of Wisdom.

No man admires his car so much as when he is trying to sell it.—*The Autocar.*

In Holland.

His Majesty's Consul-General at Amsterdam reports that a catalogue library is being formed at the Consulate for use in dealing with enquiries as to supplies of British goods. British motor cycle makers should send their catalogues to His Britannic Majesty's Consul-General, British Consulate, Amsterdam.

No Sidecar Taxis in London.

On Tuesday, Feb. 22nd, the Home Secretary announced in the House of Commons that a committee had advised against the adoption of sidecar taxicabs in the Metropolitan Police area. Viscount Curzon asserted that they were very popular in provincial towns, but the reply was that there are comparatively few, and those are not very popular.

Troubles with Cars.

There are motor cyclists who, after a little misfortune, seem to think that only motor cycles are imperfect, and that cars are practically immune from trouble. The R.A.C. "Get-you-home Scheme" department has compiled some interesting statistics dealing with the cases dealt with by the R.A.C. These are interesting, and we now await a similar analysis from the A.C.U. The following are the R.A.C. figures:

ANALYSIS OF CASES DEALT WITH DURING THE YEAR 1920.

		Per cent.
1.	Power unit:	
	Cylinders and pistons	3.9
	Valves	.6
	Valve mechanism	2.1
	Crankshafts	1.8
	Lubrication	7.5
	Ignition	13.4
	Carburation	3.4
	Water circulation	1.9
	Starting mechanism	.5
	Not stated	1.5
		39.6
2.	Transmission:	
	Clutch	5.1
	Gear box	5.2
	Couplings, universal joints, and propeller-shaft	7.5
	Back axle shafts	13.9
	Differential	4.0
	Bevels and worms	2.2
		37.9
3.	Front axle and steering	5.1
4.	Road wheels, suspension, and brakes	7.8
5.	Electric lighting failures	.8
6.	Accidents	8.8
		100.0

710 M.T. Co. Reunion.

A reunion dinner and smoking concert for all ranks, past and present, of the 710 M.T. Company and Home Mechanical Transport will be held on Saturday, April 16th. The King's Hall, Holborn Restaurant, is the rendezvous, and the tickets will be 10s. 6d. each. Those wishing to attend should communicate with Mr. A. C. Webber, 50, Montholme Road, Wandsworth Common, S.W.11.

THURSDAY, MARCH 17th,

THE MOTOR CYCLE

ANNUAL SPRING NUMBER AND BUYERS' GUIDE

Reasons.

There are three reasons for a car failure, says *The Autocar*. One is given by the driver, the second by the manufacturers, and the third is the real reason.

The Cycle Car Definition in France.

Although the nature of a cycle car has been well defined by the sporting authorities, the French Government officials have, up to the present, been somewhat hazy as to what constituted a machine of this popular type. The matter is important from the standpoint of the taxpayer, for while the smallest motor car has to pay various taxes with a minimum of £20 a year, the cycle car has the advantage of a reduced tax of £4. On this account French cycle car owners have noted with unusual pleasure that the Government technical department has reported in favour of the adoption of the definition of a cycle car as a three or four-wheel machine, having one or two seats, weighing not more than 6 cwt. 89 lb., and having an engine with a piston displacement of not more than 1,100 c.c. With such a definition the cycle car owner knows exactly what he has to pay, and the anomaly of a machine being accepted as a cycle car because it had three wheels while another of no greater power is refused because it had four wheels will disappear. This will do much to develop the French cycle car industry, and it is hoped that a similar action will be taken by the authorities in this country.

Was it Leg Pulling?

One of our Scottish readers recently offered to exchange with an Irish correspondent various surplus articles of divers character for a Rudge Multi and sidecar. Among the former were a sea captain's telescope, two small and beautiful opera glasses, and a solid silver watch, but as each party had decided ideas on the value of their goods we understand that the deal fell through.



ESSEX M.C. ONE DAY TRIAL.

E. N. Edwards (6 Enfield sc.) after rounding one of the bends on York Hill near Loughton.

Northward out of London.

On page 266 will be found a "tram-line-avoiding" route out of London.

The Grand Prix.

The date of the Motor Cycle Grand Prix has been changed from Saturday, July 23rd, to Sunday, July 24th.

A Light Car T.T.

In 1922 the R.A.C. will organise a T.T. race for light cars in the Isle of Man.

Summer Time.

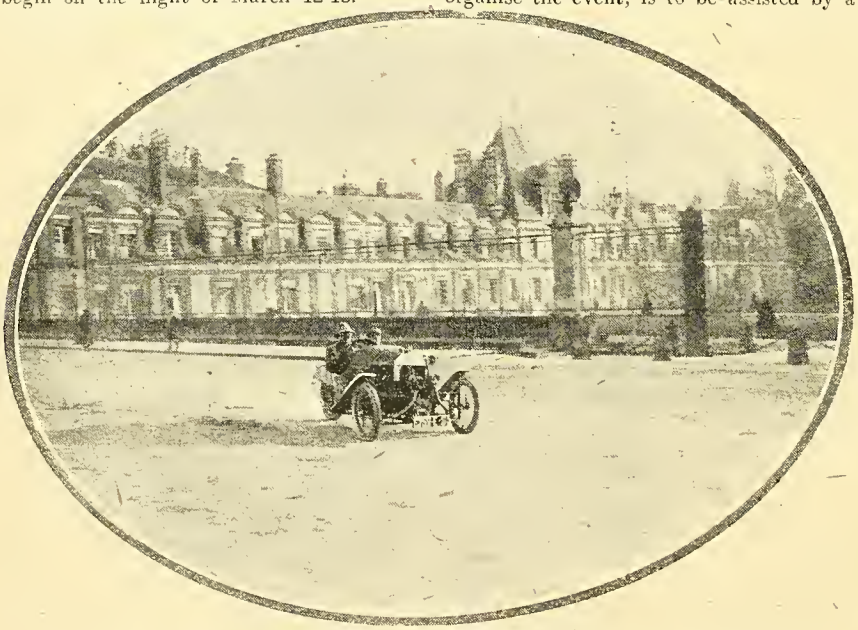
After April 2nd we shall have an extra hour of daylight in the evening. The Government proposes introducing summer time (advancing the clock one hour) at midnight on Saturday-Sunday, April 2-3, to last until midnight on Sunday-Monday, October 2-3. Summer time in France will begin on the night of March 12-13.

Easter Events in the North.

A.C.U. Centres in the North have, between them, evolved a very full programme for Easter. On Saturday, March 19th the North-western Centre have an open hill-climb, organised by the Stockport M.C.C.; on Good Friday there is the Richmond meet; on the 27th the North-Western Centre is holding a rally at Ribchester; and on Easter Monday the Westmorland M.C.C.'s open hill-climb takes place on Orton Scar.

Scottish Six Days Trial.

July 4th to 9th is the time fixed for the 1921 Scottish Trials; no further particulars are available at the moment, but intending competitors should register their names for entry forms with the secretary of the Edinburgh and District M.C. (Mr. Campbell McGregor) at 6, Castle Terrace, Edinburgh. Mr. McGregor, who will organise the event, is to be assisted by a committee composed largely of Scottish motor cyclists who have previously played a part in the organisation of the trial. We have no doubt, therefore, that the event will maintain its standard of excellence. It will be recalled that last year the Scottish Six Days was organised by Mr. L. Cunningham and Mr. A. D. Aikman Smith.



ON THE PARIS-NICE TRIAL.

One of the Morgans *en route* for the South. This familiar view in Fontainebleau shows the Palace, the scene of many historic incidents.

Price Reductions.

Although there is no general tendency towards a drop in prices, there are one or two exceptions. Amongst these are the A.B.C., which is now being offered at £120 with an additional £38 for the sidecar, the Cedos at 62 guineas, and the 4½ h.p. Quadrant outfit at £125.

The First Sidecar.

Following our recent article on the first sidecar, giving credit to Mr. W. J. Graham, of Enfield, we have received an interesting letter from Mr. W. H. Fulford, of the well-known Millford sidecar firm. This gentleman advises us that the original patent of Mr. Graham was opposed by Mills, Fulford, Ltd., as they were able to produce evidence showing that they had made a sidecar previous to the date of the application of the patent. In 1903 the Millford sidecar was launched upon the market. A patent was finally granted to Mr. Graham, however, but for some reason it was allowed to lapse.

The T.T. Races.

Seventy-three entries have been received to date—forty-two for the Senior T.T. and thirty-one for the Junior race. Lists will be found on page 266.

New Sidecars.

Several new sidecars and an experimental cycle car made by the makers of a well-known motor cycle are described in this issue.

Records.

Another single-cylinder broke a record last week. When will the twin exponents start again?

Six Drops a Minute.

This week we have heard of the case of a motor cyclist who was sure he was not under-lubricating his two-stroke engine. He was giving it *quite six drops a minute.*

Douglas Speed Trials After the T.T.

The Manx Motor Cycle Club proposes holding speed trials on the Douglas promenade on the Friday after the T.T. races—that is, on June 17th. Similar trials were held last year, and were much appreciated.

The Colmore Cup Trial.

At 8 a.m. on Saturday next the first of the competitors in the Colmore Cup trial will start from the Stonebridge Hotel, Meriden. This year the event is open only to members of clubs affiliated to the Midland Centre A.C.U.

Foreign Competition.

It does not necessarily follow that if a foreign industry can undersell a British industry in the British market, the rate of exchange can be held entirely responsible, says *Motor Transport*. It may be that its industry is better organised, that its workers are putting their backs into it while ours are slacking, or that it produces on a larger scale, rendering cheaper production possible. All the circumstances have to be carefully analysed before one can say just to what extent it is the abnormal rate of exchange that is at the bottom of the trouble.

M.C.C. LONDON-LAND'S END REGULATIONS.

FOLLOWING on our leader in *The Motor Cycle* of February 24th, in which we commented on the severe conditions of the London-Land's End Trial, especially on the point that no allowance had been made for low-powered machines, the following telegram has been received:

"YOUR CRITICISM LAND'S END UNJUSTIFIED. JUST CLIMBED PORLOCK, THREE MILES FROM SHIP INN, SEVEN MINUTES; AVERAGE SPEED TO TOP OF LYNTON 27 M.P.H. ROADS WET, BUT IN GOOD CONDITION.—*Wells, Captain, Motor Cycling Club.*".

This wire is interesting, but the matter requires further elucidation, and the following questions require answers:

(1.) What machine was Mr. Wells riding?

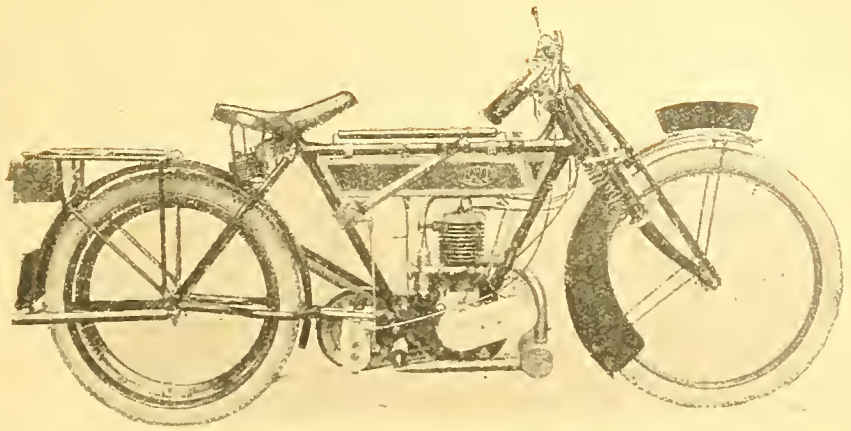
(2.) Did he encounter much traffic?

(3.) Does he consider that there is no chance of baulking with over one hundred competitors moving at short intervals?

Perhaps Mr. Wells can answer these questions satisfactorily, and we feel sure this must be the case, since an organisation with the reputation of the Motor Cycling Club is hardly likely to jeopardise its standing by maintaining regulations which are either dangerous or unfair to any class of competitor. Nevertheless, it must be remembered that a trip over such a section, in normal circumstances, with a high-powered car or motor cycle, is a very different thing from a trip on a low-powered machine, with a good chance of being baulked by stalled competitors or char-à-banc traffic.

A NEW MODEL LEVIS.

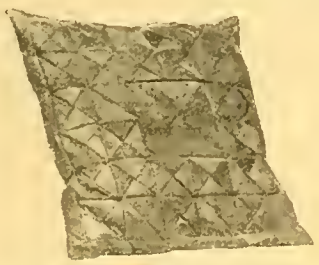
RIDERS of Levis lightweights have frequently urged that the makers should introduce a gear box model, and after a considerable amount of experimenting since the last T.T. and Six Days Trials, the firm have at last decided to introduce a new model, which will be known as the Model S. Following the general lines of the 2¼ h.p. Popular Levis, the frame is practically identical, but a Sturmey-Archer two-speed gear box incorporating a handle-bar controlled clutch is fitted. The transmission from engine to gear box is by chain, enclosed in a neat chain cover, an extension of which protects a portion of the belt. It will be noticed that the special Sturmey box without kick-starter is used.



A new two-speed 2¼ h.p. Levis with hand clutch. No kick-starter is fitted.

LEATHER SPECIALITIES FOR SIDECARS.

SIDECAR passengers are becoming more and more exacting in their demands regarding comfort and convenience. Makeshifts of any kind are no longer tolerated, and quite a common view is that on an outfit costing around £200, a discarded cushion, originally made as a drawing-room ornament, is not quite in keeping with the rest of the machine.



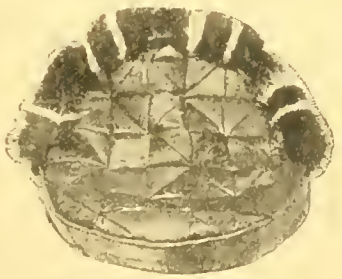
A crazy leather cushion, the Spikar, made in a variety of sizes and colours.

Further, every sidecar passenger knows that if such cushions are left in the sidecar overnight, they become damp—and they are left in the sidecar, pushed away out of sight, because their appearance is too bedraggled to permit of their being carried from the vehicle to hotel or to the private house.

For these reasons, there has been an opening for some time for cushions designed for the purpose, and in this direction the specialities of Messrs. Spicers, of Leamington, are making a strong appeal to all who see them at Libertys, London; Finnigans, Manchester; Vean and Scott, Birmingham; and other large houses displaying them.

Handsome and Durable.

The Spikar crazy leather cushion illustrated, which, by the way, is patented, can be described as a by-product of the glove factory of its makers. It is constructed of triangular pieces of glove leather of various colours and presents an appearance which at once suggests durability and utility. Selling at the low price of 35s., it is intended for the sidecar, car, boat, or house.



Spikar crazy leather foot-muff.

Messrs. Spicer also manufacture cushions in tan and suède, etc., for 50s. for the 24in. size, and 63s. round. Other specialities include warmly-padded foot muffs and "Tammies," both in the crazy series.

THE PARIS-MADRID TRIAL.

ALTHOUGH we have dealt with the question of Continental competitions very thoroughly in *The Motor Cycle*, and we have clearly pointed out to our readers that there are two—the Grand Prix and the International Six Days—pre-eminently more important than all the rest, there is little doubt that the Paris-Madrid trial will prove a distinct attraction to certain English competitors, as it is the first time that a motor cycle trial has been held between these two cities.

We recently had a visit from M. A. Polack, the chairman of the Sporting Moto-Club of France, which, as its title denotes, is a small but select motor cycle club recently founded in Paris to encourage the sport of motor cycling. M. Polack, who is well known to English riders who have previously taken part in Continental competitions, gave us interesting information concerning the Paris-Madrid event, and informed us that it is now officially recognised by the Union Motocycliste de France. He assured us that the organisation was to be of the very best, and that already an enormous amount of work had been put into the event. The organisers consist of representatives of *Moto-Revue*, *L'Auto*, the Sporting Moto-Club, the Automobile Club de l'Ouest, the Bordeaux Motor Cycle Club, and, when the frontier is crossed, the Royal Spanish Motor Cycle Club.

Reception in Spain.

This latter body has, we are informed, taken up the trial with enthusiasm, and will arrange for a cup to be presented by the King of Spain, who, it is said, will also receive the competitors at the conclusion of the trial.

There will also be a speed trial and hill-climb on arrival. It is anticipated that entrants will be entitled to purchase tickets from Madrid to Paris for the return journey at a 50% reduction; and, when questioned about the cost of the trip, M. Polack estimated that this would be well under £40. Four motor cycles to be ridden by British riders will be entered by B.S.A. Cycles, Ltd.

A SHOW OF SECOND-HAND MOTOR CYCLES.

A show of second-hand motor cycles, motor cars, and industrial vehicles will be held at the Crystal Palace from April 4th to 16th, and will be organised as an exchange for the disposal of these vehicles belonging to private motorists and users.

Each motor cycle shown will have a certificate of its condition signed by an expert so that prospective purchasers can gain an idea of the state of the machine. The motor cycles will be examined by Mr. Rex Mundy. The entry fee of 60s. for a motor cycle and 100s. for a sidecar outfit includes the publication of specification, expert examination certificate, insurance against fire, and the polishing of the exhibit during the show. The organiser is Mr. William Glass, of Walter House, Bedford Street, Strand, W.C.2, who organised a similar show in 1916.

Organisation Much Better than Last Year. Sixty-six Competitors Complete the Course. Eight British Survivors.

THE run from Paris to the shores of the Mediterranean is one which many motor cyclists dream of undertaking at some time or another, and as a large number are timorous of touring alone in a foreign country, such trials as the Paris-Nice should make a strong appeal to riders in this country.

Last year's fiasco, however, caused many who might have taken the trip to defer the pleasure until the organisers had regained some of the reputation lost in 1920, while manufacturers, who view such trials only from the demonstration and publicity standpoint, naturally did not consider the trial seriously.

British Representatives.

It will be recalled that, owing to a breakdown in the organisation in 1920, the whole of the results were "washed out," and no awards were made. For this to happen in a small local event would not be a very serious matter; but to learn, after spending perhaps £60 in entry fees and expenses, that no awards would be made was sufficient to induce vows never to enter a Paris-Nice again.

Fourteen English riders started in the competition. With the exception of Mundy and Pullin on the French-built De Marçays, and Temple on the Indian sidecar, they all had British mounts. The English motor cycle industry was not confined to the machines handled by British riders, for several makes, among them Norton, Rudge, Triumph, and Matchless, were in the hands of French riders. Several machines which might normally be considered as British have also become French by reason of their construction in France. These are the A.B.C., the G.N., and the Morgan. It was reported that the G.N.'s were over weight, but if this was the case it did not prevent the machines being given an official start. The three French-built Morgans were a very smart team. All three machines had the M.A.G. water-cooled engine, and while two of them were of the Grand Prix de luxe type, one had standard finish.

An outstanding feature of the entry was the number of cycle cars all of French make, including several G.N.'s and Morgans. It was the first important competition to be held in France this year, and for this reason

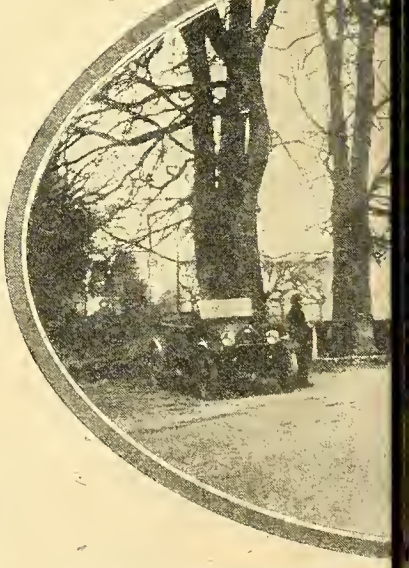


attracted a considerable amou interest.

As on previous occasions, the v of Montgeron, about ten miles south of Paris, on the main ro the Riviera, was selected for the start, in order to avoid the inco



Two British competitors in a typical French street. A. Ellison and Kaye Don, who both rode Zeniths.



Competitors passing through the Fores cyclists as the Ports

With the Paris-Nice Competitors

French and British Motor Cyclists cross France to the Mediterranean.

Ideal Weather Conditions, but Bad Roads.



of the crowded suburbs of Paris. at this point that the start was at six o'clock on the morning of ry 21st to the first pair of the nine competitors, the others sent away in pairs at intervals minute. Dawn had just broken as the start was made, and the weather, although cold, gave excellent promises, which were justified within a couple of hours, for beautiful sunshine prevailed throughout the day.

All the competitors had been weighed and examined on the previous Saturday at the laboratory of the Automobile Club of France, and the formality at the start merely consisted in verifying the seals. The eighty-nine competitors were divided in ten different classes, the numbers in each being as follows: 250 c.c. solo, 13; 350 c.c. solo, 10; 500 c.c. solo, 19; 750 c.c. solo, 10; 1,000 c.c. solo, 1; 500 c.c. sidecars, 2; 750 c.c. sidecars, 2; 1,000 c.c. sidecars, 16; 750 c.c. cycle cars, 1; 1,100 c.c. cycle cars, 15.

Road conditions, although not perfect, were very much better than a year ago, and the first stage, which consisted of a run of 187 miles through Fontainebleau, Auxerre, and Avallon to Dijon, in the heart of the Burgundy wine region, was over roads varying from fair to excellent.

The first control was at Fontainebleau, twenty-five miles from the starting point, where all checked in on time with the exception of Lehmann on the 250 c.c. Alcyon and Leymarie on the 1,000 c.c. Matchless sidecar. The checkers had closed their office when this latter rider came through, and although he was naturally penalised the maximum number of points, he continued in pursuit of the main group. The Alcyon rider was merely penalised for late arrival.

Improved Organisation.

The organisation, judged on the first day, appeared to be very much better than a year ago. For the convenience of the competitors, a lorry followed in the wake of the procession carrying personal baggage which was delivered to its owners at the end of each day. It was most important that a close watch should be kept on the checking stations, and that the times of arrival should be taken with great accuracy. In order to assure this, an official timer of the Union Motocycliste de France followed on a fast six-cylinder Delage—a car with such a turn of speed that it was possible to wait at a control until the closing hour, secure the official time sheets, and arrive at the next checking point with the initial group. In this way it was possible to have all the official figures



his road is as popular with French motor ds are with Londoners.



One of the latest Bedelias, a make fairly familiar in this country seven or eight years ago. This machine took part in the Paris-Nice Trial.

With the Paris-Nice Competitors.—

in hand at the end of the day, and immediately to detect any laxity on the part of the local controllers.

At least one of the British competitors had a run of bad luck on the second day. This was W. Brandish, jun. (5-6 Rover), who was pursued by consistent and illusive tyre troubles. He used no fewer than three spare tubes in his back wheel, all being incapable of holding air for any length of time; and, on close examination afterwards, proved to be perforated by tiny pin-holes.

After a welcome rest at Lyons, seventy-six competitors left for Avignon, the only absentee being Bonnard (Harley-Davidson), who had had an accident at St. Chamond. The start provided a scene of great animation, and all were got away to time. Borgotti (A.B.C.) and Pessé (Fournier), however, stopped to tinker a few yards out of the control.

After a day of exceptional weather and equally villainous roads, sixty-nine checked in at Avignon. Tyre troubles were prevalent throughout the day, particularly in the neighbourhood of Valence. On arrival, there was the usual reception at the Palace Theatre.

The following is a list of those who have arrived at the end of the journey:

CLASS 1.—250 c.c.

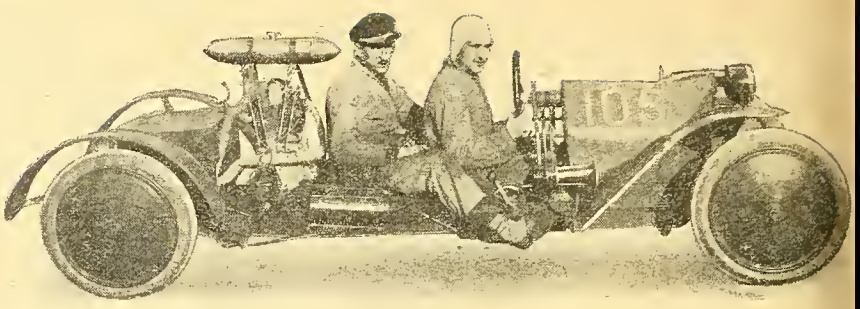
Colombel (Radco).	Berger (Velocette).
Girard (Radco).	Lehmann (Alycon).
Pierre (D.F.R.).	Clech (Motosolo).
Denley (Velocette).	Price (Diamond).
Humphreys (Velocette).	Sexé (S.C.).

CLASS 2.—350 c.c.

Dubost (D.F.R.).	Bauer (Yvel).
Boulangier (D.F.R.).	Sarradet (Yvel).
Walker (Edmund).	Péan (Peugeot).

CLASS 3.—500 c.c.

Bastide (Norton).	Douverne (Rudge).
Barthelemy (Norton).	Dard (Norton).
Lazerge (Norton).	Le Bris (Blériot).
Mass (A.B.C.).	Contant (Blériot).
Borgotti (A.B.C.).	Brunet (Blériot).
Detruche (A.B.C.).	Gabriel (Triumph).
Smetts (A.B.C.).	Lapallud (Motosacoche).
Bernard (A.B.C.).	Robert (Motosacoche).
Rolly Connet (A.B.C.).	



The reader may judge whether this cycle car, which entered for the Paris-Nice Trial, is appropriately named or not. It is called the Elfe. There is not much of the "imaginary spirit," however, about it. Note the exhaust pipe at the back of the rear passenger.

CLASS 4.—750 c.c.

Foulhoux (Sarolea).	Jacquin (Griffon).
Lefevre (Sarolea).	Pinney (Triumph).
Rivet (Sarolea).	G. Uren (Triumph).
Ellison (Zenith).	Sollet (Rover).
Kaye Don (Zenith).	

CLASS 7.—750 c.c. (Sidecars).

L. Psalty (Rover).	Lacour (G.L.).
Bourry (Griffon).	

CLASS 9.—1,000 c.c. (Sidecars).

G. Arnaud (Indian).	Walbrou (Harley-Davidson).
Vache (Indian).	G. Fenton (A.J.S.).
Berthe (Indian).	P. W. White (Sunbeam)
Verpault (Harley-Davidson).	Hughues (Ferera).
J. Psalty (Harley-Davidson).	Temple (Indian).
	Collet (Harley-Davidson).

CLASS 11.—1,100 c.c. (Sidecars).

Mauve (Elfe).	Honel (G.N.).
Mundy (de Marcay).	Ramon Buene (G.N.).
Pullin (de Marcay).	Casse (Morgan).
Benoist (de Marcay).	Sandford (Morgan).
Lombard (G.N.).	Darmont (Morgan).

INCIDENTALLY.

The flurried excitement of some of the French competitors in starting was specially noticeable in comparison with the cool and dignified manner of their British *confrères*. The former were prone to shout, and roar their engines unmercifully; and at the word to go dashed off after the fashion of competitors at a speed test.

The word to go, "*Partez*," became very popular among the humorously-inclined competitors.

The roads as far as St. Etienne were moderately good, but onwards to Lyons they were badly knocked about.

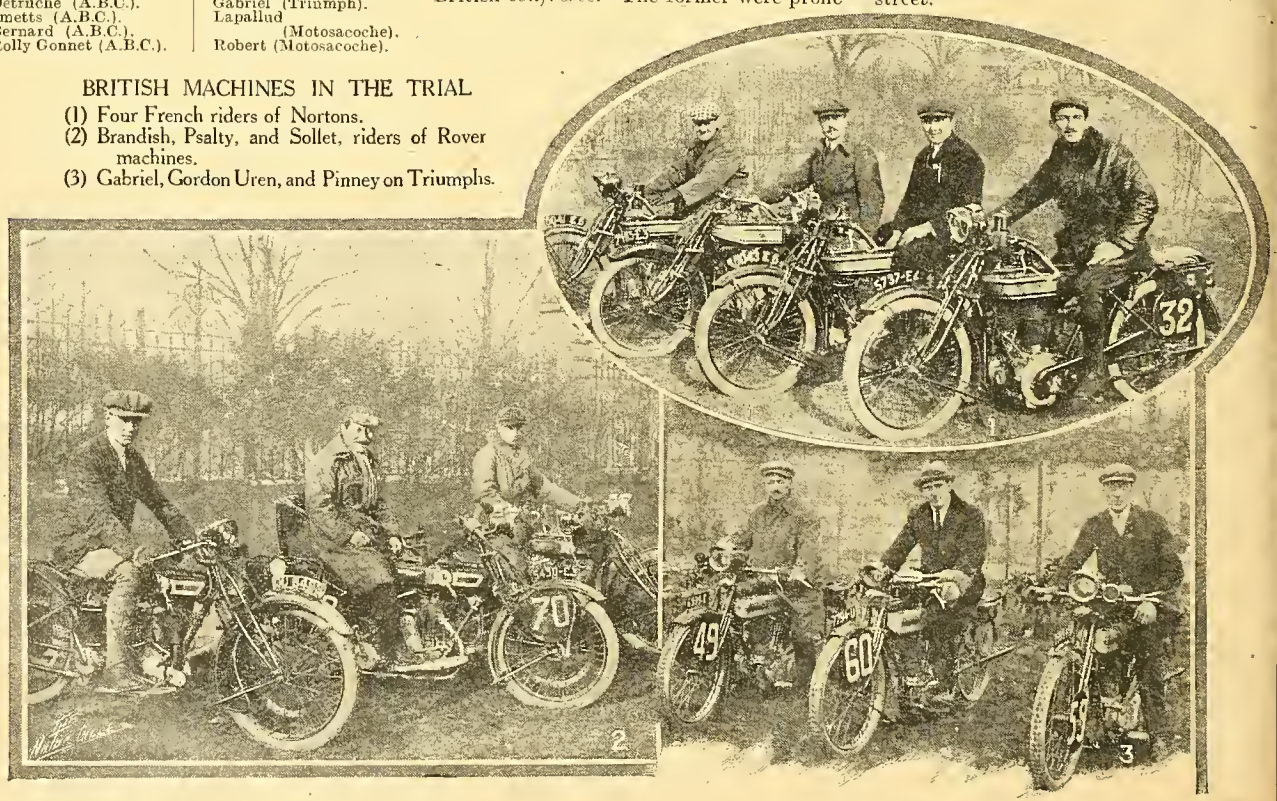
Weather conditions were very good, the sun shining brightly most of the time.

Denley and the other two Velocette riders were going strong when we saw them near Lyons.

Borgotti (A.B.C.) had a collision with a cart in Lyons; Colombel (Radco) also fell in avoiding a child in a village street.

BRITISH MACHINES IN THE TRIAL

(1) Four French riders of Nortons.
(2) Brandish, Psalty, and Sollet, riders of Rover machines.
(3) Gabriel, Gordon Uren, and Pinney on Triumphs.



With the Paris-Nice Competitors.—

The French Blériot machines appeared to be much improved since last year.

Rex Mundy (de Marcay cycle car) lost his way going into Lyons.

Triumph, Diamond, A.J.S., Zenith, and the Sarolea competitors were all riding consistently well.

All the G.N. cycle cars arrived at Lyons—the only team to complete the first section of the trial with full marks.

The driver of the Major cycle car was disqualified for obtaining the assistance of a blacksmith outside Chagny.

The following unlucky thirteen were disqualified at Lyons, most of them through being late :

Lézin (S.C.), Poulet (Cleveland), Pouget (Cycle Motor), Moret (M.C.), Vernisse (Yvels), Pernette (Yvels), Lessmann (Pengeot), Veringa (A.B.C.), Brandish (Rover), Delannay (Stucchi), Maurer (Griffon cycle car), Mourre (Major cycle car), and Pessé (Fournier cycle car).

Norton motor cycles were showing up well.

Psalty (3½ Rover sc.) tried conclusions with an American lorry and sustained damage to his sidecar mudguard.

At the end of the first day, the ranks had been thinned by penalisation as follows :

Girard (Radco), Lézin (S.C.), Poulet (Cleveland), Trouche (Cycle Motor), Moret (M.C.), Vernisse (Yvels), Pernette (Yvels), Chapnaz (Excelsior), Sutter (American X), Ricoux (Chaudron), Bourbeau (Bedelia), and Maurer (Griffon).

The following were fined twenty francs each :

Brunet (Blériot), Gabriel (Triumph), Robert (Motosacoche), and Uren (Triumph).

Prices of Second-hand Motor Cycles.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

MAKE, H.P., AND DATE.	CLASSIFIED PRICES.	AVERAGE PRICE.
A.B.C. 3 h.p., 1920	£100, £100, £110, £115, £118, *£125, £125, †£135, †£135	£129
Abingdon 5-7 h.p. sc., 1920	£115, £135	£125
A.J.S. 6 h.p. sc., 1920	£165, *£185, £185, £200, †£205, †£210, †£230	£197
Allon 2¾ h.p., 1920	£55, £58, £65, £70	£62
American X 7-9 h.p. sc., 1920	†£189, £195	£192
Ariel 6 h.p. sc., 1920	£140, £155	£148
Ariel 3½ h.p., 1920	*£105	—
Bat 8 h.p., 1920	*£132, *£135	£134
Beardmore 3 h.p., 1920	£75	—
Blackburne 4 h.p., 1920	£95, *£115, *£120	£110
Blackburne 8 h.p. sc., 1920	£175, *£210	£192
Bradbury 6 h.p. sc., 1920	£150, *£175	£163
B.S.A. 4½ h.p. sc., 1920	£115, £125, £130, £150	£130
Calthorpe 2¾ h.p., 1920	*£57	—
Clyno 2¼ h.p., 1920	£55, *£63	£59
Connaught 2½ h.p., 1920	*£50, *£58	£54
Coulson-B. 4 h.p., 1920	£109, *£110	£110
Coulson-B. 2¾ h.p., 1920	£75, £80	£78
Coventry Eagle 2½ h.p., 1920	*£81	—
Diamond 2¾ h.p., 1920	*£48, £60	£54
Douglas 2¾ h.p., 1920	£80, £82, £85, £85, £87, £87	£84
Douglas 4 h.p. sc., 1920	£120, £120, £135, £145, £150	£134
Enfield 8 h.p. sc., 1920	*£148, £153, †£160, †£160	£155
Enfield 2¼ h.p., 1920	£55, £59, £65	£58
Excelsior 2¾ h.p., 1920	£80	—
Harley-Davidson 7-9 h.p. sc., 1920	£165, †£178, †£180, †£190, †£190, †£198, †£200, †£205, £240	£191
Harley-Davidson 4 h.p., 1920	£128	—
Hazlewood 5-6 h.p. sc., 1920	£140, *£170	£155
Hobart 2¾ h.p., 1920	£61	—
Humber 1½ h.p., 1920	*£125	—
Henderson 10 h.p., 1920	£170, £175	£173
Indian 7-9 h.p. sc., 1920	£160, †£165, £180, †£180, †£190, *†£200	£179
Indian 4 h.p., 1920	£130	—
James 5-6 h.p. sc., 1920	†£160, *£170, £170	£167
James 2¼ h.p., 1920	£60, £62	£61
Lea-Francis 5½ h.p., 1920	£100, £105, £105, *£115	£106
Levis, 2¼ h.p., 1920	£11, £35	£10
Martinsyde 6 h.p. sc., 1920	£175	—
Matchless 8 h.p. sc., 1920	£165, £165, £170, £175, †£180, †£181, †£185, †£185, £190, †£190, †£190, †£190, †£195, †£200, †£200..	£181
Metro-Tyler 2¾ h.p., 1920	£60	—
New Hudson 2¼ h.p., 1920	£58, £61	£60
New Imperial 8 h.p. sc., 1920	£145	—
New Imperial 2¾ h.p., 1920	£72	—
New Scale 3½ h.p. sc., 1920	£80	—
Norton 4 h.p. sc., 1920	£130, £165	£148
N.U.T. 3½ h.p., 1920	†£118, †£125, †£125, †£130, *†£150	£130
O.K. 2¾ h.p., 1920	£39, £59	£49
Omega 2¼ h.p., 1920	£75	—
P. & M. 3½ h.p. sc., 1920	£128, £131	£130
Quadrant 1¾ h.p. sc., 1920	£85, £95, £115	£98
Radco 2¼ h.p., 1920	£35	—
Reading-Standard 8 h.p. sc., 1920	†£180	—
Rover 3½ h.p. sc., 1920	£145, *£155	£150
Rover 5-6 h.p. sc., 1920	£145	—
Royal Ruby 3 h.p., 1920	£100	—
Royal Ruby 8 h.p. sc., 1920	£160	—
Rudge 3½ h.p., 1920	£90, £90, £90, £98	£92
Rudge 3½ h.p. sc., 1920	£95, £110, £125	£110
Scott 3½ h.p. sc., 1920	£128, £135, £145, £160	£142
Scott 3½ h.p., 1920	£107, £110, £110, £130	£111
Sun 2¾ h.p., 1920	£55	—
Sunbeam 3½ h.p., 1920	£130, £140, £150, †£160	£145
Sunbeam 3½ h.p. sc., 1920	£160, £175, £185, £190, £195	£183
Sunbeam 8 h.p. sc., 1920	£200, †£221, £225	£216
Triumph 4 h.p., 1920	£110, £115	£113
Triumph 4 h.p. sc., 1920	£115, £128, £130, £135–£135, £135, £135, £160, £170	£139
Velocette 2¼ h.p., 1920	£68	—
Verus 4 h.p., 1920	£88	—
Wolf 2¼ h.p., 1920	£50	—
Wooler 2¼ h.p., 1920	£95	—
Zenith 8 h.p. sc., 1920	£110, £115, £150, £175	£134
Zenith 8 h.p., 1920	£110, £121, £125	£119

*Unused. †Dynamo lighting.

CLUB NEWS.

The Park M.C.C. (Glasgow).

A new Scottish club has recently been formed with the above title. Cycle car owners are especially invited to join. The secretary *pro tem.* is Mr. J. M. Grant, 9, Oakfield Terrace, Hillhead, Glasgow.

East Midland Centre A.C.U.

The annual meeting of this centre was held in Nottingham on the 19th ult. It was decided to delegate the organisation of the three open events as follows: March 28th, open speed trial, to the Lincolnshire Club; May 28th, hill-climb, to Derby Club; July 23rd, speed trial, to the Loughborough Club. The suggestion of Mr. R. Green (North Derbyshire), that in the event for the centre trophy the teams be composed of non-experts according to A.C.U. definition, was heartily approved. Messrs. K. S. Topping and Wheldon were elected to be A.C.U. representatives. Officers for this year were elected at this meeting as follows: President, Mr. Wheldon (Nottingham); chairman, Mr. W. B. Myhill (Ilkeston); vice-chairmen, Messrs. Lowther (Mansfield) and Whaley (Nottingham); treasurer, Mr. R. B. Green (North Derbyshire); auditors, Messrs. J. R. Sylvester (Nottingham) and L. Farmer (Derby); hon. sec., Mr. K. S. Topping, whose address is 64, Frederick Street, Loughborough.

MOTOR CYCLE EVENTS AT BROOKLANDS.

Sat., April 16.—B.M.C.R.C. (Members).
Sat., May 7.—B.M.C.R.C. (Open).
Sat., May 21.—B.M.C.R.C. (Members).
Sat., July 2.—B.M.C.R.C. (Members).
Sat., July 29.—B.M.C.R.C. (Members).
Sat., Aug. 6.—B.M.C.R.C. (Open).
Sat., Aug. 27.—B.M.C.R.C. (Members).
Sat., Sept. 17.—B.M.C.R.C. (Members).
Sat., Oct. 8.—B.M.C.R.C. (Members).

Kidderminster M.C.C.

There will be a social run to Ludlow on March 19th, the start being from the Lion Hotel at 2 p.m. Arrangements are being made for tea at Ludlow. This being the opening event of the season, it is hoped that every member will endeavour to attend.

The Motor Cycling Club.

The Motor Cycling Club has an excellent and well-established custom of holding a dinner annually for past and present members of its committees. That held on the evening of February 23rd was a particularly enjoyable one, as the entertainment arranged by Mr. E. A. Bridgeman was one of the best experienced so far, since such well-known artists as George Mozart, Sam Mayo, Whit Cunliffe, and Wilkie Bard were among the star turns.

Club News—

East Lancashire M.C.C.

At the annual dinner in connection with the East Lancashire M.C.C. on February 17th, Mr. H. Reed said there was every promise of arrangements being made for the holding of a speed trial on the Southport Promenade on July 2nd.

Stockport and District M.C.C.

A hill-climb will be held by the Stockport and District M.C.C. at Axe Edge, Buxton, on the 19th inst. Many special prizes are being offered and the entry fees are to be reasonable. Particulars can be obtained from Mr. E. S. Abram, 226, Manchester Road, Heaton Chapel, Stockport.

Accrington and District M.C.C.

Only formed in February, this club already has forty members. It is intended to cater mainly for the sporting side of the movement, but social runs and social evenings will also find a place on the programme. Mr. W. Bancroft, Turfcote, Whalley Road, Accrington, is the hon. secretary.

Manchester M.C.

At the annual general meeting of the Manchester Motor Club, held at the Crown Hotel, the reports of the hon. secretary and treasurer on the past year's work were read, and the officers and committee for 1921 elected. A very attractive programme has been arranged for the coming year.

The club is desirous of increasing its membership roll, and prospective members should write at once for particulars and the necessary form to the hon. sec., Mr. F. Gunton, 8, Brailsford Road, Fallowfield.

Lincolnshire M.C.C.

The Lincs. Motor Cycle Club will hold an open speed trial, under licence granted by A.C.U., in Grimsthorpe Park, near Bourne, on Easter Monday, 28th inst. The course will be half a mile in length with flying and standing starts for all classes of motor cycles and motor cycles and sidecars. Application for particulars and entry forms, which will be ready shortly, should be made to the hon. sports secretary, Mr. J. H. Robson, 33, Rasen Lane, Lincoln.

Ealing and District M.C.C.

The Longman Cup Trial is being organised by the Ealing and District M.C.C. next Saturday, 5th inst., starting from The Anchor, Ripley, at 2.15 p.m., and consisting of a run through the Surrey lanes of approximately fifty miles. No route cards will be issued, but the course will be carefully arrowed. The winner of the cup will be decided on reliability, stopping, and re-starting on a gradient, brake test, and hill-climbing. A gold medal will be given as a second award, and bronze medals to all members making a non-stop run.

Forthcoming Club Events.

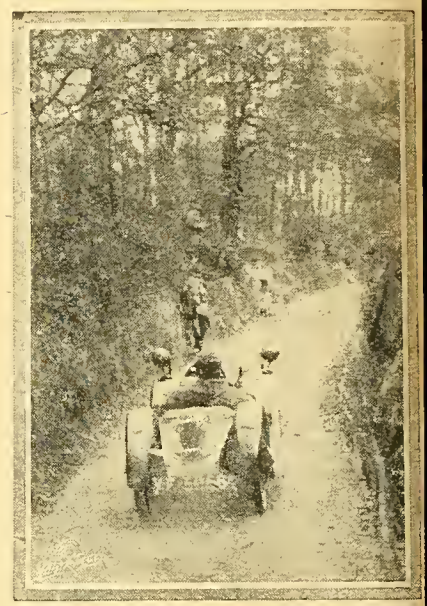
Mar. 5.—Ealing and District M.C.C. Longman Cup Trial.
Mar 5.—Dewsbury and District M.C.C. Competition.
Mar. 6.—Brighton and Hove M.C.C. Social Run.
Mar. 10.—Brighton and Hove M.C.C. Reliability Trial.
Mar. 12.—Bristol M.C.C. Speed Trials.
Mar. 12.—Motor Cycling Club. Opening Run to Brighton.
Mar. 12.—Dewsbury and District M.C.C. Competition.
Mar. 12.—Coventry and Warwickshire M.C.C. Paperchase.

Western Centre A.C.U.

The fourth board meeting of the Western Centre was held at Bath on the 9th ult. There were twenty-one items on the agenda, the chief item being the two-day trial to be held April 8th and 9th. It was pointed out that whilst the centre regrets that the Manufacturers' Union has not seen fit to support the trial, it finds that, under the circumstances, no alteration can be made. Arrangements for the event having progressed so far the centre feels that it must proceed. The event will therefore be a two-day trial, and centre and club secretaries are being approached to give the trial every support possible by entering teams and riders.



Members of the Brighton and Hove M.C.C., who took part in a procession organised to advertise a club dance. Note the Klaxon substitute on the machine.



ESSEX M.C. ONE DAY TRIAL.
R. C. Empson (A.V.) in the slow hill-climb.

Essex M.C.

Described in last week's issue of *The Motor Cycle*, the Essex M.C. One-day Trial resulted as follows :

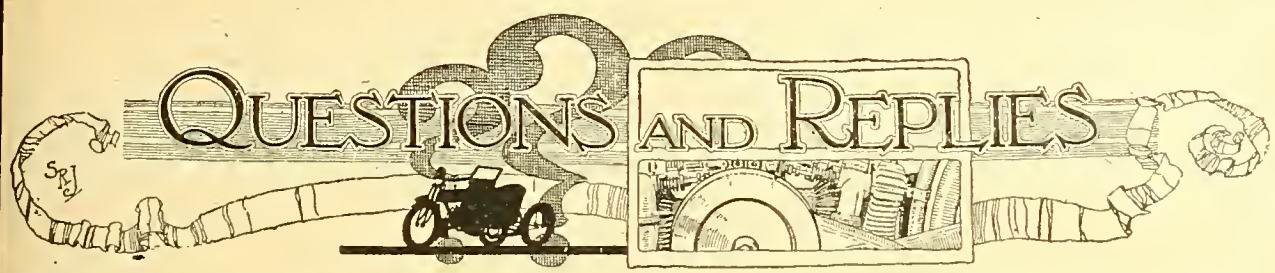
SILVER CUP (for best performance).—H. Le Vack (4 Indian Scout), G. M. Greening (3½ 2-cyl. Sunbeam), and L. Beadle (Waverley car).

SILVER MEDALS.—B. Morris (2¾ Coulson B), S. M. Greening (3½ 2-cyl. Sunbeam), H. Le Vack (4 Indian Scout), C. W. Bairstow (7-9 Indian), and E. B. Ware (8 Morgan).

BRONZE MEDALS.—A. A. Prestwich (2¾ New Imp), B. Roberts (2¾ Douglas), H. Harveyson (4 Indian Scout), F. Roberts (3 A.B.C.), A. C. Rhodes (3½ N.U.T.), H. S. Powell (3 A.B.C.), A. G. Martin (4 Triumph), C. Elliott (4 Indian Scout), E. J. Anderson (3¾ Scott), S. Biss (8 Zenith sc.), D. S Parsons (8 Matchless sc.), E. A. Edwards (6 Enfield sc.), and E. A. Bridgman (7-9 Indian sc.).

Glasgow Western M.C.C.

The annual general meeting was held on the 18th ult., when some sixty members assembled under the chairmanship of the president, Mr. W. N. Simpson. The treasurer's report showed the club to be in a flourishing financial condition, the cash balance being £109. The secretary's report was a most interesting one, and gave a *résumé* of the year's activities, showing that the club had had a very active and successful season. The membership had steadily increased and was now close on 200. Officials for 1921 were elected as follows : President, Mr. W. N. Simpson ; vice-president, Mr. J. Barclay ; captain, Mr. M. J. Fraser ; vice-captain, Mr. A. J. C. Lindsay ; hon. secretary, Mr. J. Robinson, 1, Yarrow Gardens, North Kelvinside, Glasgow ; hon. treasurer, Mr. A. Crosbie Watson ; hon. press secretary, Mr. F. Manning ; general committee, Messrs. D. S. Alexander, Jas. Bell, W. Deans, A. Graham, J. Littlewood, F. Miller, J. Mackenzie, M. Simons, J. W. Walker, and E. Napier White.



A selection of questions of general interest from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d. stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

TIMING AN OLD FLAT TWIN.

Having broken the crankshaft of my 1911 a.i.v. Douglas, I am at a loss to know how to time the valves. Am I right in saying that when the exhaust valve on the back cylinder just closes, the valve on the front should commence to open? Should the spark be timed from the back cylinder, the same as on a single-cylinder engine?—S.W.

The exhaust valve should close when the piston reaches top dead centre. This is the same for both cylinders; but in your engine the crankshaft should be rotated one revolution after the front exhaust valve has closed before timing the back exhaust valve. The spark should be timed so that it occurs on top dead centre, with the control two-thirds retarded. Time for one cylinder only, and lead the other wire to the opposite one, since the timing will be automatically correct for both.

OIL ON BELT, CALCULATING H.P., ETC.

(1.) I have a 4 h.p. machine fitted with an old pattern countershaft gear box, and the belt is always covered with a thick coat of oil. I cannot trace where it is coming from. Can you suggest, or definitely state the cause of this trouble? (2.) On the same machine I have a B. and B. top feed carburetter. I can run well up to half throttle, but after that the more I open out the less becomes my power. I have tried smaller jets, but the trouble still remains. It will take full air with throttle only slightly open. (3.) I should be glad to know the method of calculating horse-power by bore and stroke, etc. (4.) Do you think a gear 8 to 1 low enough for a 3½ h.p. sidecar outfit to take hills met with on the average roads in this country?—G.R.

(1.) The oil on the belt no doubt is due to a leakage from the gear box. Probably a felt or leather washer is required behind the bearing of the pulley-shaft, or, if the bearing is much worn it may need rebushing. (2.) Try the effect of raising the needle, which hangs from the centre of the throttle barrel, about ⅛in. The jet size should be .045. (3.) Find the cubic capacity of the engine by this formula: $D^2 \times .7854 \times S \times N$. Where D = diameter of cylinder in centimetres, S = length of stroke in centimetres, and N = number of cylinders. Then allow 1 h.p. for each hundred c.c. capacity. This will give you the approximate brake-horse-power of the engine. (4.) On ordinary undulating roads a low gear of 8 to 1 is fairly satisfactory, but it is rather high if steep hills are encountered.

FITTING LARGE ENGINE TO LIGHT FRAME.

I have a 2 h.p. lightweight, which is in practically new condition. I should be obliged if you would tell me whether you think it practicable for solo work to replace the present engine with a 2¾ h.p. or 3½ h.p. unit. The cycle has an Armstrong three-speed hub in the back wheel.—R.H.

The frame of your machine was very lightly constructed to suit the 2 h.p. engine, and we should strongly advise you not to attempt the fitting of any larger power unit; in fact, the 3½ h.p. would be quite out of the question. A two-stroke engine of the same capacity as the original power unit would give greater power without dangerously increasing the stresses on the frame.

Important Dates.

Sat., March 5th—Colmore Cup Trial.
Sat., Mar. 19th—Birmingham M.C.C. "Victory" Reliability Trial.
Fri., March 25th—Richmond Meet.
Fri., March 25th, and Sat., March 26th—M.C.C. London Land's End Trial.
Mon., Mar. 28th—Westmoreland M.C.C. Open Hill Climb.
Mon., Mar. 28th—East Midland Centre A.C.U. Open Hill Climb.
Fri., April 8th, and Sat., April 9th—Western Centre A.C.U. Two-day Open Trial.
Fri., April 15th, and Sat., April 16th—Ealing and District M.C.C. London-Holyhead-London 24 hr. Open Trial.
Sat., April 16th—Yorkshire Centre A.C.U. Open Hill-climb.
Sat., April 23rd—Midland Centre A.C.U. Open Reliability Trial.
Wed., April 27th—A.C.U. One-day Trial.
Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.
Sat., May 21st—Western Centre A.C.U. Open Hill Climb.
Wed., May 25th—A.C.U. Silencer Trial at Brooklands.
Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.
Tues., June 14th—Junior T.T. Race
Thurs., June 16th—Senior T.T. Race.
Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup
Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.
Sun., July 24th—Motor Cycle Grand Prix Race in France.
Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland
Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.
Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

WORN BIG END.

After less than five hundred miles' running my 2¾ h.p. four-stroke lightweight developed a very bad and noisy rattle or clatter—so noisy, in fact, as nearly to drown the sound of the exhaust, which is by no means silent. Where and how does this clatter arise? When the machine is doing good work, *e.g.*, climbing a decent hill, it is scarcely noticeable, but on the level, with little resistance, it is very painful. Low gear accentuates it enormously. I have had it examined by two motor mechanics, but neither succeeded in tracing it. When running on the stand it is scarcely noticeable. There is a considerable amount of vibration about the machine, which seems to be increased during the rattle or clatter. Is there any connection?—T.C.

The symptoms described are those of a worn big end bearing, which usually sets up a considerable amount of vibration and noise when the engine is running light and fast. Consult a repairer before using the machine again.

WORN CONTACT POINTS.

I have a nearly new magneto on my 4 h.p. single, and it has given no trouble until a few days ago, when the engine stopped without any warning. I traced the reason to the magneto, which would only spark for a few revolutions every few minutes. I took the contact breaker off and cleaned everything, including the slip-ring, and also adjusted the gap, but still with no better results. I eventually gave the magneto to an electrician, who said that, after tests, everything was O.K. internally. The only thing wrong with it, apparently, was that the platinum was worn from the points of the contact breaker. Can you tell me, please, if this is sufficient to prevent the magneto from giving even a faint spark, and if so, would it be best to send the contact breaker to the makers, or is it capable of being remedied locally? How often should the points be renewed?—A.W.W.

If the magneto has only been in use for a few months, the platinum points should not be worn away entirely, and we would suggest that you return it to the makers for inspection, as it may be that the condenser is short circuited. If you do not wish to return it, however, you would be able to fit the new platinum points yourself if you have a magneto spanner; or, of course, you could return the contact breaker only.

A BIG SINGLE FOR SPEED WORK.

I have a 1920 5-6 h.p. Rudge which I think lacks power. The machine has done about 2,000 miles without any trouble whatever and has always been ridden solo. (1.) When practising for a speed event on a level road I could only get 50 m.p.h. (registered). Is this good enough for this type of machine? (2.) It also lacks power on hills; I can only get up a short hill of 1-7 by lowering the gear first and tightening the belt. Compression is good, and I am careful not to let tappets get slack. The timing is as it left the makers. (3.) If I advanced the timing, should I get better results? (4.) Referring to question one, would a higher speed be obtained by using a lower gear?—R.C.W.

(1.) The particular machine which you mention was not designed for high speed work; it was introduced specially as a sidecar model, and it is very creditable if you can attain a road speed of 50 m.p.h. on it under normal conditions. (2.) It should not be necessary to tighten the belt continually in order to climb hills; in all probability the belt is too long and should be shortened. In any case the machine will not climb 1 in 7 gradients on top gear unless you can take them with a rush, as the top ratio of the gear is too high for hill-climbing. You should keep up the engine revolutions when climbing, by gradually lowering the gear as the gradient increases. (3.) There should be no need to advance the standard timing of the engine, as delivered by the makers. (4.) It is quite likely that you will obtain more speed on the level by reducing the gear a little; it is a mistake to imagine the highest speeds are invariably obtained by the use of a high gear.

FLOODING CARBURETTER.

I have a Triumph carburetter on my Baby Triumph, and petrol overflows from the top of the float chamber when the machine is running. The float is not punctured, and as it does not overflow when standing I do not think the needle needs grinding in. I imagine it is the jolting that causes it to overflow. I should be much obliged if you could give me your help in remedying this.—S.B.

You do not say whether the carburetter is one of the older models with bottom feed or one of the new ones with top feed. If the former, the movement of the needle is controlled through small levers which work on pins on the lower side of the float chamber lid, and if these are worn it is quite likely that the action of the needle is not sufficiently sensitive to follow the movements of the float, especially when passing over bumpy roads. If your carburetter is of the top feed variety, you will probably effect a cure by grinding in the needle valve and also by lowering the level.

READER'S REPLY.

BLOW BACK IN DRIP FEED.

Referring to "F.H.M.Y.'s" query in the issue of December 30th, 1920, I experienced similar trouble on a 2¾ h.p. Douglas, and after several weeks traced it to a leak between the glass and metal of the drip feed. If there is no leak, it is clear that the glass part of the sight feed cannot fill with oil unless the air goes back through the same tube which supplies oil from the tank. This is hardly likely to happen, considering the pressure of the spring behind the plunger to the hand-operated oil pump. I trust the above will not be too late to be helpful.—G.W.N. (Dehiowita, Ceylon).

EXPERIENCES WANTED.

"A.W.S." (Staplehurst).—1920 Wooler. Durability, speed, and reliability.

"T.H.D." (Coventry).—Sticking exhaust valve on Triumph engines; tips for effecting permanent cure.

"A.E.T." (Keynsham).—Amac one-lever carburetter (25 jet); elimination of dead spot at 10-15 m.p.h.

RECOMMENDED ROUTES

PLUMSTEAD TO WISBECH.—H.F.B.

Plumstead, Woolwich, East Ham, Woodford, Epping, Bishop's Stortford, Newport, Chesterfield, Cambridge, St. Ives, Somersham, Chatteris, March, Wisbech.

STOURBRIDGE TO PORTMADOC.—G.A.

Stourbridge, Bridgnorth, Much Wenlock, Shrewsbury, West Felton, Llangollen, Corwen, Bala, Capel Celyn, Festiniog, Portmadoc. Approximately 106 miles.

HULL TO KILMARNOCK.—H.G.

Hull, Beverley, Market Weighton, York, Boroughbridge, Leeming Lane, Scotch Corner, Barnard Castle, St. John's Chapel, Alston, Brampton, Longtown, Gretna Green, Annan, Dumfries, Thornhill, Sanquhar, Cumnock, Mauchline, Kilmarnock. Approximately 229 miles.

THAME TO HALSTEAD.—L.P.

(1.) Thame, Aylesbury, Tring, Boxmoor Station, St. Albans, Hatfield, Hertford, Bishops Stortford, Dunmow, Braintree, Halstead (Essex).

(2.) Thame, Princes Risborough, High Wycombe, Beaconsfield, Uxbridge, Kew, Richmond, Kingston, Rayne Park, Croydon, Keston, Farnborough, Halstead (Kent).

THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read

The Autocar

Every Friday 4d.

the forerunner of all motoring journals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

SPARKLETS

Price Reductions.

Several of the leading tyre makers announce reductions varying between 10% and 15%.

A New Liverpool Branch.

A branch of Messrs. David Moseley and Sons, Ltd., the well-known tyre manufacturers, has been opened in Liverpool at 9, Commutation Row.

New Factory for Motor Cycle Gears.

Specially planned for the production of their motor cycle gear boxes, a new works has been built at Nottingham by Messrs. Sturmey-Archer Gears, Ltd.

The Richardson Cycle Car.

The price of the Richardson cycle car and the Richardson light delivery van has been reduced to £250, which figure includes hood, horn, electric lighting set, tool-kit, and pump.

An Amalgamation.

In order to conform with the regulations of the Companies Acts, Messrs. The Rotax Motor Accessories Co., Ltd., Willesden Junction, London, N.W.10, are going into voluntary liquidation in connection with their amalgamation with Messrs. Newtons, Ltd., of Taunton.

Hutchinson Boots Again.

Hutchinson Tyres inform us that they are now recommencing the manufacture of Hutchinson boots, which, as our readers are aware, are amongst the most efficient protectors for the rider's nether extremities which have been placed on the market. Unfortunately, during the war the manufacture of Hutchinson boots had to be discontinued.

Dividends from Acetylene.

The amalgamation of firms in the acetylene industry under the name of Allen-Liversidge, Ltd., of 106, Victoria Street, S.W.1, announce a final dividend for the year ended October 31st, 1920, of 7½% (less tax), making a total of 12½% for the year on the first 100,000 shares. There is also a half-year's dividend of 12½% on the remaining shares issued during 1920.

Popularity of Sidecar Taxis.

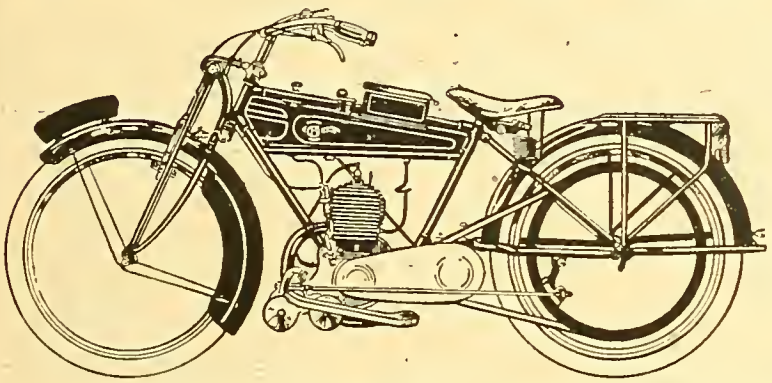
Already there are twelve sidecar taxi-cabs plying for public hire in Birmingham, and they are being well supported; they are all B.S.A.-Canoelet outfits, with the special taxi features included by the County Cycle and Motor Co., of 307-8, Broad Street, Birmingham. This firm specialises in sidecar taxis, and has submitted its demonstration outfit to the licensing authorities of Birmingham, Bradford, Brighton, and Coventry, in all of which places it has been approved. Manchester and Liverpool are considering the matter, while a service has just been inaugurated in Leeds.

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Perpetual Pleasure Bikes.



Mark 8. 2¾ h.p. single gear .. .. **48 Gns.**
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Mark 10. 2½ h.p. single gear .. .. **48 Gns.**
Mark 11. 2½ h.p. 2-sp. **57 Gns.**
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2. 30 to 40 Thousand Miles per gallon of oil consumed, creating incidentally 25 to 50 per cent. Petrol economy, and—

last, but by no means least, a degree of flexibility and comfort to the four-stroke hitherto unobtainable.

OUR SYSTEM (Patents Prov. No. 25,685, 5,041) applies to any four-stroke engine having a vacuum valve and a discharge pipe from same.

The oil is returned to the crank case without interfering with the vacuum.

WE HAVE BEEN EXPERIMENTING FOR THREE YEARS, and during the last six months we have tested the completed system over thousands of miles of ordinary road, riding on a 2¾ h.p. Excelsior-J.A.P. and on a N.U.T. 4 h.p. twin J.A.P. We have run the 2¾ h.p. Excelsior-J.A.P. 100 miles with the ordinary oil feed completely shut off all the time. At the end of this run, we drained the oil from the crank case, thoroughly tested it, and found it as good as ever (just as you will find it in a car engine). We then took the engine completely down, and found that every part had been perfectly lubricated all the time. Whilst examining the parts of the engine, the high quality of workmanship put into the J.A.P. engine struck us very forcibly. The Excelsior and N.U.T. can be seen at any reasonable time (Saturdays and Sundays included), at our premises.

When the Apparatus is fitted on, it requires no further attention. You simply set the oil feed to about one drop per minute.

Price, fitted complete at our works, **£2 - 15 - 0** **ARE YOU INTERESTED?**

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THE CUT IN PRICE YOU HAVE WAITED FOR HAS MATERIALISED.

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4 h.p. BLACKBURNE ENGINE.
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3-SPEED STURMEY GEAR BOX.

Should prices be reduced before May 31st, 1921, we guarantee to reimburse our agents.

THE CHEAPEST FOUR H.P. in the world, and the Best.

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will speedily convince you of the supreme comfort afforded by the EMPIRE-DE-LUXE Pan Seat.

You can ride upon it for hours without feeling undue strain or fatigue. The springing is perfect—the seat luxuriously padded—and its durability beyond question.

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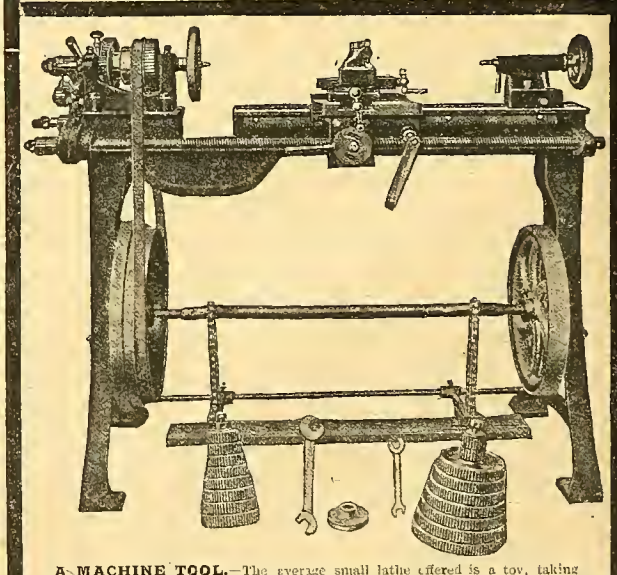
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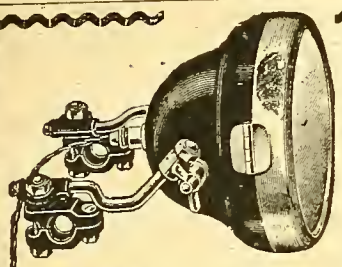
"MAYCO" PRECISION LATHE

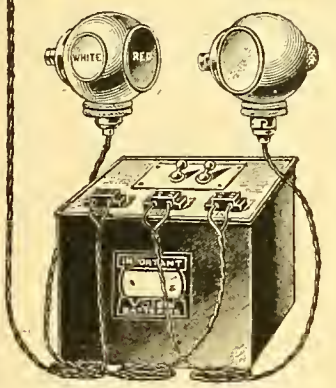
4½in. Centres. Takes 30in. between Centres. Hollow Spindle. Gap Bed. Swings 6¼in. above Saddle. Full Set of Change Wheels.



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The 1921 improved model entirely eliminates that uncertainty invariably associated with accumulator and dynamo lighting outfits.

When once fitted will give 12-18 months' effective service without requiring attention.

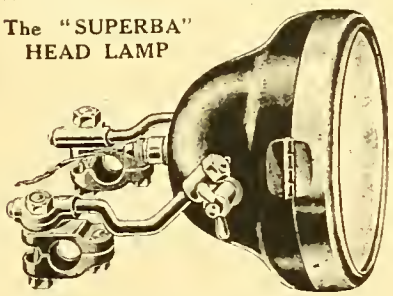
Specification:—Two 6 volt "Volex" Dry Batteries in Metal Container, which lies conveniently in the bottom of the sidecar; Switchboard, "Superba" Head Lamp (5½" front); Ball Pattern Side and Tail Lamps; Conducting Cord; Metal Filament Bulbs As illustrated.

No. MC/490. **Price: £8 8 0.**

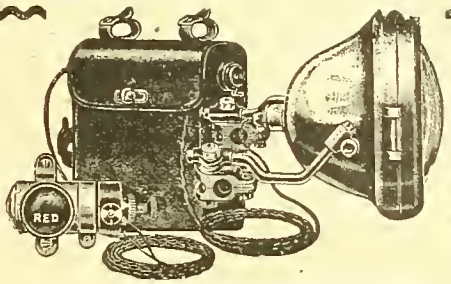
Fitted with "Superba de Luxe" Head Lamp (7" front). No. MC/450. **Price: £9 9 0.**

No other battery outfit will give results equal to the "Volex."

The "SUPERBA" HEAD LAMP



5½" front .. £2 4 0
De Luxe Type, 7" front .. £2 18 6



VOLEX MOTOR CYCLE SOLO LIGHTING SETS.

The most efficient Dry Battery Solo Sets produced. Made up on the same principle as our "Volex" combination sets. Head Lamp is provided with 6 volt bulb giving an exceptionally brilliant light, and ample light is provided in the rear lamp.

SUPERBA HEAD AND REAR SET as illustrated. Head Lamp with 5½" front. M10/10. **Price complete, £5 10 0**

M10/7. Head Lamp Set only .. £4 15 0

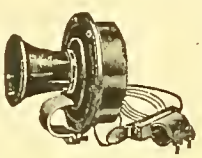
SUPERBA DE LUXE HEAD AND REAR SET. Head Lamp with 7" front. M10/11. £6 0 0

M10/8. Head Set only £5 5 0



BALL PATTERN TAIL LAMP.

With Holder and Adapter. Brass, Nickel or Black Ebonised finish, 15/- Smaller Type 12/6



The "CLARAVOX"
Motor Cycle Electric Horn

gives a loud, clear warning note. Complete with Cord and Switch, £1 12 0

De Luxe Type, £2 5 0

EASTER MOTOR CYCLING.

We have purchased a very fine lot of Government Motor Cycles, of recent date (1917, 1918 & 1919) and in good condition. These are being replated, re-enamelled, and stoved in makers' colours, and rebuilt throughout

Equal in appearance and wear to new machines.

FIRST DELIVERY—NOW READY

4 h.p. DOUGLAS—Solo or Combination

(other makes to follow).

EASTER FALLS EARLY.

Why not have a machine inspected for you by the A.C.U. or A.A., who will give you an unbiassed report?

PRICE

4 h.p. DOUGLAS 3-speed, Kick-start (Solo) **£80** (ex works) **Complete with NEW lighting set and accessories.**

4 h.p. DOUGLAS 3-speed, Kick-start (Combination) **£100** (ex works) **NEW Sidecar and Chassis, lighting set and accessories.**

THE NUMBER IS LIMITED.

Secure a machine, subject to inspection, for a deposit of five per cent

MOTOR VEHICLES (Engineering and Supply) ASSOCIATION, Ltd.

(Dept. M.C.), 15, 16 & 17, ELDON STREET, LONDON, E.C.2

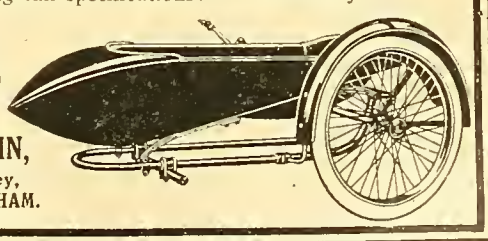
SPEED WITH MORE COMFORT

is the ideal combination we have realised in our K4 models. Usually in the cry for speed, comfort, utility, and strength are sacrificed But in this semi-sporting model of

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make—design and manufacture—you have just that sidecar which appeals to that sense of ease and to that irresistible craving for speed. The K4 looks comfy and breathes speed.

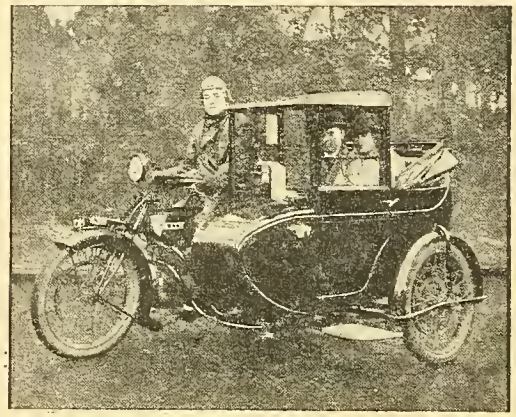
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MEAD & DEAKIN,
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The "COUNTY" —TAXI— COMBINATION

—Complete with "County" Compensating Brakes—
(PATENT APPLIED FOR)



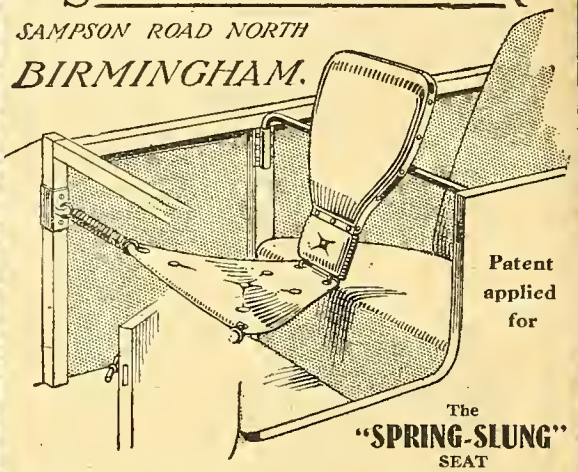
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—THE B.S.A. SPECIALISTS—
307, 308, 314, Broad Street, BIRMINGHAM.

Our Demonstration Taxicar is at your service and can be submitted to any Licensing Committee.

Write for full particulars.

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The "SPRING-SLUNG" SEAT

An auxiliary seat with springing equal to the main seat.

No leg supports; nothing in the way of a dress skirt.

No hard seat frame to bruise rear passenger's legs.

Fixed or packed away in less than half-a-minute.

LARGE SIZE, WITH 4-SPRING SUSPENSION, 65/- Postage:
SMALL SIZE, WITH 2-SPRING SUSPENSION, 60/- 1/- extra
NICKEL PLATED FITTINGS & FIGURED UPHOLSTERY.

PRELIMINARY ANNOUNCEMENT.

Since "Olympia," we have been working out a slightly modified specification of our popular 6-8 h.p. (842 c.c.)

L.M.C. Twin Combination PRICE **£160**

All-chain Drive, Shock Absorber, Internal Expanding Rear Brake, Sturmey 3-speed Gear Box, Kick-starter, 650 x 65 Tyres, Millford Sidecar.

THE MOST ASTOUNDING VALUE ON THE MARKET. *DELIVERIES COMMENCE END MARCH*

THE LLOYD MOTOR ENGINEERING Co., Ltd., 132, Monument Road, Birmingham.

"Speedon" Motor Oils, For Cars, Cycles & Lorries.

ARE THE BEST.

Write for full particulars to
JOHN S. MORRIS & SON (OILS), Ltd.
Cross Lane Oil Works,
SALFORD, MANCHESTER.

Sports Model .. .. .. 75 gns.
Ladies', K.S. and Clutch 81 gns.
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With Patent P.V. Spring Frame.
A design with ten year's road use behind it.

MOTOR CYCLES LIMITED · FOREST HILL · LONDON

The P.V. Rider never realises the awful state of many roads. It's not his funeral. But you not realising the necessity of proper springing now, may mean yours.

Buy a Spring Frame P.V. and so save this heavy expense.

CONTRACTORS for all leading makes of Motor Cycles, Sidecars and Light Cars.

GET IT AT
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LARGE SELECTION shop-soiled and guaranteed Second-hand Machines. Write for List.

GET IT NOW
AND BE READY FOR YOUR EASTER TOUR.

Sole London and District Agents for the famous

A.J.S.
6 h.p. Com., complete with screen, spare wheel, storm apron, and luggage grid £180 0
7 h.p. Com., as above.. £215 0
Dynamo Lighting Set.. £28 0
Child's Seat £5 5
Prices for delivery at works.

ROYAL ENFIELD.
8 h.p. Combination £160 0
Dynamo Lighting £22 10
2¾ h.p., 2-stroke £65 0
Kick Starter, extra ... £5 0

P. & M.
Solo model £125 0
Combination £165 0

SCOTT
3½ h.p., 2-stroke £130 0
Combination £170 0

B.S.A.
4 h.p. Model K. £107 0
4 h.p., Model H £110 0
4 h.p. Combination, K . £142 0
6-7 h.p. Combination .. £175 0

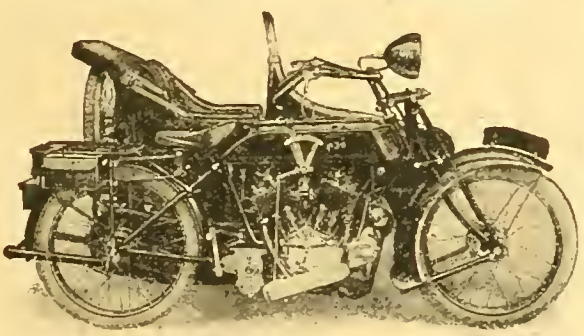
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8 h.p. Clutch Com. £204 0
6-8 h.p. Sporting Solo £139 0
5 h.p. £123 0
2¾ h.p. Flat Twin £107 0

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6-7h.p. Combination .. £197 10
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3½ h.p. Solo mount £120 0

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Model H Solo £127 10
Model H Combination.. £182 10
Model SD Chain Solo .. £140 0
Model SD Combination. £195 0
2¾ h.p., 2-stroke £75 0

O.K.
2¾ h.p., single-speed £50 8
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A.J.S. 7 h.p. Combination.

For CASH or payment out of income

Intending purchasers who wish to pay out of income—while they ride—will find the following example of interest:—

	£	s.	d.
Cash price of selected Combination	200	0	0
Deposit (approx. ⅓)	68	0	0
	£132	0	0
Interest on above at 7½%	9	18	0
Total Balance	£141	18	0
Payable in 12 monthly instalments of	£11	16	6

If a larger down payment be made, then interest and monthly instalments would be proportionately less.

H. TAYLOR & CO., LTD.,
SHOWROOMS:
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For Cars and Motor Cycles.
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8 h.p. Combination ... 195 gns.
4½ h.p. Combination ... £152 0
2¾ h.p. Blackburne £96 0
2¾ h.p. Villiers, 2-stroke £67 0
2¾ h.p., open frame mod. £49 10
Price guarantee till April 1st, 1921.

MATCHLESS
8 h.p. Combination £205 0
Dynamo Lighting, extra £25 0

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8 h.p. Sporting Model.. £206 0
8 h.p. Grand Prix £218 0
8 h.p. de Luxe, a.-cooled £216 0
8 h.p. de Luxe, w.-cooled £228 0
10 h.p. M.A.G. eng., extra £5 0

G.N.
Standard Model ... £241 17 6
Dynamo Model £275 12 6
Legère Model £309 7 6

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Morris-Oxford, 4-seater. £585 0
Morris-Oxford, 2-seater. £510 0
Morris-Cowley, 4-seater. £425 0
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11.9 h.p. Coupé, with double dickey £465 0
11.9 h.p., 4-seater £465 0
Dynamo lighting, starter, clock, and speedometer included.

A.B.C.
12 h.p., 2-seater, with dickey ..... 395 gns.
12 h.p. sporting model. 370 gns.

COVENTRY PREMIER
7-9 h.p. Super Runabout 275 guineas.

GRAHAME-WHITE.
2-seater, electric equipment £150 0

× Purchasers of these machines, delivered between now and June 1st, 1921, should any reduction in price take place during this period, will be refunded the difference, if claimed before June 30th next.

EXTRA SPECIAL OFFER
FOR THIS MONTH ONLY.

All reconstructed machines supplied during this month only will be completely equipped with all lamps, horn, tools, pannier bags, pump, and licence card holder, at **no extra charge.**

ENFIELD, 8 h.p., 2-speed, and brand new Enfield Sidecar, **£125.** **DOUGLAS,** 2¾ h.p. 2-speed, **£65.**
P. & M., 3½ h.p., 2-speed, clutch and kick starter, **£82.** **DOUGLAS,** 4 h.p., 3-speed, clutch and kick starter, **£82.**
P. & M., 3½ h.p., 2-speed, clutch and kick starter, **£68.** } Thoroughly overhauled, but finished service green tanks,
B.S.A., 4¼ h.p., 3-speed, clutch and kick starter, **£75.** } re-enamelled makers' colours.

The above machines have been thoroughly overhauled, re-enamelled, and plated, makers' colours.

Tyres in most cases are new. :: :: **THREE MONTHS' GUARANTEE.**

CASH OR EASY PAYMENTS.

EXAMPLE: Douglas, 2¾ h.p., **£20** down, balance payable in **12** monthly instalments of **£4 6s. 3d.**

WRITE FOR PROPOSAL FORM.

May we send full list, which includes full particulars of new and other second-hand machines.

ALLEN-BENNETT MOTOR CO., LTD.

The Motor Cycle Specialists,

9-10-11, ROYAL PARADE, WEST CROYDON.

'Phone: Croydon, 2450. 'Grams: "Track, Croydon."

WAUCHOPE'S

Deal direct with customers for EASY PAYMENTS, and not through a financial house. Terms: ONE-FIFTH down and the remainder in twelve monthly instalments. EXCHANGES also arranged with the balance payable by extended payments.

All the best makes supplied promptly. Below is a selection taken from our list.

NEW 1921 MODELS. JUST DELIVERED.

B.S.A., 4¼ h.p., solo, K.2	£107 0
B.S.A., 4¼ h.p., solo, H.2	£110 0
NORTON, 3½ h.p., T.T., chain drive	£132 0
A.J.S. Combination, 7 h.p., standard	£215 0
WOOLER, 2¾ h.p., Touring Model	£103 10
QUADRANT Combination, 4½ h.p.	£145 0
BRADBURY Combination, 6 h.p.	£191 5
G.N. Cycle Car, standard	£245 0
MORGAN de Luxe, M.A.G., W.-C.	List Price.
BRADBURY, 4 h.p.	£245 0
DOUGLAS, 2¾ h.p., 2-speed	£85 0
DOUGLAS, 2¾ h.p., 3-speed, clutch, K.S.	£105 0
DOUGLAS, 4 h.p., solo, 3-speed, clutch, and K.S.	£130 0
DOUGLAS Combination, 4 h.p.	£170 0
TRIUMPH, 4 h.p., renovated, from	£90 0
TRIUMPH, 4 h.p., all-chain drive	£140 0
TRIUMPH, 4 h.p., Model H.	£127 10
ROYAL ENFIELD 8 h.p. Combination	£160 0
ROYAL ENFIELD 8 h.p. Combination, dynamo	£182 0
ROYAL ENFIELD, 2¼ h.p., 2-stroke	£65 0
NORTON Big Four, with de Luxe Sidecar	£177 0
COVENTRY-PREMIER, dynamo lighting	275 gns.
SUNBEAM, 3¾ h.p.	£155 8
BLACKBURNE Combination, 8 h.p.	£230 0
VELOCETTE, 2¼ h.p., all-chain drive	£75 0
CALTHORPE Combination, dynamo lighting	£115 10
B.S.A. Combination, 6-7 h.p., dynamo	£195 15
B.S.A. Combination, 6-7 h.p.	£195 0

NEW 1921 MODELS. JUST DELIVERED.

ZENITH, 5 h.p., Model C	£123 0
ROYAL ENFIELD, 2¼ h.p., K.S.	£70 0
TRIUMPH JUNIOR, 2¼ h.p.	£75 0
NEW IMPERIAL J.A.P., 2¾ h.p., K.S.	£89 5

NEW 1920 MODELS. GUARANTEED UNUSED.

List Price.		Our Price.
£73 0	P. & S., 2½ h.p.	£65 0
—	BAT Combination, 6 h.p.	£175 0
£127 10	TRIUMPH, 4 h.p., Model H	£120 0
£42 10	AUTOPED Scooters, dynamo	£25 0

SECOND-HAND MACHINES.

PRECISION, 4½ h.p., 1914	£30 0
DOUGLAS, 2¾ h.p., 1920, clutch model	£90 0
J.A.P. Engine, 8-10 h.p., W.C. magneto, 1920, new	£45 0
RUDGE, 3½ h.p., 1912	£30 0
ZENITH, 5 h.p., 1920	£110 0
CLYNO, 2½ h.p., 1920 (licence paid)	£63 0
INDIAN and Sidecar, 5-6 h.p., 1913	£60 0
QUADRANT Combination, 4 h.p., 1920	£120 0
BLOOMFIELD and Sidecar, 3½ h.p.	£50 0
CARDEN Monocar, 5-6 h.p., 1914	£70 0
A.V. Monocar, 6 h.p., (special engine)	£155 0
Air-cooled MORGAN, 8 h.p.	£95 0
NEW IMPERIAL J.A.P., 2¾ h.p., 1915-16	£40 0
BLACKBURNE, 4 h.p., solo, 1920	£97 10
RUDGE, 3½ h.p., 1917-18, fully equipped	£75 0

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4

'Phone: Holborn 5777. *'Grams: "Opificer, Fleet, London."*

MOTOR CYCLES FOR SALE.

Calthorpe.

AUCHOPE'S 9, Shoe Lane, London, E.C.—Calthorpe combination, dynamo lighting; 5/10. [4192

LTHORPE 2-stroke 1916 2¾h.p., 2-speed countershaft, recently overhauled; £39.—22, Wolseley Chelmsford. [3247

h.p. Calthorpe Junior Precision, 2-speed, free, countershaft drive, thorough running order; £30.—Fairfield Rd., Bow, E. [3609

16 2¾h.p. Calthorpe, 2-stroke, as new, tax paid, good tyres, lamps, ride away, photo stamp; ain, £35.—Ewers, Newton Rd., Burton-on-Trent. [3775

ALTHORPE-J.A.P. 2¾h.p., 1920 model, Enfield 2-speed gear, £65; 2-stroke model with Enfield £58.—P. J. Evans, 81-91, John Bright St., Bir-ghom. [3479

ALTHORPE-J.A.P. 1917 2¾h.p., Enfield 2-speed, good tyres, acetylene lamps, tools, horn, tax ; £45.—A., 136, Ravensbury Rd., Earlsfield, Lon-S.W. [3925

ALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon; all models in k for immediate delivery.—The Carlton Motor Co., Torwood St., Torquay. [0201

ALTHORPE-J.A.P., Enfield 2-speed, drip feed, lamps, horn, and accessories, new tyre and belt plete, condition as new; £48, or near.—Bowdige, 1, y St., Mexborough, Yorks. [3210

ALTHORPE-J.A.P., 2¾h.p., late 1920, brand new but slightly soiled, Enfield 2-speed; usual price, /11; sacrifice, £59/15, a real bargain.—Wilkins, pson, opposite Olympia, London. [3459

ALTHORPE-J.A.P. 1921 2¾h.p., 2-speed, clutch, delivery from stock; 70 gns. cash, or extended ns 4% extra.—Elce and Co., 15-16, Bishopsgate Av., monile St., E.C.3. 'Phone: Avenue 6548. [0068

ALTHORPE 1921 Combination, actually in stock for immediate delivery; cash or deferred terms; e your orders with the Calthorpe specialists.—rlington Motors, Ltd., Clapham Common, S.W.4. one: Brixton 2417. [0509

Campion.

914 4½h.p. Campion, J.A.P. engine, free engine, guaranteed take sidecar; £30. — 29, St. nard's St., Bromley-by-Bow. East 4708. [3856

3h.p. Campion-Jap Motor Cycle, Sturmey-Archer 4 2-speed countershaft gear, clutch and kick starter, ps, spare belt, in perfect condition all through, ranteed; £55.—Merrick, North Huckham, Newark, tts. [3385

Cedos.

. KICKHAM for Cedos; trade supplied.—Stokes Croft, Bristol. [3357

EDOS, late 1920 2¾h.p., 2 speeds, fully equipped, indistinguishable from new; £60.—Parker's, adshawgate, Bolton; and 245, Deansgate, Man-ester. [X7935

EDOS 2 stroke, the finest lightweight reaching the public, earliest deliveries, particulars on appli tion.—Largest London Agents: Fowler and Brigden, 0, Euston Rd., London, N.W 1. 'Phone: Museum 27. [0469

Centaur.

ENTAUR 3½h.p., 2-speed, free engine, speedometer, sidecar, perfect running order; £60; tax paid.—rter, Moat House, Welling. [3694

Chater-Lea.

HATER-LEA C.B. Combination, countershaft, all-chain drive, 8h.p. J.A.P. engine, in perfect con-tion, lamps, horn, etc.; a bargain, £70.—R. H. teman, Coronation Villa, Littlemore, Oxon. [3199

HATER-LEA 8h.p., 1911, 3 speeds clutch, handle start, Binks, speedometer, castor wheel sidecar, no body, Easting wind screen, climb anything, small leage, tax paid; owner bought car; £50.—Wilkinson, 8, Woodhouse St., Leeds. [3861

HATER-LEA 8h.p., 1915, kick starter, Binks, 2 sidecars, single and 2-seater, wind screens for oth, oversize tyres, speedometer, Klaxon, lamps, and nerator; £120. Apply any evening after 6 o'clock.—. Long, 40, Queen's Rd., Peckham, S.E.15. [4130

Chater-Lea-Jap.

HATER-LEA-J.A.P. 4h.p. Twin C.B. Combination, Burman 2-speed, K.S., and clutch; £55, or offer. 50, Staines Rd., Sunbury, Middlesex. [3674

Clyno.

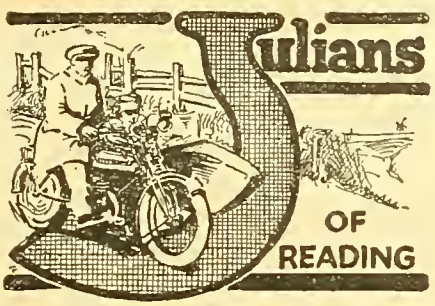
48; 6h.p. Clyno, countersbaft, kick starter, new tyre.—9, Westwood St., Peterborough. [3818

LYNO 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Below.

LYNO Lightweight, 1920, shop-soiled, at greatly reduced price. Now is the time to buy.—Mebes, 54-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3367

NEARLY New 2¾h.p. Clyno, 1920, 2-speed; 60 gns.—A. J. Young and Co., Ltd., Newmarket. [1256

LATE 1920 2-speed Lightweight Clyno, used very little; £50.—Fox, 12, Conduit St., Lichfield. [X8018



6
BIG BARGAINS

NEW IMPERIAL - J.A.P., 2-speed, slightly shop-soiled ..... **67 Gns.**

1920 **MARTINSYDE,** and Sidecar, hood, screen, electric lamps, horn, etc., tyres unpunctured, magnificent condition ..... **137 Gns.**

8 h.p. **NEW IMPERIAL,** and Sidecar, absolutely new, never been ridden, slightly shop-soiled ..... **150 Gns.**

1920 **LEVIS,** mileage about 800 ..... **42 Gns.**

1920 6 h.p. **ZENITH-GRADUA,** Sports model, absolutely new, slightly shop-soiled ..... **110 Gns.**

MATCHLESS Combination, slightly shop-soiled, never ridden, Magdyno, screen, detachable wheels, etc., magnificent outfit **195 Gns.**

JULIAN,
84, Broad Street,
READING.

'PHONE: 1024.

MOTOR CYCLES FOR SALE.

Clyno.

DAN GUY, Weymouth.—1921 8h.p. Clyno combination, small mileage, as new; cash offers wanted. [2176

CLYNO Lightweight, 1920, low mileage, lamps, tools, horns; £55, or offer.—Andrews, 7, Ridgway Rd., Redhill. [3165

1921 8h.p. Clyno Combination, brand new, £215; Clyno lightweight, brand new, £59.—Taylor's Garage, Wednesbury. [2569

1915 Clyno 6h.p. Combination, spare wheel, perfect condition; £100, or near offer; tax paid.—Duff, 80, Cromwell Rd., Wimbledon. [3722

CLYNO 1917 3-speed Combination, repainted, complete with lamps; £100, close offer.—Hayne, Spring Bottom, Osmington, Weymouth. [3585

CLYNO Lightweight, 1920, very little used, lamps, mechanical horn; 50 gns.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [0511

2¾h.p. Clyno, late 1920 model 2-speed and clutch, lamps and horn, in very nice order; £55; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3642

CLYNO 1921 Models, immediate delivery; 1920 lightweights, shop-soiled, £63; list price, £75.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0434

CLYNO Combination, 6h.p., 3-speed, clutch, kick start, 4 interchangeable wheels, lamps, screen, tax paid; £110, or near.—Swanbourne, Browning Rd., Worthing. [3863

CLYNO 2-stroke, 2-speed, clutch, Dec., 1919, Lucas lamps, horn, knee grips, perfect condition; £55, near offer.—St. Dunstan's, Nightingale Rd., Rickmansworth. [4069

CLYNO 5-6h.p. Coachbuilt Combination, 2-speed countershaft, new Dunlops and spare, accessories, good running order; £65.—154, Effra Rd., Wimbledon. [3970

CLYNO 8h.p. Combination, 3-speed, clutch, kick start, lamps, horn, etc., mechanical condition perfect; accept £120.—'Phone: Bank 6011.—St. Omer, Stanley Rd., Orpington, Kent. [X8040

CLYNO Combination, 6h.p., 3 speeds, kick starter, fine condition, lamps, horn, licensed, in use regularly for pleasure runs; £95; W.D. model, re-enamelled. —Evans, Grocer, Lamberhurst, Kent. [3515

CLYNO 6h.p. Combination, 3-speed, K.S., interchangeable wheels, all necessary fittings, electrically equipped, perfect order; £110.—Write Box 306, Leathwait and Simmons, 5, Birchin Lane, E.C.3. [3524

1921 Clyno 8h.p. Spring Frame Combination, C.A.V. electric lights, spare wheel unused, mileage 300, tax paid, cost £260; accept £230.—Wigham, 44, Stranton St., Thornaby-on-Tees. [3493

CLYNO Combination, 8h.p. J.A.P., 1919, 3-speed, K.S., detachable wheels, electric light, screen, apron, horn, pillion seat, speedometer, luggage and petrol carriers, spring seat, small mileage, splendid condition; nearest £120.—76, Wharfedale Gardens, Norbury. [3962

8h.p. Clyno-Jap, with Sunbeam sidecar, completely overhauled, enamelled and plated, spring pillion seat, electric light, large F.R.S. electric head lamp, new 100 amp. 6 volt accumulator, the whole in first-class order; can be seen and tried in the Midlands; £130.—Box 210, c/o *The Motor Cycle.* [X7431

1916-17 5-6h.p. Clynos, W.D. models, K.S., clutch, renovated, £65 each, new T.B. mag attached, and carburetter; all the unrenovated Clynos are now sold. I have 8 renovated left. Please see my advert. under Miscellaneous for Clynos spares and other articles.—Please apply, J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [4165

Connaught.

CONNAUGHT 2¾h.p., 1920 model, single speed, shop-soiled only, £50; also 2-speed model, £58.—P. J. Evans, 81-91, John Bright St., Birmingham. [3480

CONNAUGHT 1921 Models, immediate delivery.—Note address: S.E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [4128

1920 Connaught, T.T. model, 2¾h.p., under 500 miles; £47/10; guaranteed; exchanges. — Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4091

Coulson.

COULSON U., 1920, very low mileage; £45.—Carpenter and Goodbody, 15, Royal Parade, Muswell Hill. [3712

1920 2¾h.p. Coulson B, Blackburne engine, 2-speed, spring frame, little used; £75.—114, Brixton Hill, S.W.2. [4059

COULSON B 1921 Models in Stock.—Sole Wiltshire Agents; Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5007

COULSON B. 4h.p., Albion 2-speed, new condition; owner buying combination; £98, or offers.—Collings, Stawell, Bridgwater. [3710

COULSON-Blackburne, late 1920, 4h.p., complete with leg shields and accessories; £105.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X7996

COULSON B. 4h.p., shop-soiled, at greatly reduced price; now is the time to buy.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3368

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1920 Coulson B, 2¾h.p. Blackburne, 2 speeds, guaranteed as new; £80; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4093

SOLE agent for Newport, Shifnal, Ludlow, Bridgnorth, and part Staffordshire for Coulson B, immediate delivery all models.—Evans's Garage, Newport, Salop. [X6558

COULSON 2¾h.p., 1920, Nov., Sturmey 2-speed, licensed, new condition; 79 gns; new models from stock.—R. B. Clark and Co., 7, Exhibition Rd., S.W.7. [4136

1920 Coulson B, 4h.p. Blackburne, 2 speeds, all lamps, horn, etc., guaranteed; £85; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4092

COULSON B, 1920, 2¾h.p. Blackburne engine, 2-speed, spring frame, small mileage; bargain, £65 cash.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3 'Phone: Avenue 5548. [0066

4h.p. Coulson, spring frame, Blackburne engine, 3-speed, clutch, and kick starter, with Coulson sidecar, a smart outfit; £160; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3645

COULSON B.—We are sole agents for Wolverhampton, Stourbridge, Dudley, Walsall, and district; good deliveries; private and trade enquiries invited.—The Molineux Garage Co., Ltd., Wolverhampton. Tel. 1160. [3459

COULSON-B, 4h.p., 120 gns.; an ideal solo or side car mount, as low and handy as a Levis; in stock.—Sole agents for Leeds and 15 miles radius, excluding Bradford.—The Headingley Motor and Engineering Co. Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [0493

F.O.C.H. have brand new Coulson B.'s, 2¾h.p. 2-speed and 4h.p. 3-speed, shop-soiled, £86/10 and £108/10 cash; exchanges and easy payments arranged. —5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3447

Coventry Eagle.

COVENTRY EAGLE Combination, Abingdon 3½h.p., 3 speeds, kick start (May, 1920), P. and H. lamps, horn, small mileage, as new throughout; £120. —Keeble, 9, Hawthorne Terrace, Dovercourt. [3309

F.O.C.H. have a brand new Coventry Eagle, 2¾h.p., kick starter, shop-soiled; £84 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3449

Coventry Victor.

COVENTRY Victor 6-7h.p. Flat Twin, late 1920, perfect, luxurious sidecar; £175.—Barclay, 5, Wharfdale, Norbury. 4925 Wall. [4167

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£15.—Dayton 2-stroke, splendid running order, tax paid.—King, Egrove Farm, Oxford. [X8032

DAYTON 2-stroke Lightweight, splendid order; £25.—Platts, 602, King's Rd., Fulham, S.W.6. [3991

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E. KICKHAM for Diamond; trade supplied.—Stokes Croft, Bristol. [3355

DIAMOND 1921 Models in stock for immediate delivery.—Stevens, Gooch St., Birmingham. [X6601

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DIAMOND 2-stroke, 1919, not driven 500 miles, guaranteed; £42/10; approval.—Gibb, Gloucester. 'Phone: 852. [0440

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DOUGLAS, 3½h.p., 1914, 2-speed, kick start, clutch; £68.—Below.

DOUGLAS, 2¾h.p., 1916, 2-speed, complete lamps; £58.—Below.

DOUGLAS, 2¾h.p., 1916, 2-speed; £55.—Maudes', 100, Paris St., Exeter. [4256

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DOUGLAS, 1921 Models.—George Smith, Clapha Junction, S.W. [9

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1916 2¾h.p. Douglas, 2-speed, splendid conditi £43.—41, Anerley Park, S.E.20. [3

1921 Douglas; £85.—Gourlay, The Great Doug Agent, Fallowfield, Manchester. [8

DOUGLAS.—A fine assortment in stock at pr to suit all.—Ross, 86, High Rd., Lee. [5

WILLIAMS' Garage, Cheltenham, can give im diate delivery of any model Douglas [X6

DOUGLAS, 1921, 2¾h.p., 2-speed, brand new, stock £85.—Ginger, Motors, Banbury. [X6

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DOUGLAS 2¾h.p., 2-speed, 1914, tax paid; ow bought car; nearest to £40.—Vicar, Felstead. [3

BRIGHTON, Hove, and District Douglas Age Turpin s, 22 and 29, Preston Rd., Brighton. [0

1921 Douglas, all models, immediate delivery; c logues free.—Kemp's Garage, Louth, Lincs [X7

1919 2¾h.p. 2-speed Douglas, well equipped; £ exchanges.—60, Wallingford Av., N. Kensing [4

1918 2¾h.p. Douglas, new condition, lamps, tax paid; £55; after 6.—78, Sloane Av., Chelse [3

4h.p. Douglas, as new; £80.—Light Car and Mo Cycle Engineering Co., 26, Tulse Hill, S.W [3

DOUGLAS 1916 2¾h.p., 2-speed, splendid conditi £46, offer.—1a, Redcliffe Rd., South Kensing [3

DOUGLAS 1918 2¾h.p., like new, long exhaust, paid; £60, offers.—54, Paddenswick Rd., W.6 [3

1915 Douglas, in pieces, nearly all new; £27, offer.—G. Want, 30 and 32, Cross St., Islingt N.1. [4

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4h.p. Douglas Combination, 1917, fully equipped, dition as new; any trial; £90.—59, Aytoun S.W.9. [3

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TWO 1920 2¾h.p. 3-speed Douglases and accesso done little mileage; £90 each.—Bounds, 223, H Rd., Kilburn. [3

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DOUGLAS 4h.p., 3-speed, K.S., replated, new b lamps, belt, tube; £90.—Faull, Ayr Cottage, tves, Cornwall. [3

1919 Douglas Combination, complete with scr lamps, etc.; £100.—Williams and Co., Portl St., Cheltenham. [X7

39 Gns.—1915-16 Douglas, 2¾h.p., 2-speed, la generator, tax paid.—Spencer, Potter Bishop's Stortford. [3

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1920-21 4h.p. Douglas Combination, machine br new, sidecar used a few times only; £14 114, Brixton Hill, S.W.2. [4

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ELD 8h.p., 2-speed, handle start, coachbuilt ecar with Easting, splendid condition, any £72/10.—Newnham Motor Co., 223, Hammer- Rd., W.6. 'Phone: Hammersmith 80. [3066

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IELD Motor Cycles.—Immediate delivery of the w 8h.p. combination at £160; 2¼h.p. light- £65. Call and inspect, or send for particulars.— Evans, 81-91, John Bright St., Birmingham. [3483

Enfield Combination, 6h.p., lamps, Klaxon, speedometer, mirror, tools, coachbuilt, apron, and wind screen, condition perfect, new spare and tube; tax paid; £145.—27, Cranbourne Rd., g. [4065

UCHOPE'S, 9, Shoe Lane, London.—Enfield 1921 combination, with dynamo lighting set standard model, £160; 2-stroke solo, £65; rms arranged, one-fifth down and the remainder monthly payments. [4191

7 8h.p. Enfield Combination, all in good order, 700×80 car tyres and tubes, tubes unpunctured, electric lamps, Lucas horn, hood, screen, speed- r, licence holder and licence; first cheque £115. ro, Lynn Rd., Ely, Cambs. [4084

9 8h.p. Enfield Combination, Lucas lamps, Lucas horn, Tan Sad, 200×80 tyres, spare, large mud- hood, screen, luggage grid, splendid condition, week-ends only, stored during winter, tax paid; M., 161, Upper Richmond Rd., Putney. [3621

FIELDS.—The cheapest twin on the road. We re North London agents, and can supply from standard models £160, electric £182, cash, or d payments. All spares in stock. Trade sup- Jones' Garage, Muswell Hill, and at Woodside e, N. Finchley. [0380

FIELD 1919 (purchased new January, 1920), 8h.p. Combination, condition as new, double seater n, hood, screen, numerous spares, pillion seat. Bon- speedometer, mirror, Lucas dynamo lighting, nearest offer £170, cost over £200.—64, High King's Heath, Birmingham. [3922

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20 Excelsior, 2-speed, K.S., Sturmey, Villiers en- gine, little used; £50.—Shaw, Park St., Wellng- Salop. [X7974

ITISH Excelsior 4½h.p., 3-speed countershaft, kick start, little used, as new; £67; licence paid.—16. ut Rd., Maidenhead. [X8024

FELSIOR 8h.p. Combination, dynamo lighting, 3-speed countershaft; Palmer tyres, fast outfit; West End.—Box 2,405, c/o *The Motor Cycle*. [4217

21 2¾h.p. British Excelsior Blackburne, Sturmey- Archer 2-speed, clutch and kick starter, unused; nsonable offer refused.—Bowring, Asfordby, Melton bray. [X7928

20 Excelsior-Jap, 2¾h.p., Sturmey-Archer 2 speeds and K. starter, all accessories, as new; ex- es; price £80.—Homac's, 243, Lower Clapton N.E. 'Phone: Dalston 2408. [4095

ITISH Excelsior, 1914-15, 4½h.p. big single, Bosch mag., top feed B. and B., 3-speed Sturmey- r hub gear (needs slight repairs, top and second good), largest P. and H. lamp set, pillion seat, e paid for this year, for sidecar also, is in abso- perfect condition, enamel and plating almost mechanically sound; accept £28 for quick sale; rial given.—R. Watson, 132, High St., Aldeburgh, k. [3839

F.N.

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YL. F.N. Combinations and Solo Singles actually in stock.—Grimes and Co., 18, Bruton Place, New St., W. [9443

R Sale, F.N., single-cyl., Bosch mag., acetylene lamp, tools, good as new, price £50; also 6-cyl. magneto (WR6), unused, what offers —Box 2,375, *The Motor Cycle*. [3291

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5-6h.p., modern machine, clutch, drop frame, wide tank, drip feed, good condition and appear- ideal fast solo mount; nearest offer to £50; ings after 6, or week-end.—22, Clarence Rd., don. [3977

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21 F.N. Combination, 7h.p., 4 cyls., equipped with hood and screen, £205; solo, £160; 2½h.p. weight Model A, 80 gns.; immediate delivery; ex- ges or easy payments.—Official agents, Homac's, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4096

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FRANCIS-BARNETT 2¾h.p., 1920, 2-speed, K.S., clutch, run 1,600 miles, speedometer, perfect condition; bought combination; £78.—21, King's Rd., Levtonstone. [3288

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GHURST 3½h.p., low seating, perfect condition; ride away.—109, Plaistow Rd., Stratford. [3160

Harley-Davidson.

1918 Harley-Davidson; take £95, or lightweight and cash.—175, Knolly's Rd., Streatham. [3876

HARLEY-DAVIDSON Combination, as new; £125. —Box 2,430, c/o *The Motor Cycle*. [4264

1917 Harley-Davidson Combination, new condition; £89.—17, Heaton Rd., N. Mitcham. [5916

HARLEY Sports, brand new, fully equipped; £145; list £164/10.—7, Exhibition Rd., S.W.7. [4139

HARLEY-DAVIDSON, 1919, perfect, not ridden last 12 months; £115.—W., 121, Sheen Lane, Mortlake. [4196

1919 7-9h.p. Harley Combination, almost new; £125.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [3852

HARLEY, 1918, running order, engine overhauled; £80.—Bramble, Cambridge Works, Bedford Rd., East Finchley. [X8017

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross, 86, High Rd., Lee. [5669

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', Southport, Lancashire. Tel.: 607. [5009

HARLEY-DAVIDSON 7-9h.p., 3-speed, good condition; £80; exchange Douglas combination.—Slade, 44, Penrith Rd., Thornton Heath. [4703

1919 Harley, with Zeppelin sidecar, discs, T.T. bars, tax paid, fully equipped, as new throughout; £160.—18, Hestercombe Av., Fulham. [3679

165 GNS.; Harley-Davidson 7-9h.p., 1920, electric model, bulbous combination, tax paid, excellent condition, equipped; exchanges.—Below.

90 GNS.; Harley-Davidson 1917 7-9h.p., sporting Swan combination, speeds, K.S.; bargain; exchanges.

120 GNS.; Harley-Davidson 4-5h.p. flat twin, 1920, electric model, tax paid, equipped as new; bargain; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [4240

HARLEY-DAVIDSON 1920 4h.p., in absolute new condition, only done very few miles; bargain, £130.—Palins, Bourne St., Osmaston Rd., Derby. [2300

HARLEY 1920 Standard Dynamo Combination, speedometer, discs, Easting, College, privately owned, unscratched, licensed; £178.—7, Exhibition Rd., S.W.7. [1929

HARLEY-DAVIDSONS: large selection of all models and all spare parts stocked.—The J.C.J. Motor Co., 124, Holdenhurst Rd., Bournemouth. 'Phone: 2699. [3344

1920 7-9h.p. Harley, dynamo lighting, speedometer, Montgomery sidecar, Triplex screen, hood, mileage 2,000, licensed; £180.—12, Leaside Av., Muswell Hill, N.10. [4010

HARLEY-DAVIDSON Owners.—Enhance your mount and save hours of cleaning by fitting Ace patent seamless wheel discs.—Write for illustrated list, Cornercroit, Ltd., Coventry. [X7894

1920 Harley-Davidson Combination, 7-9h.p., mileage 1,147, wind screen, hood, speedometer, lamps, guaranteed perfect; £180; lowest.—106, Barlow Moor Rd., West Didsbury, Manchester. [3966

HARLEY-DAVIDSON 1920 4h.p. Model, Swan sporting sidecar, electric lighting, in good condition, as new; £185.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X7933

1920 7-9h.p. Harley-Davidson Combination, practically new, mileage 750, Easting, magnificent turnout, cost £250; sacrifice £175.—31, Claremont Rd., Alexandra Park, Manchester. [X8075

HARLEY-DAVIDSON 1915 Combination, disc wheels, mudshields, luggage grid, hood, screen, lamps, Klaxon; £90, or exchange lower power late model.—West, 50 Maldon Rd., Acton, W.3. [3905

HARLEY-DAVIDSON Late 1919 8h.p. Combination, perfect condition, £155; Cameo, Cowey, leg-shields, dissolved acetylene, and complete accessories; trial.— 2, Woodside Parade, Wimbledon Park, S.W.19. [3847

7-9h.p. Harley-Davidsons, 1918, running order, good appearance, £80; one 1919 model, overhauled and repainted, fitted with new bulbous back sidecar, £130.— Owen, 59, Scholefield Rd., Upper Holloway, N.19. [X8029

1920 Harley-Davidson Combination, 7-9h.p., mag. model, electric light, luxurious sidecar, well equipped, small mileage, unscratched; £170; exchanges.—144, Ladbroke Grove, North Kensington, W. [4250

1920 Harley-Davidson Combination, electric model, practically new and unscratched, Easting wind screen, leg shields, speedometer light, Tan-Sad, tax paid; £196.—Clifford, 22, Fitzharris Av., Bournemouth. [X7391

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Harley-Davidson.

£110.—1920 4h.p. Harley-Davidson Flat Twin, 3-speed, etc., lamps, Klaxon horn, speedometer, cost £165 last October, absolutely as new, must sell; no offer £110.—Clifton, 34, Windsor Rd., Southport, Lancs. [3269

1918 Harley-Davidson, new Sandum double seated sidecar, electric lights, Tan-Sad, spares, tax paid for 1921, splendid machine for 4 up; £148, or exchange for 1920 Rover car and cash given.—Dairy, 8, Effra Parade, Brixton. [3513

1920 Harley 7-9h.p. Combination, electric model, Ballards de Luxe sidecar, Triplex wind screen, lamps, electric horn, many spares and tools, whole outfit in splendid condition; £295, or nearest.—Greaves, 44, Victoria Park, Cambridge. [2141

REMARKABLE Offer of 4 1918 and 1919 Harley-Davidson machines; these machines have been thoroughly overhauled, re-enamelled, and plated, and are indistinguishable from new; £100 each. — The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W.1. [3633

HARLEY-DAVIDSON, 1920, shop-soiled unused Model F., speedometer, horn, makers' guarantee, identical with 1921 model, £170, list £193/6; Montgomery sidecar, specially built for same, Triplex screen, hood, grid, £40, or £200 the combination.—Hockerill Garage, Bishops Stortford. [3573

1920 7-9h.p. Harley-Davidson and sidecar, guaranteed in perfect mechanical order, done only 2,000, completely equipped with following extras: Motor cycle suit, new driving chain and tube, etc., cost £250; accept £200; can be seen any time.—Chauffeur, 9, Pembroke Mews, Grosvenor Place, S.W.1. [3605

HARLEY-DAVIDSON Combination, 1921, electric model, sporting sidecar, very comfortable, Mr. S. E. Longman's competition outfit, winner of many gold medals and track prizes, very fast, magnificent appearance, and absolutely perfect condition, at present in touring trim; price £200.—Longman Bros., 17, Bond St., Ealing. Tel.: 689. [4251

Hazlewood.

NEW 5-6h.p. Hazlewood Combination, 3-speed clutch, and kick starter, a thoroughly reliable outfit. Harrods have a large stock of these slightly shop-soiled at £170 each (much below list price); deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [3635

Henderson.

E. KICKHAM for Henderson; trade supplied.—Stokes Croft, Bristol. [3354

HENDERSONS, 1921, immediate delivery; extended payments.—Barker's Motors, 194, Balham High Rd., S.W.12 'Phone: Latchmere 4441. [1340

HENDERSON.—Ace patent seamless discs can be supplied for this machine; they add to its appearance and save hours of cleaning.—Write, Cornercroft, Ltd., Coventry. [X7896

HENDERSON 4-cyl., the world's leading 4-cyl. motor cycle; all models in stock for immediate delivery; prices from £210.—Edinburgh Pioneer Motors, 50, Grindlay St., Edinburgh. [3549

NEW 1921 Model Henderson, the most highly developed motor cycle ever built; now in stock for immediate delivery; liberal exchanges.—The Premier Motor Co., Aston Rd., Birmingham. [1879

HENDERSON Combination, with lamps, speedometer, Cowey horn, all tyres good, enamel and plating like new, exchange for piano; seen after 5.30.—Piper, 2, Mayfair Terrace, Morden Rd., Merton. [3278

Hobart.

1921 Hobart, 2-speed, latest model, new, makers' price, £78/10.—Shepherd, Enfield Highway, Enfield. Tel.: Waltham X31. [0496

HOBART, late 1920, 2¾h.p., 2-speed, tax paid, Binks, lamps, etc., perfect condition throughout; 60 gns.—Tegner, Heath Lodge, Purley. [4064

HOBART 6h.p., 1916, twin J.A.P., S.A. 3-speed, coachbuilt sidecar, excellent condition; 100 gns. for quick sale.—Dr. Date, 2, South Av., Exeter. [3121

1915 Hobart-Villiers, 2-speed, enamelled, replated, new tyres, equipped, as new, tax paid; gift, £38.—152, Meeting House Lane, Peckham, S.E.15. [3894

Humber.

HUMBER 3½h.p., 2 speeds, free, handle starter; £27.—109, Plaistow Rd., Stratford. [3164

2h.p. Humber Lightweight, 120 m.p.g., tax paid 1921; £22.—Lydford, Chilworth, Guildford. [3727

HUMBER 2¾h.p., 3 speeds, free engine, perfect; £37, or offer.—25, Nursery Rd., Merton. [3279

1913 3½h.p. Humber, 2-speed, free, lamps, tools, etc.; £38.—17, Redfern Rd., Harlesden, N.W.10. [3551

3½h.p. Humber Combination; £40, or offer; higher power considered.—7, Jeringham Rd., New Cross, London. [3906

2h.p. Humber Lightweight, single-speed, good condition, licence paid; £28.—H. Monk, 5, Sun St., Waltham Abbey, Essex. [X8027

1912 3½h.p. Humber, Lucas lamp set and horn, in excellent running condition; £35.—Brook Bros., Burnham-on-Sea, Somerset. [3349

Burlington Motor Cycle Co. Ltd

EXCEPTIONAL OPPORTUNITY

All reconditioned motor cycles purchased from us on or before 21st March will be fully equipped with New Accessories, including Head Lamp and Generator, Tail Lamp, Horn, Licence Holder, 2 Toolbags, Pump, and Tool Kit.

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Stove-enamelled and plated in makers' colours. Engines and gear boxes thoroughly overhauled in our own workshops. Fitted with new tyres, belts, and chains. In appearance practically indistinguishable from new. Every machine complete with Toolbag, Kit, and Pump, and carries our

THREE MONTHS' GUARANTEE.

TRIUMPHS

4 h.p. 3-speed Countershaft £100
4 h.p. 3-speed Combination with new Burlington Sidecar £130

DOUGLASES

2¾ h.p. 2-speed £65
4 h.p. 3-speed, kick-starter, Solo.. .. £85
4 h.p. 3-speed, kick-starter, Combination with brand new Burlington Sidecar £110

We have large stocks of Douglas and Triumph Spares, and shall be pleased to quote you upon receipt of your enquiries. **Trade Supplied.**



TO TRIUMPH RIDERS. Convert your clutch into Foot as well as Hand-Control. A neat pedal finished in dull plate, and so designed that it can be fitted in a few moments by an amateur. Its effect is to convert the standard machine into a Foot and Hand Operative Clutch Model. Price 4/- Postage 4d.

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TO 4 h.p. DOUGLAS OWNERS.

Write for particulars of our Clutch Conversion Set.

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CASH OR DEFERRED PAYMENTS

The BURLINGTON MOTOR CYCLE COMPANY, LTD.,
7, South Side, CLAPHAM COMMON, S.W.4.
'Phone: Brixton 2417.
'Grams: "Burlington Motors, Clapham."
(50 yards from Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

Humber.

3½h.p. Humber, 2 speeds, Roc gear, handle st believed 1910, perfect running order; offer Welch, 5, Market Place, Hertford. [3

1912 2h.p. Humber lightweight, Bosch, B. and spring forks, ride away; £16; photo stam 181, Newton Rd., Burton-on-Trent. [3

HUMBER 4½h.p. Flat Twin, 1920 model, unu shop-soiled only; bargain, £125.—P. J. Es 81-91, John Bright St., Birmingham. [3

HUMBER 3½h.p., 2-speed, excellent order, har scratched; £36; exchange 2-stroke, cash adj ment.—10, Plover St., Hackney Wick. [3

HUMBER Lightweight, Druids, Bosch, B. and new belt, good tyres and running order, away; £20.—Inkle Nook, Commercial Rd., Staines [X7

HUMBER 4½h.p. Flat Twin, 1921 models; in st for immediate delivery.—Newnham Motor 223, Hammersmith Rd., W.6. 'Phone: Hammersm 80. [3

HUMBER 1919 (July) Combination, 3½h.p. flat t sidecar new July, 1920, Cameo wind screen, fect order, tax paid; £128.—Lewis Hall, Wilford Gr Skegness. [X7

3½h.p. Humber, 1915, Sturmey-Archer 3-sp clutch, B. and B., new tyres, belt, mak overhaul, splendid condition; solo £55, with co sidecar, 65 gns.—47, Old Winton Rd., Andover. [3

HUMBER 1917 6h.p., W.C., all-black combinat makers' No. H3671, all accessories, spares, t done 100 miles since last overhaul, mechanically sou D.A. Fallolite head lamp, electric side and tail lig Tan-Sad, Sandum dual purpose sidecar (1 or 2-seat hood, wind screen, ideal reliable touring mount, paid, ready for road; £150; seen by appointmer Rennie, 534, Lordship Lane, S.E.22. [3

Indian.

E. KICKHAM for Indian; trade supplied.—St Croft, Bristol. [3

DAN GUY, Weymouth.—Indian 1914 7h.p. bination, complete; £75. [2

HORSMAN for Indians.—Victor Horsman, Ltd Mount Pleasant, Liverpool. [

INDIANS 1921 Models Now Ready.—Davies, Deansgate, Manchester. 536 Central. [2

1919 7-9h.p. Indian, 3-speed, and clutch, everyt as new; £70.—C., 12, Station Parade, Mu Hill. [3

INDIAN Powerplus Combination, 1918, cond as new; £115.—Jeffryes, 32, Felstead Rd., stead. [

1915-16 Indian, clutch model, 7-9h.p., fast, starter; £50, nearest offer.—Trnelove, Dorr Birmingham. [X

INDIAN Motors, latest models, early delivery Easter.—Lankester Engineering Co., 83, Vic Rd., Surbiton. [

POWERPLUS Indian, T.T., 1916, 7-9h.p., s frame, Canoelet sidecar; £110.—95, Paulet Camberwell, S.E. [

1916 7-9h.p. Indian Powerplus, 3-speed, kick excellent condition, tax paid; £58.—17, S Rd., New Malden, Surrey. [

7-9h.p. Indian Combination, 2-speed, clutch, s ometer, luggage grid; £90; or exchange.—H ton, Elton, Peterborough. [X

1919 7-9h.p. Indian and 1920 bulbous back sid almost new; any trial; £135.—Conner, Victoria Rd., Stroud Green, N.4. [

INDIAN 1918 Powerplus, re-enamelled, plated, hauled, new condition; £75.—Bromble, Camb Works, Bedford Rd., East Finchley. [X

1915 7-9h.p. Indian, clutch model, road racer, bars, tyres excellent, ready for road; £ Appleton, 16, Ribble Rd., Blackpool. [

INDIAN 7-9h.p., late 1918, very little used, p cally as new; £72.—Nicholson, 26, Budge Cannon St., E.C.4. Tel.: City 6619. [

1919 7-9h.p. Indian, latest bulbous back sid seat 2, Easting screen, first-class condition; £ or near offer.—19, Silverlands, Buxton. [X

4h.p. Indian Scout, absolutely as new, very mileage, semi-T.T. bars, electric head lamp; £ or near offer.—Cbattan House, Harrogate. [

INDIAN 1919 2¾h.p.-4h.p., as new, 3 speeds, cl kick starter, all-chain drive; too fast for ov £55.—Weller, Barden Rd., Tonbridge, Kent. [

1920 Indian Combination, 7-9h.p., Easting screen, sidecar, lamps, switch, tools, exce condition.—Thwaites, Alveston, Stratford-on-Avon. [

INDIAN Powerplus, 1919, choice of five, 7-9h.p speed, little used, unscratched, £80; Corvette cars optional, £15.—7, Batoun Gardens, Hommers [

INDIAN 1915 7-9h.p., spring frame, 3 speeds, cl kick start, good condition; £65.—Parker's, shawgate, Bolton, and 245, Deansgate, Manchester [X

1920 Powerplus Indian Combination, dynamo ing set, hood, screen, speedometer; cost £ accept £140.—J. Smith, 54, Hampstead Rd., N. [

MOTOR CYCLES FOR SALE.

Matchless.

TBYS, 7, The Vale, Acton, W.3, have 1921 Matchless in stock. Write for list. [3809

0 1919 Victory Matchless or Bat 1920 combination.—Clark, 7, Exhibition Rd., S.W.7. [4142

—Matchless Combination, run 300 miles, absolutely perfect; £175.—136, Lambeth Walk, S.E. [3535

TCHLESS Combination and Ariel Combination, h.p.; best offers, must sell.—Sutton, Bagsbot. [3656

Matchless Combination, fully equipped, lamps, horn, screen, new hood; £76.—17, Heaton Rd., m [3917

TCHLESS, Model H, Magdyno, spare wheel, and tools; price £190.—Jackson, Hockenden, y, Kent. [3203

Matchless Combination, M.A.G., lamps, horn, ran - new, unused; £200.—Fenton, Broughton Av., Rd., Doncaster. [3976

HUR G. DAW for Matchless, the combination agnificent; cash; exchanges; easy payments.—Brixton Hill, S.W.2. [4057

1 Matchless Combination, complete, brand new; makers' price £205, our price £186.—J. Smith, ampstead Rd., N.W.1. [4111

TCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. nd St., W. Mayfair 5042. [0424

TCHLESS Victory Model, 1919, spare wheel, new yres, fully equipped, perfect throughout; £125.—ray's Inn Rd., London, W.C. [3146

TCHLESS Combination, late 1920, very little used, as new, cost £230 with accessories; £180.—2, Sutherland Rd., West Ealing. [3613

Matchless C.B. Combination, recently overhauled, splendid running order; offers over £80; trial.—, 29, Fox Lane, Palmer's Green, N. [3546

AND New Matchless H, 1920-21, Magdyno; cost with extras £235; accept £215, or near; must —Seen at 365, King St., Hammersmith. [4009

20 Matchless Combination, Model H2, Magdyno lighting, spare wheel, accessories, etc.; £185.—mond, 26, Marquess Rd., Canonbury, N.1. [3597

2 6h.p. Matchless, single speed, really fast 'bus, in new condition; £45.—Walbro Motor Cycle ligh St., Saffron Walden, Essex. 'Phone: 45. [X8060

DEL H Matchless Combination, only run few miles, equipped regardless exceptional snip, £155; nges.—60, Wallingford Av., N. Kensington. [4029

0.—Late 1920 Matchless, Model H2, electric light, hood, and all spares, tax paid, good as new; e to save £70.—Bonning, Clyde House, Clyde Bristol. [3506

TCHLESS Combination, 1920, model H, spring frame, spare wheel, lamps, etc.; £165.—Newnham r Co., 223, Hammersmith Rd., W.6. 'Phone: uersmith 80. [3059

21 Matchless Combination, £205; 2-seated sidecar, £212/10; immediate delivery; exchanges or easy ents arranged.—Homac's, 243, Lower Clapton Rd., 'Phone: Dalston 2408. [4100

TCHLESS H Combination, Lucas acetylene, just overhauled by Matchless; 150 gns.; new models stock.—Agents, R. B. Clark and Co., 7, Exhibi Rd., South Kensington. [4138

TCHLESS Service Depot. 'Phone: Greenwich 751.—All 1921 new models. Secure one now. Demonstration ride with pleasure at S. E. Clapham (Motors), swell St., Greenwich, S.E.10. [1030

TCHLESS 8h.p. Combination, 1920, dynamo lighting, practically as new, guaranteed perfect; , genuine bargain.—Vivian Hardie and Lane, Ltd., Woodstock St., Bond St., W.1. [0418

TCHLESS Model H Combination, to makers' specification, £205; dynamo lighting model, ; J.A.P. or M.A.G. engines; easy payments.—rods, Ltd., 118, Brompton Rd., London. [3640

TCHLESS 1921 Models, immediate delivery, with Magdyno lighting, £230; without Magdyno light-£205; no waiting; in stock ready to drive away.—tins, Simpson, opposite Olympia, London. [3461

ORTING Matchless, 3-speed hub, complete except engine unit, excellent condition, take any engine; , or offers; also coachbuilt sidecar, £12/10.—er, 37, St. Thomas St., Claremount, Halifax. [4149

19 Victory Model 8h.p. Matchless Combination. 5 detachable wheels, Lucas lamps, Lucas horn, ford speedometer; whole combination in excellent lition; £120.—Walbro, Lynn Rd., Ely, Cambs. [4085

ATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 els; deliveries guaranteed strictly as per order re-d; a large assortment of 1919 and 1920 models in stock [5668

ATCHLESS 8h.p. 1920 Combination, hood, screen, speedometer mirror, lamps, child's pillion seat, ition as new, only done 2,000 miles, fully equipped; 5.—Mehes, 154-156, Gt. Portland St., W.1. Tel.: 5 Mayfair. [3362

ATCHLESS, 1921 Models, from £205; demonstrations daily.—Agent (wholesale and retail), for London: George Smith, 268, Lavender Hill (opp. ing and Hobbs), Clapham Junction. 'Phone: tersea 1271. [9423

SPECIAL OFFER
OF
DOUGLAS
MOTOR CYCLES

Rebuilt as new from ex-Government machines and new parts.

Completely equipped with new accessories, including head lamp and generator, tail lamp, horn, licence holder, two toolbags, pump, and tool kit.

Douglas 2¾ h.p., 2-sp., £65

Douglas 4 h.p., 3-sp., kick-start and clutch .. £85

Douglas 4 h.p. Combination, with new body, £105

Being the largest dealers in renovated Douglas motor cycles in the trade, and having large numbers on hand for disposal, we make the above offed for a short period, to endeavour to considerably reduce our stocks.

Each machine is rebuilt in our own workshops, stove-enamelled, replated, tanks renovated in makers' colours, fitter with new magneto, carburetter, tyres, front brake, etc., and complete with full equipment as above.

Each machine is absolutely guaranteed, and in appearance is practically indistinguishable from new.

In addition to the above, we have about 100 machines at a lower figure, each one overhauled, stove-enamelled, replated, tanks in makers' colours, good serviceable tyres, fitted with toolbag, kit, and pump. Guaranteed sound, good running machines.

Douglas 2¾ h.p. 2-sp., £55

Full equipment extra.

Carriage extra in each case.

Trade Supplied.

Full particulars of Deferred Payment Terms on request.

Crabtree & Son, Ltd.,

Motor Engineers,

WISBECH.

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS 1914 Combination, 8h.p., all-chain drive, 2-speed, kick start, clutch, electric lighting, Easting, luggage carrier, 700×80 oversize tyres, completely overhauled, licence paid, guaranteed perfect; £80.—104a, Finchley Rd., N.W.3. [4145

1921 Matchless Combination, M.A.G. engine, leg-shields, spare wheel, luggage grid, Lucas best lamp sets (never lit) all round, not been 300 miles, equal brand new; £200.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone; 45. [X8051

MATCHLESS-J.A.P. Combination, June, 1920, low mileage, perfect condition, tyres unpunctured, leg-shields, Tan-Sad, sidecar step, Lucas horn and head lamp, electric sidecar, rear and speedometer lamps, Binks; any trial; £190.—64, College Rd., Isleworth. [3725

MATCHLESS 1914-15 8B Combination, 8h.p., M.A.G. engine, 3-speed, countershaft, Lucas dynamo lighting, electric horn, luggage grid, Easting, re-enamelled, very smart; £125.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3060

MATCHLESS 8-10h.p. J.A.P. Combination, 1917, 3-speed, clutch, kick starter, all-chain enclosed drive, spare wheel, electric light and horn, mechanical horn, trip speedometer, hood, screen, side curtains, luggage grid, condition perfect, mileage 3,000, tax paid; £140.—Riches, Harlow, Essex. [3400

1921 Matchless.—We are the recognised agents for North Essex, and can deliver from stock, or, to suit your convenience, place your order with us now; we are experts and can guarantee you real satisfaction; exchanges.—Walbro Motor Cycle Co., 49, High St., Saffron Walden, Essex. 'Phone: 45. [X6972

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock; for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley [0381

1920 Matchless-Jap Combination, Lucas electric lighting, horn, spare wheel, tools, speedometer, side car, step, screen, tyres like new, small mileage, paintwork unscratched; this machine has hardly done any running, is in perfect order mechanically, and in appearance is like new; owner receiving delivery of car; price £175; 1920 licence paid and fixed to front number plate, ready to drive away.—Box 2,395, c/o *The Motor Cycle*. [3590

Maxim

MAXIM-DALM 1921 3h.p. 2-stroke, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, absolutely new; £52.—224, Pentonville Rd., London. [4012

Metro.

METRO-TYLER, shop-soiled 1920 model, new and unused, 2-speed model with enclosed gear box and magneto drive; bargain £70; reduced from £95.—P. J. Evens, 81-91, John Bright St., Birmingham. [3481

Minerva.

MINERVA 3h.p., mechanical valves, tax 30/-, mag., low, fast, reliable; £10/10, gift.—Collens, Barford, Denmark Rd., Kingston-on-Thames. [X7968

MINERVA 3½h.p., Bosch, B. and B., overhauled, good order, low frame, lightweight; £16/10, near offer.—18, School Lane, Cirencester, Glos. [3304

Motosacoche.

MOTOSACOCHE, weight 100 lb., fully equipped, perfect condition; £25.—10, Boundary Rd., Merton. [3663

1915 Motosacoche 3½h.p. Twin M.A.G., Bosch mag., Enfield gears, good tyres, lamps, horn, tax paid; £42, near offer.—Stranraer, Clarence Rd., St. Albans. [3738

2h.p. Motosacoche Lightweight, perfect running order, mag., fast, reliable, low position, footboards, large carrier, spring forks; first £13 secures.—Fenn, 25, Station Rd., Brockhurst, Gosport. [3391

New Hudson.

1920 New Hudson Lightweight, 2-speed, little used; £65; licence paid.—Rogers, 42, Church Rd., Hendon. [3651

NEW HUDSON 1920 2-stroke, as new, tyres unpunctured; £58, bargain.—Beswick, 27, Ranelagh Gardens, Barnes, S.W.13. [3910

1920 2¼n.p. New Hudson, brand new, unused; £58.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [1903

NEW HUDSON Combination for Sale, 6h.p., dynamo lighting, equipped, licensed, insured; £120.—Brannon, 17, Dancer Rd., Fulham. [3428

BRAND New 1921 New Hudson Popular Lightweight in stock; 50 gns.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8054

NEW HUDSON Combination, 1914, 3½h.p., coachbuilt sidecar, 3 speeds, stored during war; £65.—38, Silverton Rd., Fulham Palace Rd., W.6. [3805

NEW HUDSON Combination, 4h.p., 1919, accessories, little used; a bargain, £95.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0414

MOTOR CYCLES FOR SALE.

New Hudson.

£110.—New Hudson 6h.p. Twin Countershaft Combination, just been rebuilt, re-enamelled, and plated, all 1914 stuff, as new.—Wates, Mitcham Lane, Streatham. [3253

NEW HUDSON (June, 1920) Tourer, 2¼h.p., lamps, horn, fully insured, licensed, mileage 300, absolutely perfect; £65; appointment.—Kitching, 16, Rowley Rd., Harringay, N.15. [3622

NEW HUDSON Lightweights, all models, on view; Popular, 50 gns.; de luxe, 65 gns.; Ace, 75 gns. Spares for 2¼h.p., 3½h.p., and 6h.p. machines stocked. Catalogues and any information by return.—New Hudson Depot, 45, Gray's Inn Rd., Holborn, W.C.2. [1982

New Imperial.

JULIANS, of Reading, have 1921 New Imperial in stock. [0485

NEW IMPERIAL-J.A.P. 2¾h.p., fine condition; £45; offer.—19, Abingdon Rd., Kensington. [3742

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New Imperial, 2¾h.p., 1915-16, accessories, tax paid; £40. [4182

1916½ New Imperial, 2¾h.p., good running order, accessories, licensed; £39.—J. Smith, Butter St., Alcester. [3671

NEW IMPERIAL, 1919, 8h.p. J.A.P., C.B. combination, perfect order; offers.—Watson Bros., 88, Kew Rd., Richmond. [4177

NEW IMPERIAL, 2¾h.p. J.A.P., 2 speeds, lamps, horn, splendid condition; £36.—143, Ravensbury Rd. Earlsfield, S.W. [4080

1917 2¾h.p. New Imperial-Jap, 2 speeds, clutch, kick starter, lamps, perfect little machine; £62. 114, Brixton Hill, S.W.2. [4056

NEW IMPERIAL (not modern), 6h.p. J.A.P. engine; price £30, or near.—To be seen at The Towers, Chislehurst, Kent. [3498

1918 New Imperial-Jap, 2¾h.p., 2-speed, fully equipped, exceedingly smart, tax paid; 40 gns.—Fersfield, Westbury Rd., New Malden. [3918

NEW IMPERIAL-J.A.P. 6h.p. Combination, wind screen, Cape hood; or exchange for Ford van.—Burpham Motor Works, London Rd., Guildford. [3666

NEW IMPERIAL.—All models for immediate delivery; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3071

1920 New Imperial-Jap 2¾h.p., 2-speed, clutch, kick starter, lamps, accessories, and 2 spare tyres; £60, or exchange combination.—69, Boundary Rd., East Ham, E.6. [3548

2¾h.p. New Imperial-Jap, 1918, 2-speed, all thoroughly overhauled and enamelled, Miller lamps, Veeder speedometer, pillion seat, tyres; £40.—4, Wilmot Place, Camden Rd., N.W.1. [4014

NEW IMPERIAL, 2¾h.p., 1918, 2-speed, clutch, and kick starter, fully equipped, and tax paid; bargain; only wants seeing; £55.—Turner, Westhoutne House, Richmond Rd., Twickenham. [4075

BARGAIN for Easter.—Practically new 2¾h.p. New Imperial-Jap, Burman 2-speed, clutch, kick start, licence, lamp, horn, etc.; £65; only wants seeing.—40, Wellington Rd., St. John's Wood, N.W.8. [3612

NEW IMPERIAL 1919 Combination, 8h.p., absolutely new, electric, carbide lighting, Easting, speedometer, sprung pillion, all accessories; £150; licence.—32, Hamhledon Rd., Southfields, S.W.18. [3676

8h.p. 1919 New Imperial-Jap, as new, lamps, speedometer, and accessories, Canoelet sidecar, large locker at back, luggage carrier, all finished black and gold; what offers?—Britannia, 27, Fulham Palace Rd., Hammersmith. [3154

IMMEDIATE Delivery of any New Imperial Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0506

NEW IMPERIAL 8h.p. J.A.P. Combination, 1920, not W.D., with Grindlay sidecar, wind screen, 3 lamps, tools, spares, mechanical condition excellent, appearance good; best offers over £100.—Grant, Dalvey, Adrie. (D) [3534

NEW IMPERIAL 2¾h.p. Light Tourist, 2-speed clutch and kick starter motor cycle, £90/4/9; and 8h.p. chain drive combination, £186; for immediate delivery; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3639

NEW IMPERIAL 1919 8h.p. Model, 3 speeds, kick start, hand controlled clutch, fitted with Sunbeam sidecar, Easting wind screen, fully equipped; £145.—Parker's, Bradshawgate, Bolton; and 245, Deansgate, Manchester. [X7936

NEW IMPERIAL Motor Cycles.—Immediate delivery of these popular lightweight machines. 2¾h.p. 2-speed model with clutch and kick starter, 85 gns.; 8h.p. 3-speed combination, 178 gns.—P. J. Evans, 81-91, John Bright St. Birmingham. [3473

F.O.C.H. have a brand new New Imperial, 2¾h.p., kick starter, shop-soiled; £78 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3445

An Open Letter.

418, Romford Road,
Forest Gate, E.7.

Dear Sir,—In respectfully submitting for your kind consideration our Stock List of new 1921 Models, we wish to state quite frankly that, so far as price is concerned, we do not claim to offer any particular inducement to you to place your order with us, as the figures quoted are the manufacturers' minimum prices for cash, and are the same as those quoted by every other reputable Agent in the Kingdom.

The principal advantage you do gain by dealing with THE EASTERN GARAGE COMPANY is an excellent selection of machines from which to make your choice, and——*SERVICE*.

Our services are gladly given from the moment we receive your enquiry, and for as long as you will avail yourself of them. Your letters are answered immediately and courteously, your wishes are carried out faithfully and capably, and if we have the pleasure of supplying your machine, you are relieved of the formalities of obtaining a Driving Licence, effecting Registration, Insurance, etc., as these matters are attended to by us. As long as the motor cycle remains in your hands, we regard it as our responsibility to see that it gives you good service.

In short, our one aim is to gain your confidence and ensure your satisfaction.

We are, Sir,
Faithfully yours,
THE EASTERN GARAGE COMPANY.

1921 Models in Stock

A.J.S. 7 h.p. Combination	£215 0
A.J.S. 7 h.p. Combination, with dynamo lighting	£243 0
ARIEL 4½ h.p. Combination	£177 10
ARIEL 6-7 h.p. Combination	£197 10
B.S.A., 4½ h.p., Model K.	£107 0
B.S.A. 6-7 h.p. Combination	£175 0
B.S.A. 6-7 h.p. Combination, with dynamo lighting	£195 15
BROUGH 5 h.p. Combination	£180 0
BRITISH EXCELSIOR, 2¾ h.p. Blackburne, 2-speed, clutch, and kick-starter	£96 0
DIAMOND, 2¾ h.p., 2-speed	£84 0
INDIAN 4 h.p. Scout, with electrical equipment	£172 0
LEVIS, 2½ h.p., 2-stroke	£60 0
MATCHLESS 8 h.p. Combination	£205 0
MATCHLESS 8 h.p. Combination, with dynamo lighting	£230 0
MARTINSYDE 6 h.p. Combination	£175 0
MARTINSYDE 6 h.p. Combination, de luxe model	£225 0
NEW IMPERIAL, 2½ h.p., 2-speed	£80 17
NEW IMPERIAL, 2½ h.p., 2-speed, with clutch and kick-starter	£89 5
NEW IMPERIAL 8 h.p. Combination	£186 16
ROYAL ENFIELD, 2½ h.p., 2-speed	£65 0
ROYAL ENFIELD, 2¾ h.p., 2-speed, with clutch and kick-starter	£70 0
ROYAL ENFIELD 8 h.p. Combination	£160 0
ROYAL ENFIELD 8 h.p. Combination, with dynamo lighting	£182 0
RUDGE-MULTI, 3½ h.p., I.O.M. Model	£110 0
SCOTT, 3½ h.p., sports model	£130 0
SCOTT 3½ h.p. Combination	£170 0
SUNBEAM, 3½ h.p., 3-speed, clutch and kick-starter	£165 8
TRIUMPH, 2½ h.p., 2-speed	£75 0
TRIUMPH, 4 h.p., Type H.	£127 10
TRIUMPH, 4 h.p., chain drive	£140 0
TRIUMPH 4 h.p. Type H Combination	£172 10
TRIUMPH 4 h.p. chain-drive Combination	£195 0
ZENITH, 5 h.p., sports model	£123 0
ZENITH. 8 h.p., clutch model	£182 0

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Official Repairers to
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Telephone—490 East Ham.
Telegrams—"Egaraco, London."

MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL W.D. 8h.p., Burman 3-speed, £75; 3½h.p. Rover, 1913, hub gear, £25; 3½ 1913 New Hudson, new C.B. body, £30; 5-6h.p. and Hercules C.B. sidecar, £28; also 3½h.p. Stev engined bike with Bosch mag., £8.—95, Glengarry S.E.22. [3

WE have every model of 1921 New Imperials stock for immediate delivery; combinat £186/18; lightweight, Model 1 £80/17, Model £89/5; exchanges or easy payments arranged.—Om agents, Homac's, 243 Lower Clapton Rd., 'Phone: Dalston 2408. [4

NEW IMPERIAL 1921 Models.—Delivery f stock of these famous machines. 2¾h.p., 2-sp clutch, kick starter, 85 gns.; 8h.p. combination, gns.; exchanges or extended terms arranged.—Elce Co., 15-16, Bishopsgate Av., Camomile St., E.C 'Phone: Avenue 8548. [0

NEW IMPERIAL 1920 Model 8h.p. Combinat purchased Aug. last, driven only 700 miles, L dynamo lighting set, Cowey speedometer, Klaxon h Easting wind screen, outfit generally practically n engine tuned and better than new; cost £223; accept 160 gns. for prompt sale.—Sharp, 127, Willi Way, N.W.11. Tels.: Finchley 633, Gerrard 164 [3

New Ryder.

1920 2½h.p. New Ryder, Villiers 2-stroke, 2-sp electric lighting, mudshields, perfect condit licence; £58.—1, London Lane, Bromley, Kent. [3

New Scale.

SCALE 3½h.p. Precision, £94/10; 4 h.p. Blackbu £126, motor cycles you will hear more about have always a stock of each model; trade supplie Davies 229, Deansgate, Manchester. 536 Central. [2

Norton

JULIANS of Reading have 1921 Nortons in sto [0

GIBB, Gloucester, can deliver 1921 Nortons f stock.—'Phone: 852. [0

HORSMAN for Nortons.—Victor Horsman, Ltd., Mount Pleasant, Liverpool. [0

NORTON 1921 Models from stock.—The Pren Motor Co., Aston Rd., Birmingham. [3

WILLIAMS' Garage, Cheltenham, can give im diate delivery of any model Norton. [X6

NORTON Motor Cycles.—Can deliver anywhere; e dates.—Kelly, Bachelor's Walk, Dublin. [6

NORTON'S for immediate delivery, each mach specially tuned.—Evans's Garage, Newport, Sa [X6

NORTON Model 9, July, 1920, mileage 500, lam £92, or best.—Rudd, 174, Ramsden Rd., Balh [3

1920½ Big Four Norton Combination, many ac series, mileage 1,450; 145 gns.—Newing Edenbridge. [3

NORTON Late 1920 3½h.p., 3-speed, sporting, spe model.—Frank Whitworth, Ltd., 139, New Birmingham. [X7

NORTON 1919 3½h.p., B.R.S., Philipson, sp ometer, horn, tools, tax paid; £85.—47, Cath Hill, S.E.6. [3

NORTON 1921 Models.—Sole district agents, We Motors, Ltd., 60, Catherine St., Salisbu 'Phone: 72. [5

NORTON 3½h.p., very fast, all complete, ready competition work, hand oiling; £90.—Webb, Bounty Rd., Basingstoke. [3

1920 T.T. Norton, fully equipped, speedome mileage 346; sell or exchange A.B.C., simila 23, Hardwicke Rd., Reigate. [3

1920 Big Four Norton, 3-speed countershaft, f equipped, mileage 800 as new; £112.—30, Cry Palace Park Rd., Sydenham. [3

NORTON 1921 Motor Cycles, brand new, all mo in stock, immediate delivery.—Palin, Sole Ag Bourne St. (nr. Spot), Osmaston Rd., Derby. [3

NORTONS.—Alec Jackson (ex Dispatch Rider) r them and sells them. Immediate delivery. C deliver anywhere.—East Parade, Keighley, Yorks. [2

NORTON 3½h.p., 1921 model 16H, brand n £132; 1 only in stock; first cash secures.—Viv Hardie and Lane, Ltd., 24, Woodstock St., Lond W.1. [4

NORTON 1919-20 Big Four Model, Sandum side Cameo wind screen, fully equipped; £13 Parker's, Bradshawgate, Bolton, and 245, Deansg Manchester. [X7

DAVIES, of Manchester, can deliver 1921 Nort from stock; the machine you will eventually b all spares stocked, prompt attention.—229, Deansg 'Phone: 536 Central. [2

NORTON Agents.—Motor cyclists in or near Oldh call. Our Mr. Mitchell will demonstrate to the finest machine in the world.—Bullonghs Mot Waterloo St., Oldham. [2

NORTON Four, de luxe sidecar, Klaxon, East wind screen, used week-ends only, mileage 2,8 excellent condition; £140; appointment.—45, Lor Mansions, Holloway, London. [3

MOTOR CYCLES FOR SALE.

Norton.

21 Big Four Norton, with family sidecar, child's seat, wind screen; delivered by makers this : £184/10; immediate delivery.—The Premier Co., Aston Rd., Birmingham. [3040

RTON Motor Cycles.—Immediate delivery from stock: Big Four, £135; 3½h.p. Sports Model, T.T. Model, £98; sidecars from £35.—P. J. , 81-91, John Bright St., Birmingham. [3484

20 Norton Big Four de Luxe Combination, mileage 2,500, 700×80 tyres, body recently coach ed, general condition better than new; £165, tax —Oliver, 30, Chatfinch Rd., Beckenham. [3148

RTON Big Four, 1920, Swan sporting sidecar, acetylene and electric lighting, Cowey speedometer horn, engine perfect, insured June; cost £190, ac £155; tax paid.—Mizen, Oakleigh, Mitcham. [3404

RTON late 1920 Big Four Model, with Canoelet sidecar, fully equipped, low mileage, indistinishable from new; £155.—Parker's, Bradshaw, Bolton; and 245, Deansgate, Manchester. [X7934

N.U.T

21 N.U.T., dynamo model, brand new; £130. R. Bray, Motor Works, Barnstaple. [X8129

.U.T. 1920 3½h.p., Magdyno, little used, condition perfect; £115.—Ernest Hall, Wesley St., Middlesh. [3169

.U.T. Latest Electrically equipped 3½h.p. Models at makers' list prices from stock.—A. J. Young and Ltd., Newmarket. [1253

.U.T. 1920 3½h.p., 3 speeds, clutch, T.T. bars, dynamo lighting, as new; £125.—Parker's, Bradwgate, Bolton, and 245, Deansgate, Manchester. [X7942

.U.T.—Delivery from stock of all models. Sole wholesale and retail agents for Staffordshire; the le supplied.—The Walsall Garage, Walsall. Tel.: [4014

O.K.

ULIANS of Reading have 1921 O.K. in stock [0481

.K. 1916, J.A.P. 2¾h.p., 2-speed; £39.—Heath, 71, Eastfield Rd., Wandsworth, S.W. [3723

-SPEED O.K., latest model from stock at list price.— A. J. Young and Co., Ltd., Newmarket. [1258

920 2¾h.p. O.K.-Union, run few miles, all accessories; £46.—17, Redfern Rd., Harlesden, N.W.10. [3552

AVIES, of Manchester, can deliver 1921 O.K.'s from stock.—229, Deansgate. 'Phone: 536 Central. [2435

921 O.K. Junior, immediate delivery; £50 8.— Morris and Co., Ltd., 139, Finchley Rd., N.W.3. [3329

EMP'S Garage, Louth, Lincs., give immediate delivery of 1921 O.K. Juniors, all models; catagues free. [X7927

.K. 4-stroke, 2-speed, countershaft, good running order tax paid; £24.—Smith, 28, James St., rthampton. [3543

ATE 1916 2¾h.p. O.K., just been overhauled at J.A.P.'s, tax paid (30/-), in good running order; 45.—16, King St., Ludlow. [3436

25 Only.—O.K. lightweight, 2¼h.p., 2-speed countershaft, good condition, ride away.—Seen, Garage, Lausler Rd., East Dulwich (10-5, not Sundays). [3842

920 new June) O.K., single speed, 2½h.p.-Villiers, little used, lamps, horn, etc., tyres perfect, unmutured, tax paid; £44. Seen after 5.30 p.m. week ays.—96, Tarnell Park Rd., N. [3927

.O.C.H. have a brand new O.K., 2-speed, shop-soiled; £59 cash; exchanges and easy payments arranged. 5, Heath St., Hampstead (near Hampstead Tube tation). 'Phone: Hampstead 3752. Hours 9-7, inluding Saturdays. [3446

Omega.

EW 1920 Omega 2-speed; £75; in Stock.—Randall, Andover. [0368

MEGA 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2438

MEGA, Villiers, in stock, with Terry's licence holder; £50.—Burditt, Motors, Desborough, Narborough. [3707

MEGA.—Immediate delivery of all models.—The Rochester Auto Supply Co., Corporation St., ochester. [0465

MEGA-J.A.P. 2¾h.p., June, 1920, clutch, K.S., P. and H. lamps, Klaxon, pump, tools, whole as new; 75; tax paid.—7, Hereford Rd., Acton, W.3. [3222

MEGA 1920, 2¾h.p. J.A.P., 2-speed, kick start, clutch, run 2,000 miles, lighting set and kit; earest to £70.—Harper, 34, Belgrave Gate, Leicester. [3381

MEGA-J.A.P., late 1919, 2-speed, 2¾h.p., tyres and general condition excellent, lamps, horn, and tools; 50.—'Phone: 6011 Bank.—Totland, Station Rd., Orpington, Kent. [X8041

919 2¾h.p. Omega-Jap, 2 speeds, complete with Lucas lamp sets and horn, in new condition; 58.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8058

919 2¾h.p. Omega-Jap, long aluminium exhaust, spare belt and chains, rheushed, re-enamelled, horn, licence paid, fast, perfect condition; £53.— ranfield, Lord Roberts Av., Leigh-on-Sea. [3665

THE HALIFAX MOTOR EXCHANGE

New Address—
25, HORTON STREET,
HALIFAX.
EXCHANGES WANTED.

1921 NEW MODELS.

STANDARD 11.6 h.p. 4-seater	£645	0
LAGONDA 11.9 h.p. coupé, dickey, full equipment. Reduced price	£465	0
CALTHORPE 2-seater. Reduced price	£429	0
CALTHORPE 4-seater. Reduced price	£450	0
COVENTRY PREMIER 3-wheeler	£285	15
REX-BLACKBURNE Model 55 8 h.p. Combination, 28/- 3, spare wheel ..	£218	18
SCOTT, 3½ h.p., 2-speed	£130	0
*ROYAL RUBY, 3 h.p., spring frame ..	£120	0
*SCOUT (INDIAN), twin	£140	0
NEW IMPERIAL, 8 h.p., and Sidecar.	£186	18
NEW IMPERIAL, 2¾ h.p., 2-speed ...	£80	17
B.S.A. 4¼ h.p. 3-speed all-chain Com...	£152	0
SCOTT Combination	£170	0
SCOTT, new Squirrel model	£130	0
BRADBURY, 6 h.p., and Sidecar	£187	10
ENFIELD 8 h.p. Combination	£160	0
ENFIELD, 2¼ h.p., 2-speed, lightweight	£65	0
TRIUMPH, countershaft, and Sidecar.	£161	0
B.S.A. twin Combination, Lucas dyno. lighting, spare wheel, etc. Reduced price	£212	9
SUNBEAM 8 h.p. Combination, Lucas dynamo lighting, spare wheel, etc.. (*New 1920 models. Cash offers wanted.)	£274	1

1921 DOUGLASES.

Including lamps, generator, horn, licence holder		
2¼ h.p., 2-speed	£85	0
2¾ h.p., 3-speed (no clutch)	£100	0
2¾ h.p., 3-speed, kick start, clutch ..	£105	0
4 h.p., 3-speed, clutch	£130	0
4 h.p. 3-speed Combination	£170	0

Prices plus transit. Exchanges. Easy terms

AGENTS FOR
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SECOND-HAND MACHINES.
Guaranteed in Running Order.
Solo Machines.

A.B.C., 1920, Magdyno lighting, speedometer, electric horn, 700 miles	£125	0
EDMUND, 2¼ h.p., 1920, as new	£75	0
ARIEL, 1920, 3½ h.p., 3-speed c/shaft.	£98	10
NORTON, 3½ h.p., T.T.	£75	0
COVENTRY EAGLE, 1920, 3½ h.p., 3-speed, very fine condition	£98	10
METRO-TYLER, 2-speed, fed	£62	10
DOUGLAS, 1920, 2¼ h.p., 3-sp., access.	£87	10
HOBART, 1920, 2½ h.p., 2-speed, as new	£62	10
MOTOSACOCHE, magneto, lightweight	£17	10

Passenger Machines.

RICHARDSON 1920 2-seater. Tax paid	£195	0
MORGAN 8 h.p. Sporting. Tax paid..	£145	0
BUCKINGHAM 2-seater. Tax paid ..	£85	0
SCOTT 2-stroke coach Combination ..	£85	0
PREMIER, 3½ h.p., 3-speed, and S'car	£65	0
BRADBURY, 6 h.p., Grindlay Sidecar, lamps, etc., 1920 Combination	£157	10
B.S.A., twin 8 h.p., new Sidecar	£127	10
ARIEL 3½ h.p. 1920 3-sp. Combination	£110	0
HARLEY, 7-9 h.p., 1920, and new latest type bulbous back Sidecar..	£195	0
HARLEY 1920 Combination, electric..	£200	0
DOUGLAS 1919 4 h.p. Combination ..	£120	0
CHATER-LEA 8 h.p. 3-speed Com. ..	£85	0
BRADBURY, 3½ h.p., 3 speed, Sidecar	£75	0
BAT-J.A.P. 6 h.p. 3-speed c/shaft Com., speedometer, watch, lamps, etc. ..	£90	0
NORTON Big Four, 3-speed, Swan sporting Sidecar, electric lighting..	£145	0

Easy Payments Arranged.

ACCESSORIES.

*Easting Windscreen, standard	£4	10 0
*British New Magnetos, single or twin, for all makes. Exchanges quoted.		
*Cowey Horns, 50 -; Klaxons	£1	16 0
*Cowey Speedometers	£6	0 0
*Binks Carburetters (post free)	£4	16 10
*New Army Knapsacks, 13½×11" ...		5 6
*Plated T.T. Bars, for Triumphs ...	£1	5 0
Douglas Sidecar, 1919, almost as new	£29	10 0
*Douglas Sidecar, 1921, screen	£40	0 0

*New goods. Carriage extra.

MOTOR CYCLES FOR SALE.

Omega.

F.O.C.H. have a brand new Omega, 2¾h.p., kick started, shop-soiled; £73.10 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3448

P. and M.

JULIANS, of Reading, have 1921 P. and M. in stock. [0489

1920 Brand New Phelon and Moore; £105.—Poynton, Barracks Golf Club, Lichfield. [X8022

P. and M. 1919 Combination; exchange solo.—Palmer, 61, Commercial Rd., Lambeth, S.E.1. [3147

1920 P. and M., solo, run 500 miles only, perfect; £95.—Clegg, 1, Broad St., Teddington. [3771

P. and M. Combination, new pilnton, perfect condition; £30.—109, Plaistow Rd., Stratford. [3157

1920 P. and M. Coachbuilt sidecar, Lucas lamps and horn, tax paid, perfect condition; £105.—Below.

1920 P. and M., mileage 200, indistinguishable from new; £90.—Edwards, 50, Harrington Rd., South Kensington. Phone: Ken. 3709. [4200

P. and M. Late Combination; offers, separate; exchange Douglas.—114, Hill St., Peckham, S.E.15. [4226

P. and M. 1918 3½h.p., 2-speed, first-class condition; 47 gns.—Write, 2, Madrid Rd., Barnes, S.W.13. [3802

50 GNS.—3½h.p. P. and M. Combination, perfect running order, tax paid.—Byatt, 20, Studley Rd., Harrogate. [3323

£35; P. and M., R.A.F. models, less mag. and carburetter; magnetos for same, £3.—24, Church Walk, Hampstead. [3027

1920 P. and M. Combination, first-class condition; £130. Autoveyors, Ltd., 84, Victoria St., S.W. Tel.: Victoria 309. [3175

3½h.p. P. and M., thoroughly overhauled and re-enamelled as new; £70.—Meaker Bros., 58, Shepherd's Bush Rd., W.6. [3764

P. and M. 1918 3½h.p. Solo, including new mag., minus small parts; £32.—35, St. Clements Mansions, Lillie Rd., Fulham. [3765

1919 P. and M., splendid condition, lamps, Pillion seat, accessories, licence; £80; owner gone abroad. —36, The Common, Woolwich. [3508

P. and M. Combination, 1920, had but little use, complete with all accessories; £110.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X7995

1910 3½h.p. Phelon and Moore, 2 speeds, in good running order; £28.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8056

1919 3½h.p. P. and M., 2-speed, clutch, K.S., Lucas equipment splendid machine; bargain £85.— 31 Claremont Rd., Alexandra Park, Manchester. [8079

P. and M. Combination, 1919, mileage 600 only, in perfect condition and fully equipped, genuine bargain; £110.—Dixon Bro., 172, Brownhill Rd., Catford. [3272

£37; 1918 3½h.p. R.A.F. model P. and M., complete with mag. and carburetter, but needs slight adjustments.—K. Rae, 245, Hammersmith Rd., W.6 Hammersmith 2629. [3467

TAX Paid, 1918 3½h.p. P. and M., 2-speed, K.S., B.B., Lucas lamps, fully equipped, mileage 800, guaranteed mechanically perfect, sound bargain; £60.— Taber House, Burford, Oxon. [3275

SPECIAL Bargain 1920 P. and M. Combination, latest post-war model, new type kick starter, mechanical lubrication, best P. and M. sidecar fitted, Triplex £5 wind screen, luggage grid, Lucas lamp sets and horn, tax paid; we will give a written guarantee that this combination has not been 450 miles, not a scratch on it and running better than brand new; list price £185; for quick sale, £138.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8045

Paragon.

1920 Paragon 2-stroke, 2-speed, lamps, etc., not ridden 50 miles, spring frame, Dunlop tyres, aluminium footboards, tool bags; £55/10, or exchange for C.S. Triumph.—17, Wilcox Rd., South Lambeth, London, S.W.8. [3683

Peugeot.

2½h.p. Peugeot, less mag., saddle, tyres, £5; exchange lightweight anti mag.—Newman, Fairview, Horton Rd., Gloucester. [4020

5-6h.p. Peugeot Coach Combination, hood, screen, clutch, Klaxon, perfect, smart, light tax; 45 gns. offers.—43, Westward Rd., Chingford. [4078

PEUGEOT Twin (dismantled), Bosch, B. and B., new Dunlops; sacrifice £15, or sell separate.—102, Uplands Rd., Handsworth, Birmingham. [3143

Pope.

POPE 1914 2¾h.p., good order, 2 new tyres and belts, lamps, T.T. handle-bars, and long exhaust; £28.— Box 236, *c/o The Motor Cycle.* [X7797

Premier.

1915 3½h.p. 3-speed Premier; £35.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [3355

MOTOR CYCLES FOR SALE.

Premier.

PREMIER 3½h.p., 3-speed, clutch, new tyres, excellent condition; quick sale, £33.—32, Hartland Rd., N.W.10. [3986

PREMIER 3¼h.p., with C.B. sidecar, 2-speed gear, very nice outfit; £60; arrange exchange or deferred payment.—Bunting, Wealdstone. Closed Sundays. [4205

1914 3½h.p. Premier, 2-speed, countershaft, lamps, speedometer and Cowey, good condition; £48; owner buying car.—Jackson, 61a, High St., Merton, S.W.17. [3191

3½h.p. Premier, 3-speed countershaft, K.S., and Phœnix sidecar, just overhauled and repainted, Lucas acetylene, spares; £80.—158, High St., Colchester. [3532

£60.—4h.p. Premier Combination, 2-speed gear box, clutch, kick-starter, Bosch, B. and B., Dunlops, Druids, footboards, excellent condition.—63, Solon Rd., Brixton. [3969

1916 3½h.p. Premier Combination, 2-speed countershaft, clutch, Bosch waterproof, B. and B., T.T. bars, lamp set, in good condition and fast; 42 gns.—G. Huddlestone, 9, Edward St., King's Lynn. [4261

Precision.

WAUCHOPE'S, 9, Shoe Lane, London, 4½h.p. Precision, 1914, 3-spced gear model; £35. [4186

4h.p. Precision. T.T., lamps, horn, etc., rebushed, does 50, appearance as new, genuine bargain; £40.—16, Devoncroit Gardens, Twickenham, S.W. [3258

4-5h.p. T.T. Twin Precision, latest engine, 3 speeds, fine tyres, beautiful condition; genuine bargain; guaranteed perfect; £40.—89, East Hill, Wandsworth. [4067

Priory.

PRIORY 2¾h.p. 2-stroke, 2-speed, price £66/10; kick start, £75. Sub-agents required for Lancashire, Cheshire, North Wales, Isle of Man.—Liverpool and County Motor Co., 16, Preesons Row, Liverpool. [2351

Quadrant.

HORSMAN for Quadrants.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0472

1920 Quadrant Combination, new condition, Easting wind screen; £115.—Taylor's Garage, Wednesbury. [2568

QUADRANT 3½h.p., spring forks, Bosch, tax 30/-, low, fast, reliable; £14.—Ballard, 7, Fairfax Rd., Hampton Wick, Middlesex. [X7921

1920 Quadrant Combination, lamps, Bonniksen, apron, discs, 1,500 miles, exceptionally good; great bargain, £110, offer.—Baines, 88, Grove Rd., N. [4073

1920 Quadrant Combination, all lamps, horn, Cameo wind screen, mileage 500, absolutely as new; £130; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4102

QUADRANT 1920 4½h.p. Combination, all accessories, speedometer, etc., exceptionally fine order, disc wheels, low mileage; £90.—Clifford Wilson, 177, Westminster Bridge Rd., S.E.1. [4169

4½h.p. Quadrant, just overhauled and enamelled, perfect, as new, 3-speed Armstrong and clutch, starts first kick, all on; expert examination, insurance and tax paid; £50.—Payne, 43, Park Walk, Chelsea. [4049

QUADRANT Specialists, sole agents and wholesale distributors for London, Southern and Eastern Counties. All spares in stock. All models from stock.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd., S.E.1. [4170

Radco.

RADCO, 1914, new tyres, fast; a bargain, £25.—Shaw, Park St., Wellington, Salop. [X7973

1916 Radco, good condition, Amac, Dunlop, footboards, horn, complete; £29/10.—2, Weston Av., Esher, Surrey. [3963

RADCO, rebushed, overhauled, and guaranteed in perfect order, single gear; £25, deposit.—Bowman, 122, Everton Rd., Liverpool. 'Phone: 569 Enfield. [3150

RADCO Lightweight, single-speed, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154,156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3372

Raleigh.

RALEIGHS, solos and combinations in stock; exchanges entertained.—Hicking, Bromley Rd., Beckenham. [3277

RALEIGH Combination, the very latest 5-6h.p. flat twin, in stock; 195 gns.—Rogers, 42, Church Rd., Hendon. [3649

RALEIGH Combination, in stock; delivered anywhere.—Prior, 40, Replingham Rd., S.W.18. 'Phone: Putney 1694. [3668

1921 Raleigh 5-6h.p., flat twin, in stock; catalogue on application.—Roe's Cycle Depot, West Bridgford, Nottingham. [2936

RALEIGH 5-6h.p., solo or combination, in stock; orders now accepted.—Ratcliffe Bros., 200, Gt. Portland St., W.1. 'Phone: Mayfair 5042. [0425

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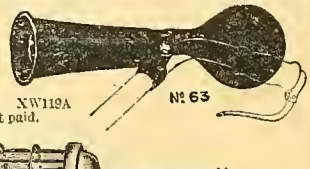
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MOTOR CYCLES FOR SALE.

Raleigh.

RALEIGH 4-6h.p. twin, the motor cycle superb, stock at list price.—Newnham Motor Co., 22 Hammersmith Rd., W.6. 'Phone: Hammersmith [306

1921 Raleigh, 5-6h.p., flat twin, spring frame, cha drive, solo, 165 gns.; sidecar, 195 gns.; first usually with anything really good, we now have both stock.—Sole Birmingham Agents, The Premier Mot Co., Aston Rd., Birmingham. [304

Reading-Standard.

READING Standard Combination, dynamo lightin hardly ridden; £150.—W., 121, Sheen Lan Mortlake. [419

Regal.

1915 Regal Precision 2¾h.p., special racing engin Bosch, B.B., drip feed, long exhaust, T.T. ba 50 m.p.h., stored 2 years, genuine bargain; £26. Tabor House, Burford, Oxon. [327

Regent.

REGENT, 5-7h.p. Coventry Victor engine, Sturme Archer 3-speed, Thomson-Bennett, Amac, wi undershield, head lamp, horn, generator, Watford spee ometer, Cowey horo, tools, pump, etc., only ridden few times, practically new, all standard parts; reason f selling, being ordered abroad; can be seen at any tim at the Reigate Garage; price £100, or offers.—Apply Lieut. Skinner, Hillingdon, Yorke Rd., Reigate. [323

Rex.

REX 5-6h.p. Combination, new condition, lamps, etc £56.—109, Plaistow Rd., Stratford. [316

1916 Rex 4h.p., C.B. sidecar, 2-speed N.S.U. gea fully equipped, reliable; £35.—321, Ivyda Rd., Peckham, S.E.15. [423

1920 4½h.p. Rex Combination, Sturmey gear bo hood, screen, 4 interchangeable wheels, exce lent outfit; £130.—114, Brixton Hill, S.W.2. [405

REX 6h.p. Combination, coachbuilt sidecar, 191 model, complete with lamps and horn, luggag grid, etc., tyres good; bargain for quick sale, £60. P. J. Evans, 81-91, John Bright St., Birmingham. [348

Roc.

ROC 2-speed, controls, spare drum, back stays, pe fect, 26×2¼ rim; Douglas 2¾h.p., makers' ove haul, £30.—Evans, 44, Glover St., West Bromwich. [X797

Rover.

ROVER, 3½h.p., 1920, T.T., Philipson pulley, new; £95.—Mandes', 100, Paris St., Exeter. [425

ROVER 3½h.p. Solo, perfect condition, fixed gea £35.—Hales, 16, Bourdon St., Davies St., W. [320

1914 Rover, C.B. sidecar, 3½h.p., 3-speed; neare £60; perfect.—R. Norbury, High St., Mark Harboro'. [318

ROVER 1920 3½h.p., shop-soiled; list price £13 our price £125.—Ratcliffe Bros., 200, Gt. Por land S., W. Mayfair 5042. [043

ROVER 1921 Models; £300 inclusive; motor cycl taken in part.—Authorised agents, R. B. Cla and Co., 7, Exhibition Rd., S.W.7. [414

1920½ 5-6h.p. Twin Rover, only ridden once twice; cost £155, accept £125; as brand ne throughout.—9, Wood St., Swindon. [395

ROVER Combination, tax paid, hardly used, full equipped; great bargain, £140.—'Phone: Wa stead 48.—374, Grove Green Rd., Leytonstone. [412

1914-15 3½h.p. Rover, 3-speed J.S. hub, clutch Lucas lamps; 38 gns.; tax paid; seen after —Kennard, 65, Plimsoll Rd., Finshury Park, N. [368

6h.p. W.D. Rover Combination, just re-enamelled Easting wind screen, in perfect condition; £100.- Nunn, Farmer and Co., 73, Union St., Torquay. [234

ROVER 3½h.p., 1916, Philipson, lamps, tools, good condition; price £40, or near offer.—Ea Grinstead Motor Garage, London Rd., East Grinstea [323

£78.—Brand new Rover 3½h.p. T.T. model, Philips pulley, Cowey horn, only used 500 miles, guara teed perfect.—Wallis, 23, Hartington Grove, Cambridg [358

1920 3½h.p. 3-speed Rover, new Aug., used months, new lamps, speedometer, horn, abs lutely as new; £115.—Box 2,316, c/o *The Motor Cycl* [317

1912 3½h.p.—Rover, 3 speeds and free engine, foo boards, in good running order; £35.—Walb Motor Cycle Co., High St., Saffron Walden, Esse 'Phone: 45. [X805

ROVER Motor Cycles.—Place your order with official agent, the man who rides a Rover; i mediate delivery; hire-purchase if desired.—Collar Cook's Garage, Shifnal. [266

1919 (Oct.) Rover 3½h.p., 3-speed, clutch, ki starter, engine No. 7888, mileage under 1,00 all accessories, in new condition, unscratched; price gns.—Kidner, Dental Surgeon, Oswestry. [324

ROVER Motor Cycles.—1921 models on view: 5-6h. combination, £195; 3½h.p. model, £135; 3½h. T.T., £105; 1920 shop-soiled model T.T., £95.—P. Evans, 81-91, John Bright St., Birmingham. [347

MOTOR CYCLES FOR SALE.

Rover.

1h.p. Rover, 3-speed countershaft gear, clutch, and 2 kick starter, absolutely new, but shop-soiled; 30, or with smart coachbuilt sidecar; £155; easy payents.—Harrods, Ltd., 118, Brompton Rd., London. [3643

OVER 3½h.p., countershaft model, also T.T. model, Philipson pulley, as makers' specifications, shopled; at greatly reduced prices; now is the time to v.—Mehes, 154-156, Gt. Portland St., W.1. 'Phone: 26 Mayfair. [3373

917-18 3½h.p. T.T. Rover, equipped with P. and H. head lamp and rear lamp, mechanical horn, od-controlled Philipson pulley, knee grips, etc., conion as new; £68.—33, The Parade, Golders Green, W.4. 'Phone: Hampstead 3914. [4046

Royal Ruby.

DAVIES, of Manchester, can deliver 1921 Royal Rubys from stock.—229, Deansgate. 'Phone: 536 entral. [2433

919 Royal Ruby 2-stroke, 2¼h.p. lightweight, excellent condition, little used; call.—2, Linden d., West Green, N. [3428

3h.p. Royal Ruby Combination, complete with lamps, splen.. condition; £145.—Marshall, Vale Grove, indsor Rd., Slough. [3967

920 3h.p. Royal Ruby spring frame, unridden, must be sold; nearest £105; offers.—Richards, sgarne, Perranwell, Cornwall. [3250

ROYAL RUBY 8h.p. Combination, 1919, well equipped, splendid condition, owner bought car; 50.—Chauffeur, 31, Cranley Mews, S.W. [3232

ROYAL RUBY 8h.p., powerful combination, excellent condition, selling owing restrictions Ireland; sh £110; nearest offer.—Liam McCarthy, 34, Kildare ., Dublin. [3830

ROYAL Ruby 1920 8h.p. Combination, condition as new, written guarantee, lamps, hood, screen, etc. argain for quick sale; £175.—Moore, Cottage, Leadenam, Lincoln. [3254

3h.p. Royal Ruby, spring frame, 2-speed, clutch, and kick starter, equipped with Tan-Sad pillion seat, umps, mechanical horn, etc., very little used and conition as new; reduced to £100; deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [3637

919 8h.p. Royal Ruby with Matchless Sidecar, Easting wind screen, speedometer, Klaxon horn, ools, full set of spares for cycle and sidecar, spare ew tyre, perfect running condition, only done 4,200 iles; £150, or near offer.—Chegwidden, 55, Holland ark Av., W.11. [3972

Rudge.

3½h.p. Rudge, single speed, fine order; £34.—Cross, agent, Rotherham. [X8011

RUDGE Racing Model, new condition; a bargain, £28.—109, Plaistow Rd., Stratford. [3158

.O.M. Rudge Multi at makers' list price, from stock.—A. J. Young and Co., Ltd., Newmarket. [1259

STOCKPORT.—1920 3½h.p. Rudge, 300 miles, like new; £90.—Brown, Eversley, Davenport Park. [3934

919 Rudge, I.O.M., and accessories, in good condition; £72/10.—Bounds, 223, High Rd., Kilburn. [3563

LATE 1920 Rudge, I. of M. model, as new, toolbags unsealed; £85.—Fox, 12, Conduit St., Lichfield. [X8020

7-9h.p. Rudge Motor Cycle Combination, fully equipped, tax paid; £160.—Plaistow, Osborne St., Grimsby. [X7655

RUDGE Multi, 3½h.p. tourist, fully equipped and in excellent condition; £68.—Box 2,344, c/o *The Motor Cycle*. [3273

RUDGE Multi C.B. Combination, leg shields, 3 lamps, good tyres, tax paid; £60.—29, Thornhill Rd., Leyton, E.10. [3940

RUDGE 3½h.p., clutch model, perfect running order, any trial; £32.—B.B. Motor Works, Melbourne Grove, Dulwich, S.E. [3256

919 Rudge Multi, 36h.p., only ridden 400 miles, as new, lamps, etc.; £82, no offers.—364, Lillie Rd., Fulham, S.W.6. [2214

920 I.O.M. Rudge Multi, ridden dozen times only, guaranteed perfect; £95.—Particulars, Terncroft, Market Drayton, Salop. [X7893

RUDGE Multi, 1921, I.O.M., unused; cost £110/5, cash wanted, what offers?—82, Queen's Rd., Nuneaton, Warwickshire. [2928

RUDGE Multi 3½h.p. Combination, 1913, lamps, spares, insurance, good condition; £45.—Write, Moore, 12, Pembridge Sq., W.2. [3803

920 5-6h.p. and 7-9h.p. Rudge Multi Combinations, new; £152 and £175.—Shepherd, Enfield Highway, Enfield. Tel.: Waltham X31. [0541

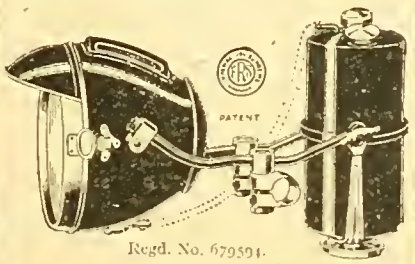
7-9h.p. Rudge Multi, with Rudge sidecar, absolutely new, but shop-soiled; £160; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3644

920 I.O.M. Rudge Multi C.B. Combination, fully equipped, tyres as new, insurance, perfect; £110.—48, Derwentwater Rd., Acton, W.3. [3888

RUDGE Multi and Rudge sidecar, 1915-17, splendid condition, full equipment, just overhauled; £64.—Private Owner, Dollis Grange, Finchley, N.3. [3138

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A perfectly made lamp of clean design and wonderful light-giving power. Embodies genuine optical Mangin mirror, adjustable focus, non-glare chimneys, patent F.R.S. One Nut attachment, and new type of door fastening. Prices: 6in set £4-4-0. 5in. set £2-15-0.



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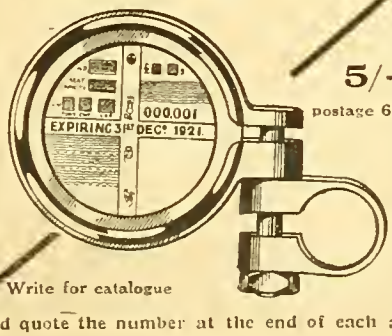
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Gives a loud and harmonious note, and is a most effective road clearer. Embodies a special red, immovable dust-cap, and the Patent One Nut attachment. Finest smooth black and N.P. finish. There's nothing on the market to equal this, either for tone, finish, or value.

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MOTOR CYCLES FOR SALE.

Rudge.

1920 Special High Compression I.O.M. Rudge, only run 530 miles, tuned by Coventry works; £85.—Jones, 115, Rosebery Rd., Muswell Hill, N.10. [3527

3½h.p. Rudge Multi, complete with lamps, Klaxon, tools, spares, just overhauled, bills shown, any trial given.—Lowe, 82, Woodlands Rd., Ilford. [3340

RUDGE Multi 1914 3½h.p., clutch model, and sidecar, lamps, tyres as new, licence paid; £55; trial any morning.—Roberts, 28, Windsor St., Rugby. [3242

RUDGE Canoelet Sidecar, new Eagles 2-speed, new heavy Dunlops, overhauled, re-enamelled, perfect, tax paid; £68; offers.—Williams, Elmers End, Kent. [3488

RUDGE Multi Combination, 5-6h.p., November, 1919, under 5,000, practically new, insured, accessories, spares, etc.; 100 gns.—41, Griffiths Rd., Wimbledon. [3598

1920 7-9h.p. Rudge Multi Combination, as new, fully equipped, tax paid; £150; lightweight part.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [3854

1916 Rudge Multi, 3½h.p., just thoroughly overhauled and re-enamelled makers' 1920 colours, condition as new; £65.—Apply, 14, Market Sq., Aylesbury. [3434

RUDGE 1920 3½h.p., Multi-gear, I.O.M. frame, speedometer, electric horn, equal to new; £90.—Parker's, Bradshawgate, Bolton, and 245 Deansgate, Manchester. [X7939

RUDGE Multi 3½h.p., T.T., late 1920, brand new but slightly soiled; usual price, £110/5; our bargain price, £90. Wilkins, Simpson, opposite Olympia, London. [3458

3½h.p. Rudge Multi, 1914, complete with speedometer, etc., unused since 1914, in excellent condition; £45.—Anthony, 1, Townshend Cottages, St. John's Wood, N.W.8. [3998

RUDGE-WHITWORTH, coachbuilt sidecar, 1912, 3½h.p., 2 speed gear, accessories, good mechanical order; £45.—Taylors, Ltd., 52, Sussex Place, S.W.7. Phone: Kensington 7260. [0460

1920 (August) 3½h.p. Rudge Multi, I.O.M., excellent condition, Miller lamps, equipment, mileage 600; must sell, first reasonable offer.—143, Promenade Rd., Fleetwood. [3915

1920 7-9h.p. Rudge Combination, F.R.S. electric lamps, Grindlay sidecar, very fast, guaranteed; exchanges; £130. Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4103

37 GNS. Only.—Rudge 3½h.p., clutch, powerful, 1920 colours, nearly new torpedo coach sidecar, very smart and sporty; would separate.—Seen, Garage, Hanslot Rd., East Dulwich (10-5, not Sundays). [3841

RUDGE Multi, 1915, standard clutch and starter model, 3½h.p., brand new Dunlop heavy tyre just fitted, other tyre and belt as new, perfect condition throughout, very fast, enamel and plating very good, tax paid for year; £38; guaranteed sound.—R. Watson, 132, High St., Aldeburgh, Suffolk. [3840

Scott.

GIBB, Gloucester, can deliver 1921 Scotts from stock. 'Phone: 852. [0445

SCOTT, 1916, running order; £35. Watson Bros., 88, Kew Rd., Richmond. [4178

SCOTT 1920 3½h.p., 2-sp ed, small mileage; 100 gns. —Denehelme, The Beeches, Carshalton. [3782

IMMEDIATE Delivery 1921 Scott motor cycle and combination, in stock.—Millard's, Chesterfield. [4003

1919 Scott, semi-T.T. bars, lamps, horn, and tools, in perfect order; £85.—12, Bridge St., Cambridge. [2289

1921 Scott, sports model; £130; for immediate delivery; easy payments accepted.—Scott agents (below).

1920 Scott Combination, Godfrey's electric lighting, Cowey speedometer, Lucas horn, Easting screen, mileage 1,067, tax paid; cost £209 last August, price £160; absolutely as new, guaranteed; exchanges.—Scott agents (below).

1920 Scott, with Rennoc sidecar, P. and H. lamps, Lucas horn, etc., magnificent condition, guaranteed perfect, tyres unscratched; £145; exchanges.—Scott agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4104

SCOTT, 1920, engine 4224, good running order, lamps, horn; offers.—J. E. Currie, Trinity College, Cambridge. [3531

1920 Scott, Lucas lamps, Cowey speedometer, horn, Amac, Aces, perfect order, licence paid; £100.—68, Warwick Rd., S.W.5. [3826

SCOTT Solo, semi-T.T. bars, Binks, oversize rear tyre, 1919-20 model; must be sold; £95; Coventry.—Box 207, c/o *The Motor Cycle*. [X7385

SCOTT Combination, C.B., 1914, 3½h.p., good condition, little used, with latest improvements; £110.—B., 29, Thorneyhedge Rd., Gunnersbury. [3260

SCOTT, 1920 sports model, horn, tools, very small mileage, enamel as new, plating fair, perfect order; £110.—D. Lavis, Old House, Sonning, Berks. [2097

MOTOR CYCLES FOR SALE.

Scott.

SCOTT Squirrel, immediate delivery from stock; £130; all spares stocked.—The J.C.J. Motor Co., 124, Holdenhurst Rd., Bournemouth. 'Phone: 2699. [3343

1920 Scott and Canoelet sidecar combination, all lamps, horn, and tools, all new tyres, no licence taken this year; accept £130.—Orton, Fair View, Earl Shilton. [3120

ADVERTISER, owing to financial reasons, having paid £20 deposit on Scott, brand new and unpacked; will sacrifice half deposit.—Box 260, c/o *The Motor Cycle.* [3720

SCOTT, 1910, special radiator, jackets, engine complete overhaul at works, Bosch, Binks, complete with all accessories, tax paid; ride away; £40.—Sowerby, Beelsby, Grimsby. [3250

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0510

SCOTT SQUIRREL, the hottest 'bus on the road; actually in stock for instant delivery; £130; deferred payments arranged.—Hewins' Garages, Ltd., The Real Service Firm, Taunton. [3485

I.O.M. Scott Racer, 500 c.c., rotary valves, 2 plugs per cylinder, latest winning type, just renovated at Scott's at cost of £40, not unpacked; offers, or exchange A.B.C. or N.U.T. preferred.—W. S. Life, Old Waverley Hotel, Southport. [4047

Singer.

4h.p. Singer Combination, 2-speed, complete with lamps; £50.—Meager Bros., 58, Shepherd's Bush Rd., W.6. [3763

Sparkbrook.

1921 Sparkbrook, 2-speed, new and perfect; cost £71/4, accept £65.—38, Hawthorn Av., Louth, Lincs. [X8006

LATE Sparkbrook-Villiers, 2¾h.p., 2-speed, perfect, nearly new, long exhaust, fully equipped; tax paid; £45.—31, Drakefield Rd., Balham. [4005

SPARKBROOK 6h.p. Combination, new Royal Leicester sidecar, hood, side screens, in good running order, head light, horn, tools, etc.; £100, or near offer.—Owens, Dock Rd., Limerick. [3192

1921 Show Model Sparkbrook (New) 2½h.p. 2-stroke, countershaft drive; the ideal mount for the lightweight rider at an ideal price, £64. — The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W.1. [3634

SPARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra finish, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt Portland St., W.1. Phone: 3426 Mayfair. [3374

Sun.

NEW 2½h.p. Sun-Vitesse, 2-stroke engine, single speed, £52/10, ditto with clutch and kick starter, £70; lady's model ditto, £73; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3638

Sunbeam

E. KICKHAM for Sunbeam; trade supplied.—Stokes Croft, Bristol. [3352

NEW 1920 Sunbeam 3½h.p. Solo; £155/8; in stock. —Randall Andover. [0366

3½h.p. Sunbeam, Sunbeam sidecar, mileage 80, tax paid, brand new; £165.—Below.

1919 3½h.p. Sunbeam, Sunbeam sidecar, speedometer, lamps, horn, condition excellent; £135.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [4198

WILLIAMS' Garage, Cheltenham, can give immediate delivery of any model Sunbeam. [X6446

NEW 1921 3½h.p. Sunbeam; £155; good solo taken in part payment.—Bounds, 223, High Rd., Kilburn. [3559

8h.p. Sunbeam Combination, nearly new, hood, screen, and all lamps.—Apply, A. H. Neal, Freiston, Boston. [X7892

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. Sunbeam, new 1921 model, just delivered; £155/8. [4185

1914 Sunbeam 3½h.p. and Sidecar, lamps, horn, screen; £105.—Walford, 47, Downham Rd., Kingsland, N.1. [3813

3½h.p. Sunbeam, late 1920, new condition, Lucas lamps, horn; £140.—C. Parrish, 28, Cavendish St., Keighley, Yorks. [2080

3½h.p. Sunbeam Sporting Model, Sept., 1920, Lucas lamps, Bonniksen, Cowey, leg shields, condition as new; £140.—See below.

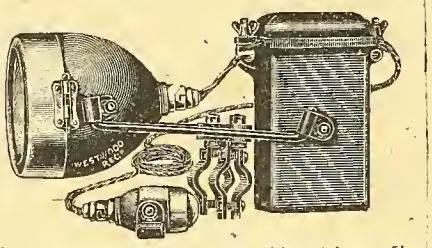
3½h.p. Combination, 1920, mileage 500, Lucas lamps and horn, all tools, etc., perfect condition; £150.—Chinney's Garage, Harpenden. [3142

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

1920 3½h.p. Brand New Sunbeam and Sidecar, interchangeable wheels, at list price, from stock.—A. J. Young and Co., Ltd., Newmarket. [1254

1921 Sunbeam 3½h.p., double purpose gears, footboards, T.T. handle-bars, delivery May; Glasgow; £5 deposit paid; offers.—Forshill, Stanraer. [2560

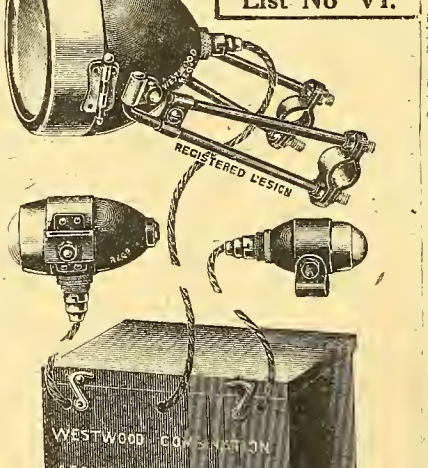
"DAYBEAM" Electric Solo Set



The Headlamp supplied with this set is our 5in. Daybeam, a very powerful light-giver. The brackets are of exceptionally strong and handsome design. They carry the headlamp and also the (die cast) aluminium case. The accumulator is specially made for motor cycle lighting, and will brilliantly illuminate the head and the rear lamp for 20 hours if used intermittently. The tail lamp (our torpedo S.B.C.) is exceptionally strong and well made, and has a very attractive appearance. Each lamp is fitted with a switch, and one lamp may be used independently of the other. The outfit is despatched completely assembled, and 4 volt bulbs are fitted. The finish is ebony black and nickel plate.

Complete Outfit, List No. 30/1, Price £5 5 0
(If tail lamp is not required, deduct 12/6).

"DAYBEAM" Combination Set



The set comprises Daybeam 5in. Headlamp, Ideal Sidecar Lamp, and Torpedo S.B.C Tail Lamp. Each lamp is fitted with an independent switch, and is finished in ebony black with nickel-plated relief. The Accumulator (capacity, 6 volt, 40 amp.) is specially made for motor cycle lighting and will give very satisfactory service in use. Many have now been in use two or three years, and are as efficient as when first purchased. **All our Accumulators are specially made to stand vibration.** Ordinary accumulators are never satisfactory for motor cycle work. The hard wood case supplied with this set is finished ebony black, and is specially treated to withstand acid. This outfit is despatched completely assembled with bulbs and all necessary wiring, etc.

Complete Outfit, List No. 30/2, £7 7 0.

"DAYBEAM" LIGHT CAR SETS
(Particulars on request).

Westwood Special Lines are stocked by all reputable agents.

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Sunbeam.

8h.p. Sunbeam Combination, brand new, unregiste spare wheel and leg shields; bargain, £175.—P 102a, Church St., Chelsea. Tel.: Kensington 137. [3

SUNBEAM Combination, 1919, 8h.p., Lucas dyna lighting, spare interchangeable wheel, in order, tax paid; £100.—40, Hertford Place, Coven [X8

SUNBEAM Combination, 6h.p., late 1915, condit as new, Easting screen, numerous spares; £1 insurance policy.—Hagues, 80, Cromford Rd., Wa worth. [4

1919 3½h.p. Sunbeam Combination, Lucas la and horn, Cowey speedometer, Easting, cyl., tax paid; £150.—Ballards, Wickham Bish Witham, Essex. [3

SUNBEAM 1921 3½h.p., with Mills-Fulford side black and gold, apron, full set of Lucas la and horn, ridden 80 miles, unsoiled; £185.—Den Furnisher, Cheltenham. [X8

1919 Sunbeam 3½h.p. Combination, with Lucas la horn, speedometer, wind screen, pillion seat leg guards, splendid condition; £135.—Poulton, Brighton Rd., Cheltenham. [X7

1920 Sunbeam, 3½h.p., brand new, for immed delivery, shop-soiled; £147/10; exchanges easy payments.—Homac's, 243, Lower Clapton R N.E. 'Phone: Dalston 2408. [4

1920 3½h.p. Sunbeam Combination, electric lig ing, speedometer, horn, etc., mileage negligi cost new £225, accept £185.—Ratcliffe Bros., 200, Portland St., W. Mayfair 5042. [0

SUNBEAM 1915 3½h.p., Mills-Fulford sidecar, gine just overhauled by makers, sidecar repainted; perfect bargain, must sell; 100 —Paynter, Normandville, Cheltenham. [X7

1920 3½h.p. Sunbeam, guaranteed not ridden miles, 3-jet Binks carburetter, Sunbeam shields, semi-T.T. bars, unscratched, as new, tax p £138 secures.—14, Estcourt St., Devizes. [3

SUNBEAM 3½h.p., 3-speed, all-chain, coachb sidecar painted black to match, lamps, horn, Easting; £110.—Newnham Motor Co., 223, Ham smith Rd., W.6. 'Phone: Hammersmith 80. [3

SUNBEAM 8h.p. Combination, Lucas dynamo lig ing, electric horn, interchangeable wheels, s wheel, hood, screen, speedometer, only 4,000 miles, condition; £195.—West, 42, Craubrook Rd., Ilford [X7

1920-21 Model 3½h.p. Sunbeam, with Sunbe sidecar, all wheels interchangeable, legshie horn, tools, cost £212; accept £159; or machine se ately, £119.—103, Lonsdale Av., Wembley, Middle [3

SUNBEAM.—We are Wolverhampton agents. Sp parts in stock. Repairs and overhauls. Estima upon request for re-enamelling and plating. — Molineux Garage Co., Ltd., Wolverhampton. Te 1160. [3

IMMEDIATE Disposal, 1921 8h.p. Sunbeam c bination, dynamo lighting set, cost £294, equipped; this particular machine was exhibited Olympia; what offers?—81, London Rd., Croyd 'Phone: 1087. [3

1920 Sunbeam 8h.p., Sunbeam sidecar, hood, w screen, footrests, Lucas Magdyno lighting, sp ometer, mirror, spare wheel, inner tube, chain, h and valve in first-class condition; £245.—Coa Dragoon Hotel, Burnley. [3

SUNBEAM 3½h.p., 1920, engine 145/9773, spe meter, Klaxon, leg shields, tools, mileage 1,6 Gloria sidecar, Easting screen, guaranteed quite sou price £210, or offer.—East Grinstead Motor Gara London Rd., East Grinstead. [3

SUNBEAM and Canoelet Sporting Sidecar, 3½h 1915-16, thoroughly overhauled and re-enamell new chains and sprockets, bearings, valves, piston, e electric and acetylene, Bonniksen, will guarantee mach perfect; £110.—63, Stratton Rd., Shirley, Southa ton. [3

SUNBEAM (Oct., 1920), 3½h.p., Magdyno lighti set, horn, knee grips, Bonniksen speedomet ridden few hundred miles only, perfect condition a appearance; £160.—Anderson, c/o Herbert Robins Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A [4

Bicycles.

SUNBEAM Combination, 8h.p., Aug., 1919, Luc dynamo lighting, discs throughout, 3in. cop exhaust, engine recently entirely overhauled, 3 tyres, splendid condition, tax paid; £175.—E. D. B clay, c/o Southall Bros. and Barclay, Lower Pric Birmingham. [3

SUNBEAM 3½h.p., black and gold, Sept., 1919, T bars, footboards, Lucas lamp sets, horn, k grips, long plated exhaust pipe polished crank ca enamel and plating, absolutely as new, all tools a spares, very small mileage, tax paid; £125.—43, Gro Rd., Sparkhill, Birmingham. [X8

BETTER Than New.—Late 1919 3½h.p. Sunbe solo, khaki weatherproof, complete, lamps, to new tyres, overhauled by makers January, licensed, s mitted to any test, ridden only by expert; nearest o £130 cash.—Burrow, 48, Narcissus Rd., West Ha stead, N.W., from 5-6 evenings. [3

Torpedo.

1915 Torpedo 2-stroke, slight repairs needed; for quick sale.—F. C. Lingley, Woodbridge, folk. [40

MOTOR CYCLES FOR SALE.

Triumph.

LIANS, of Reading, have 1921 Triumph in stock. [0487

L 1921 Triumph Models in Stock.—Premier Motor Co. Birmingham. [3042

RIUMPH, 1921 Models.—George Smith, Clapham Junction, S.W. [9424

EW 1921 Triumph S.D. Solo; £140; in stock.—Randall, Andover. [0365

21 Junior Triumph; now in stock; £75.—Rose's Garage, Uxbridge. [3981

EW 1921 Triumph S.D. Combination; £195; in stock.—Randall, Andover. [0364

21 Model H Triumph and Gloria; list price.—Cross, Agent, Rotherham. [X8013

20 Triumph Junior, scarcely used; £60.—75, Warwick Rd., Bowes Park, N.11. [3938

21 4h.p. Triumph, brand new; accept £120.—J. Smith, 54, Hampstead Rd., N.W.1. [4114

19 Triumph, very good condition.—Gifford, A.C.U. Consul, 75, St. John's Rd., Oxford. [3947

20 Triumph H., absolutely perfect in every respect; £105.—3, Archibald St., Gloucester. [X7980

20 Baby Triumph, condition as new; price £65.—Mason's Garage, Letchworth, Herts. [3770

19 Triumph, Millford sidecar, speedometer, lamps, horn, excellent condition; £110.—Below.

LL 1921 Models Immediate Delivery from Stock; deferred payments and exchanges if wished.—wards, 50, Harrington Rd., South Kensington. one: Ken. 3709. [1902

AN GUY, Weymouth.—1921 Triumph combination, £182/10; Triumph 2-stroke, £75; in stock. [2181

21 Baby Triumph, immediate delivery; £75.—Morriss and Co., Ltd., 139, Finchley Rd., N.W.3. [3328

RIUMPH, perfect, mileage 900, including accessories; £100, or near.—5, Kelmscott Rd., S.W.11. [3380

RIUMPH, chain drive, almost new, perfect condition; £120, lowest.—Banks, Clifford St., York. [X7999

ABY Triumph, late 1920, fully equipped; £70.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X7997

RIUMPH, sidecar, new piston, cylinder, gears, March, 1920; £98.—45, Avignon Rd., S.E.4. [3882

15 2¼h.p Triumph Junior, photo; sacrifice £38.—Argyle Lodge, Newton Rd., Burton-on-Trent. [3773

RIUMPH 3½h.p., condition excellent throughout, lamps; offers.—Walker, Bloxlet Works, Addlestone. [3704

RIUMPH Coachbuilt Combination, 1914, electric lighting, speedometer; £85.—37, Peak Hill, Sydenham. [3144

AN GUY, Weymouth.—1920 Triumph combination, complete, Lucas lamps, and spares, guaranteed; £110. [2182

21 4h.p. Triumph, immediate delivery; £127/10.—Morriss and Co., Ltd., 139, Finchley Rd., N.W.3. [3326

RIUMPH (Baby), as new, £66.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, S.W.2. [3576

21 Triumph, ridden 150 miles only, lamps, etc.; £115.—114, Brixton Hill, S.W.2. [4058

14 Triumph, 3-speed, renovated by Triumphs, like new; nearest £57.—Dr. Hawley, Blythe Bridge, Staffs. [4021

BRAND New T.T. Triumph, unridden; sacrifice for quick sale, £97; must sell.—384, Stretford Rd., Manchester. [3126

RIUMPH, 1913, 3-speed, clutch, good condition, spare Dunlop and belt; £55.—Lean, Polmoth Rd., Tunbridge. [3212

17 Triumph, Combination, lamps, Klaxon, Cowey, tools, tax paid; £90.—Heslop, 35, St. Michael's Park, Bristol. [X8004

RIUMPH Countershaft W.D. renovated, excellent condition, accessories; £75.—Parkedge, Thorne Rd., Doncaster. [X7656

RIUMPHS.—A fine selection of Triumphs in stock fully guaranteed; inspection invited.—Ross, 86, High Rd., Lee. [5671

RIUMPH Combination, 1920, mileage 400, equipped; £130; exchanges.—60, Wallingford Av., W. Kensington. [4033

RIUMPH and Sidecar, 1919, carefully driven and kept, equal to new; £125.—Mill Crescent Lamb, Tonbridge. [3185

RIUMPH, 1911, modernised, new tank, dip feed, 1915 frame, new tyres; £23/10.—Shaw, Park St., Wellington, Salop. [X7972

20 T.T. Triumph, complete Lucas equipment, mileage 900; £90.—Cearns House, Cearns Rd., Oxton, Birkenhead. [3200

h.p. Triumph Coachbuilt Combination, 3-speed, clutch, lamps, horn, perfect condition; £75.—St. Olaves, Chertsey. [4022



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19 19½ Countershaft Triumph, new Miller lamps, not W.D.; £85.—2, Barrossa Terrace, nr. Pikes, Church St., Chelsea. [3870

TRIUMPH Junior, 1920, like new everywhere, mileage under 500; 60 gns.—770, Stratford Rd., Sparkhill, Birmingham. [3431

TRIUMPH, countershaft, S.A. gear, hand clutch, T.T. bars, lamps, etc.; £57.—23, Jupiter Terrace, Well Hall, S.E.9. [3678

19 20 Countershaft Triumph, magnificent condition throughout; £110; offers considered.—Thomas, Acres, Brudfield, Berks. [3602

19 19 Triumph Combination; any expert examination; coachbuilt body, all accessories and tax; £145.—59, Marlow Rd., Anerley. [3228

BRAND New Triumph 4h.p. Model H, tax paid; £115, offers; exchange.—Heath, 10, Ambleeote Rd., Grove Park, S.E.12. [3859

BRAND New 1920 2¼h.p. Baby Triumph; to clear, £65.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8048

19 18 Triumph 4h.p., countershaft, electric lights, spares, new condition throughout; bargain, £95.—154, Elm Rd., Wimbledon. [3971

T.T. Triumph, Sept., 1919, completely equipped, tyres unworn, perfect order; £75, close offer.—Walker, Wood Grove, Limekilns, Fife. [3512

19 19 Triumph Cylinder with guides, also piston and rings and gudgeon, not scored; bargain, £3/3.—Coupe, New Rd., Basingstoke. [3858

19 19 Triumph Combination (Gloria), run 300 miles, accumulator lighting, tyres unpunctured; £105.—Godbet, George Hotel, Amesbury. [3926

TRIUMPH 1914 C.B. Combination, 3-speed, fully equipped, electric lighting; any trial; £65.—96, Whittington Rd., Bowes Park, N. [3607

TRIUMPH, all models in stock, W.D., fully guaranteed by makers; £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0436

19 13 Triumph Combination, S.A. 3-speed, lamps, horn, good spares, perfect condition; £48.—Manning, East St., Southampton. [3907

19 19 Triumph 4h.p., perfect condition, any trial; call Saturday between 1.30 and 2.30 only.—Button, 3, Albert Rd., Belvedere. [3248

19 20 Triumph Gloria Combination, wind screen, speedometer, as new; £138.—665, Didsbury Rd., Heaton Mersey, Manchester. [4151

£95; W.D. model Triumph, just delivered from makers; accept £90 cash; makers' guarantee.—Box 2,429, c o *The Motor Cycle.* [4263

TRIUMPH 1917-18 4h.p., C.S., new tyres, mechanical horn, pillion seat, perfect; £87.—Evezard, Lane, Cooper Gardens, Wallington, Surrey. [3338

19 20 T.T. Triumph, fitted with lamps, horn, licence paid, machine equal to new; first cheque £75 secures.—21, Hobson St., Cambridge. [3346

TRIUMPH 4h.p., 1921, brand new, immediate delivery.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3068

TRIUMPH Countershaft Model H, equal new, fully equipped, tax paid; £80, no offers.—Marks, Hood Stores, 121, Acton Lane, Chiswick, W.4. [3342

19 20 Triumph, use 3 months, 200 miles, speedometer, horn, spare valve; £115, or near offer.—Write Collins, 97, Upper Richmond Rd., Putney. [2350

BABY Triumph, Feb., 1920, complete, spring seat-pillar, mirror, horn, tax paid, better than new; £55.—20, Bury St., Radcliffe, Manchester. [3843

19 13 Triumph Combination, engine, tyres good, tax paid, insured; owner going abroad; £65, offers.—Young, Patching Rectory, Worthing. [3787

4h.p. Triumph, 3-speed, K.S., all accessories, tax paid, excellent condition; trial; £75, or near offer.—Barraud, Oak Lodge, Byculiah Rd., Enfield. [3321

19 21 Triumph Combination, all-chain drive, deliver at once; £195.—P. Ellis and Co., 364, Lillie Rd., Fulham, S.W.6. 'Phone: Hammersmith 1553. [2215

19 20 Sporting T.T. Triumph, almost new, mileage 800, very fast, equipped; bargain, £88.—31, Claremont Rd., Alexandra Park, Manchester. [X8076

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, mileage about 500; £68.—D. Lavin, Old House, Sonning, Berks. [2033

19 20 late 4h.p. Triumph (not W.D.), unscratched, small mileage, Lucas lamps, horn, tools, etc.; £115; seen Coventry.—Box 259, c/o *The Motor Cycle.* [X8116

TRIUMPH Junior, 1920, appearance and condition as new; £62/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3069

TRIUMPH 3½h.p., 3-speed hub gear, lamps, tools, in excellent condition; price £50, or offer.—East Grinstead Motor Garage, London Rd., East Grinstead. [3236

TRIUMPH 3½h.p. 1910 Standard Model, overhauled with Eagles N.S.U. 2-speed gear, tax 30 -; price £32 10.—Eagles and Co., 275, High St., Acton, London. [X7985

MOTOR CYCLES FOR SALE.

Triumph.

1913 Triumph, 3 speeds, fully equipped, all accessories, tools, splendid condition, guaranteed perfect; £60.—20, Shaftesbury St., High Wycombe, Bucks. [3700

TRIUMPH 3½h.p., 1913, 3-speed clutch, recently overhauled, good throughout; best offer over £45.—41, Upper St., Tettenhall, Wolverhampton. [3305

130 GNS.; Triumph, 1920, Gloria combination, tax paid, equipped as new; bargain; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [4241

TRIUMPH 3½h.p., 2-speed countershaft, Bosch, fast, economical; ride away; £35; tax paid; underslung sidecar to suit, £6.—Bailey, Beaminster, Dorset. [3511

TRIUMPH (£125) 1920 Countershaft Combination, cancelet sidecar, in perfect order, lamps, etc.—90, Bushey High St., Bushey, Herts. 'Phone: Bushey Heath 280. [3614

3½h.p. Triumph Combination, Grado gear and kick start, Bosch, coachbuilt sidecar, excellent running order; £42.—83, Cherry Orchard Rd., East Croydon. [4006

1920 W.D. Triumph, Gloria special sidecar, Easting screen, lamps, horn, tax paid, overhauled last month; what offers?—B., 5, Richmond Terrace, Cambridge. [3648

TRIUMPH, 1918-19, countershaft, speedometer and accessories, complete, good enamel and plating, thoroughly reliable; £85; week-ends.—64, Balloch Rd., Catford. [3875

3½h.p. 3-speed Triumph Combination, condition perfect, advertised Feb. 17, £75, now reduced to £62/10, first cheque secures.—Victoria Garage, Surbiton. [3862

1920 Triumph Countershaft Combination, used 3 months, exceptional engine, well equipped; £130; exchanges.—144, Ladbroke Grove, North Kensington, W. [4249

TRIUMPH, new and second-hand models, chain or belt drive. Get fixed up for Easter by writing now.—Bunting, Motor Exchange, Wealdstone. Closed Sundays. [4209

TRIUMPH 1920 4h.p. Model, Triumph sidecar, horn, Watford speedometer, equal to new; £160.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. X7932

TRIUMPH 1920 4h.p. T.T. Model with Philipson pulley, good condition, equal to new; £85.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X7931

1920 (August) 4h.p. Triumph, Gloria sidecar, electric lamps, speedometer, mechanical horn, machine as new; £135.—J. Smith, 54, Hampstead Rd., N.W.1. [4112

TRIUMPH Combination, as new, 3 speeds, hand clutch, etc., very smart, all accessories; sacrifice £105.—Dental Parlors, 769, Romford Rd., Manor Park, London, E. [4011

TRIUMPH 4h.p., bought new 1920, engine No. 64645, mileage 500, like new, lamps, etc.; bargain, £95.—Pike, 114, Draycott Av., Chelsea. 'Phone: Kensington 137. [3629

1919-20 Triumph, countershaft, perfect condition, Mills-Fulford sidecar, all as new, lamps, stormproof apron; a bargain, £90.—Beecher, 472, Archway Rd., London, N.6. [3409

1919 Triumph Outfit, first used 1920, Tan-Sad seat, Bluemel screen, all lamps, horn, spare new chain, nearly new condition; £130.—Jackson and Booth, Mill St., Congleton. [X8002

1920 Triumph 4h.p., Lucas lamps, Cowey, spare chain, valve, low mileage, brand new condition; owner bought car; bargain, £105.—Paddock Garage, Laleham Rd., Staines. [3806

TRIUMPH, 1917, 3-speed, well equipped, spares, excellent condition, year's tax and insurance, sell, or exchange cycle car.—Capt. Atkings, 1, Centre, Bulford Camp, Wilts. [4018

1915 4h.p. Triumph, 3-speed Sturmey-Archer hub, cluten, K.S., splendid condition, fully equipped; £55; apply after 6.—8, Hempstead Rd. (Wood St. Station), Walthamstow. [3973

CROYDON Agents for Triumph motor cycles. All models in stock, ready for immediate delivery.—Moore's Presto Motor Works, Ltd., 145, North End, Croydon. 'Phone: 2624. [1348

1920 4h.p. Triumph Combination, Swan sidecar (sporting model), wind screen, Cowey, lighting set, perfect order, any trial: £150; no offers.—Carpenter, 76, Grand Parade, Brighton. [3263

TRIUMPH 4h.p., 1920 model, as new, 3-speed, D.R. bars, tyres unpunctured, long exhaust, lamps, horn, speedometer, spare sprocket, etc.; £115.—Gaunt, Long Causeway, Peterboro'. [3491

1920 Triumphs.—A few slightly shop-soiled machines at greatly reduced prices, solo and sidecar; write for special clearance bargain list.—The Premier Motor Co., Aston Rd., Birmingham. [1882

1914 Triumph, completely overhauled, piston, cyl., belt, tyres, all new, Bosch, 3 speeds and clutch, lamps, horn, speedometer; highest offer accepted.—Kendrick, Fleckney, Leicester. [3320

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TRIUMPH 4h.p. Model H, late 1920, brand new slightly soiled, 3-speed, kick starter, hand clu usual price, £127/10; sacrifice, £110.—Wilkins, S son, opposite Olympia, London. [3

TRIUMPH, W.D.B., renovated by makers, in s for immediate delivery, new tyres, £95; and £90; Montgomery sidecar to match, £25.—The Pre Motor Co., Aston Rd., Birmingham. [3

TRIUMPH 3½h.p., 2-speed, Binks, Dunlops, sp good running order, tax paid, £35/10; side coachbuilt, sprung wheel, good condition, comp £8/10.—Hill, 421, Hollyhall, Dudley. [3

3½h.p. Triumph, 1913, 3-speed hub, Canoelet s car, legshields, lamps, horn, serviceable ou good condition; £65; tax paid.—Duckworth, 7, B shaw St., Heywood, near Manchester. [3

1920 Triumph, Gloria sidecar, lighting, etc., c plete, Cowey speedometer, spares, excellent dition; owner bought car; £145, or offer.—Harrison, Masons Hill, Bromley, Kent. Tel.; 352. [3

1919 Triumph, 4h.p., countershaft, fitted brand Swan sporting sidecar, Lucas lamps; ha soiled, guaranteed perfect; £130.—Homac's, 243, Lo Clapton Rd., N.E. 'Phone: Dalston 2408. [4

TRIUMPHS.—We are the North London agents, can give immediate delivery; chain drive, ch cum-belt, and renovated models.—Jones Garage, Mus Hill, N.10; and at Woodside Parade, North Finch [0

1920 (July) Triumph, 3-speed, T.T. bars, absolu as brand new, specially fast picked engine, own written guarantee, perfection, cost £127/10; price £ —M. B. Lee, Solicitor, Sherwood, Bromley, Kent. [3

TRIUMPH Combination, early 1919, condition wind screen, many accessories, completely equip mechanically perfect; any trial; tax and insurance cluded; bargain, £130.—S., 14, Albany Terrace, C ham. [3

IMMEDIATE Delivery of any Triumph Model; cas deferred payments; book your order now, avoid disappointment later.—Burlington Motors, I South Side, Clapham Common, S.W.4. 'Phone: B ton 2417. [0

1914 Triumph, 4h.p., 3-speed Sturmey, K.S., en and gears just thoroughly overhauled, ena and tyres good, lamps, tools, valve, splendid condit not W.D.; £60.—Rathgar, Ashley Rd., Walton Thames. [4

TRIUMPH 1921 Models in stock for immediate livery; exchanges arranged; also Triumph models, renovated by the makers, just delivered, new; £90 and £95.—Eagles and Co., 275, High St Acton, London. [X7

TRIUMPH Model H., 1919, 3-speed counters gear, Watsonian sidecar, Easting wind screen, cellent condition, £95; also a few Triumph H. mod entirely renovated, from £80 each.—Eagles and 275, High St., Acton, London. [X7

1918-19 Triumph 4h.p. Countershaft, just been plated and re-enamelled, new tyres (Dun Klaxon, tools, fast, guaranteed, any trial; after 7 p.m., or Sundays and Thursdays; £95, including £4.—84, Victoria Av., Southend-on-Sea. [3

TRIUMPH, sporting model, polished alumini discs, mechanical horn, long plated exha pipes, ridden few miles only, perfect; exceptional gain. £107/10.—Herbert Robinson, Ltd., 32-35, Gr St., Cambridge. Tel.: 995. T.A.: Bicycles. [4

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—N 4h.p. 1921 Triumph solo, delivery from st £127/10; also new 1921 4h.p. Triumph combinat ll-chain drive, £195; new 4h.p. 1921 Triumph s ll-chain, £140, and 4h.p. W.D. Triumph solo, f £90. [4

TRIUMPH, 1914, 3-speed, lamp set, handle mirror, speedometer, Lucas horn and Corv sidecar and wind screen, perfect mechanical condit and very good appearance; £70.—Herbert Robins Ltd., 32-35, Green St., Cambridge. Tel.: 995. T. Bicycles. [4

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1921 Triumph, Gloria sidecar, with spring wh luggage grid, and petrol can holder in st brand new; also 1921 6h.p. B.S.A. sidecar, with without spare wheel, brand new, in stock.—Wal Motor Cycle Co., High St., Saffron Walden, Ess 'Phone: 45. [X8

1920 Triumph Spring Wheel Gloria Combinat latest all-chain, as illustrated on page 830, " Motor Cycle," Dec. 16th, perfect condition, Watt speedometer, Easting wind screen, Tan-Sad, horn, lam clock, detachable extra seat in sidecar, spares; £1 owner went abroad January, not used since.—Barth mew, Old Woking. [3

TRIUMPH, Model H, 1920, 4h.p., T.T. bars, Lu lamps, horn, Watford speedometer, Brook pat cantilever spring saddle, reinforced carrier, Tan-S pillion seat, aluminium undershield, valve covers, of valves complete, new Dunlop inner tube, belt, Bro ordinary saddle, touring bars, complete set of to etc., in perfect condition, too powerful for owner, n solo entirely; £125 cash; seen any time by appoi ment.—Sutton, Valley Farm, Wilmington, nr. D ford, Kent. [3

MOTOR CYCLES FOR SALE.

Union.

20 £37 2¾h.p. 'Varsity Union 2-stroke, as new, not done 300 miles, photo stamp.—Ewers, New Rd., Burton-on-Trent. [3774

Velocette.

VLIANS, of Reading, have 1921 Velocette in stock. [0486

ORSMAN for Velocettes.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0473

ELOCETTE, 2-speed, engine just overhauled by makers; £35, or near offer.—Dowse, Tidworth. [X7923

DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate very.—O'Donovan Motors, 76a, Gt. Portland St., [4708

VAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.—Velocette 2¼h.p., new 1921, 2-speed, all-in drive, delivery from stock; £75; easy terms aged. [4184

MMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¼h.p., 2-speed, all-chain e; £75.—Agents: W. Sparrow, Ltd., Osborne age, Yeovil. [1632

ELOCETTE, 1915, 2-speed, overhauled, tyres new, 130 m.p.g., perfect, ride away, £30; 1919 8-10 J.A.P. engine, less mag., £25.—Scott, Chavey n, Bracknell, Berks. [3433

ELOCETTE, late 1920, special machine, lamps, horn, licence paid, leg shields; £67/10.—Newn Motor Co., 223, Hammersmith Rd., W.6. me: Hammersmith 80. [3070

21 Velocette, Model D3, 3-speed, £85; Model D2, 2-speed, £75; Model DL2, lady's open frame, ; all in stock for immediate delivery.—The Premier or Co., Aston Rd., Birmingham. [3044

Verus.

ERUS-BLACKBURNE, 4h.p., and light sidecar, Lucas lamps, horn, Easting screen; £120.—Below.

ERUS 2-stroke, new, shop-soiled, 2-speed, kick start, Burman gear box; £70.—Shaw Bros., tral Garage, Hagley St., Halesowen, Birmingham. [3570

ERUS-BLACKBURNE 2¾h.p., 2-speed, K.S., brand new; £90; list £110/5.—Clark, 7, Exhibition , S.W.7. [4140

ERUS-BLACKBURNE 2¾h.p., 1920 model, perfect running order, good condition, fast, powerful with F.R.S. lamps, horn, tax paid; reasonable rs invited.—Box 2,403, c/o *The Motor Cycle*. [4219

MMEDIATE Delivery of any Verus Model; cash or deferred payments book your order now, and id disappointment later.—Burlington Motors, Ltd., th Side, Clapham Common, S.W.4. 'Phone: Brix- 2417. [0502

Villiers.

3h.p. Villiers 2-stroke, 1919, single gear, good con- dition; £30.—Harper, 34, Belgrave Gate, ester. [3382

ILLIERS Genuine Spares, cheaper than elsewhere; booklet, stamp; trade supplied. Kemp's Garage, th, Lincs. [X7928

ILLIERS, 1920, 2-stroke, 2-speed, as new, mileage 800, lamps, horn, Smith's speedometer, insurance icy; sacrifice, £50.—Stanley, 8, Warwick Sq. Mews, rendon St., Westminster. [4040

Wilkin.

VILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mohes, 3-156, Gt. Portland St., W.1. 'Phone: 3426 May- [3375

Williamson.

VILLIAMSON Combination, 8h.p., splendid condition; best offer.—West, 72, Dyneyor Rd., Stoke ington, N.16. [1262

916 8h.p. Williamson Combination, hood, screen, good order; £85.—29, St. Leonard's St., Brom- -by-Bow. East 4708. [3853

ATE Williamson Combination, 8h.p. water-cooled Douglas engine, spare wheel, beautifully equipped; 15; exchanges.—60, Wallingford Av., N. Kensington. [4032

VILLIAMSON Combination, 8h.p., Douglas engine, water-cooled, beautiful turnout; £120; take ref power part.—57, Kenbury St., Camberwell, Lon- n. [3835

Wolf.

VOLF Motors, latest models, immediate delivery.— Lankester Engineering Co., 83, Victoria Rd., rbiton. [3172

VOLF, 2¾h.p., 2-stroke, excellent condition, new tyres, belt; £33, bargain.—Slemmonds, 20, F wis Buildings, Chelsea. [4002

VOLF 2¾h.p. 1920 T.D.C. engine, splendid order, cash badly needed; bargain, £29, offers.—54, rcellus Rd., Hornsey Rd., N.7. [3432

VOLF.—Sole agents for London, South of Thames and district. We are now fixing sub-agencies, d invite enquiries.—Burlington Motors, Ltd., South le, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0508

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WOOLER, 1920, gold medal London to Exeter, perfect, only £75.—Watson Bros., 88, Kew Rd., Richmond. [4179

WOOLER (1920), 1921 additions Cowey, speedometer, watch, lamps, tools; bargain, £76.—Watson Bros., 88, Kew Rd., Richmond. [4181

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mohes 154-156, Gt. Portland St., W1. 'Phone: 3426 Mayfair. [3376

WOOLER Flat Twin Tourist Model, late 1920, shop-soiled only, £88 to clear; Wooler special Brooklands speed model, just out, guaranteed speed 55 m.p.h.—Appleheo Bros., Woolor Agents for Essex, Church Hill, Walthamstow. [3268

Zenith.

WHY Not a New Zenith for Easter?

89, Wigmore St., W., is the address of the Zenith service depot, where you can obtain all spares for models from 1911-1921, have your machine overhauled, etc., and purchase your new mount for the coming season.

WRITE for the Zenith Catalogue, and compare the following prices for new 1920 models: 6 and 8h.p. countershaft, £142; 8h.p. sporting, £124; 5h.p. sporting, £110; 5h.p. sporting, all accessories, slightly used, £115; 8h.p. countershaft combination, all accessories, £190; 1919 6h.p. sporting combination, Swan sidecar, new, electric lighting, all accessories, £145.

ALL 1921 Models for immediate delivery.

PAY us a call to-day; you will see the sign of the Zenith hanging outside to guide you; our telephone is Mayfair 5598. — The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W. [3838

JULIANS of Reading have 1921 Zenith in stock [0482

DAN GUY, Weymouth.—Zenith agent, early delivery all models. [2183

ZENITH 1919 6h.p., new condition; £95.—Royal Berks Motor Co., Reading. [3313

ZENITH 1921 Models.—We are accepting orders for early delivery; your enquiry esteemed.—Below.

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—Mohes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3377

ZENITH 4h.p. Combination, Bosch, Palmers; 50 gns., or exchange.—76, London St., Chertsey. [3997

90mm. Bore Twin o.h.v. Zenith, delivery from works 3-4 weeks; list price.—Barton, Colo, Foirford. [2166

WAUCHOPE'S 9, Shoe Lane, London, E.C.—Zenith, 5h.p., 1920 sporting model; £110. [4186

NEW Zenith Combination, 8h.p., clutch, kick-starter, accessories; £175.—Maitland, Cobham, Surrey. [3348

NOV. (1920) 2¾h.p. Flat Twin Zenith, done under 300 miles; £85.—Fox, 12, Conduit St., Lichfield. [X8021

ZENITH-GRADUA 3½h.p., lamps, horn, fast; must sell; £50.—Robinson, 106, Fawo Park Rd., Putney. [3701

1920 8h.p. Zenith Combination, complete, with lamps; £130.—J. Smith, 54, Hampstead Rd., N.W.1. [4115

ZENITH 1920 5h.p. Sports Model, brand new, never been ridden; sacrifice £100.—Holmes, Filkins, Lechlade. [3709

2¾h.p. Flat Twin Zenith, slightly shop-soiled; accept £100 cash, a bargain.—A. J. Young and Co., Ltd., Newmarket. [1255

BARGAIN.—Brand new sporting 5h.p. Zenith, tax paid; £113, £13 under list.—Oakleigh, Edgware, Middlesex. [3959

ZENITH 1920 8h.p., with Henderson sidecar, very little used; £135.—Tuck, 154, Blackhorse Rd., Walthamstow. [3408

1914 6h.p. Sports Zenith, perfect, 110 m.p.g., accessories; £62; exchanges.—17, Sussex Rd., New Malden, Surrey. [3188

8h.p. Zenith Combination (1921), unable to take delivery; offers wanted.—Write A.M., 122, Clapton Common, E.5. [3521

1921 8h.p. Zenith Countershaft Model, immediate delivery; £162.—Morriss and Co., Ltd., 139, Finchley Rd., N.W.3. [3327

ZENITH Sporting Twin, 5-6h.p., brand new, latest saddle; list £123, take £107, lowest.—63, Strutton Rd., Shirley, Southampton. [3402

ZENITH 3½h.p. Coachbuilt Combination; £50; good order.—Hale, 82, Hertford Rd., Enfield Wash 'Phone: Waltham Cross 229. [3215

8h.p. Zenith Combination, 1915-16, countershaft model, all accessories, good condition, photo; £72. —1, Chandos Rd., Tottenham. [3664

ZENITH 1921 Models for immediate delivery.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3073

MOTOR CYCLES FOR SALE.

Zenith.

1915 Zenith 6h.p. Combination, speedometer, lamp, horn, excellent condition, licence paid; £90.—Rogers, 42, Church Rd., Hendon. [3650

8h.p. Zenith Combination, clutch, kick start, good condition, cane sidecar; £75; particulars, stamp.—Mabbott, 74, Belle Vue, Shrewsbury. [3928

ZENITH Combination, 3½h.p., just overhauled, Bluemel, screen, accessories, tax paid; best offer over £50.—190, Stroud Green Rd., N. [3993

4-5h.p. Zenith Combination, 1916, countershaft model, electric lighting, tyres and belt good; £110. R. Davidson, Cothill House, Abingdon. [4062

1921 Zenith Sports Model or Combination; immediate delivery.—Taylors, 52 and 53, Sussex Place, S.W. 'Phone: Kensington 7260. [0497

ZENITH 5h.p. Sporting Model; delivery from stock; £123; deferred payments arranged.—Hewins' Garages, Ltd., The Real Service Firm, Taunton. [3487

ZENITH 1920 8h.p. Sporting Model, very fast, T.T. bars, not run 1,000 miles; £100, or nearest offer; owner going abroad.—S. Cobb, The Grove, Esher. [X7924

ZENITH Combination, 1915, 6h.p., countershaft, overhauled, renewals, stored 3 years; nearest £90.—Goodwin, Ovington Terrace, Pencisely, Cardiff. [3992

SPECIALLY Tuned aluminium pistoned tulip overhead valved 8h.p. Zenith, £100; or exchange A.B.C.—Apply, L. Motley, 4, New Square, Cambridge. [3780

ZENITH 6h.p. Countershaft Combination, electric lamps, Easting screen, spare belt; £105, or exchange A.V. monocar and cash.—15, Holywell, Oxford. [3831

ZENITH 1920 Shop-soiled Models; a few still in stock at greatly reduced prices.—Zenith Motors, Ltd., Hampton Court (adjoining Hampton Court Station). [3544

ZENITH 4h.p., speedometer, lamps, semi-sporting sidecar, in excellent condition; price £90, or offer.—East Grinstead Motor Garage, London Rd., East Grinstead. [3235

ZENITH 1921 Models, orders now accepted for early delivery; 1920 models at greatly reduced prices; write or call.—Ratcliffe Bros., 200 Gt. Portland St., W. Mayfair 5042. [0437

ZENITH Special 8h.p. Sporting Combination, 1920 Swan special sidecar, finished black and red, magnificent outfit; £165.—Clifford Wilson, 177, Westminster Bridge Rd., S.E.1. [4172

3½-4h.p. (?) Zenith, Gradua gears, J.A.P. engine, Amac, 1920 carburetter, heavy Dunlops, long copper exhaust, fast, good order; £36, or close.—5, Stanley Terrace, Castlefields, Shrewsbury. [3299

1920 6h.p. (not 5-6h.p.) Sports Zenith, mileage 1,500, Lucas lamps and horn, knee-grips, spare belt, tax paid, Ricardo pistons fitted, Binks carburetter; £105.—L. Williams, Bakers, Shortlands, Kent. [3214

ZENITH 1919 (Nov.) 6h.p. Sporting, genuinely indistinguishable from new, guaranteed perfect throughout, all first-class accessories, mileage 2,000; sacrifice £85.—2, Cranes Park, Surbiton. [3864

ZENITH 8h.p., overhauled June, 1920, special coach sidecar, cost £50 1920, screen, hood, electric lighting, year's tax paid; sacrifice, £110.—Foucar, Coldfall Lodge, Fortis Green Rd., Muswell Hill. [3953

1920 Zenith 8h.p. Clutch Model, Henderson Elite sidecar, disc wheels, hardly used, absolutely as new, and guaranteed perfect; cost £218, sacrifice £175. —Scott, 433, Brixton Rd., S.W. 'Phone: Brixton 704. [2280

ZENITH 8h.p., countershaft, Millford sidecar, mileage about 7,000, tyres nearly new, one new spare, speedometer, Klaxon, tax paid, engine overhauled by makers, lamps; £105.—Ashford, 26, Anson Rd., Tufnell Park. [3397

ZENITH 8-10h.p., Dunhill's sidecar, clutch, kick starter, lamps, speedometer, horn, tools, spares, licensed, racing sprocket, solo riding, 60 m.p.h.; £135, near offer.—Barrow, 81, Holden Rd., North Finchley, N.12. [3801

ZENITH 1920 6h.p. Sporting Combination, Lucas head, rear, and sidecar lamps, Cowey speedometer, knee-grips, Ace disc wheels, luggage grid, equal to new; £160.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X7930

1920 5-6h.p. Zenith, Watford trip speedometer, lamps, Klaxon, grey discs, licence and insurance, mileage 68, absolutely braud new; splendid bargain, best offer above £110 secures.—L. Dudley, Wentworth, The Avenue, Bushey, Herts. [4008

ZENITH Late 1920 8h.p. Countershaft Model, T.T. bars, Swan sporting sidecar, complete with lamps, speedometer, horn, in absolutely new condition, an exceptional bargain, only wants seeing; £165.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0065

ZENITH 1919 8h.p. Sporting and Cauvelet Sporting Sidecar with Easting, Degory carburetter, all accessories, including Bonniksen trip, F.R.S. head lamp, electric side and rear, recently overhauled at Zeniths; £115; property of naval officer.—Hovenden, R.N.C., Greenwich, S.E.10. [4026

Ladies' Motor Cycles.

LADY'S Precision, 2 speeds, free, as new, lamps, etc.; £38.—109, Plaistow Rd., Stratford. [3162

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TO-DAY

2¾ h.p. Villiers Engine,

OMEGA

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£58

Single-Speed

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2-speed, clutch, kick-starter

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Ladies' Motor Cycles.

3h.p. Lady's Minerva, Bosch, Amac, lamps, com overhauled and enamelled, excellent running c 25 gns.—76, Western Rd., Southall, Middlesex.

1920 Lady's Motorcyclette, 1¾h.p., 2-stroke, c Amac, trip cycleometer, Klaxon, very pow done 55 miles; nearest £29, genuine bargain.—Bil Harlow. Essex.

LADY'S Excelsior 2½h.p., Sturmey 2 speeds, starter and clutch, 1921, brand new; in at £66.—Walbro Motor Cycle Co., High St., Se Walden, Essex. 'Phone: 45. [X

Miscellaneous.

MODERN Lightweight, 3-speed, clutch, com less power unit; £19.—Aero Works, Grafton New Malden. [

WALL 2-stroke 2¾h.p., brand new, smart mac licence paid; accept £35.—Simpson, 28, Du Wood Park, S.E.19. [

1920 4h.p., single-cyl., hand clutch, 2-speed (Burn kick starter, mileage under 100; bargain, £ 111, Cox St., Coventry. [X

ALLBER Motors, Earlsfield (opposite station). have a good selection of machines, all of w are guaranteed; no crocks.

ALLBER.—Bradbury 1920 4h.p., 3-speed, cl kick starter, all-chain drive, black and gold fi complete with lamps, condition as new; £68.

ALLBER.—Wolf-Villiers, 1920, brand new, 3h.p stroke, Albion countershaft 2-speed gear makers' equipment; list price £69; bargain for £5

ALLBER.—Calthorpe-Jap 1916 2½h.p., Enfield speed, good tyres, lamps, horn, tools, etc., in nice order, tax paid; £46.

ALLBER.—Portland Villiers 1920 2¾h.p. 2-str Albion 2-speed gear box, Dunlop tyres, comp with lamps, horn, tools, etc., good appearance, paid; £49.

ALLBER.—Rudge 1914 3½h.p., clutch model, starter, complete lamps, horn, etc., splendid dition; £40.

ALLBER.—Douglas 1916 2¾h.p., 3-speed gear not W.D., electric lighting, new tyres, copper exhaust, mileage under 600, condition equa new; £65.

ALLBER.—Blackburne Combination, 1920 4h.p. speeds, clutch, kick starter, all chain, elec lighting, coach sidecar, wind screen, tax paid, sp did condition; £125.

ALLBER.—Brough combination, 1917, 4h.p., o head valve, flat twin, 3-speed, clutch, k starter, speedometer, lamps, horn, etc., coach bo wind screen, very good condition, tax paid; £85.

ALLBER.—Triumph Gloria combination, 1920, e tric lighting, speedometer, good tyres, w screen, condition as new, tax paid; £145.

ALLBER Motors, Thornsett Rd., Earlsfield, Lond S.W. 'Phone: Latchmere 4388. [3

BARGAINS.—1920 Powerplus Indian, dynamo lig ing, speedometer, Millford bulbous back sidec £165/10.—Booth's Moteries, Halifax.

BARGAINS.—1920 Wooler, lamps, speedometer, l new, £89/10; 1914 P. and M., £45/10; 3½h Triumph, £25/10.—Booth's Motories, Halifax.

BARGAINS.—1919 P. and M. and new sidecar, £12 3-speed Indian and sidecar, £59/10; 2-speed Indi and sidecar, £49/10.—Booth's Motories, Halifax.

BARGAINS.—6h.p. 2-speed Rex combination, £49/1 3¾h.p. Sun-Precision, 3-speed, £35/10.—Boot Motories, Halifax.

BARGAINS.—Six 1915 Douglases from £42/10; h.p. Douglases, £75/10; 4h.p. Douglas with n sidecar, £97/10.—Booths' Motories, Halifax.

BARGAINS.—Lightweights; 2¾h.p. New Imperi J.A.P. £38/10; 1919 Enfield 2-speed, £49/10; 19 Scott and sidecar, £135/10; 1919 6h.p. 3-speed Roy Ruby, £89/10.—Booths' Motories, Halifax.

BARGAINS.—Shop-soiled 1920 models: 2¾h.p. O.H £43/10; ditto 2-speed, £54/10; 2¾h.p. Omeg Jap, 2-speed, £67/10; Harley-Davidson and sidecar £189/10; 6h.p. Ariel combination, £149/10; exchang entertained. Pay us a visit.—Booths' Motories, Por land Place, Halifax. Tel.: 1062. [240

1918 2-stroke 2¾h.p., absolutely complete, ne Thomson-Bennett mag., B.B. top feed carb retter, splendid running order; £11.—Dawson, 34, Amp hill Rd., Bedford. [343

MOTOR Cycle, less mag., £3/15; another, twin, wit mag. and 3-speed, £18; Triumph combinatio £35.—Hall, next to Green Man Hotel, Whetstone, Lo don. [389

YOU can get exactly the motor cycle you wan through the Kwiksale Private Motor Registry 35, Long Acre, W.C. Gerrard 2392. Send for list privately owned motor cycles. [015

1918 Royal Enfield 6h.p. Combination, £120; al Rudge Multi 1915 3½h.p. combination, £80 both in excellent condition, taxes paid, trial by a pointment.—5, Harold Rd, Upper Norwood, S.E.19. [386

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FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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1921 Competitions.

If the number of entries received for the 1921 open trials is any criterion, this year's competitions promise to be as well supported as any previous series of events.

Over two hundred machines are entered for the London-Land's End trial at Easter, and last Saturday's Colmore Cup Trial attracted over a hundred and fifty entries. In view of the efforts on the part of the Manufacturers' Union and the A.C.U.—each in its own way—to limit competitions, and the fact that the two trials mentioned above are "closed" events, the support accorded them seems to indicate that "trade" support is not essential for a trial to be a success. There is a large coterie of sporting riders to whom competition riding is the essence of the pastime.

For many years there has been a feeling in the industry that trials have been overdone and that their expense has been an unnecessary tax upon the manufacturers, and for this reason agreements have been made among members of the Union relating to the number of events which should receive their support.

The Auto Cycle Union has also attempted to check multiplicity of trials by limiting the number of permits granted to clubs for open competitions. Last year the number was twenty—a number coinciding with that agreed by the Manufacturers' Union; this year the affiliated clubs have demanded a further ten permits, but so far no announcement has been made by the Manufacturers' Union as to the number of events its members will support.

An Average of One Trial per Week.

In addition to the thirty open events, this year there will be quite a large number of trials confined to members of clubs affiliated to an A.C.U. local centre. The Colmore Cup Trial was the first of these, and its success as a really big closed trial seems to suggest that the local centre scheme will have the effect of increasing the number of large trials. The fact that the Colmore Cup Trial was "closed" does not appear to have affected the entry in any way. Probably, a like number of entries would have been received had it been confined strictly to members of the organising club, as it was only necessary for a rider to become a member in order to compete, and most manufacturers are sufficiently alive to the importance of the first big trial of the year—be it closed or open—to find a way to be represented.

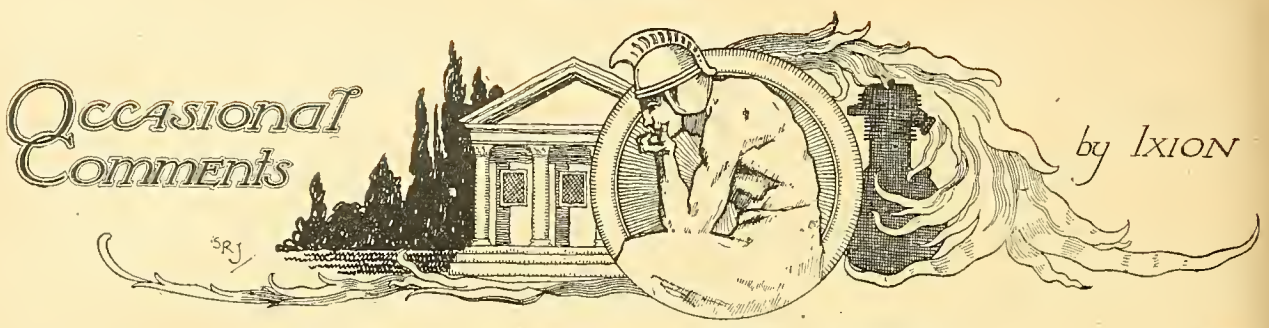
It is an almost Gilbertian state of affairs that the Colmore Cup Trial was not one of the series sanctioned by either the A.C.U. or the Manufacturers, and yet was supported by riders of practically every machine usually found in competitions. Since the Midland Centre A.C.U. clubs are all in districts where motor cycles are manufactured, it is only natural to expect a good sprinkling of trade riders "taking a 'busman's holiday"; but there were also many well-known trade riders from districts outside the Midland area, who, apparently, became members of one or another of the Midland clubs in order to participate in the trial. All this is perfectly legitimate, and raises comment only because it invites thought regarding the futility of attempting to classify trials.

Since there are thirty open events, this means that there is an average of at least one competition every week until the end of September, without taking into consideration the even more important Tourist Trophy Races, the A.C.U. Spring Trial, the Scottish and the International Six Days Trials, the Grand Prix, and such classic events as the M.C.C. London-Land's End, London-Edinburgh, the Team Trial, and the Anglo-Dutch Trial.

It will be seen that, instead of the number of competitions being reduced, it has considerably increased, even without counting the A.C.U. local centre events, which may assume considerable importance in certain areas.

There is no doubt that trials are more popular than ever they were, and the preponderance of private riders in these events speaks well for the sporting class riding motor cycles. The industry must benefit by this useful propaganda.

An index to the advertisements in this issue will be found on the page facing the back cover.



A Poser Solved.

THE cause of the troubles sustained by the Devon rider quoted on this page last week was that when he filled his tank, the local garage had supplied him with a gallon consisting of equal parts of petrol and water. I have never experimented with such a mixture, and am not quite clear why his engine should have worked well for half a mile on this fuel before it petered out.

My Portrait.

THE Editor has gravely considered the requests of many readers—fair and otherwise—for the publication of my portrait. If the request had been made during the war, when we were reduced to bad paper, and there was an odds-on chance that blocks would come out rather blurred, he might have considered it; but now that we can reproduce every detail clearly, he suggests that the publication of my lineaments might have a most detrimental effect on our circulation.

Portable Hand-cleansers.

SOME months ago I appealed to the soap trade to market leakproof pocket canisters of a hand-cleanser which motor cyclists could carry on their journeys. We all know what it means to reach an hotel or a friend's house with our hands in a filthy condition, and to find that household soap won't shift the grime. Similarly, after a dirty roadside job we often want to clean up, for fear of fouling our gloves, overalls, and machine, but under such circumstances neither water nor soap is available. So far the Star Sundries Co., Progress Works, Southport, are the only firm who have listened to my plaint. They produce a collapsible tube of verbena-scented semi-liquid soap, known as "303," which is intended to be used without water. My hands are not of the pudgy variety, and whilst this dope promptly produced a lily-white surface over the smooth areas, it failed to shift the black streaks and entrenched grime round my finger nails, until a brush was used to apply it. Moreover, a collapsible tube may at times collapse in one's pocket. "303" is a step in the right direction; but I want a canister which can be sat upon without risk, and if it needs the assistance of a brush, that brush should be fixed to the inner end of the stopper.

NEXT THURSDAY

(MARCH 17th)

4d.

THE . . .

ANNUAL SPRING NUMBER

OF

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In addition to a complete Buyers' Guide giving illustrations, specifications, and prices of the motor cycles now available, this enlarged number will contain many articles of special interest to all who own or contemplate purchasing a motor cycle.

Back to Carbide.

AFTER a long spell on electric lamps I came back to carbide recently, and old memories revived as I waited in vain for the smell, after turning on the water. Thanks to a pocket torch, it was only a matter of five minutes to discover that the water valve was nicely choked with dust shaken off the waiting charge by road vibration; and the spare tin of carbide in my jacket pocket felt quite familiar, as it is necessary to carry a case of extra bulbs when one is relying on a dynamo. I must say I hanker for the cleanliness and convenience of electricity. But acetylene is so cheap and so easy to restore to working order that one can quite understand why it does not die out.

The Limit.

FOUR of us were swopping yarns round a fire. The conversation turned on our most horrifying experiences. Several good lies were contributed. At last a worn-looking sort of man with a deeply scarred face described how he approached the Marble Arch going eastwards at a good bat, and intending to turn down Park Lane. When the moment for a change of course arrived, he turned. That is to say, he turned his handle-bars sharp right. But his front wheel went straight on. Our host silently handed him the Flor di Cabbageo.

That Cunning Shutter.

MY present mount has a Cox-Atmos carburetter. Anybody who has seen the readiness of some T.T. entrants to use any old carburetter provided its makers will make it worth their while is apt to become cynical where vaporisers are concerned, and to imagine that no carburetter is much better than its rivals, and that it is the tuning which counts. But I must say I like the Cox very well. In particular, I am tickled to death by that cunning little air

Occasional Comments.—

strangler, which automatically goes out of action after you have started up. I like it all the better because I have recently used two carburetters with air stranglers which wanted putting out of action by hand.

Head Lamp Glare and Motor Cyclists.

I AM rather surprised that motor cyclists have never become audible on the question of dazzling motor car head lamps. I suppose the reason is that most of the vocal motor cyclists frequent wide roads, where it is possible to give the 1,000 c.p. 40 h.p. limousine a widish berth. *Pour moi*, I do a lot of lanework, and ride some funny 'buses, experimental and otherwise. There is nothing I hate more than to meet a dazzling pair of lamps in a greasy lane. Take two recent experiences. I was climbing a long slippery hill with a 'bus suffering from non-startitis in an acute form. The road was steeply cambered, and near the summit I met a big Rolls. I had possibly 3ft. margin between its mudguards and the ditch, and I couldn't see a thing when it got close up. Needless to say, I preferred death to (1) stopping and restarting on the grade; (2) stopping and going down again one mile, with the chance of meeting another Rolls when I rode up again. I went down into the ditch, which was shallow, and those readers who long to behold my lineaments ought to have had a flashlight of my peeved countenance as I tried to reascend the camber after the Rolls had passed. Experience No. 2 was on a clutchless baby two-stroke on a very wet night, and the venue was one of those long steep hills going west beyond Moretonhampstead across Dartmoor. Here I met a 30-98 h.p. Vauxhall coming down; I side-stepped its glare, and hit my left shoulder hard on a root projecting from the hedge as I did so. I don't fancy the appearance of my 'bus with a Grubb anti-glare attachment on its head lamp; but really I shall feel quite affectionate towards Sir Eric Geddes when he enforces these unsightly protuberances.

6,000 Miles on an A.B.C.

AN undergraduate of London University hotly contests the assertion of a correspondent that the A.B.C. is necessarily a quick-wearing engine, because of its revving powers. His own sample has done 6,000 miles, and he cannot find any bearing wear except in the valve rocker supports, although he habitually does 45 m.p.h. on third. Incidentally, he is delighted with a foot accelerator, which he has fitted, and finds his oil consumption no higher than 1,600 m.p.g., which, it must be admitted, compares favourably with considerably slower engines.

Touche!

I RECENTLY chaffed a chemical firm because it simultaneously markets two dopes with the following words:

1. "Corrosine," to prevent the formation of rust.
2. "Derusta," to remove rust when formed.

I meekly suggested it was as if an evangelist should offer us a passport to the golden gates and/or an asbestos suit for wear in the event of missing the way. The firm's managing director replies to-day:

> "Dear Ixion,—Carry a bottle of our 'Derusta,' and you can never have any possible use for an asbestos suit."

I suppose he had the whole of his staff in to work that out. I must give up chaffing these firms. The odds are too great.





ELIMINATING DANGEROUS CORNERS.

Throughout the country dangerous corners on main and secondary roads are receiving the attention of local authorities. Wherever possible they are being widened and abrupt corners cut off. These two examples of road improvement are on the Lichfield-Coleshill road.

ROAD TESTS of NEW MODELS



THE 4½ h.p. QUADRANT.—A Moderate Priced Outfit.

SPECIFICATION.		
ENGINE: 87×95 mm. (565 c.c.) four-stroke single.	*GEAR BOX: Three-speed Sturmey-Archer.*	*FORKS: Druid.*
LUBRICATION: Hand pump.		*FRAME: Rigid.*
MAGNETO: M-L.	*TRANSMISSION: Chain.*	*WEIGHT: 250 lb. solo.*
CARBURETTER: Amac or Senspray	*WHEELS: 26×2½in.*	*PRICE: £125 with sidecar.*

IN these days of "tight money" and need for economy, any machine which is capable of hard service and sells at a moderate price is worthy of very serious consideration. Consequently, we were considerably intrigued with an offer of a trial on the 4½ h.p. Quadrant and sidecar. Readers of *The Motor Cycle* will remember that the price of this sturdy outfit has been reduced to £125, which cannot be considered an excessive figure for a machine of such capabilities as will be mentioned in the following notes.

Top Gear Capabilities.

A preliminary glance round the machine showed that it was a standard outfit with the exception of the fact that a long exhaust pipe was substituted for the usual silencer. The top gear ratio proved to be 4⅞-1 with standard Sturmey-Archer reductions, and we were informed that the engine was brand new and had not yet been run in. This last factor made our test all the more severe, and, with the redoubtable Mr. Silver as our companion, we set out for the Edge Hill range with the prospect of an interesting test. One of the objects we had in mind was to test the top gear capabilities of the Quadrant, and it must be confessed that our expectations in this direction were considerably exceeded.

Sturdy Construction.

Undulating roads to Kenilworth brought forth no incident, but the vile surface between that place and Warwick proved that the sidecar was comfortable under all circumstances, and that Mr. Silver had complete confidence in the frame and chassis design, since the machine was never slowed down from its steady average speed. Incidentally, the spring fork worked freely and smoothly and never showed any symptoms of "clashing." After Wellesbourne comes the ascent of Friz Hill, a deceptive climb which forms an admirable guide to the probable performance of the machine on Edge Hill. We were pleasantly surprised when the engine towed us bravely over the crest on top gear. No mean performance with a heavy load and a 4⅞-1 ratio, especially as a full two-gallon petrol can formed part of the equipment. On we went through Kineton, and no effort was made to save the engine for the forthcoming test. On nearing the foot of Edge Hill the throttle was opened and the exhaust note changed from a pleasant burble to a healthy crack as the

Road Tests of New Models.—

machine gathered speed. As the gradient increased in severity the engine slowed down, but pulled gamely without the sign of a knock till the first right-hand corner was reached. Here a lower gear was called for, and the remainder of the climb was child's play on middle gear.

On Tysoe Hill.

The descent of Sunrising Hill was sufficient to show that the brakes were well up to their work, and, since the climb was so obviously a simple second gear ascent, we decided to push on to Tysoe Hill, a lesser known ascent on the Edge Hill range. A left-hand bend on this hill removes any possibility of a rush, especially as it is closely followed by a right-hand bend at the foot of the worst piece of the grade. Here, again, middle gear had to be used, but it is noteworthy that throughout our trip the ascent of Edge and Tysoe were the only occasions on which the machine came off top. All traffic work was negotiated on the highest ratio, and the manner in which the 4½ h.p. Quadrant pulls evenly down to the last gasp was particularly noticeable.



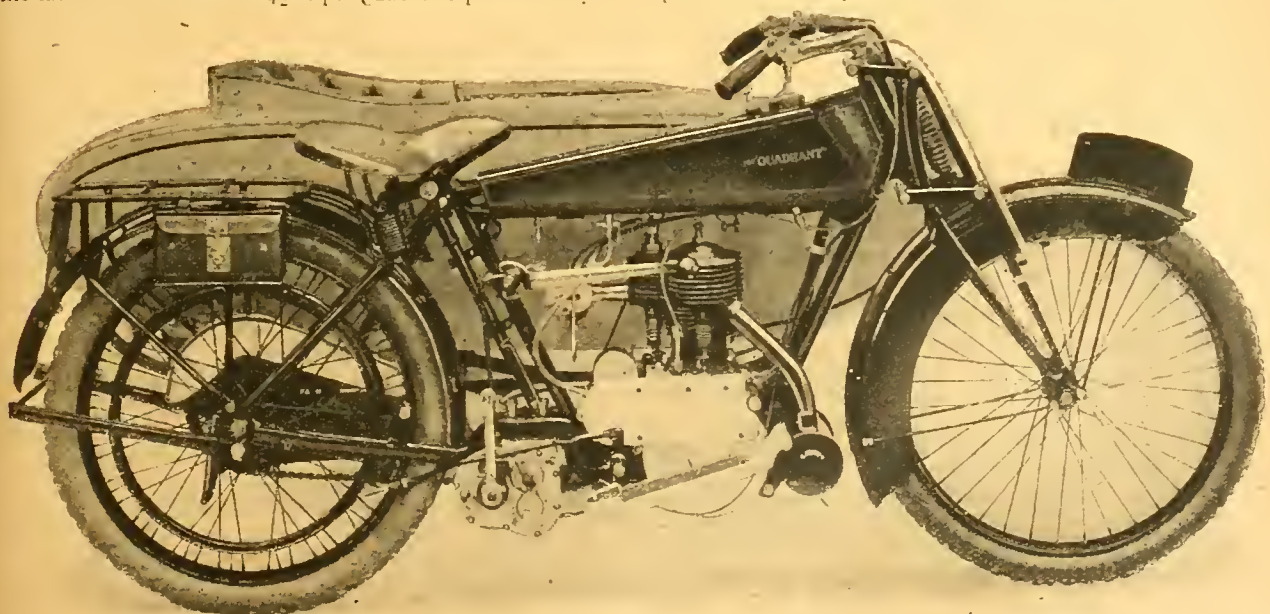
On the road with the Quadrant outfit.

After the ascent of Tysoe Hill it was determined to attempt a re-start on the steepest section, using middle gear, probably not quite a fair test considering the weight of passengers and outfit. This proved impossible owing only to the fact that the clutch would not take the machine away. On low the outfit started with consummate ease, and middle gear was engaged almost as soon as the machine was moving.

A Satisfactory Test.

The homeward journey *via* Stratford-on-Avon was without incident, but it was noticeable that the gruelling test which had been carried out at a high average speed had served only to run in the engine, for, despite strong head winds, its performance was noticeably better as the miles flew by.

Our conclusions are that the 4½ h.p. Quadrant is a fine straightforward job, not fast, but fast enough for all touring requirements: a fine slow puller, and a very admirable proposition at the price at which it is sold.



A moderate-priced outfit of 4½ h.p., this Quadrant model has chain drive, Sturmey three-speed gear box, and auxiliary saddle springing. A feature of the engine is that while the exhaust valve is on the side, the inlet is at the rear of the cylinder.

Winter in the Highlands

By H. Mortimer Batten.



To the Nature Lover and the Sportsman, the Sidecar is almost Invaluable.

(Concluded from page 250.)

THIS winter has been exceptionally mild, yet one has only had to travel upwards a matter of two or three thousand feet to find snow and ice reigning supreme. Several times this winter all but the fissures have been clear of snow, but usually it is back again within thirty-six hours.

My outfit has been used very largely for sporting purposes, and several times it has carried its load of the stiffened corpses of Alpine hares down from the mountain heights. These animals exist in great numbers on some of the hills. I have known as many as 300 to be killed in a short afternoon's drive, and several times I have shot as many as I cared to carry with an air rifle, because it seemed too unsporting to burn shot and powder on them. At other times, however, they are so wild that one can hardly get within rifle range of one of them.

In the Realms of Sport.

We are in the midst of some of Scotland's most famous deer forests, and during wintry weather we regularly see the kingly beasts driven down from the heights by the elements. The sidecar has several times proved of great value in conveying myself and the stalker to some distant part of the moor, which otherwise we could not have reached. During one or two days ptarmigan shooting it has also proved invaluable, for the ptarmigan belong only to the extreme heights, and it is too much of a good thing to climb to them in a single day, as is necessary if one has no other means of ascending the lower slopes. Of all the strange cargoes I have carried, however, the mountain hares weigh the heaviest, for keepers have a way of packing them in without estimating the load they are imposing on the small vehicle.

One autumn day, travelling over the heights to Glen Lyon with my wife in the sidecar, we had just reached the summit of the range and paused to ponder the magnificence of the view, when just behind a knoll, not forty yards away from us, a stag began to roar. This sound is one of the most impressive and awe-inspiring of all sounds in wild nature, and echoing across the slopes and glens, it is indeed as dreadful as the roaring of lions. Taking us thus by surprise on the extreme quietude of the autumn evening, we were a little startled till we realised what it was. It must have been an immense stag, for never have I heard a roar more powerful, but though I ran round the hill immediately in the hope of obtaining a glimpse of him, he had evidently scented us, for I could see nothing of him.

Disillusion.

A day or two later we were crossing the same heights when, free-wheeling down the nine-mile descent, we heard a stag roaring on the opposite side of the glen. I at once stopped, and we at length caught sight of him, two or three miles away. Though the sun was in our eyes we could distinctly see his magnificent antlers, as he stood like a king with a halo about his head on the heathered slope, perfectly still. We both waxed eloquent over his majestic beauty, moving on with a sense of the world's romance renewed, but when we came back next morning he was still there. Passing the same place a fortnight later I saw that he had not moved, so next time I took the glasses, and made

Winter in the Highlands.—

out a combination of a large boulder and a stunted pine!

I have never told my wife. I would hate to rob her of that romantic memory of a kingly beast standing enshrined amidst a halo of his native glory!

To the nature lover as to the sportsman some kind of light and hardy motor vehicle is invaluable in this country, and my own mount takes me on many lonely expeditions into the glens and corries where the motor vehicle is still a machine almost unknown. Last autumn I was busily employed in the study of the salmon which run from the sea into our small mountain streams. The subject is an endlessly picturesque and romantic one, as anyone would realise who has seen the salmon as I have seen them—scores of leviathans, wallowing with their great backs out of the shallow water, or dashing hither and thither in pursuit of one another, where the stream is little more than ankle deep, and only a few yards in width. All are come from the sea—fighting their way up the falls and rapids, mile after mile; distance seems to be no object to them, but to watch them thus on the spawning redds, when the sun is dying crimson over the peaks, and the slopes are bathed in deepest purple, is indeed to feel that one has seen the king of fish amidst the most kingly of his surroundings.

A Sunset.

But I feel that I shall be boring the reader with these subjects, which are neither technical nor topical, for they are the things of a land which few are so fortunate to know. The lover of the highway is, however, essentially a lover of the great open spaces, and whatever we forego in these lone lands, we, at any rate, have our compensations. When, for instance, the hills are white with snow, and the valley clear, the sunsets, especially in frosty weather, are beautiful beyond description. I shall never forget a sunset I watched over Loch Tay only a few days ago—the white peaks in the distance, fading off till one could not tell where range ended and sky began. But the peaks were not white—they were fiery, blazing red. Some of them looked as though cascades of liquid fire were pouring down them. Nearer the peaks were blue, mauve, purple, except for their very summits, which seemed veritably to be aflame. The loch below us was purple, deepest purple, but the pine headlands were merely a shimmer of blue cloud. It was a moment's vivid impression; going, going, gone, while all nature seemed to be holding its breath, and a real touch of romance was added by the three buzzards circling over our heads, their thin-edged "kew-kew" seeming to enhance, rather than to break, the stillness, while their wings flashed gold every time they glided broadside to the light.

A Practical Outfit.

I suppose I have already bestowed very high praise on my outfit, and intentionally so. I would sing its praises still further, but that the reader is apt to become a little weary of superlatives. Of this I am certain, that taking the P. and M. as a standard, the 3½ h.p. post-war engine is certainly equal to the 6 h.p. pre-war. I have to go a long way into the "interior" to find the hill which my engine will not take, and it has not been decarbonised for at least 2,000 miles. Its kick is really surpassing, and my average m.p.h. between home and our nearest shopping town, thirty-two miles away, is unprintable. The only reason why so many riders do not get good results out of single-cylinder sidecars is because they do not open the throttle. *The sole secret in driving a low-powered sidecar lies in keeping up the "revs."* Let your engine "rev." as hard as it reasonably will, and you will save bearings, tyres, and chains; but let it slog and it will



Where the road, the Highland Railway, and the River Dochart run side by side. Between Killin and Crianlarich, a section of the road traversed in last year's Scottish Six Days Trial.



The approach to Crianlarich. To the east lie the wilds of Perthshire. To the south and west, Loch Lomond

knock itself to bits. Regularly I drive my outfit at threequarter throttle for miles on end, knowing that it is more comfortable than it would be if I kept the speedometer reading at 25 m.p.h.

My engine, I would add, is entirely standard. It was new just prior to the last Scottish Six Days, in which event, in spite of its newness, it romped home with a gold. Owing largely to its mechanical lubrication, it has run always without fault or blemish, and is to-day better than ever. In the past my criticisms of this and other makes have not always been an unmixed blessing to the makers, but, as single-cylinder machines go, with their unquestionable advantages and disadvantages, I have nothing to criticise in this new model. The new type shock absorber improves the machine immensely, though I think the makers have been insufficiently generous in the amount of progressive movement the shock absorber permits.

Prices of Second-hand Motor Cycles.

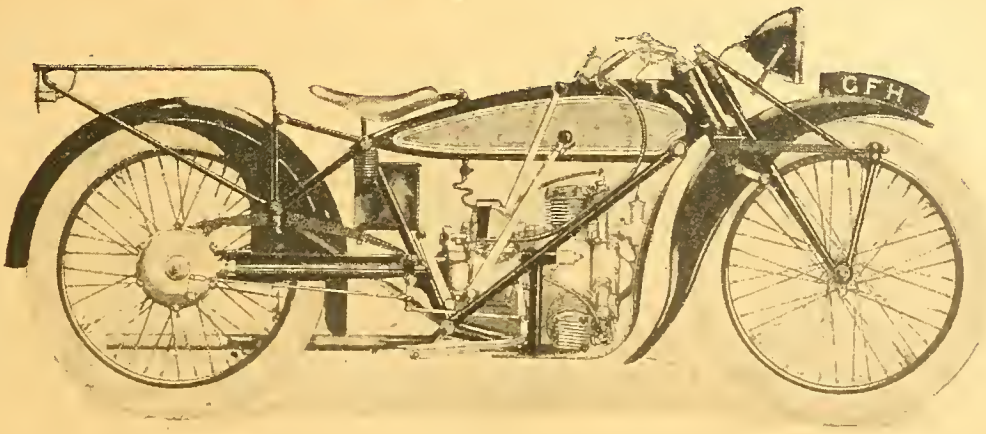
A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

MAKE, H.P., AND DATE.	CLASSIFIED PRICES.	AVERAGE PRICE.
A.B.C., 3 h.p., 1920	£118, £120, £130, £130, £135	£122
Abingdon, 5-7 h.p. sc., 1920	£130	—
A.J.S., 6 h.p. sc., 1920	£170, £175, £180, £182, £190, £195, †£200, †£210	£188
A.J.S., 6 h.p. sc., 1919	£155, £155, £170	£160
Allon, 2¾ h.p., 1920	£60, £74	£67
Ariel, 3½ h.p., 1920	£90, £100, *£105	£98
Bat, 8 h.p. sc., 1920	£142, †£150	£146
Beardmore, 3 h.p., 1921	£85	—
Blackburne, 4 h.p., 1920	*£115, *£120, *£120	£118
Blackburne, 8 h.p. sc., 1920	£175, *£210	£193
Bradbury, 6 h.p. sc., 1920	£175, £175	£175
B.S.A., 4¼ h.p. sc., 1919	£90, £95, £100, £100, £120	£101
B.S.A., 4¼ h.p. sc., 1920	*£140, £145, £145, †£145, £150	£145
Calthorpe, 2¾ h.p., 1920	*£60, *£65	£63
Clyno, 2¾ h.p., 1920	£50, £53, £55, £55, £55, £63	£55
Clyno, 8 h.p. sc., W.D.	£120, £120, £130	£123
Connaught, 2½ h.p., 1920	£48	—
Coulson-B., 4 h.p., 1920	£85, £98, £105, £109	£99
Coulson-B., 2¾ h.p., 1920	£65, £75, £80, £83	£76
Coventry Eagle, 3½ h.p. sc., 1920	£120	—
Coventry Victor, 5-6 h.p. sc., 1920	£175	—
Douglas, 2¾ h.p., 1920	£78, £85, £85, £87, £87, *£89	£85
Douglas, 4 h.p. sc., 1920	£115, £120, £135, *£138, *£140, £140, £140, £142, £145, £145, *£145, £150	£139
Edmund, 2¾ h.p., 1920	£77	—
Enfield, 8 h.p. sc., 1920	£135, *£148, *£153, *£155, †£160, †£160, †£180	£156
Enfield, 2¼ h.p., 1920	*£63, *£65, £70	£66
Excelsior, 2¾ h.p., 1920	£50, £80	£65
Harley-Davidson, 7-9 h.p. sc., 1920	†£170, £172, £175, †£178, †£180, £180, †£198, £200, £†205	£184
Harley-Davidson, 4 h.p., 1920	£110, £126	£118
Hazlewood, 5-6 h.p. sc., 1920	*£170	—
Hobart, 2¾ h.p., 1920	£63	—
Humber, 4½ h.p., 1920	*£135	—
Indian, 7-9 h.p. sc., 1920	†£140, †£150, †£175, †£180	£161
Indian, 4 h.p., 1920	£125, £130	£127
Invicta, 2½ h.p., 1920	£50	—
James, 5-6 h.p. sc., 1920	£140, £145, †£160, †£165, £165, £170, £170, †£170, £180	£163
J.E.S., 1¼ h.p., 1920	£30, £35, £42	£36
Lea-Francis, 3½ h.p., 1920	£110, £115, £115, £130	£118
Levis, 2¼ h.p., 1920	£46, £48, £50, £53	£49
Martinsyde, 6 h.p. sc., 1920	*£150, £150	£150
Matchless, 8 h.p. sc., 1920	£155, £170, £175, †£175, £180, £185, †£185, £190, *†£190, *†£215	£182
Metro-Tyler, 2½ h.p., 1920	*£70	—
New Hudson, 2¼ h.p., 1920	£58, *£58, £65, £65	£62
New Imperial, 8 h.p. sc., 1920	£100, †£168	£131
New Imperial, 2¾ h.p., 1920	£60	—
Norton, 4 h.p. sc., 1920	£110, £152, £155, £155, £165	£153
N.U.T., 3½ h.p., 1920	†£115, †£125	£120
O.K., 2¾ h.p., 1920	£41, £46	£45
Omega, 2¾ h.p., 1920	£70, £75	£73
P. & M., 3½ h.p., 1920	£90, £95, £105	£97
Quadrant, 4½ h.p. sc., 1920	£90, £110, £115, £130	£111
Rover, 3½ h.p., 1920	£115, *£125, *£130	£123
Rover, 5-6 h.p., 1920	£125	—
Royal Ruby, 3 h.p., 1920	£100, £105	£103
Royal Ruby, 8 h.p. sc., 1919	£150, £150	£150
Rudge, 3½ h.p., 1920	£85, £85, £90, £95	£91
Scott, 3½ h.p. sc., 1920	£130, £145, £160	£145
Scott, 2½ h.p., 1920	£100, £105, £110, £150	£111
Sunbeam, 3½ h.p., 1920	£138, £110, £140, £148, †£160	£145
Sunbeam, 3½ h.p. sc., 1920	£150, £159, £185, £210	£176
Sunbeam, 8 h.p. sc., 1920	*£175, †£245	£210
Triumph, 4 h.p., 1920	£105, £105, £110, *£110, £115, £115, £115	£111
Triumph, 4 h.p. sc., 1920	£130, £135, £137, £138, £145, £160, £175	£146
Velocette, 2½ h.p., 1920	£68	—
Verus, 2¾ h.p., 1920	£90	—
Wooler, 2¾ h.p., 1920	£75, £75, £85	£78
Zenith, 8 h.p. sc., 1920	£130, £165, £165, £175	£159

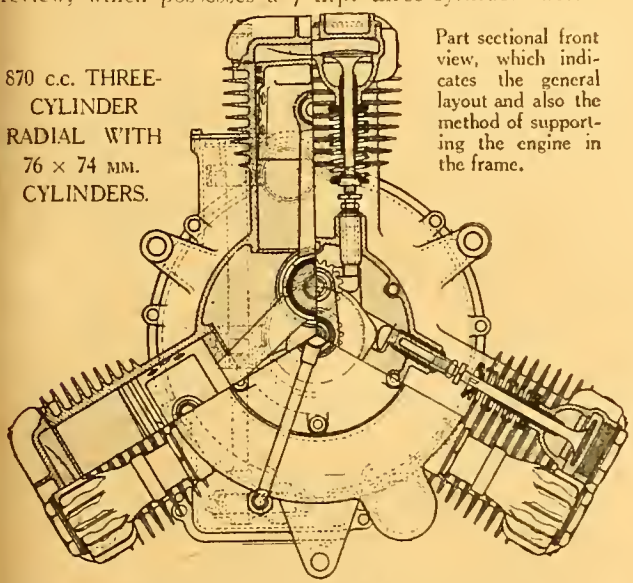
*Unused. †Dynamo lighting.

A High-powered Radial.

Proposed Design for a Three-cylinder Shaft-driven Motor Cycle.



RADIAL engines have gained quite considerable prominence of recent years in aeroplane and automobile circles, but, to date, only one British designer has adapted this type of power unit for a motor cycle. Therefore, the Eta, the design under review, which possesses a 7 h.p. three-cylinder radial engine, is of more than ordinary interest were it only on account of this very fact. Apart from the power unit, however, this machine possesses several unusual features.



870 c.c. THREE-CYLINDER RADIAL WITH 76 × 74 MM. CYLINDERS.

Part sectional front view, which indicates the general layout and also the method of supporting the engine in the frame.

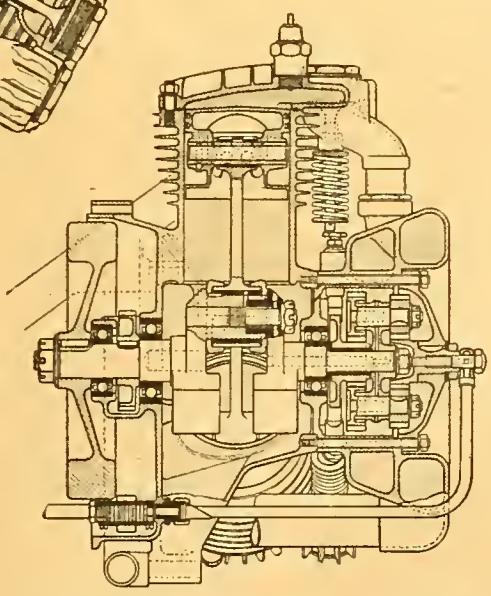
A pressed steel petrol tank forms the backbone of the frame, and the method of housing the engine and gear unit in the lower "cradle" portion (to ensure easy removal) is at once apparent from the illustration. So also is the action of the front forks, the main girder of which is linked at the foot of the steering head and telescopically pivoted at its upper extremity, the whole working against a pair of laminated springs.

Including the carrier, the rear frame is suspended on two long cantilever springs.

Returning to the engine, which is set with its crankshaft axis longitudinally in the frame, the cylinders and crank case are one iron casting. Detachable cylinder heads are provided, however, which carry the "side-by-side" valves, and are also interchangeable. Attached to the front of the crank case is the timing gear case, which incorporates two annular manifolds, the rear the induction chamber and in front the exhaust. A single cam disc, with two cams, rotated at quarter engine speed by epicyclic gearing, acts directly on to the valve tappets.

Big-end Assembly.

To overcome the necessity of off-setting the connecting rods, these are provided at their lower ends with "feet" which bear on the outside of a bush surrounding the crank pin, and are anchored by end cheek washers of phosphor bronze. The whole assembly is held together by the bolt fixing which secures the two halves of the crankshaft at the crank pin. The crankshaft is supported on ball bearings, and between the flywheel and the rear crankshaft bearing a helically-driven shaft extends upward to the magneto. Directly underneath is a gear type oil pump, which draws oil from the gear box (which acts as a sump), circulates it throughout the engine, and returns it to the gear box *via* a large detachable filter. The cylinder dimensions are 76 × 64 mm., giving a total capacity of 870 c.c.



Sectional diagram of the Eta engine, showing big-end assembly, epicyclic timing gear, and inlet and exhaust manifolds.

A gear box of special design, and providing three speeds and kick-starter, forms the rear portion of the engine unit. Conversion gearing

A High-powered Radial.—

brings the shaft line on one side of the rear wheel, and a sliding universal joint at the fore end of the shaft permits unrestricted movement to the sprung rear wheel.

An internal expanding brake is housed in the rear bevel wheel, while an auxiliary brake is embodied in the gear box.

Mudguarding is on generous but symmetrical lines, and the general impression given by the design is very pleasing to the eye.

A platform for the magneto is provided above the gear-housing, and no doubt a dynamo could be similarly carried. The box directly underneath the saddle may be used as an accumulator-carrier in such a case, or, normally, it provides a useful and well protected toolbag. Provision is made for driving another useful accessory, the speedometer, from a final drive pinion in the gear box.

The designer is Mr. G. E. Halliday, of Mixenden, near Halifax, who was the winner of our "Ideal Design" competition shortly after the Armistice.

The Balance of Motor Cycle Engines.

A Further Contribution to the Interesting Controversy on the Distinction between Static and Dynamic Balance.

FOLLOWING our comprehensive article in the issue for February 3rd, on the balance of motor cycle engines, letters from qualified engineers have appeared in *The Motor Cycle* for February 17th and March 3rd. Below we give a further contribution to the controversy from Mr. Georges Funck, A.M.I.A.E., who writes as follows:

I read with very much interest the further opinions in your issue *re* balancing, and would like to go a little further into the controversy with regard to the writer's original article, in which he stated that the alteration should be made "at a distance from the centre exactly equal to the crank radius," particularly as your correspondent, Mr. T. S. Bentley, also differs from me in this respect. I am also looking to Mr. Arthur Booth to defend himself about this point and come to my assistance.

Static or Dynamic of Balance.

This important question of balance is certainly not one of overlooking the distinction between static and dynamic balance, as Mr. Bentley accuses me of doing. Evidently dynamic balance is the only one to be considered, as the free forces we intend to neutralise through placing balance weights are non-existent in a non-rotating engine; and attempting to plant weights on the engine crankshaft to balance such forces might start the engine to move on its own account if we are not careful!

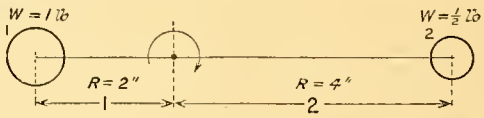
However, Mr. Bentley says: "The radius or leverage is constant at all speeds, but the effect of the weight varies as the square of the velocity." This is a very sweeping assertion, and I do not agree to the expression of "effect of the weight," unless defined more precisely. The effects of weights rotating round an axis at a given radius are numerous.

We may bear in mind for this discussion the two cases:

(1.) Mr. Bentley's weight (say 1 lb.) at a distance from the centre exactly equal to the crank radius (say 2in.) on one hand; and

(2.) A different weight which I propose to place at a different distance from the centre; and, to fix our ideas, we may take, say, ½ lb. at a distance of 4in.

Now, what are the effects of these weights revolving both at similar speeds at the moment of comparison? For this comparison we may best place them on the same axis and diametrically opposite one another, as per sketch, and consider



(a) Uniform Rotation.—For both weights we have the same *angular* velocity; and, if Mr. Bentley works out both radial (centrifugal) forces of W_1 and W_2, he will find them both the same at the moment under consideration, whatever speed he may choose for the calculation; hence they balance themselves at any speed (provided the speeds considered are reasonably below Einstein's speed of propagation of light in vacuum, so that we may neglect his theory of relativity).

The kinetic energy, however, stored in the weights at any considered speed is different for the two weights.

(b) Non-uniform Rotation.—Acceleration and retardation of the rotational motion is going to set up variable centrifugal forces, but, furthermore, also, tangential forces. Again the *angular* acceleration, or retardation, is the same for both weights, since they are fixed on the same axis, and the forces set up are once more equal in magnitude. The centrifugal forces balance at any moment. The tangential forces no more balance one another, but set up a torsional couple. This couple can only be balanced by having similar weights revolving in the opposite direction, which, of course, is beside the question of the present discussion of balance, and, therefore, does not enter into the discussion.

From these few considerations it will be seen that the effects of the weights "are rather complex."

In the case of the balance under consideration, we are concerned about the forces set up through the reciprocating masses, of which we reduce their magnitude by the centrifugal forces set up by the rotating bobweight, and as such I hope the previous notes make it clear that the distance away from the centre is immaterial, provided the weight is chosen correctly.

MOTOR CYCLING IN ITALY.

IN the early part of the year a race was organised near Rome known as the Winter Grand Prix. The course was quite a tricky one, consisting of gradients and corners, and was 14¼ kilometres long. Most of it was protected by barbed wire, and, where not guarded by barbed wire, policemen and gendarmes.

The first motor cycle was sent off at 9.30 in the morning. In the 250 c.c. class the winner was Ciai on a Clyno, time 22m. 3⅕s., average speed 38.632 kilometres per hour.

In the 350 c.c. class the winner was Del Sordo (Terrot), 17m. 44⅖s., average speed 49.041 kilometres per hour.

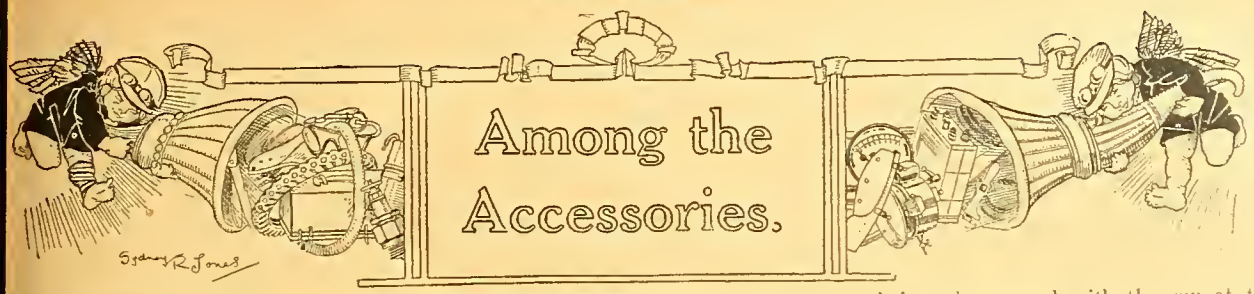
500 c.c. class.—(1) Minetti (Della Ferrera), 15m. 27⅕s., speed 53.298 kilometres per hour.

750 c.c. class.—(1) Garettoni (Harley-Davidson), 16m. 18⅖s., speed 53.302 kilometres per hour; (2) Rimoldi (Della Ferrera), 16m. 26⅖s.

1,000 c.c. class.—(1) Faraglia (Harley-Davidson), 13m. 17⅗., speed 65.446 kilometres per hour; (2) Malvisi (Harley-Davidson), 14m. 18s.

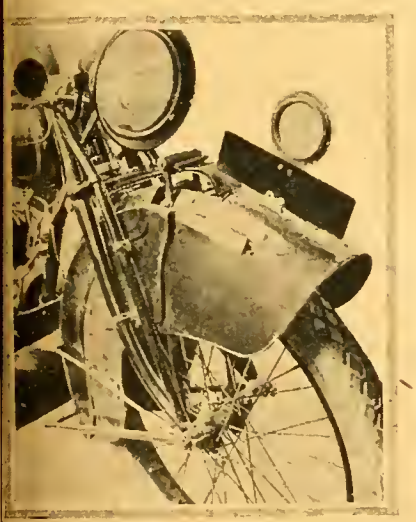
Sidecar class.—(1) Domenico Malvisi (Harley-Davidson), 14m. 56⅖s., speed 58.282 kilometres per hour; (2) Tozzoni (Indian), 16m. 21s.

The Harley-Davidson distinguished itself signally in this event. One of the most remarkable performances was by Faraglia who arrived within 28s. of the 200 h.p. racing Packard.



Improving the Mudguarding.

THOSE who have used sidecars to any great extent are able to realise fully that the mud thrown by the front wheel is extremely unpleasant and extremely difficult to prevent. This has been largely overcome by an extra wide valance fitted to the front mudguard of Indian motor cycles, and which has recently been placed on the market by Messrs. Godfreys, Ltd., 208, Great Portland Street, W.1. This valance is easily fitted, and does not necessitate the drilling of any holes, as it is attached to the front mudguard stays, while a longer bridge piece which takes the place of that fitted to the ordinary front guard extension, to the front fork, and to the other mudguard stay. We are assured by Mr. E. A. Colliver, the well-known competition rider, that it is most effective.



Godfrey's front mudguard extension for Indian motor cycles.

The K.L.G. G Type Plug.

A NEW plug lately brought out by the Robin Hood Engineering Co., and handled by Messrs. Smith and Sons, Great Portland Street, W.1, is the G1, which is suitable for a large number of motor cycles. Following usual K.L.G. practice, the insulation is of mica wrappings of the best ruby variety, while the exterior portion is further insulated by means of mica washers hydraulically compressed and afterwards highly polished.

The chief advantage of the plug is that it is detachable. A steel disc seating on a copper and asbestos washer in the body of the plug ensures an airtight joint, and allows the plug to be reassembled after cleaning without affecting the spark gap. This body and the gland nut are zinc treated, and so are

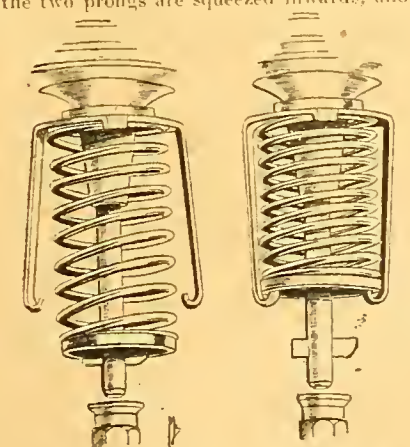


K.L.G. type G1 plug.

impervious to rust. It is far easier to carry the detachable portion as a spare than a complete plug as, of course, it is much lighter. The usual type of spring clip terminal is supplied, which is very simple and effective.

For Removing Valve Springs.

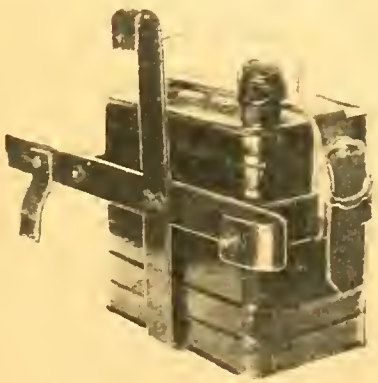
TO facilitate the removal of the valve cotter, Mr. C. H. Taylor, A.M.I.E., 44, Lonsdale Road, Barnes, S.W., has devised a simple permanent fitment. It consists of a tongued washer incorporating two prongs, and is made of steel. The washer portion takes the place of the ordinary washer between the valve spring and the valve guide, leaving the two legs hanging clear of everything. When it is required to remove the valve, the engine is rotated until the tappet has reached its highest limit. When this point has been attained, the two prongs are squeezed inwards, and their ends engaged with the cup at the base of the spring. The engine is again rotated, and when the tappet falls away from the valve the spring is held compressed, and the cotter can be withdrawn.



C. H. Taylor's valve spring lifter. (Left) In normal position when not required. (Right) The valve spring raised above the cotter.

Carrying Reserve Petrol.

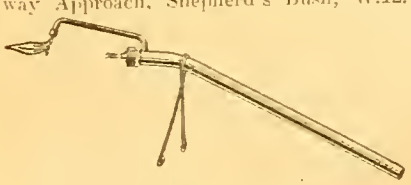
A SIMPLE and convenient spare petrol can and carrier has recently been introduced by Messrs. B. S. Marshall, Ltd., 33 and 34, Foley Street, London, W.1. The carrier can be fitted to Triumph motor cycles without alteration, and to other makes simply by moving the adjusting screw shown on the left-hand side of the illustration, while the can has a capacity for slightly over half a gallon of petrol.



Marshall's spare petrol tin carrier.

An Ingenious Gas Blow Pipe.

VERY simple and ingenious is the small blow-pipe introduced by the Stanley Motor Co., of 173-4, Railway Approach, Shepherd's Bush, W.12.



S.L.B. self-blowing blow pipe.

Known as the S.L.B., it retails at a low figure, and, where gas is available, it provides a ready means of obtaining an intense local heat, such as is often required for small hard soldering jobs or the tempering of small drills. The illustration is practically self-explanatory; it will be seen that the gas itself is the blowing agency, it being directed across an air gap into the midst of a small pilot flame on a by-pass.

THE TRIALS IDEA IN FRANCE.

Some Observations on the Paris-Nice Event, by a Competitor.

WHATEVER disappointment was caused last year by the *fiasco* of the Paris-Nice trial, it may be said that it served to show that Continental competitions needed more complete organisation. This year there was a great improvement in the organisation throughout the trial, which was run on lines nearer to the standard set by sportsmen and trials organisers on this side of the English Channel.

In the trial itself it was indeed amusing when riding through the French villages to note how interested were the spectators when a machine went through at speed and creating a good deal of noise and dust. They immediately looked upon this man as a certain winner, whereas if one went through slowly and with consideration one was thought to be a very "dud" competitor. The roads were extremely dusty, and the big and fast cars of officials, pressmen, and other people following the trial gave the competitors much discomfort by the clouds of dust which they created.

I hope I am not criticising my late fellow competitors too unfairly when I say that their manner of starting off was quite needlessly spectacular. It may have impressed the spectators that they were heroes to shout and bustle as if their success depended on the fuss they made; and then at the word "*Partez*," they went off with a roar and at a speed that was quite unnecessary.

Taken all round, undoubtedly this year's Paris-Nice was a successful affair, and has done much to retrieve the position of this annual event in the eyes of motor cyclists after last year's fiasco.

Saturday preceding the trial was spent having the machines weighed and stamped and in obtaining numbers. Our movements were watched very closely and with much excitement by French pressmen and photographers, to say nothing of the local cinematograph man, who appeared to be very busy turning the handle.

Excitement at the Start.

The next day (Sunday) was devoted to the final details, tuning up machines, and getting everything ready for an early start from Montgeron. As no accommodation was available at this place, a number of the competitors, including myself, stayed in Paris, and journeyed out in the early hours of the morning, which was somewhat unwise, as the roads were exceedingly bad, and nobody appeared to know the way. However, we managed to arrive at the start about fifteen minutes before the first man was due to start. Our official starter of "*Partez*" fame was very much in evidence and as excited as possible.

The journey from Montgeron to Dijon was somewhat uninteresting, the road being very good, but the country flat, and nothing of interest happened. The second stage of the journey was much more severe. We enjoyed excellent weather and good roads, and reached Roanne through really nice scenery. Here lunch was taken, after which we took to the road again on our way to Lyons, where the competitors began to feel the effects of the trial. Many had, at this time, been having minor troubles, the roads between St. Etienne and Lyons being extraordinarily bad. The machines were then parked for exhibition the following day, which was patronised by crowds of people during the whole of the day, who were particularly interested in the different machines of British manufacture.

Increasing Severity.

An early start was made from Lyons next day, and here the trial began to get a little difficult. The roads now deteriorated somewhat, and the controls were so close together that, in the event of some poor, unfortunate competitor getting trouble, it was most difficult to make up time and get into the next control without penalisation. The weather continued to be perfect, and the scenery was excellent. Avignon was reached after a very trying and tiring day, but through beautiful scenery; and I think everybody was pleased to be able to retire for a well-earned rest.

The fourth and last part of the journey was undoubtedly the prettiest, and here again we encountered numerous controls a very few kilos apart. The ride through the Esterel is perfectly delightful, and the scenery such as the competitors saw during this part of the journey must be very hard to beat. Running into Cannes a great reception greeted all the competitors, and crowds lined the road to see the weary wanderers arrive. Coming from the dusty road to gaze upon the blue Mediterranean with British battleships in the harbour was, indeed, a pleasant and refreshing sight. The final stage: Cannes-Nice appeared to be a general "T.T." as everybody was now hurrying on, anxious to reach their destination. Here again crowds of people had turned out to watch the riders.

In conclusion, I should like to congratulate M. Hamond on the energetic and excellent manner in which he has organised this trial. He was to be seen everywhere with a cheery smile and kind word for everybody, and it was really surprising to witness the energy he displayed during the five days. The timing was very accurate, and I should say the checkers' watches (28 in all) must have been exceedingly accurate. The roads compared with last year were not half so severe, and undoubtedly the trial was organised much better from the point of view of the British competitors. During the luncheon stops the accommodation was good and food excellent. It seems a pity that the trial cannot be arranged to finish nearer the Northern coast or a circular course taken, as it is more difficult for competitors to return with their machines by train than it is for them to ride all the way down from Paris.

K.D.

The following are the winners of gold medals:

250 c.c. CLASS.—Piere (D.F.R), Denley (Velocette), Humphreys (Velocette), Berger (Velocette), and Price (Diamond).

350 c.c. CLASS.—Dubost (D.F.R.), Boulangier (D.F.R.), Walker (Edmund), Bauer (Yvels), and Peau (Peugeot).

500 c.c. CLASS.—Bastide (Norton), Barthélemy (Norton), Lazerge (Norton), Naas (A.B.C.), Detruche (A.B.C.), Bernar (A.B.C.), Rolly Gonnet (A.B.C.), Duverr (Rudge), Dard (Norton), Le Br (Blériot), Contant (Blériot), Brune (Blériot), Gabriel (Triumph), and Robe (Motosacoche).

750 c.c CLASS.—Foulhoux (Saroléa Lefèvre (Saroléa), Revet (Saroléa), Kay Dön (Zenith), Jacquin (Griffon), Pinne (Triumph), Gordon Uren (Triumph), an Sollet (Rover).

SIDECARS, 750 c.c. CLASS. — Laco (G.L.), without loss of marks.

SIDECARS, 1,000 c.c. CLASS.—Bertl (Indian), J. Psalty (Harley-Davidson Walbron (Harley-Davidson). Fento (A.J.S.), White (Sunbeam), and Hugh (Frera).

CYCLE CARS.—Mauve (Elfe), Pullin (d Marcay), Benoist (de Marcay), Lombar (G.N.), Honel (G.N.), Ramon Buer (G.N.), Casse (Morgan), Sandfo (Morgan), and Darmond (Morgan).

The Flying Kilometre.

This was, as usual, held on t western end of the Promenade d Anglais in the afternoon of Februa 25th. Only those who finished the tri took part.

250 c.c. CLASS.—1, Clech (Motosol 51s., speed 70.568 kilos. per hour; Denley (Velocette), 52⅖s.; 3, Humphre (Velocette), 55⅖s.

350 c.c. CLASS.—1, Walker (Edmund 43⅗s.; 2, Dubost (D.F.R.), 47⅗s.; Boulangier (D.F.R.), 53⅘s.

500 c.c. CLASS.—1, Naas (A.B.C. 36⅘s.; 2, Dard (Norton), 38⅗s.; Robert (Motosacoche), 39⅘s.

750 c.c. CLASS.—1, Gordon Ure (Triumph), 43s.; 2, Pinney (Triumph 43⅗s.; 3, Foulhoux (Sarolea), 47s.

SIDECARS (500 c.c. CLASS).—1, J Psalty (Rover), 1m. 6s.

SIDECARS (1,000 c.c. CLASS).—1, Vach (Indian) and Berthe (Indian), 41s.; Walbron (Harley-Davidson), 41⅕s.

CYCLE CARS.—1, Mauve (Elfe), 40s. 2, Sandford (Morgan), 40⅖s.; 3, Da mond (Morgan), 41⅕s.

The La Turbie Hill-climb.

250 c.c. CLASS.—1, Denley (Velocette 10⅕s.; 2, Humphreys (Velocette), 10m 50⅕s.

350 c.c. CLASS.—1, Walker (Edmund 10m. 6⅖s.; 2, Boulangier (D.F.R.), 10m 58⅕s.

500 c.c. CLASS.—1, Lapnlud (Mot sacoche), 8m. 39⅕s.; 2, Rolly Gonn (A.B.C.), 8m. 47⅘s.

750 c.c. CLASS.—1, Foulhoux (Sarolea 9m. 48⅕s.; 2, Sollet (Rover), 10m. 42⅖s

SIDECARS (500 c.c. CLASS).—1, Psalt (Rover), 10m. 25⅕s.

SIDECARS (1,000 c.c. CLASS).—1, Wa bron (Harley-Davidson), 8m. 58s.

CYCLE CARS.—1, Darmond (Morgan 9m. 5⅕s.

The cup offered by the President o the French Republic was gained by th Velocette team (equipped with th smallest capacity engines that finished

The *Moto-Revue* Challenge Cup wa gained by the Harley-Davidson sidec team—Verpault, L. Psalty, and Walbro

FROM PARIS TO THE RIVIERA.

Scenes in the Recent Paris-Nice Trial which attracted Considerable Interest throughout France.



(1) Two of the French-built A.B.C. motor cycles passing through a lane of interested spectators, such as was encountered in every control. (2) Kaye Don, the Zenith rider, one of the fourteen British competitors. (3) A French competitor on a 3½ h.p. Norton, a British machine which did well by obtaining four gold medals with four entries. (4) Competitors arriving in a mid-French town. (5) The competing motor cycles parked at Lyons for exhibition. (6) The starting after a check.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

WHEN WILL PRICES FALL?

Sir,—What about stocks of material in hand (purchased on the low market) when the finished articles were being sold on the highest market? You cannot have it both ways!

ARTHUR E. BALL.

PRICES OF CARBIDE.

Sir,—I wish to draw the attention of "Carbidier," who, in his letter of February 24th, asks why he has to pay 1s. 2d. per lb. for carbide. I admit myself that "it is a bit thick," but my point is that there is carbide (lumps) and carbide (dust). I myself, as a trader, am paying 49s. per cwt. wholesale. So whether the carbide at 31s. per cwt. retail is dust or not against my 49s. wholesale (real lumps), I leave to "Carbidier" to think out. TRADER.

Tenterden.

SIDECARRING EXTRAORDINARY.

Sir,—As a weekly reader of *The Motor Cycle*, I thought perhaps a little incident that happened recently might be of some interest to your readers. We are ladder makers, and lately a gentleman called on us and ordered a fifty-rung ladder to be made. A few days after he called to know if it were ready, and on being told it was quite ready but would not be delivered for a day or two he said, "Never mind, I will take it with me." When asked how he intended taking it, he said, "On my sidecar"; and, very much to our surprise, he laid the ladder (which measured over 40ft. long) on top of the sidecar, and rode off through the busy streets of the town with no more concern than if he had had a lady in the sidecar. A. BEER.

FOUR-STROKING.

Sir,—My experience is exactly similar to that of your correspondent, Mr. J. W. Clamp in *The Motor Cycle* of February 24th.

I find that normal two-stroking is only disturbed *(a)* on falling gradients, and *(b)* riding before a strong wind.

In both cases the engine is driven, or at least partially driven, by the machine, so to speak, and four-stroking is due to absence or deficiency of load, as is easily proved by a *very slight* application of the brake when two-stroking is resumed.

Could the problem not therefore be solved by some particular adaptation of the carburetter to the above conditions? ROADSTER

Portobello.

CAR V. SIDECAR.

Sir,—I am always interested to read in your correspondence columns what readers consider to be their ideal machines, and am writing to give you my humble opinion. I am a sidecar enthusiast, and have owned and tried a single-cylinder and twin-cylinder outfit, and have also tried a four-wheeled 8 h.p. runabout. My opinion, after trying the above, is that a medium-powered outfit is the cheapest and handiest way of motoring for two people. I would prefer a car any time if it was a good one, but my experience teaches me that it is better to have a first-class sidecar outfit than a second or third-rate car when one's means are limited like my own.

Here is what I consider the main points of my ideal outfit: a 6 h.p. twin-cylinder engine with outside flywheel, magneto behind the engine, three speeds and clutch, and kick start. I would like the shaft drive (similar to the F.N.), as I consider this better than chain or belt transmission, interchangeable wheels with 28×3in. tyres, *two* good internal expanding brakes, and I like the simplicity of the spring seat-pillar in preference to a spring frame. A tank to hold two and a half gallons of petrol and half a gallon of oil. A good bulbous back sidecar, well-sprung and with plenty of leg room, would complete my ideal 'bus. HOPEFUL.

Leeds.

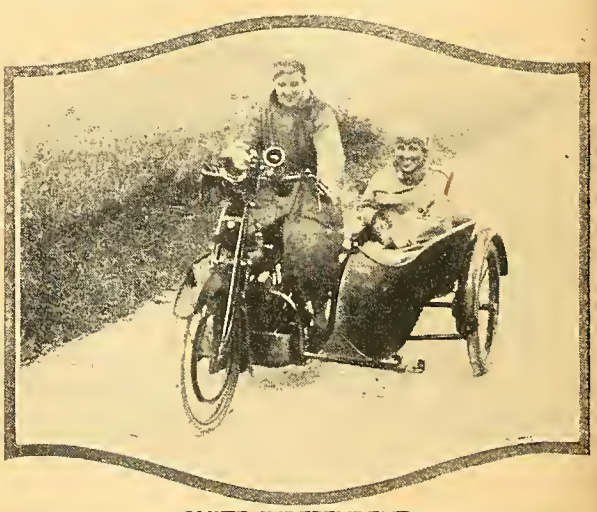
A PRICELESS LICENCE HOLDER!

Sir,—Possibly some of your readers might like to know how it is possible to make a licence holder in ten minutes, practically without tools, and at a cost of—nothing.

Recently, on the arrival of my licence, a tour of the garages here (Winchester) elicited the fact that no holder at a less price than 6s. 6d. was available, and considering this excessive on top of a £4 tax, I routed out a shallow cigarette tin lid, square in shape, and just taking the licence. The first process was to punch two small holes in the back, through which a piece of copper wire was passed to serve as an improvised clip. Then I "slit" each of the four sides at the corners. Next, from the interior of my old army hat, I rescued the circular piece of transparent celluloid, and from this cut two square sheets, the same size as the licence.

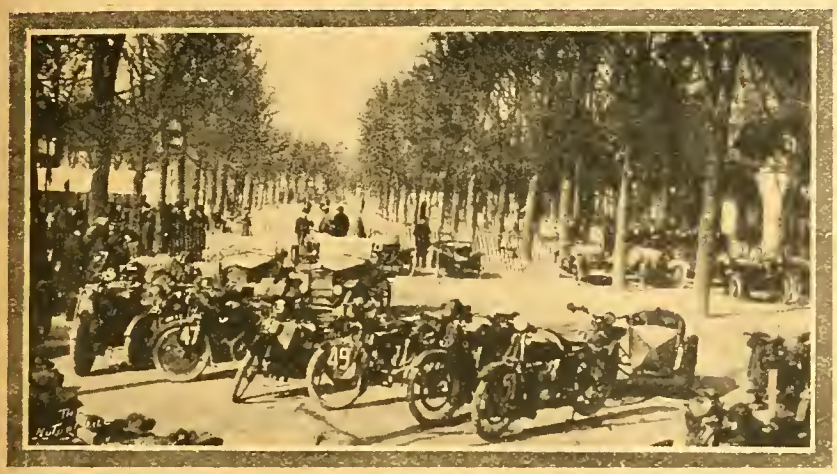
Everything now ready, first a thin layer of packing was placed in the bottom of the lid (to prevent the wire previously mentioned from chafing the licence), then the licence, sandwiched between the two squares of celluloid.

All that remained to be done was carefully and tightly to hammer down the sides of the lid, taking particular care that the corners overlapped properly. The result was a serviceable, if not particularly picturesque, holder, and likely to survive all weathers. The holder is square instead of the popular circular shape; but this, of course, does not signify. No patent has been applied for! DOUGLAS E. ROSS.



QUITE INDEPENDENT

The wife or fiancée of a motor cyclist is wise indeed who learns to handle a motor cycle. What can be nicer than to get out on the open road whilst the husband is at business, instead of waiting for him to take the machine out at week ends? The sidecar illustrated is a Lea-Francis, on a Kentish road



THE PARIS-NICE TRIAL.

En route for the South. A group of competing machines. Incidentally, many complained bitterly of the pot-holes encountered, and were unfortunate with their tyres.

WHERE WILL THE MONEY GO?

Sir,—In your issue of February 24th "Paghaled Wallah" says it would be interesting to know the total revenue derived from the new scale of taxation of motors. I should say it would be more so to know the total amount derived from the tax put on petrol some years ago and what has been done with it.

If I remember rightly, it was put on for the maintenance and upkeep of the roads, yet almost every road nowadays is in a most scandalous condition. From Birmingham to Nottingham the roads are not fit to travel on, especially between Seckington and No-Man's-Heath, where they are worse than ploughed fields, and have been for years. Now a good many of us would like to know whether any pressure can be put on anywhere to get something done. Where has the money gone? AU GRAND SERIEUX.

Burton-on-Trent.

[According to the report of the "Departmental Committee on Taxation and Regulation of Road Vehicles in Great Britain and Ireland," £6,582,500 is required for improvements of roads. England and Wales £4,700,000, Scotland £382,500, Ireland £500,000, County and Metropolitan Boroughs £1,000,000. The estimated proceeds in round figures of the new rates were given as follows: 265,000 motor cycles £850,000, 210,000 private cars £3,300,000, 70,000 hackney vehicles £1,125,000. 107,500 commercial vehicles, etc., £2,300,000, motor drivers' licences, etc., £450,000, total £8,025,000. The number of vehicles was estimated as at midsummer, 1920.—ED.]

BRITISH V. AMERICAN SPEEDS.

Sir,—I am much interested in the correspondence in your columns as to the reason why a motor cycle in England does not give the same speed under the same conditions as in the States. Your correspondent's, Mr. Hartley's, suggestion is clearly based on a fallacious reason, although he may have hit upon the correct cause of the discrepancy. It is the water vapour in the air which leads to the trouble.

Here are the reasons. Assuming a hypothetical case in which we have a cycle of cylinder capacity such that one litre (1,000 c.c.) of pure dry air, mixed with the exact quantity of pure benzene vapour (31 c.c.), just fills the cylinder and completes combustion. The equation is:

$$2C_6H_6 + 15O_2 = 2CO_2 + 6H_2O$$

Benzene. Oxygen.

This means that 156 parts of benzene require 240 parts of oxygen for their combustion. But air is not pure oxygen, and to supply the necessary oxygen we shall want 1,030 parts of pure dry air.

Assuming English air at 20°C. to enter the cylinder completely saturated with water vapour, we shall find by calculation that it requires 0.189 gram of benzene for its complete combustion, whereas American air, only half saturated with water vapour, would require 0.192 gram of benzene. Pure dry air, with no water vapour, would require 0.195 gram of benzene. It is obvious that 0.192 gram of fuel will give out more energy than 0.189 gram of fuel.

The difference, although slight, would account for a 1½% drop in power developed.

There is a further source of loss, also. The extra water vapour in English air would require to be heated up to the temperature of explosion, and this would absorb a further quantity of power.

This example, although hypothetical, explains the paradox. Needless to say, motor fuel is not pure benzene, nor is English air always fully saturated. But the facts are relatively correct for ordinary fuels and ordinary air. CHEMIST.

Huddersfield.

Sir,—Whilst the correspondence on this matter, in your issue for February 24th, clearly showed the fallacy of supposing that dry air decreased the wind resistance on a motor cycle, it was not mentioned that the density of the air has a great deal to do with engine performance.

On page 60 of *The Automobile Engineer* for February there are, amongst other things, tables of how the b.h.p. and i.h.p. of a given engine vary at different altitudes.

A rough glance at these indicates an increase of about 10% more horse-power for a greater air density equivalent to an increase of 2in. barometric pressure.

It appears that the air on these American tracks is considerably dryer, and, presumably, hotter, than in England. What the actual air density is I do not know. But, supposing the average barometric pressure to stand 2in. higher than our own standard, there would be the 10% increase of horse-power available for a given engine. That the increased horse-power outweighs the increased resistance of a greater air density is shown by the fact that aeroplanes make their highest speeds at the lowest possible altitudes.

I do not put forth this argument to account completely for the increased speeds obtained on motor cycles in America, but more to interest motor cyclists in general in the fact that an engine of low volumetric efficiency, such as most two-strokes, may be adversely affected when climbing over a mountain pass, for instance. N.S.D.

Cambridge.

LIMITATION OF T.T. ENTRIES.

Sir,—I notice that it has been decided to limit arbitrarily the number of entries for the T.T. races to 100.

It seems to me a pity to turn away money, and possibly also good performers, and I would suggest to the A.C.U. that a better way would be to alter the time for the Senior qualifying practice lap from 60m. to 50m., and for the Junior from 80m. to 60m.

This would, I think, weed out the bad machines, and/or bad riders, and also keep the actual number of starters down to a suitable figure.

When the present course was first used, quite as much skill was needed to go round in 60m. and 80m. respectively as is now required with the improved modern machine to do 50 and 60 minute laps.

My suggestion seems reasonable, because, I take it, the A.C.U. wants to make the races a financial success, and also, if possible, to give everybody a chance.

My experience has been that, even in 1914, there was never any congestion during practice, and for the actual races I take it that the number of starters is limited to the number that can be got away before the first man is due round for completion of his first lap.

After all, if it should turn out that for reasons connected either with man or machine an entrant is unable to get round comfortably in the suggested modified times, he is far better out of the actual races; and, from the general public's point of view, the spectacle will not be affected in the least. VIVIAN OLSSON.

FOR THE ATTENTION OF THE MINISTRY OF TRANSPORT!

Sir,—Your correspondents "Commonsense" and G. W. Huntbach are of the opinion that the speed limit should vary with the nature of the road, on different parts of the same road, and with the weight of the vehicle.

No one will deny the justice of these suggestions; my only criticism is that several additional factors should be taken into account. I submit that the formula

$$\frac{A \times c\,(x+v)}{w^2+d \times re}\,K$$

should determine the legal speed limit in any given case, where

A = the width of the road in feet.

c = the diameter in metres of a circle of which the road forms an arc.

x = the distance in yards from the nearest cross-roads.

w = the weight of the vehicle in pounds.

r = the ratio of its horse-power to brake power.

v = the visibility in yards.

e = the number of endorsements on the driver's licence.

K = a constant, and

d = the distance in miles from the nearest hospital.

No difficulty should be experienced in persuading Sir Eric Geddes to introduce a regulation that all vehicles be fitted with an automatic governor controlling the speed of the machine according to this formula. The question would then be finally settled. L. P. GARROD.

AUTOMATIC LUBRICATION—A REPLY TO "K.B."

Sir,—Having read the letter of your correspondent "K.B." in your issue of February 10th, criticising the Peters system of automatic engine lubrication, we hope you will extend the courtesy of your columns to this reply.

As you kindly point out, the Peters machine on which this system is embodied is a two-stroke, and while, approximately, the same ratio of exhaust opening occurs as with a four-stroke, it occurs in two periods to the one period of the four-stroke. However, while we have not tested this system on a four-stroke engine, we have no doubt it could be adjusted to work on an engine of that type as effectively as it does on our own machine.

To reply in detail to "K.B.'s" criticisms so far as they affect the Peters machine, and in the order of his letter:

The silencer, while being of large capacity, and thus allowing the gases to cool and contract in emission, has not an unduly restricted outlet, but it must be admitted that in any silencer as fitted to motor cycles the mean internal pressure is appreciably above atmospheric. By tapping the exhaust pipe close to the port with a pipe running to the top of the oil tank of large length to bore ratio, the flow of the gases is restricted, and the variations about the mean pressure within the tank are reduced.

While "K.B.'s" remarks anent inertia are not strictly accurate, and we would refer him to a study of "wave impulse" gear for further information on this point, it is certainly a matter of degree, and the inertia of the oil will assist in damping out oscillations and keeping the flow past the needle valve steady at the rate due to mean exhaust pressure. Were this not so, however, and even if the pressure varied as "K.B." suggests, he seems to miss the fact that a flow of oil would occur at times of maximum pressure. This would be far less intermittent than even the usual drip feed. If "K.B." will again study the Peters system he will find that his suggested non-return valve would not only complicate an at present ideally simple system, but would destroy its most essential and pleasing features, its automaticity of control of supply, and starting and stopping.

The small pipes leading from the exhaust to the paraffin gadgets, referred to by "K.B.," are in no case analogous, as there a large flow of gas is essential, whereas, in our case, once the pressure is established there is no considerable flow. Further, this pipe, being also the decompressor pipe, is scavenged in the outward direction by the flow of clean unfired gas when decompressing. In the light of our experience, if this pipe is cleaned when the cylinder is decarbonised there is no possibility of trouble in this direction.

As the ordinary type of drip feed is by gravity from drip to engine, we fail to understand "K.B.'s" remarks upon this point. As, further, the feed pipes in the Peters system are warmed by being run in a cluster with the pressure pipe, we feel we can claim a distinct advantage in the feeding of oil in cold weather.

Discussing the question of loss of tank pressure, if this is due to an obstruction in the pressure pipe this obstruction would have to seal the pipe to take effect (a thing practically impossible), and long before this occurs a warning is given by the choked state of the pipe when decompressing. If this is due to a leaky filler cap this would have to be so bad as to allow a free flow for the whole volume of gas passed by the pressure pipe, and such a condition would be immediately obvious to the senses of smell and sight. We have already settled the question of a non-return valve.

In the case of a choked feed pipe (a most unlikely event) oil would be forced through the vent and give obvious warning. When the tank runs empty exhaust gas is emitted from the vent and again the warning is obvious.

J. A. PETERS.

MORE TAXATION ANOMALIES.

Sir,—I see that I ought to have prefaced my notes on the subject of taxation with the remark, "This is, in part, intended as a joke." This omission has been kindly made good by the Editor in the reference to a letter from "Fortiter et Recte," but I fear that "Chi" has also missed the point of some of my remarks.

What I maintain is that motor cyclists in general do not so much object to an increase in taxation as to the very obvious injustices which the new regulations contain. One of these injustices I endeavoured to point out by means of a suppositious case. The question is not whether a machine weighing 198 lb. can draw a heavy sidecar with satisfaction to its owner, but, since the new taxation is on a weight basis, which should pay the greater tax—a solo machine weighing 205 lb. or a sidecar outfit weighing over 300 lb. The case I put is not so absurd as "Chi" thinks, for have we not heard of the wonderful sidecar performances put up by the Ivy and many other little two-strokes? These machines stand up to sidecar work in truly remarkable fashion.

It is true the 2 cwt. makes as absolute a limit as 200 lb.; but if "Chi" will refer to my article he will see that I recommended a more gradual scale of taxation, advancing 10s. as each limit was passed instead of being doubled at 200 lb.

"Chi" says that quarterly licences cannot be granted to motor cyclists because it would affect the revenue adversely. The same thing can be said with equal justice about granting quarterly licences to car owners. The same rules should apply to all.

Motor cyclists want good roads perhaps more than any other form of traffic—motor or otherwise—and are willing to pay their share. But, obviously, those who make most use of the roads and do the most damage should pay most highly for their upkeep.

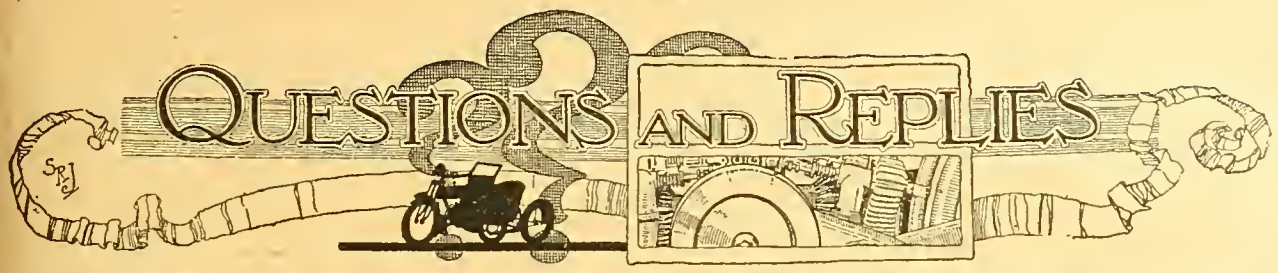
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A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d. stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

ABNORMAL BIG END WEAR

I have a 2½ h.p. four-stroke engine, and am troubled with excessive wear in the big end bush. It requires rebushing after every sixty to one hundred miles. Would it be possible for phosphor-bronze bushes to wear in such a short period; or do you think the shaft is wearing? If the latter, could the shaft be case-hardened; or does it require a new crankshaft? The crankshaft is solid, there is no sign of wear in other bearings, and the engine is kept well oiled.—E.F.M.

If phosphor-bronze is used for the big end bushes they should certainly not require renewing after only 100 miles running. It is unlikely that the shaft itself will wear appreciably in this distance, even if it is not hardened; and we should imagine that the cause of the trouble is in all probability due to your omitting to drill the necessary oil holes in the bush. If the bushes are grooved with suitable oil ways, and the excessive wear still continues, it would be advisable to return the engine to the makers.

MANAGEMENT OF TWO-SPEED MACHINE.

Can you advise me as to the cause of knocking in the engine of my machine when changing from low gear to top after going up a hill? It does this invariably unless the road is at once on the downward grade, *e.g.*, if slightly uphill, yet not sufficiently so to use low gear. I retard the spark at the time of changing, but it needs two or three attempts to get going, and sometimes I have to return to low gear until the road is easier. The machine is a 3½ h.p. Humber with Roc two-speed (1912); engine in fair condition, and top gear 4⅞ to 10. Otherwise it runs well and will take the ordinary short hills with a clear run on top gear, with a passenger on the carrier. The engine is timed to the makers' setting. Owing to a big petrol consumption when I bought the machine, I have lowered the petrol level and am now doing about 80 to 90 m.p.g., but the engine has lost its dash on steep hills.—F.W.S.

In the case of a machine equipped with a two-speed gear with a very wide difference between the high and low ratios, it is usual to experience some difficulty in changing back again to top gear after climbing a hill on low, unless one is actually on the level ground at the top. In order to effect an easy gear change you should speed up the machine to about 10 m.p.h. on low before changing gear, that is, if you wish to get back into top before reaching the actual summit. It is much better, however, with a gear of this description, to continue to the top of the gradient on low gear, reducing the engine speed when it tends to race as conditions become easier, and so completing the climb quite slowly; then change into high gear again when a level stretch of road has been reached. The top gear of 4⅞ to 1 is reasonably high, and this, of course, increases the difficulty of changing. The petrol consumption is not too bad with this type of machine, and you might regain some of the lost power by fitting a slightly larger jet, which you can do without seriously increasing the consumption when you have lowered the level.

Important Dates.

Sat., March 19th—Birmingham M.C.C. "Victory" Reliability Trial.
Sat., March 19th—Stockport M.C.C. Open Hill Climb.
Fri., March 25th—Richmond Meet.
Fri., March 25th, and Sat., March 26th—M.C.C. London Land's End Trial.
Mon., Mar. 28th—Westmerland M.C.C. Open Hill Climb
Mon., Mar. 28th—East Midland Centre A.C.U. Open Hill Climb.
Fri., April 8th, and Sat., April 9th—Western Centre A.C.U. two-day Open Trial.
Fri., April 15th, and Sat., April 16th—Ealing and District M.C.C. London-Holyhead-London 24 hr. Open Trial.
Sat., April 16th—Yorkshire Centre A.C.U. Open Hill-climb.
Sat., April 23rd—Midland Centre A.C.U. Open Reliability Trial.
Wed., April 27th—A.C.U. One-day Trial.
Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.
Sat., May 21st—Western Centre A.C.U. Open Hill Climb.
Wed., May 25th—A.C.U. Silencer Trial at Brooklands.
Sat., May 28th—East Midland Centre A.C.U. Open Hill Climbs.
Tues., June 14th—Junior T.T. Race
Thurs. June 16th—Senior T.T. Race.
Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup
Mon., July 4th to Sat., July 9th—Scottish Six Days Trial.
Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.
Sun., July 24th—Motor Cycle Grand Prix Race in France.
Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.
Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.
Sat., Sept. 17th—Grand Prix Race for Cycle Cars

LEAKING CARBURETTER.

I have experienced continual wastage of petrol through my Amac carburetter dripping. At first I altered the float and tightened the jet, etc., without avail. At last I have traced the trouble to two little holes above the jet chamber from which petrol continually flows. Could you please advise?—L.C.B.

Without actual inspection of the carburetter, we cannot give you a definite answer, but we should imagine that the leakage of petrol from the base of the mixing chamber is due to the level being too high or to the needle valve in the float chamber not seating properly. The level should be so adjusted that barely ⅛in. play is allowed to the float. We suppose, of course, that the float is not punctured and weighted down by petrol which has leaked inside. If the needle valve is leaking, obtain a new needle or grind in the old one with very fine grinding paste. Also make sure that the cone seating of the jet platform in the body of the carburetter does not leak.

A TWO-STROKE FLAT TWIN.

I have a Levis two-stroke horizontally opposed engine in practically new condition which I wish to use on a light cycle car of about 3 cwt., using friction gear. (1.) The bore and stroke are 62×70 mm. respectively; what is the horse-power and the capacity? (2.) What are the average revolutions per minute with load? (3.) Does the magneto, or if coil ignition is used, run at the same speed as engine shaft? (4.) Do the cylinders fire both at the same time? (5.) Can I join the plugs up in parallel, or will they have their connections from separate contacts on the commutator which allows spark to occur? (6.) What is the best means of lubricating this type of engine?—E.F.G.

(1.) The total cylinder capacity is 422 c.c., and the engine is rated at 4½ h.p.; at the same time we think that the car you propose building is much too heavy for such a small engine. (2.) This is a question which you should refer to the makers, but we should imagine that it will give its rated power at about 1,400 to 1,600 r.p.m. (3.) The magneto should run at engine speed. (4.) The cylinders fire simultaneously. (5.) You cannot run the plugs in parallel; you need a special two spark magneto. (6.) You might use the petroil system, but it would be better to lead oil directly to the main bearings; consult the makers.

WEAK SPARK.

While I turn the armature of my magneto by hand it gives a very weak spark with the terminal touching the magnets. While turning at fairly good speed, it only sparks at a gap equivalent to three leaves of *The Motor Cycle*. Do the magnets want remagnetising? I may add they will pick up an article weighing 7 lb.—W.T.

There is apparently some defect in the magneto, as, at a moderate speed, you should get a spark of at least $\frac{1}{16}$in. Make certain that the contact breaker points separate smartly to the extent of $\frac{3}{64}$in., and that the cam ring is in the fully advanced position. There should be no need to have the magnets remagnetised if they will hold a weight of 7 lb.

CORK INSERT CLUTCH.

I have a 6 h.p. machine with a three-speed gear fitted with cork plates in the clutch, and although adjusted almost to full it slips and will not grip unless it is tightened to its full limit. I have had the clutch out, and think it should still stand a great deal more wear. I think that the cork in this case is inclined to chip and wear quickly. Do you think if fitted with Ferodo rings on the same plates it would be satisfactory?—E.R.

While the trouble with your clutch may be due to wear of the cork inserts, it is just possible that it is the result of wear on the splines upon which the clutch plates slide. You should examine these and remove with a file any steps or shoulders which appear on them, as the plates may bind and not close up properly under the pressure of the spring. If this does not effect a cure, it will be necessary to renew the corks. You might be able to obtain Ferodo inserts to replace the corks.

USING A STARTING MAGNETO.

(1.) I have a high-tension magneto which sparks twice in one revolution, but has only one high-tension terminal. The swells on the steel cam are directly opposite. I wish to use this machine on a 2 h.p. (four-stroke) single-cylinder stationary petrol engine. Can I make this magneto give a single spark by altering the steel cam? (2.) If so, shall I have to take off one of the swells or fill up one of the gaps on the cam ring? (3.) The engine is fitted with a sparking plug and battery ignition. If this alteration can be done, will it make any difference to the inside workings of the magneto?—J.W.W.

(1.) Presumably, the magneto is one of those used for the starting of aeroplane engines, and it should work quite well on a single-cylinder four-stroke engine, if you run it at half engine speed. (2.) It would be better if you remove the raised portion of one of the cams; but there is no absolute necessity for doing this, as if you time it so that one of the sparks occur about 4 mm. before the top of the compression stroke, the other spark will occur at the top of the exhaust stroke, where it will do no harm. (3.) The removal of one of the cams would not affect the internal parts of the magneto in any way.

THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read

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the forerunner of all motoring journals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

ADJUSTMENT OF N.S.U. TYPE GEAR.

I purchased an N.S.U. type gear, and I have had it in use about twelve months. It seemed very loose and worn, so I sent it to the makers for overhauling and new parts. I am not complaining of that because I do not understand it very well; but what I should like to know is whether you think I have handled it wrongly. When changing gear, is there any special method to avoid this excessive wear? I notice, by following your pages, that with a countershaft gear it is advisable to lift the exhaust when changing. I do not suppose the instruction will apply to the N.S.U. gear, as the handle is on the same side as the exhaust lifter lever.—J.R.

You do not state the particular nature of the trouble which arose with your N.S.U. gear, therefore we cannot help you very far. The main bearings of this gear are adjustable, but you might not be able to carry this out yourself unless you are fairly skilful in the use of tools. The adjustment is made by unscrewing the left-hand lock ring on the pulley body with the large C spanner provided. As the ring is turned, one of its notches will uncover a small grub screw, which will release the pulley body on its thread. Tap the body of the gear a little to the left to tighten the bearings, and replace the grub screw, and finally knock up the lock ring very securely. Gear changing should be done quickly, and there is no necessity to raise the exhaust valve lift, although we have never found any difficulty in so doing while operating the gear with the right hand. If the gear is controlled by the left hand, you may throttle down at the same time, opening out again when changing from low to top.

EXPERIENCES WANTED.

"L.S." (Sandown, I.O.W.).—8 h.p. Campion taxi outfit. Costs, ease of starting, licences, etc.

RECOMMENDED ROUTES

KETTERING TO BRIGHTON.—T.P.B.

Kettering, Northampton, Towcester, Buckingham, Aylesbury, Wendover, Amersham, Beaconsfield, Slough, Windsor, Chertsey, Weybridge, Cobham, Leatherhead, Dorking, Horsham, Brighton.

ERITH TO TORQUAY.—A.S.

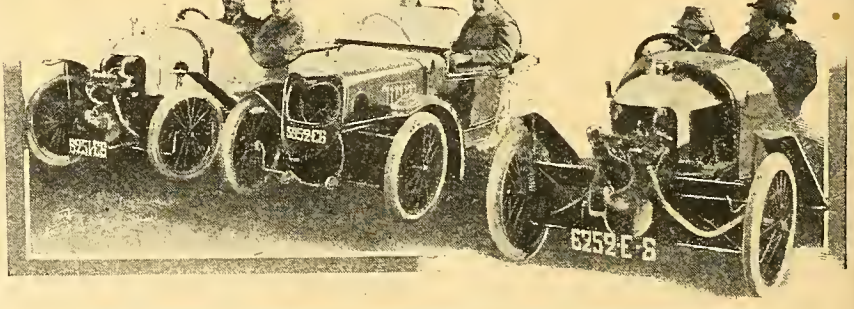
Erith, Sidcup, Bromley, Croydon, Sutton, Epsom, Leatherhead, Guildford, Farnham, Alton, Alresford, Kingsworthy, Winchester, Stockbridge, Salisbury, Wilton, Shaftesbury, Sherborne, Yeovil, Crewkerne, Chard, Honiton, Exeter, Dawlish, Teignmouth, Torquay. Approximately 206 miles.

BEDFORD TO FARNHAM.—W.M.

Bedford, Ampthill, Flitwick, Toddington, Houghton Regis, Dunstable, Newmill, Berkhamsted, Chesham, Amersham, Beaconsfield, Farnham Common, Farnham Royal, Slough, Eton, Windsor, Virginia Water, Sunningdale, Bagshot, Farnborough, Aldershot, Farnham. Approximately 79 miles.

COTTINGHAM TO GREENWICH.—J.C.

Cottingham, Hull, Barrow-upon-Humber, Croxton, Milton Ross, Wrawby, Brigg, Spital-in-the-Street, Lincoln, Leadenham, Manthorpe, Grantham, Colsterworth, Great Casterton, Stamford, Wansford, Peterborough, Norman Cross, Stilton, Alconbury Hill, Buckden, Eaton Socon, Girtford Bridge, Biggleswade, Baldock, Stevenage, Welwyn, Hatfield, Potters Bar, Botany Bay, Enfield, Chingford Green, Woodford Green, Snaresbrook, High Street, Wanstead, Cambridge Park Road, Blake Hall Road, Rabbits Road, Romford Road, North Woolwich, Woolwich, Greenwich. Approximately 199 miles.



GOLD MEDAL WINNING MORGANS IN THE PARIS-NICE TRIAL.

It will be observed that one of them differs slightly from the standard design of the Grand Prix model, the one on the left having a completely enclosed bonnet. Built under licence in France.

RELATIVITY: WHAT IS IT?

The Much-talked-of Einstein Theory—a Problem for the Thinker and the Mathematician.

THE reader is probably acquainted with the method of specifying positions of points in a plane by their distances from two mutually perpendicular lines, or if the points are in space by their distances from three mutually perpendicular planes like adjacent sides of a flat-sided box. The method is, in fact, in common use for exhibiting relations between quantities by graphs or diagrams. These sets of axes, as they are called, together with any scales used for measuring, must be supposed rigid, otherwise the events or points which they are used to specify are indefinite. The lengths which locate any point with reference to a set of axes are called its co-ordinates.

When such systems are used for physical purposes, they must be supplemented by clocks to enable the times at which events occur to be determined. The clocks must be synchronised, and must go at the same rate, but it must suffice here to state that this is possible without indicating how these conditions can be attained. A system of axes with its clocks will hereinafter be called a Frame of Reference, and every observer will be supposed to be provided with such a frame partaking of his motion. All the objects which partake of an observer's motion will be called his *system*.

It is a question whether among all possible frames of reference any one frame or class of frames is more suited than another for the mathematical statement of physical laws. This is for experience to decide, and a Principle of Relativity is a statement embodying the answer.

The Mechanical Principle of Relativity.

It has been ascertained that all such frames are equally suitable for the mathematical statement of general *mechanical* laws, provided that their motion is rectilinear and uniform and without rotation. This fact is comprehended in the general statement that *all unaccelerated frames of reference are equivalent for the statement of the general laws of mechanics*. This is the mechanical principle of relativity.

It is well recognised, however, that the laws of dynamics as hitherto stated involve the following assumptions:

(1.) Lengths of rigid bodies are unaffected by the motion of the frame of reference.

(2.) Measured times are likewise unaffected.

That is to say, that any length measured on his own system by either of two relatively moving observers appears the same to both observers, or that lengths of objects and rates of clocks do not alter whatever the motion relative to an observer. These assumptions seem so obvious that it is scarcely perceived that they are assumptions at all. Yet this is the case, and, as a matter of fact, they are both untrue.

The Special Principle of Relativity.

Although all unaccelerated frames of reference are equivalent for the purposes of mechanical laws, this is not the case for physical laws generally as long as the above suppositions are adhered to. Electro-magnetic laws *do* alter their form according to the motion of the frame of reference—that is to say, if these suppositions are true, electro-magnetic agencies act in different ways according to the motion of the system in which they occur. There is nothing *a priori* impossible in this, but it does not agree with experiment. The motion of each locality on the earth is continually changing from hour to hour, but no corresponding changes occur in electro-magnetic actions. It has, however, been ascertained that on discarding these suppositions the difficulty disappears, and electro-magnetic laws retain their form under all circumstances of unaccelerated motion. According to the theory of relativity, the correct view which replaces these suppositions is deducible from the following postulates:

(1.) By no experiment conducted on his own system can an observer detect the unaccelerated motion of his system.

(2.) The measure of the velocity of light in *vacuo* is unaffected by relative motion between the observer and the source of light.

Both these postulates are well established by experiment. The first may be illustrated by the familiar difficulty of determining whether a slowly moving train one happens to be sitting in, or an adjacent one, is in motion. The passenger has either to wait for bumps (that is, accelerations) or else he has to look out at some adjacent objects which he knows to be fixed, such as a building (that is, he has to perform an experiment on something outside his system), before he can decide.

The second postulate is an obvious consequence of the wave theory of light. Just as waves in water, once started by a ship, travel through the water with a velocity independent of the ship, so waves in space travel onward with a speed bearing no relation to that of the body which originated them.

It is not difficult to deduce from these postulates certain remarkable conclusions relating to the systems of two observers, A and B, in relative motion, among them the following:

(1.) Objects on B's system appear to A to be shorter in the direction of relative motion than they appear to B.

(2.) This opinion is reciprocal. B thinks that A's measurements on A's system are too great.

(3.) Similarly for times; each observer thinks that the other's clocks have a slower rate than his own, so that B's durations of time appear shorter to B than to A, and conversely.

(4.) Events which appear simultaneous to A do not in general appear so to B, and conversely.

(5.) Lengths at right angles to the direction of motion are unaffected.

(6.) These efforts vary with the ratio of the relative velocity to that of light. The greater the relative velocity, the greater the effects. They vanish if there is no relative velocity.

(7.) For ordinary velocities the effects are so small as to escape notice. The remarkable point, however, is their occurrence rather than their magnitude.

(8.) The observers similarly form different estimates of the velocities of bodies on each other's systems. The velocity of light, however, appears the same to all observers.

Taking into account these revised views of lengths and times, the mechanical principle of relativity may be extended to physical laws generally as follows: *All unaccelerated frames of reference are equivalent for the statement of the general laws of physics.* In this form the statement is called the Special, or Restricted, Principle of Relativity, because it is restricted to unaccelerated frames of reference.

The Four Dimensional Continuum.

Lengths and times, therefore, have not the absolute character formerly attributed to them. As they present themselves to us they are relations between the object and the observer which change as their motion relative to him changes. Time can no longer be regarded as something independent of position and motion, and the question is what is the reliability? The only possible answer is that objects must be regarded as existing in four dimensions, three of these being the ordinary ones of length, breadth, and thickness, and the fourth, time. The term "space" is applicable only by analogy to such a region: it has been called a "continuum," and the analogue of a point in ordinary three-dimensional space has been appropriately called an "event." By "dimension" must be understood merely one of four independent quantities which locate an event in this continuum. In the nature of the case, any clear mental picture of such a continuum is impossible; mankind does not possess the requisite faculties. In this respect the mathematician enjoys a great advantage. Not that he can picture the thing mentally any better than other people, but his symbols enable him to abstract the relevant properties from it and to express them in a form suitable for exact treatment without the necessity of picturing anything, or troubling whether or not the properties are those on which others rely for their conceptions.

Gravitation and Acceleration.

The limitation of statements of general law to uniformly moving systems is hardly satisfactory. The very concept of general law is opposed to the notion of limitation. But the difficulties of formu-

RELATIVITY.

A great percentage of our wide circle of readers are technical men, so that Professor Einstein's Theory of Relativity will be familiar to them; those less fortunate readers interested in science will benefit by a study of Mr. Bolton's Prize Essay on Professor Einstein's book. Because it is a little known subject, because it has limitless applications, and because it challenges hitherto accepted natural laws, is our reason for publishing the winning essay. A limit of 3,000 words was placed upon the essay, and it is pleasing to know that an Englishman, Mr. L. Bolton, of the Patent Office in London, has been awarded the £5,000 prize from amongst thousands of competitors scattered over the world.

Relativity: What Is It?—

lating a law so that the statement of it shall hold good for all observers, whose systems may be moving with different and possibly variable accelerations, are very great. Accelerations imply forces which might be expected to upset the formulation of any general dynamical principles, and besides, the behaviour of measuring rods and clocks would be so erratic as to render unmeaning such terms as rigidity and measured time, and therefore to preclude the use of rigid scales, or of a rigid frame of reference which is the basis of the foregoing investigation.

The following example taken from Einstein will make this clear, and also indicate a way out of the difficulty. A rotating system is chosen, but since rotation is only a particular case of acceleration it will serve as an example of the method of treating accelerated systems generally. Moreover, as it will be seen, the attribution of acceleration to the system is simply a piece of scaffolding which can be discarded when the general theory has been further developed.

Let us note the experiences of an observer on a rotating disc which is isolated so that the observer has no direct means of perceiving the rotation. He will therefore refer all the occurrences on the disc to a frame of reference fixed with respect to it, and partaking of its motion.

He will notice as he walks about on the disc that he himself and all the objects on it, whatever their constitution or state, are acted upon by a force directed away from a certain point upon it and increasing with the distance from that point. This point is actually the centre of rotation, though the observer does not recognise it as such. The space on the disc, in fact, presents the characteristic properties of a gravitational field. The force differs from gravity as we know it by the fact that it is directed away from, instead of toward, a centre, and it obeys a different law of distance, but this does not affect the characteristic properties that it acts on all bodies alike, and cannot be screened from one body by the interposition of another. An observer aware of the rotation of the disc would say that the force was centrifugal force; that is, the force due to inertia which a body always exerts when it is accelerated.

Another Example.

Next suppose the observer to stand at the point of the disc where he feels no force, and to watch someone else comparing, by repeated applications of a small measuring rod, the circumference of a circle having its centre at that point, with its diameter. The measuring rod when laid along the circumference is moving lengthwise relatively to the observer, and is therefore subject to contraction by his reckoning. When laid radially to measure the diameter this contraction does not occur. The rod will therefore require a greater proportional number of applications to the circumference than to the diameter, and the number representing the ratio of the circumference of the circle to the diameter thus measured will, therefore, be greater than 3.14159+, which is its normal value. Moreover the relative velocity decreases as the centre is approached, so that the contraction of the measuring rod is less when applied to a smaller circle; and the ratio of the circumference to the diameter, while still greater than the normal, will be nearer to it than before, and the smaller the circle the less the difference from the normal. For circles whose centres are not at the point of zero force the confusion is still greater, since the velocities relative to the observer of points on them now change from point to point. The whole scheme of geometry as we know it is thus disorganised. Rigidity becomes an unmeaning term, since the standards by which alone rigidity can be tested are themselves subject to alteration. These facts are expressed by the statement that the observer's measured space is non-Euclidean: that is to say, in the region under consideration measurements do not conform to the system of Euclid.

The same confusion arises in regard to clocks. No two clocks will in general go at the same rate, and the same clock will alter its rate when moved about.

The General Principle of Relativity.

The region therefore requires a space-time geometry of its own, and be it noted that with this special geometry is associated a definite gravitational field; and if the gravitational field ceases to exist, for example if the disc were brought to rest, all the irregularities of measurement disappear, and the geometry of the region becomes Euclidean. This particular case illustrates the following propositions which form the basis of this part of the theory of relativity:

(1.) Associated with every gravitational field is a system of geometry, that is, a structure of measured space peculiar to that field.

(2.) Inertial mass and gravitational mass are one and the same.

(3.) Since in such regions ordinary methods of measurement fail, owing to the indefiniteness of the standards, the systems of geometry must be independent of any particular measurements.

(4.) The geometry of space in which no gravitational field exists is Euclidean.

The connection between a gravitational field and its appropriate geometry suggested by a case in which acceleration was their common cause is thus assumed to exist from whatever cause the gravitational field arises. This of course is pure hypothesis, to be tested by experimental trial of the results derived therefrom.

Gravitational fields arise in the presence of matter. Matter is therefore presumed to be accompanied by a special geometry, as though it imparted some peculiar kink or twist to space which renders the methods of Euclid inapplicable, or rather we should say that the geometry of Euclid is the particular form which the more general geometry assumes when matter is either absent or so remote as to have no influence. The dropping of the notion of acceleration is, after all, not a very violent change in point of view, since, under any circumstances, the observer is supposed to be unaware of the acceleration. All that he is aware of is that a gravitational field and his geometry coexist.

Gaussian Co-ordinates.

The prospect of constructing a system of geometry which does not depend upon measurement may not at first sight seem hopeful. Nevertheless this has been done. The system consists in defining points not by their distances from lines or planes (for this would involve measurement) but by assigning to them arbitrary numbers which serve as labels bearing no relation to measured distances, very much as a house is located in a town by its number and street. If this labelling be done systematically, regard being had to the condition that the label-numbers of points which are close together should differ from one another by infinitesimal amounts only, it has been found that a system of geometry can actually be worked out. Perhaps this will appear less artificial when the fact is called to mind that even when standards of length are available no more can be done to render lengths of objects amenable to calculation than to assign numbers to them, and this is precisely what is done in the present case. This system of labelling goes by the name of "Gaussian co-ordinates" after the mathematician Gauss who proposed it.

Space-time Continuum.

It is in terms of Gaussian co-ordinates that physical laws must be formulated if they are to have their widest generality, and the general principle of relativity is that *all Gaussian systems are equivalent for the statement of general physical laws.* For this purpose the labelling process is applied, not to ordinary space, but to the four dimensional space-time continuum. The concept is somewhat difficult, and it may easily be aggravated into impossibility by anyone who thinks that he is expected to visualise it. Fortunately, this is not necessary; it is merely one of these irrelevancies to which those who are unaccustomed to think in symbols are liable.

Gravitation Stands Pre-eminent.

It will now be seen that among physical laws the law of gravitation stands pre-eminent, for it is gravitating matter which determines the geometry, and the geometry determines the form of every other law. The connection between the geometry and gravitation is the law of gravitation. This law has been worked out, with the result that Newton's law of the inverse square is found to be approximate only, but so closely approximate as to account for nearly all the motions of the heavenly bodies within the limits of observation. It has already been seen that departure from the Euclidean system is intensified by rapidity of motion, and the movements of these bodies are usually too slow for this departure to be manifest. In the case of the planet Mercury the motion is sufficiently rapid, and an irregularity in its motion which long puzzled astronomers has been explained by the more general law.

Another deduction is that light is subject to gravitation. This has given rise to two predictions, one of which has been verified. The verification of the other is as yet uncertain, though the extreme difficulty of the necessary observations may account for this.

Since light is subject to gravitation, it follows that the constancy of the velocity of light assumed in the earlier part of this paper does not obtain in a gravitational field. There is really no inconsistency. The velocity of light is constant in the absence of gravitation, a condition which unaccelerated motion implies. The special principle of relativity is, therefore, a limiting case of the general principle.—*Scientific American.*

CURRENT CHAT



Special Features.

COLMORE CUP TRIAL.
RELATIVITY—WHAT IS IT?
A HIGH-POWERED RADIAL.

Times to Light Lamps.

Mar. 10th	...	...	6.23 p.m.
,, 12th	...	...	6.26 ,,
,, 14th	...	...	6.30 ,,
,, 16th	...	...	6.33 ,,

Next Thursday.

The annual Spring Number of *The Motor Cycle*.

The London-Land's End Run.

Can Porlock be climbed at 18 m.p.h.? This subject, ventilated in *The Motor Cycle*, has aroused great interest. Last week quite a number of competitors were seen practising on the gradient.

Honour.

To win a gold medal in this year's London-Land's End will be proof indeed of fine riding on a fast and reliable machine. It will be an award worth the winning.

Oil Coming Down.

Pennsylvanian oil has been further reduced in price from $3.75 to $3.00 per barrel, against $6.10 per barrel three months ago. Before long the prices of paraffin and petrol must be affected.

Teams in the Two-day Trial.

Already more than fifty entries have been received for the Western Centre A.C.U. Two-day Trial. Many clubs are entering teams, and it is expected that all team prizes will be keenly competed for.

Radial Engines.

Will the radial engine become popular on motor cycles? This type of engine seems to be engaging the attention of designers, and as a type appears to offer certain advantages over the four-cylinder type. On page 285 we illustrate an interesting design embodying this type of engine.

Dazzling Lamps on Motor Cars.

It has been suggested (says *The Autocar*) that the regulations which will govern the head lamps of the future will limit the beam of light so that it shall not rise above a certain point, the idea being that it will never rise above the shoulder level of pedestrians. In America certain restrictions as to the height of the beam have been in force for some time; and, to judge from the lamps on American cars subject to these restrictions, they have not been at all successful.

The Motor Cycle Industry.

The Illustrated Buyers' Guide, which will be one of the features of next Thursday's enlarged Spring Number, will convey a good idea of the immensity of motor cycle industry in this country.

Random Jottings.

The Autocar recently contained some amusing new Euclid elements. A *plane figure* is described as an hotel bill; an *obtuse angle* is so called by the driver who has failed to negotiate it "in one." A *circle* is the figure described by the motorist who lacks the bump of locality.

Getting Ready for the Road.

Those thinking of purchasing a road map will do well to obtain the list of maps issued by the publishers of *The Motor Cycle*, 20, Tudor Street, London, E.C.4. One set of three is specially prepared for motor cyclists and costs 5s. 6d. (5s. 9d. post free) in waterproof case. One of the maps is unique in character, and distinctly shows not only how to get into or out of London, but also how the Metropolis may be avoided. In addition to the motor cyclist's set, there are many others which will be even more useful to him at a slightly extra cost.



PICKNICING IN WINTER.

This photograph was taken during a week-end in February, and eloquently demonstrates the remarkable weather conditions of last month. Motor cyclists by the thousand took advantage of the brilliant sunshine, the main roads being as thronged as in the summer time.



ACCELERATION TEST IN THE COLMORE CUP TRIAL.
F. A. Watson (3½ Sunbeam sc.), followed by H. R. Lane (2¾ Levis), in the slow section on Saintsbury Hill.

London-Land's End.

Trial riders like a difficult task. As a result of our recent comments on the severity of the Porlock-Lynton section of the London-Land's End trial, there are over 200 entries. Our criticisms acted as an incentive to those hesitating about entering.

Incidentally, the machine used by Mr. W. H. Wells, who covered the Porlock-Lynton section with time in hand, as mentioned last week, was a 7-9 h.p. Indian sidecar.

The A.C.U. Annual General Meeting.

The annual general meeting of the Auto-Cycle Union will be held at the Royal Automobile Club to-morrow (Friday) evening, March 11th, at 6 p.m. Immediately after this meeting it is proposed to hold a meeting of the three centres converging on London, and motor cyclists living in those centres are specially requested to attend.

Coming Events—?

"The disappearance of the Ministry of Transport may involve serious and important drastic alterations in existing motor law, particularly as concerns business motor traffic," says *Motor Transport*, "for not only the Ministry of Transport Act, but the Roads Act, is essentially based on the existence of the Ministry of Transport organisation."

High Speeds in America.

E. Walker (7-9 Harley-Davidson) won all the events on February 22nd at Fresno, California, U.S.A., averaging over 100 m.p.h. in various short distance races.

According to the telegram received from the Harley-Davidson Company's works, these times are faster than the existing world's records. The time for the mile was 33⅖s. These records will doubtless receive the attention of the F.I.C.M. in due course.

Antipathy.

A meeting of the Llandaff and Dinas Powis Rural District Council was held on Wednesday of last week, when a letter was read from the Cardiff Motor Cycle Club asking for permission to hold its hill-climb on Rhubina Hill. One of the Council said that this traffic caused endless damage to the roads. Motor cycles were a distinct danger to the public, and he hoped that permission would not be granted. Another member agreed, and pointed out that if he were caught horse-racing he would be prosecuted. The Chairman expressed the hope that the application would be granted; but on going to the vote it was refused by five votes to three.

The Second-hand Show.

We learn from Mr. William Glass, Walter House, Bedford Street, Strand, London, W.C.2, organiser of the Second-hand Automobile and Motor Cycle Show to be held from April 4th to 16th, that a reduction has been made in the entry fees to the exhibition. Motor cycles will be charged 5% on the first £40 and 1¼% on the balance, minimum 40s., while sidecar outfits will be charged 5% on the first £60 and 1¼% on the balance, minimum 60s. These entry fees include show space, publication of specification, expert examination, road trial (if any), certificate, insurance against fire, and polishing and cleaning of exhibit during the show.

LONDON-LAND'S END ENTRIES.

THE following is a complete list of motor cycle entrants for the M.C.C. London-Land's End Trial, which takes place on Friday, March 25th, and Saturday, 26th. Seventy-nine solo riders and sixty-four sidecars, also seventy-two runabouts and cars, will compete.

SOLO MOTOR CYCLES.

T. S. Sharratt (4 Indian Scout)
F. A. Longman (3½ Ariel)
P. W. Moffat (3½ Douglas)
E. A. Wright (2¼ Diamond)
Harold Karslake (8 Brough Superior)
H. J. Seale (4 Scale)
V. Olsson (3½ Sunbeam)
H. F. Edwards (2¾ Coulson-B)
R. B. Clark (2¾ Coulson-B)
G. E. Stacey (2¾ Verus)
S. Dunford (2¾ Verus)
C. A. McKeand (4 Harley-Davidson)
H. R. Milling (8 Zenith)
R. M. Knowles (3½ Norton)
J. G. Goodenough (3½ Norton)
E. Pond (4 Triumph)
N. S. Brooker (3½ Sunbeam)
S. J. Marks (4 Triumph)
C. Wilson (4½ Quadrant)
P. Street (3½ Sunbeam)
A. Ellison (6 Zenith)
C. F. Plowman (4 Triumph)
F. Notari (4 Triumph)
E. J. Anderson (3¾ Scott)
E. Atkins (3½ Ariel)
J. A. Hoult (3¾ Scott)
B. J. Sims (4 Triumph)
J. Harrison (2¾ Connaught)
S. T. Ashby (2¾ Connaught)
S. G. Wooldridge (4 Omega)
R. T. Leather (3½ N.U.T.)
J. Wallis (8 Reading-Standard)
A. C. Rhodes (3½ N.U.T.)
H. K. Knight (3½ Norton)
A. S. Guthrie (2¾ Dalton)
T. S. Bennett (2½ Metro-Tyler)
G. F. Ammon (2½ Metro-Tyler)
G. E. Cuffe (2½ Metro-Tyler)
G. C. Labin (4 Indian Scout)
H. V. Bateman (2¾ Diamond)
F. G. Price (2¾ Diamond)
C. F. Alcock (2¾ Coulson-B)
A. A. Prestwich (2¾ New Imperial)
T. A. Slann (4 Triumph)
F. W. Applebee (2¼ Levis)
T. Morgan (4 Triumph)
T. Francis (4 Triumph)
A. H. S. Love (2¾ Douglas)
C. Bourlet (3½ Ariel)
G. W. Shepherd (2¾ Beanmont)
A. G. Wall (2 Cedos)
A. G. Battley (4 Triumph)
E. Kickham (3½ Douglas)
G. H. Morgan (4 Harley-Davidson)
R. G. Spikins (7 Harley-Davidson)
W. Bray (3½ N.U.T.)
A. M. Knill (4 Indian Scout)
L. Keevil (3½ Sunbeam)
H. F. Fellowes (4 Coulson-B)
P. Cunningham (3½ P. and M.)
J. R. H. Knight (3½ Brough)
B. G. Buys (2¼ Levis)
W. G. Churchill (2¼ Verus)
A. W. Graham-Martin (3½ Alecto)
H. Reyre (6 James)
J. A. O'Sullivan (4 Harley-Davidson)
R. B. Roberts (4 Triumph)
H. S. Eaton (3½ N.U.T.)
S. W. Ratcliffe (8 Brough Superior)
D. J. Stone (2½ Olympic)
D. Crawford (5 Zenith)
J. Richardson (3½ Lea-Francis)
S. Warne (2¼ M.B.)
H. R. Harveyson (4 Indian Scout)
W. H. Sheraton (3½ Norton)
J. A. Watson-Bourne (4 Rex)
Eli Clark, jnn. (2¾ Douglas)
B. H. Brayne (——)
W. G. Sykes (7 Harley-Davidson)

SIDECARS.

W. A. Fell-Smith (8 Rex)
H. W. Glendinning (8 Rex)
H. Le Vack (7 Indian)
W. J. Simpson (7 Indian)
Eli Clark (4 Douglas)
J. C. Sandford (6 Rover)
R. Rayner (6 A.J.S.)
W. P. Brandon (4 Triumph)
R. A. Lucking (8 New Imperial)
P. W. White (8 Sunbeam)
F. Begley (4 Dalton)
C. D. Michaelis (7 Harley-Davidson)
J. D. Marvin (8 Rex)
C. F. Edwards (4 Triumph)
W. E. Brough, sen. (5 Brough)
T. J. Ross (7 Matchless)
F. J. Ellis (7 Matchless)
G. D. Hardee (7 Matchless)
G. Nott (7 Matchless)
D. S. Parsons (7 Matchless)
G. Packman (8 Matchless)
Hugh Gibson (8 Royal Ruby)
H. Dale (8 Royal Ruby)
L. A. Apsey (8 Royal Ruby)
F. J. Watson (6 Ariel)
J. T. Bashall (6 Martinsyde)
W. H. Bashall (6 Martinsyde)
E. H. Gifford (6 Martinsyde)
E. C. Lunniss (8 Sunbeam)
S. Julian (4½ Humber)
W. Julian (7 Harley-Davidson)
J. Caslake (7 Harley-Davidson)
A. P. Pearson (4½ Dunelt)
E. Hillary (4 Triumph)
George Brough (8 Brough Superior)
J. S. Morgan (7 Harley-Davidson)
J. A. Masters (7 Harley-Davidson)
R. J. Andrews (4¼ B.S.A.)
A. G. Gripper (7 Indian)
R. Charlesworth (8 Zenith)
K. Don (6 Zenith)
J. L. R. Jenson (7 Harley-Davidson)
J. C. Watson (7 Harley-Davidson)
M. A. Newnham (4¼ B.S.A.)
R. H. Attwood (4 Norton)
W. F. Guiver (8 Matchless)
E. J. L. Strong (7 Harley-Davidson)
G. B. Betteridge (4 Douglas)
J. F. Perrin (6 Zenith)
R. P. Overbury (8 Zenith)
G. R. Claridge (4 Triumph)
W. T. Dobbs (6 A.J.S.)
R. Newitt (7 Harley-Davidson)
G. K. Gibbs (10 Reading Standard)
B. S. Allen (7 Harley-Davidson)
F. W. Giles (7 A.J.S.)
Wilfred Wells (4 Norton)
S. C. Tait (7 Harley-Davidson)
A. P. McGowran (4 Triumph)
W. C. Hemy (7 A.J.S.)
G. E. Toombs (7 Harley-Davidson)
V. Pentlow (4¼ B.S.A.)
R. Garey (8 Blackburne)
H. H. Saddington (6 James)

A CLASSIC MIDLAND EVENT.

The Sutton Coldfield and North Birmingham A.C. Colmore Cup Trial.



A certain amount of grease made the lower part of Rising Sun somewhat tricky. A. H. P. Pehrson (4½ Dunelt sc.) and T. J. Ross (8 Matchless sc.) crossing this section.

ALTHOUGH not one of the A.C.U. thirty open trials, the Colmore Cup event attracted no fewer than 158 entries. Many were machines which are not yet familiar to the general run of trials spectators. Among the new comers were two-strokes such as the Cedos, Dunelt, the sports model New Hudson, the Sturmey-Archer geared Levis, the 3 h.p. Ivy and sidecar, and a new Excelsior model; and amongst the four-strokes must be mentioned the Brough Superior, 5 h.p. Lea Francis, Elve, Federation, and Cotton. Two New Hudson three-wheelers made their first public appearance in Midlands competitions, and had as rivals a Coventry Premier, two T.B.'s, a G.N., and several Morgans.

The well-known Midlands test route was followed from Stonebridge, and competitors were fortunate in having ideal conditions; in fact, all the hills were in unwontedly good condition, better in fact than was expected by those competitors on sidecars who fitted Parsons non-skid chains.

From the start through Kenilworth, Warwick, Stratford-on-Avon to Saintbury, the roads are level, and the trial was a mere procession, though many competitors arrived so early at Saintbury that the officials in charge of the flexibility test were unready, and one at least passed on without waiting to be timed.

Here the Mobile cyclettes had to be pushed; Keeley (4¼ James sc.) stopped, but almost immediately got away again under his own power: F. Wilkinson (2¼ Cedos), single gear, failed just on the summit, as did J. Orford (2¾ New Imperial) and P. Yates on one of the New Hudson three-wheelers; and W. Ridley, on the other New Hudson cycle car, came up well, but with his passenger perched on the front mudguard, tinkering with the carburetter.

The remaining 140 riders made clean ascents. Eric Williams, on an overhead-valved 2¾ h.p. A.J.S., was very fast—but—both on the slow and fast stretches!

G. S. Davidson (2¼ Levis) also took the slow portion at a fair bat, probably on account of his single gear. The following showed exceptional accelerative powers:



A 4½ h.p. Ariel sidecar, driven by T. Peck, attacking the steepest pitch of Rising Sun (Gambles Lane).

A Classic Midland Event.—

G. Dance (3½ Sunbeam), B. Kershaw (2¾ Verus), H. Newey (2¼ Levis), G. W. Walker (3½ Norton), L. Newey (6-7 Ariel sc.), E. F. Cope (7-9 Indian), W. Brandish (5-6 Rover sc.), L. S. Horton (8 New Imperial sc.), J. H. Walker (4½ B.S.A.), R. W. Duke (4 Triumph), A. W. Thrush (4 Triumph), A. Thom (7-9 Harley-Davidson sc.), L. Crisp (4½ Humber), R. Harveyson (4 Indian Scout), G. Brough (8 Brough Superior sc.), and W. Hall (1915 3½ Sunbeam).

The descent of Willersey provided an opportunity for deciding on the best path amongst the loose stones for the return journey, and thenceforward all was plain sailing through Broadway to Winchcombe, where the route turned sharp left up Sudeley Hill.

Steady Driving.

Many chose the course of making a steady ascent with plenty of power in hand, and it is therefore difficult to pick out the star performances. All four of the 5-6 h.p. Rover outfits climbed fast and quietly. Triumphs, Nortons, B.S.A.'s, and Ariels mostly elected to climb steadily with obviously plenty of power in reserve. There were few failures, but the two Mobile Cyclettes which reached this stage were solemnly pushed up the long hill. Harry Reed (3½ Dot), who had suffered considerable belt trouble, retired on the lower slopes. L. Newey (5-6 Ariel sc.) came up very fast, and, though his belt pulley fractured, he finished in style.

Noticeably quiet were the A.J.S. sidecar outfits, the new Lea-Francis, the Scotts, and Humbers. The smaller machines mostly made fine climbs; the Levis, Cedos, Excelsior, Neal-Dahn, O.K., Verus, Beardmore-Precision, and Allon were noticeably excellent. The 5-6 h.p. El-ve sc., driven by C. R. Little, Eric Williams (2¾ A.J.S.), L. S. Horton (8 New Imperial sc.), W. H. Carson (8 Excelsior sc.), and H. F. S. Morgan (Morgan) made fast climbs, while George Brough (8 Brough Superior sc.) made a fast touring ascent, without undue throttle opening. Morgans, T.B.'s, New Hudsons, G.N.'s made good steady climbs. On the rutty section which followed there was a certain amount of minor trouble. The 5 h.p. Lea-Francis and the Coventry Premier both had plug trouble, and though the former carried on, only just failing on Rising Sun, the latter failed to check in at the lunch stop. The first man checked in at Cheltenham at eleven o'clock.

Gambles Lane (or Rising Sun) was the "Waterloo" of quite a few, but the real opportunity of many more to show their full worth. J. N. Roberts (3 A.B.C.) slid over the top with consummate ease; A. Woodfield (4¼ James sc.) just got over, as did R. Potter on a similar outfit. H. S. Nokes (2¾ Dalton) footed. T. Silver (4½ Quadrant sc.) roared over the top, and C. Ramstedt (2½ Cotton) found the gradient too much for him. Rex and Acme outfits all climbed well, though Glendinning had wheel slip at the foot. Watson Bourne's 2¾ h.p. Blackburne made a star climb, and all the little Levises excelled themselves, particularly G. Davison, whose little single-geared mount rushed up to the last pitch so fast that he was forced to cut out. New Imperial, Matchless, Rover, Excelsior, A.J.S., B.S.A., Sunbeam, Norton, El-ve, and Ariel sidecar outfits made uniformly good ascents, though perhaps the star performances in this class were those of A. Thom (7-9 Harley-Davidson sc.), L. S. Horton (8 New Imperial sc.), G. Brough (8 Brough Superior sc.), L. L. Sealy (4¼ B.S.A. sc.), S. Wright (4½ Humber sc.), and the single-cylinder Sunbeams and sidecars, whose performance was notable throughout.

F. J. Price (2¾ Diamond) showed up particularly well, and amongst the soloists who were especially noticeable were R. Grindlay (3 A.B.C.), G. Dance (3½ Sunbeam Sports), E. Walker (2½ Excelsior), B. Kershaw (2¾ Verus), P. Pike (2¼ Levis), H. Newey (2½ Levis), C. L. Hull (2¼ Levis), L. Guy (2¾ Scott), E. Williams (2¾ A.J.S.), W. H. Hassal (3½ Norton), F. Goodman and E. Cope (7-9 Indians), H. Cranmore (3¾ Scott), L. Paynter (3½ Norton), W. Smith (2¼ Connaught), R. C. Cooper and L. Clulee (Alldays Allon), N. Hall and W. Handley (2¼ O.K.), H. Payne (3 Enfield), R. Duke (4 Triumph), H. Greaves and T. Watson (3½ Beardmore Precision), H. T. Willis (3½ Norton), J. Allen (3 Neal Dahn), L. Crisp (4½ Humber), R. Harveyson (Indian Scout), H. F. S. Morgan's Morgan and the G.N. Both made very fine climbs. The next item of interest on the return journey was Sudeley hairpin.

Tricky Cornering.

Considering the dry and firm surface, it is surprising that nearly twenty failed, half that number coming hopeless croppers.

Three riders tied for the most spectacular showing here. Failing to pull his big Matchless outfit round quickly enough, T. J. Ross forced his front wheel round to the left, and made a complete turn, and was on his way, non-stop. G. Brough came round in a series of hair-raising jerks, almost twice as fast as any other three-wheeler. And, thirdly, the G.N. surprised everybody by making a clean and fast turn in spite of its long wheelbase.

H. F. S. Morgan—and, in fact, all the Morgans—made no mistake this year, but both T.B.'s got into difficulties.

Several who had been doing well previously met their fate here, including F. Arbuckle (4½ Humber sc.) who touched with his foot. J. E. Greenwood (3½ Sunbeam sc.), who also touched; G. W. Walker (3½ Norton) and A. H. Stubbs (4¼ B.S.A.) both fell. Others to lose marks included H. L. Burley (2¾ Marloe), F. Wilkinson (2¼ Cedos), H. R. Payne (2¾ Enfield), J. H. Watson (3 Beardmore), T. C. Thacker (4¼ B.S.A.), J. Allen (3 Neal Dahn), W. Tongue (3½ Rover sc.), and H. Russell (8 Brough Superior).

Deserving of special mention are S. H. Brand (4 Indian Scout), Newman (3 Ivy sc.), G. Dance (3½ Sunbeam), C. H. Hanwell (2¼ Cedos), T. F. Blumfield (6 Ariel sc.), T. F. Watson (4 Norton sc.), R. A. Wright (4 Triumph), R. Harveyson (4 Indian Scout), C. P. Wood (3¾ Scott), and G. Kuhn (2¼ Verus).

Willersey Hill was too easy to cause further failures, and the homeward trip was made over the outward route in the reverse direction, a large crowd welcoming the competitors at the finish.

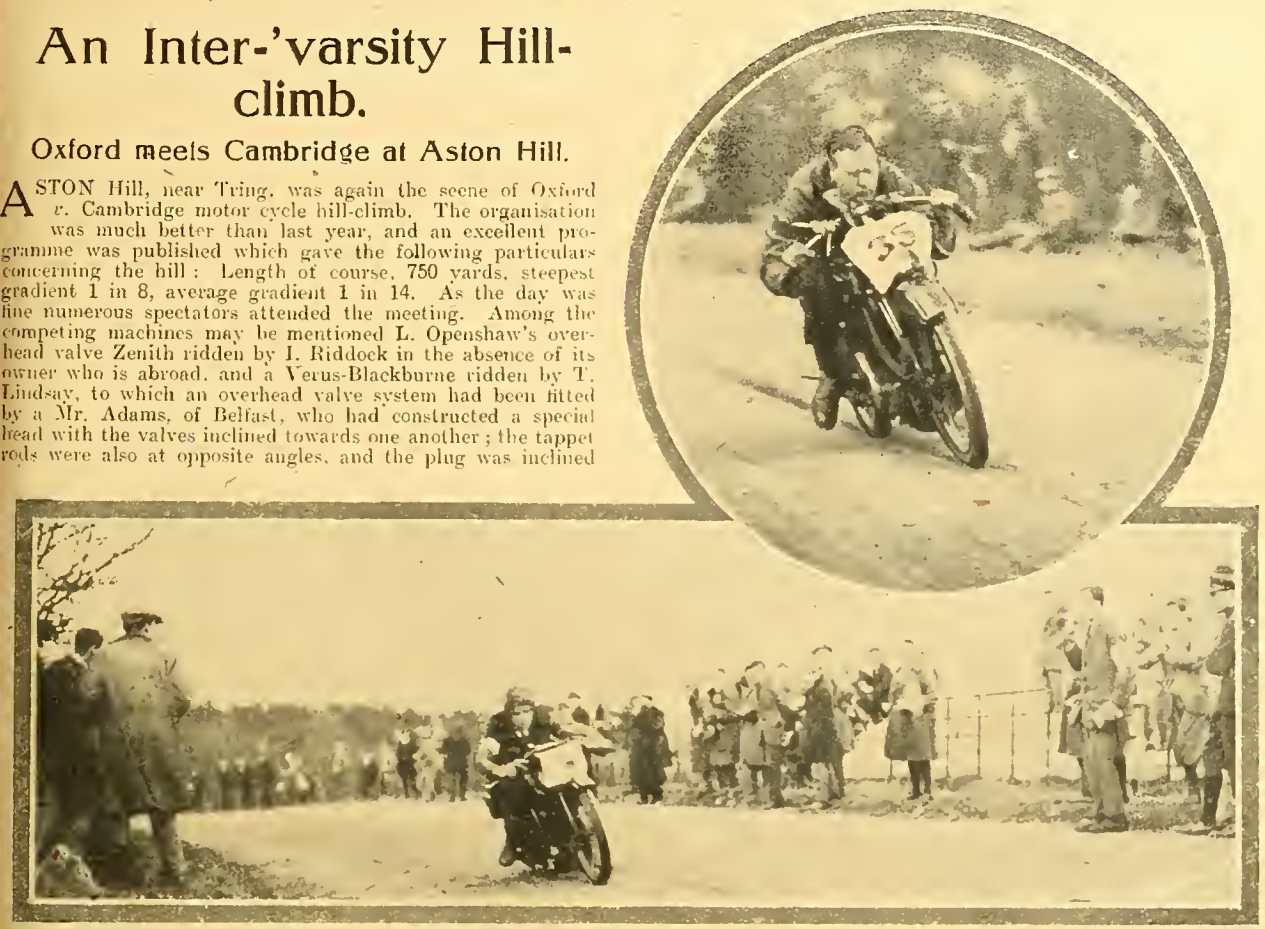


Sudeley Hill was in fine condition, and the competitors "toured" up, like T. G. Amphlett (5-6 James sc.) and F. Begley (4 Dalton sc.), who are here shown.

An Inter-'varsity Hill-climb.

Oxford meets Cambridge at Aston Hill.

ASTON Hill, near Tring, was again the scene of Oxford *v.* Cambridge motor cycle hill-climb. The organisation was much better than last year, and an excellent programme was published which gave the following particulars concerning the hill: Length of course, 750 yards, steepest gradient 1 in 8, average gradient 1 in 14. As the day was fine numerous spectators attended the meeting. Among the competing machines may be mentioned L. Openshaw's overhead valve Zenith ridden by I. Riddock in the absence of its owner who is abroad, and a Verus-Blackburne ridden by T. Lindsay, to which an overhead valve system had been fitted by a Mr. Adams, of Belfast, who had constructed a special head with the valves inclined towards one another; the tappet rods were also at opposite angles, and the plug was inclined to the centre of the combustion head. The competition started late, but the first class was run off smartly until the crowding of the spectators at one of the corners caused some delay before the course was cleared. Most of the competitors complained of the road surface, which caused many a wobble at high speeds.



OXFORD AND CAMBRIDGE HILL-CLIMB.

I. P. Riddock (Oxford) making fastest time of the day on a Zenith. (Inset) A speed impression of G. E. G. Harwood (Oxford) on his Sunbeam.

The competitors were members of the University Motor Cycle Clubs, and had to be members in residence at either of the Universities. Each solo machine could be ridden twice up the hill, the best time of the machine counting in any class for which it was eligible. Entrants who were eligible for the 600 c.c. sidecar class were also eligible for a place in the unlimited sidecar class. Five marks were given for a first place, three for a second, and one for a third, and two for the fastest time of the day. The first four groups were run off, and then contested again, so that each solo mount had two attempts. In Group 1, I. Riddock, mounted on the famous Zenith, made the fastest time of the day.

In addition to the medals presented to the winners in each class, Oxford wins a cup value fifteen guineas, presented by the Motor Cycle Manufacturers' Union, which was represented at the event by the chairman, Mr. W. G. Bower.

The results of the climb were as follows:

	Marks. Cantab.	Oxon.
UNLIMITED CLASS.		
1. I. P. Riddock (8 Zenith), 30 sec.	–	7
2. P. G. Kennedy (3½ Norton), 31.8 sec.		–
3. A. O. Saunders-Davies (7 Indian), 32.4 sec.	1	–
600 C.C.		
1. P. G. Kennedy (3½ Norton), 31.8 sec.	–	5
2. C. Moser (4 Triumph), 34 sec.	3	–
3. S. J. Bassett (3½ Norton), 34.6 sec.	1	–
800 C.C.		
The results of the 600 c.c. Class also counted in the larger class, as they remained unbeaten	1	5
500 C.C.		
1. P. G. Kennedy (3½ Norton), 31.8 sec.	–	5
2. S. J. Bassett (3½ Norton), 34.6 sec.	3	–
3. J. J. Cruikshank (3½ Norton), 34.9 sec.	1	–
350 C.C.		
1. T. G. Lindsay (2⅞ Verus), 37.3 sec.	–	5
2. C. A. McKeand (2¾ New Imperial), 43.1 sec.	3	–
3. F. Sefton-Jones (2¾ New Imperial), 55.5 sec.	1	–
600 C.C. SIDECARS.		
1. O. G. Smart (3½ Norton), 51.2 sec.	5	–
2. J. G. Goodenough (3½ Norton), 54.2 sec.	3	–
3. C. A. S. Parker (Indian Scout), 54.6 sec.	–	1
UNLIMITED SIDECAR CLASS.		
1. I. P. Riddock (8 Zenith), 35.3 sec.	–	5
2. O. G. Smart (3½ Norton), 41.2 sec.	3	–
3. G. A. Jenkin (7-9 Harley), 41 sec.	1	–
The Car Class scored 5 marks for Cambridge and 4 marks for Oxford	5	4
	31	40

ECHOES OF THE COLMORE CUP TRIAL.

D. S. Heather (6 B.S.A. sc.) had tyre trouble near Cheltenham, and had to change a wheel.

Wheel slip caused a certain amount of trouble at the foot of Gambles Lane. P. S. Platts (6 A.J.S. sc.) and H. W. Glendinning (8 Rex sc.) being among the unfortunates.

F. Begley (4 Dalton sc.) had a chocked jet which caused a failure on the last few yards of Gambles Lane, and a stop immediately afterwards for cleaning purposes.

Handley's little O.K. finished for about thirty miles on a flat tyre, the tube working out and depositing rubber all over the wheel and rear frame.

F. W. Applebee had a loose footrest which chose to come adrift at a most awkward moment on the Sudeley hairpin.

G. Davidson is to be congratulated on bringing a single-geared Levis through the trial, in spite of a flat tyre for most of the homeward journey.

PORLOCK-LYNTON AT 19·4 M.P.H.?

Is the Timed Section on the London-Land's End Safe or Possible?

AMONGST competition riders the all-engrossing topic of the moment is the possibility of complying with the regulations regarding the Porlock-Lynton section in the forthcoming London-Land's End run at Easter.

It will be recollected that the competitors are required to climb the first three miles out of Porlock village in ten minutes, while the total distance of twelve miles from Porlock village to the top of Lynton hill (including the descent of Countisbury) will have to be accomplished at 19.4 m.p.h. if strict time-keeping is observed. From our own knowledge of the district we asserted in our issue of February 24th last that it was almost impossible for any but the most powerful machines under the best conditions of road and traffic to attain these speeds, while those which could do so would be complying with the regulations only at grave risk to themselves and to others using certain sections of the road at the time. Our comments have been termed unjustified in certain quarters; but the vast majority appear to agree with our views. The interest aroused is such that quite a number of intending competitors have been down to see what the Somerset and Devon terrors held in store. Last week, for instance, a party mounted on 10 h.p. Singer cars (and including members of *The Autocar* and *The Motor Cycle* staffs) went to test the criticism by a practical trial.

Porlock itself was found to be in excellent surface condition, albeit a gentle rainfall soon moistens the red clay surface, which is soon churned up.

The Debatable Section.

The gradient of Porlock is worst between the first and second bends, and for any touring machine to accomplish the distance in ten minutes is manifestly a tough proposition. It is doubtful whether any solo machine of 350 c.c. or less or any 500 c.c. sidecar could do it, while the larger machines will be dependent upon freedom from baulking. Actually, one of the cars above mentioned made the three-mile climb in twelve minutes; and its speed could not have been improved in any way. From the three-mile mark to the top of Lynton was next done at the highest speed possible. The road over the moors, especially beyond the County Gate where Devon is entered, is in a bad state. Ruts are prevalent, and solo machines will have greater difficulty in maintaining their speed than the sidecars and runabouts. Down Countisbury a speed of twelve miles an hour is the limit of safety, but it was found that, despite excessive speed on the level stretches, a speed of from fourteen to fifteen miles per hour down the hill had to be maintained. It must not be forgotten that from County Gate into Lynmouth the road is narrow, and, in consequence, the normal holiday traffic, or one slow or stalled competitor, may hold up the whole procession of men who are urging their machines on to the utmost, and who will be tempted to take undue risks by dropping down Countisbury at a speed too great to permit of proper control. Lynton Hill, with its steep gradient and acute hairpin, is in bad condition. The surface has been "repaired" by a loose dressing of mixed earth and stones. Solo and sidecar machines may find a safe track for their driving wheels on the extreme off side of the road, but three and four-wheelers, especially if forced on to the inside of the hairpin, will almost assuredly suffer from wheel slip. Our exploring party found that, although the first three miles out of Porlock were not accomplished in the stipulated time, it was *just possible* to complete the twelve miles in strict time by dint of driving at a pace which was neither wise nor conducive to the well-being of the machine.

Measurements given in the Gall and Inglis "Contour" Book for Porlock are: Maximum gradient, 1 in 6; average of first mile, 1 in 8; average for first two and a half miles, 1 in 11. The ascent of Lynton is short, but the gradient is 1 in 5, while the two-mile descent of Countisbury is composed of gradients approaching 1 in 9, stiffening to 1 in 5½ at the very foot.

It must not be forgotten that in the London-Land's End run competitors are permitted to be fifteen minutes early and five minutes late without penalisation, so that by previous hard driving to get time in hand before Porlock is reached, the thirty-seven minutes' stretch may *possibly* be extended to fifty-five minutes or sixty if the permissible five are also lost. The fact remains that a competitor riding to strict schedule has an almost impossible task before him.

We reiterate that we consider the stiffening up of this section from 15 m.p.h. sections included last year will be dangerous to competitors, and that the M.C.C. will be well advised to make a last minute alteration in the rules.





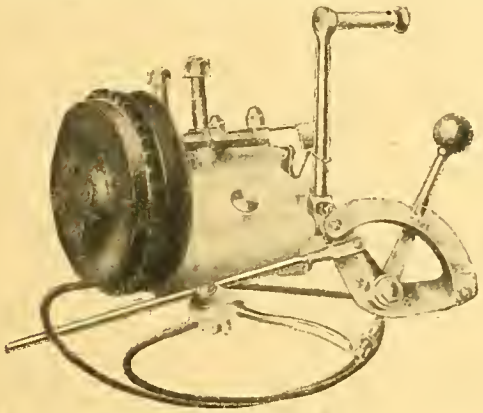
HILLS IN THE LONDON-LAND'S END RUN.

The larger picture shows the severe gradient of Porlock which has to be climbed at an average of 18 m.p.h. in the M.C.C. Easter trial; the surface is now in good condition (when dry). The other picture shows the present state of Lynton Hill at the corner.

A Lightweight Three-speed Gear.

Three Gear Ratios for Popular Lightweight hitherto only Obtainable with Two.

IT has often been commented upon that, while the majority of 3½ to 4 h.p. machines are nowadays fitted with gear boxes giving three ratios, the smaller engined lightweight, more often than not, has only a two-speed box. Bearing this in mind, the designers of the 2¾ h.p. New Imperial have introduced a three-speed gear for this machine without at the same time losing the simplicity of the "two."



Exterior view of the new three-speed gear box for the popular New Imperial lightweight.

The exceptionally neat manner in which they have done this will be apparent from the accompanying diagram. Only six pinions (all in constant mesh) are used, in all, to provide the three ratios and the kick-starter mechanism. With each of the sliding pair of middle pinions is incorporated a dog clutch. These pinions are also internally splined, while the mainshaft and layshaft are both splined on alternate ends. When it is stated that the low gear layshaft pinion is free to revolve on the layshaft the principle of the box is readily understood.

In the illustration the pinions are in middle gear. Movement to the left gives a direct top drive; while similar movement to the right gives a "round the box" low ratio. Both shafts are supported on journal ball races.

The clutch is of the floating Ferodo ring type, giving a very large bearing area; manipulation is by the usual quick thread screw.

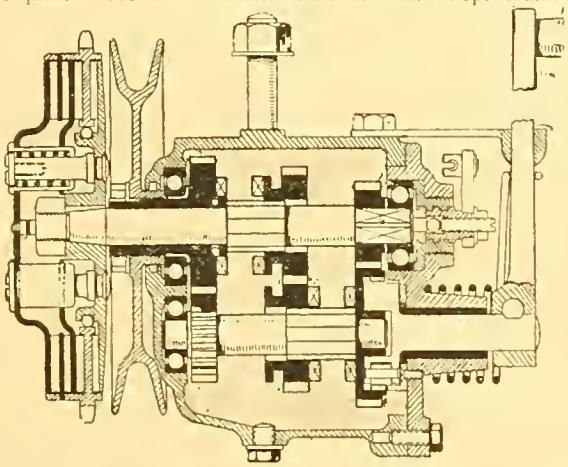


Diagram of the box, showing the simplicity of design

As already indicated, the kick-starter acts internally on the low gear pinion, a special cam throwing it out of action in the event of a backfire.

Materials, workmanship, and finish are all of a high-class order, while weight and overall width are both kept remarkably low. A plain three-speed box on the same lines, but without clutch or kick-starter, is a novelty that will appeal especially to the sporting clubman.

No extra charge is made for this new box, but, as the two-speed model is being retained, it is necessary for the customer to specify the type required, or the latter model will be supplied.

CLUB NEWS.

Coventry and Warwickshire M.C.

On Saturday, March 12th, Mr. S. Wright will act as "hare" in a paper-chase, starting at Whitley Common at 2.15 p.m.

York and District M.C.

There was a fair attendance at the York and District M.C. dinner at the Davy Hall, and a very enjoyable evening resulted.

Woolwich, Plumstead, and District M.C.

The opening meet will take place on March 13th. All local motorists are invited to attend at the Three Horse Shoes, Knockholt, Kent, at 2.30 p.m.

Lancaster and Morecambe M.C.C.

Over two hundred guests assembled for the first annual ball of the Lancaster and Morecambe M.C.C. in the Ashton Hall, Lancaster, on March 2nd. The function was a great success.

Essex M.C.

This club's annual hill-climb takes place on April 2nd. Entry forms are now available, and can be obtained from the honorary organiser, Mr. Bass, at 40, Chancery Lane, London, W.C.2. There are open classes for all types of motor cycles, and members' classes for all types of cars. Entries close on March 21st.

Sheffield M.C.C.

The N.M.C.F.U. (Sheffield branch) has been reorganised as above. There are about 150 paid-up members already for 1921 and a good programme of events. The subscription is 2s. 6d. per annum.

Leeds University M.C.

A new club has been formed by motor cyclists who are members of the Leeds University, and a comprehensive programme for the 1921 season has been arranged.

A Club for Great Yarmouth.

In pre-war days there used to be an active club in Great Yarmouth, but this apparently died during the war, and it is, therefore, intended to form a new club. Those interested should communicate with Mr. H. L. Harrison, Eastholme, 23, Euston Road, Great Yarmouth.

Scarborough and District M.C.

Staxton Hill-climb, the popular Yorkshire Easter event, will be held for the eighth time on Easter Monday. Its main features this year are a very attractive prize list and the fact that the climb is being held on time only. The hon. secretary for the event is Mr. J. W. F. Tranmer, "Glenluce," Raincliffe Avenue, Scarborough.

Wimbledon M.C.

A cordial invitation is extended to motor cyclists and light car owners residing in Wimbledon and district to become members of the above-named club. It is hoped that intending members will send in their applications as soon as possible, and that they will make it convenient to attend an extraordinary general meeting to be held at headquarters, Wimbledon Hill Hotel, on the 11th inst., at 8.15 p.m. The entrance fee is 5s., with an annual subscription of 10s. 6d. Further particulars can be obtained from Mr. J. A. Ball, hon. secretary, 84, Melrose Avenue, Wimbledon Park, S.W.19.

Brighton and Hove M.C.C.

There was a very good attendance with comparatively few entries at the hill-climb at Varncomb Hill on February 27th.

The unlimited solo class provided the tit-bit of the afternoon, the event resolving itself into a duel between Hewitt (8 Zenith) and Watts (5-6 Zenith). Both riders made an excellent climb, the former winning by ½s. Results:

CLASS 1 (Two-strokes).—C. Watts (2½ Enfield), 55⅘s.; W. Wellord (2½ Sun-Vitesse), —.

CLASS 2 (600 c.c.).—W. H. Sheraton (3½ Norton), 22⅘s.; C. Volk (3 A.B.C.), 23⅗s.

CLASS 3 (Unlimited Solo).—A. N. A. Hewitt (8 Zenith) 20s.; C. Watts (5-6 Zenith), 20⅗s.

CLASS 4 (Sidecars).—J. Chater-Lea (8 Chater-Lea sc.), 21s.; C. Farley (4 B.S.A. sc.), 41s.

Club News.—

Bradford M.C. and L.C.C.

The above club will hold the annual general meeting at its temporary headquarters, the Belle Vue Hotel, Bradford, to-day (Thursday). The president (Mr. J. E. Fearnley) will take the chair at eight o'clock prompt.

Yorkshire Centre A.C.U.

The Beverley, Halifax, and Scarborough Clubs have recently joined the Centre, bringing the total number of clubs in membership to nineteen. The Yorkshire Centre hopes shortly to welcome the Bradford Motor Cycling Gipsies, Darlington and Leeds University Clubs.

Public Schools M.C.C.

The opening run will be held on March 20th. Members will meet at the Bear Hotel, Esher, at 11.30 a.m., lunch at Wisley Hut at 1 p.m., and after lunch make a run to Newlands Corner. All past and present members of public schools are invited to be present whether members of the club or not. In order to facilitate arrangements for lunch it is hoped that members will make a point of notifying the hon. secretary, Mr. H. B. Browning, 14, Hogarth Road, London, S.W., as soon as possible.

Skipton and District M.C. and L.C.C.

There was a large attendance of motorists at the first meeting of the above club, held on Friday, 25th ult., at the Globe Restaurant, Skipton, when the committee and other officials for the year were elected. It was decided to hold the first run on March 6th to Harrogate, meeting at the Craven Garage, High Street, at 1 p.m. The coming year promises to be an interesting one, and an attractive programme will be announced by the club shortly. All motor cyclists and light car owners in the district are cordially invited to join the club, whose membership now totals over forty. Mr. J. Wilkinson, 10, Granville Street, Skipton, has been appointed as hon. secretary, to whom all communications should be addressed. The annual subscription is 10s.

Manx M.C.C.

The Manx Motor Cycle Club held their first speed trials on Thursday, February 24th, and despite blustering weather several hundreds of spectators attended. Duggie Brown, on a 3½ h.p. Norton, put up the fastest time of the day. The following are the full results :

1914 HANDICAP.

	Time in secs.	m.p.h.
H. Lay (1912 3½ Bradbury)	46	39.18
SIDECARS.		
F. Harrison (4½ Norton sc.) ..	48	37.55
G. Tyler (6 A.J.S. sc.)	49	36.73
CYCLE CARS.		
Q. Smith (G.N.)	44	40.85
A. S. Hogg (G.N.)	49	36.73
500 c.c. OPEN SOLO CLASS.		
D. Brown (3½ Norton) ...	31.5	58.1
J. S. Mylchreest (3½ Norton)	36	50
G. Trustrum (3½ Norton) ...	37	48.7
350 c.c. SOLO CLASS.		
E. Bosworth (2¾ Sud-Jap) ...	52	34.6
Miss W. Simmonds (2¾ New Imperial)	52	34.6
300 c.c. SOLO CLASS.		
W. Lilley (2½ Hobart) ...	57	31.6
LADIES' CLASS.		
Miss W. Simmonds (3½ Triumph)	52	34.6
Miss M. R. Kerr (2¾ A.J.S.)	58	31.1

C22

North London M.C.C.

The North London Motor Cycling Club held its opening run recently when nearly one hundred members and visitors left the town headquarters *en route* for Radlett *via* St. Albans. The types of vehicles present ranged from a 1½ h.p. auto scooter to a 1921 10 h.p. Hillman light car.

Biggleswade and District M.C.

It has been decided to form a motor and motor cycling club for Biggleswade (Beds.) and district, to be called the Biggleswade and District Motor Club. A meeting was called at the Crown Hotel, Biggleswade, on February 23rd, when Messrs. H. Drysdale and G. Blake were elected joint secretaries *pro tem.*, and a working committee elected to report to another meeting as to a programme, etc. It was decided to affiliate to the A.C.U. Anyone wishing to join the club is asked to communicate with Mr. H. Drysdale, Shortmead St., Biggleswade.

Forthcoming Club Events.

Mar 12.—North Wales M.C.C. Opening Run.
Mar. 12.—Harrogate and District M.C.C. Hill-climb.
Mar. 13.—Surbiton and District M.C.C. Opening Run.
Mar. 19.—Kidderminster M.C.C. Opening Run.
Mar. 19.—Stockport and District M.C.C. Hill-climb.
Mar. 19.—Wallington and District M.C.C. Hill-climb.
Mar. 20.—Brighton and Hove M.C.C. Petrol Consumption Test.
Mar. 20.—Woolwich, Plumstead and District M.C. Inter-club Run.
Mar. 20.—West Kent M.C. Inter-club Hill-climb with Holmwood M.C.C.

IMPORTANT club and OPEN events are tabulated on the "Questions and Replies" page.

Birmingham M.C.C.

Members are requested to meet for the opening run on March 12th, at the Red Lion Hotel, Stratford Road, Shirley, at 3 p.m.

Glasgow Western M.C.C.

Held under the open competition rules of the Scottish Auto Cycle Union, a week-end trial to Carlisle and back will take place on Saturday, March 26th, and Monday, March 28th. A full award list includes the A.J.S. and Hutchinson challenge trophies, and a Maglita lighting set for the best performance by a club member private owner. Entries close on the 18th inst.

Harrogate and District M.C.C.

The 1921 programme for this club opened most promisingly with a highly successful dance and prize distribution at the George Hotel, at which Mr. G. A. Nunneley offered the club a cup to be won outright at the next event (which will take the form of a hill-climb, and will be held on March 12th). Messrs. Muratti, Sons and Co., who some time ago gave the club a magnificent shield, which has been won outright, have now replaced their gift by a solid silver vase, which has to be competed for in the annual reliability trial (June 19th). Mr. T. Haley, the club president, has also given a choice tea service, which is to be won outright in a special competition held on July 3rd.

Bath and West of England M.C.

The above club is holding a twenty-four hours' reliability trial for cars, light cars, sidecars, and motor cycles on the 11th and 12th inst. from Bath to Land's End. The return journey will be made *via* the coast.

Wallington and District M.C. and L.C.C.

The social run to the Hut Hotel, Wisley, on the 27th February, was attended by about forty members. The weather was excellent, and it is hoped that equally good weather will favour the hill-climb to be held on Bore Hill, Dorking, on Saturday, 19th inst.

Cork and District M.C.C.

Despite conditions there, particulars received from the secretary of the Cork and District M.C.C. show that the club has a paid-up membership of 120, and that the organisation is still intact, although the majority of the members must now follow the sport only on paper or in memory. Incidentally, Cork was more prompt in supplying this information than a great many more favoured clubs on this side of the water.

Liverpool M.C.

At the annual general meeting the following officials were elected for 1921 : President, Mr. S. W. Phillpott; vice-presidents, Messrs. V. E. Horsman, F. A. P. Zacharias, and H. R. Caldwell; captain (cars), Mr. E. L. Boston; captain (cycles), Mr. G. S. Boston; hon. secretary, Mr. J. H. Green; hon. treasurer, Mr. E. E. Holloway; hon. trials secretary, Mr. S. Parker; hon. auditors, Messrs. P. J. Robinson and J. H. Green; committee, Messrs. N. C. Sclater, J. E. Wilkins, H. W. Coopland, R. H. W. Brown, N. H. Brown, E. Thomas, J. Pollitt, S. V. Banner, P. Brazendale, O. A. Cubley, and G. A. Hopton.

Scarborough and District M.C.

Staxton hill-climb was cancelled last week owing to the bad condition of the hill. Now it is on the programme again, and is definitely fixed to be held on Easter Monday, as the authorities have commenced to repair the hill, and there is every prospect of good surface by Easter. In view of the circumstances, the Scarborough Club specially ask all intending competitors to cut down their practising on the hill to the minimum.

An extraordinary general meeting of the club was held on the 26th ult., at which Capt. Longfield, president of the Ilkley M.C.C., addressed the members on the subject of affiliation to the A.C.U. The chief point under discussion was the question of payment of affiliation fees on visiting or country members who are admitted to the Scarborough Club at less than half the fees for the town members.

After a lengthy discussion it was decided to affiliate to the A.C.U. (Yorks Centre), and raise the country members' annual subscription to 5s., to cover the affiliation fees. It is now understood that the Yorkshire Centre's affiliated members will give hearty support to the Staxton hill-climb. Mr. J. W. F. Trammer, Glenluce, Raincliffe Avenue, Scarborough, has undertaken the secretaryship for this event, in succession to Mr. H. L. Kettle.

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FOR THIS MONTH ONLY

All reconstructed machines supplied during this month only will be completely equipped with all lamps, horn, tools, pannier bags, pump, and licence card holder, at **no extra charge.**

ENFIELD, 8 h.p., 2-speed, and brand new Enfield Sidecar, **£125.**
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P. & M., 3½ h.p., 2-speed, clutch and kick starter, **£68.**
B.S.A., 4¼ h.p., 3-speed, clutch and kick starter, **£75.**
DOUGLAS, 2¾ h.p. 2-speed, **£65.**
DOUGLAS, 4 h.p., 3-speed, clutch and kick starter, **£85.**
Thoroughly overhauled, but finished service green tanks, re-enamelled makers' colours.

The above machines have been thoroughly overhauled, re-enamelled, and plated, makers' colours.

Tyres in most cases are new. :: :: **THREE MONTHS' GUARANTEE.**

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May we send full list, which includes full particulars of new and other second-hand machines.

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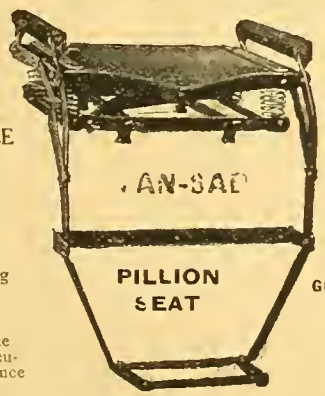
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EASTER MOTOR CYCLING.

We have purchased a very fine lot of Government Motor Cycles, of recent date (1917, 1918 & 1919) and in good condition. These are being replated, re-enamelled, and stoved in makers' colours, and rebuilt throughout

Equal in appearance and wear o new machines.

FIRST DELIVERY—NOW READY

4 h.p. DOUGLAS—Solo or Combination
(other makes to follow).

EASTER FALLS EARLY.

Why not have a machine inspected for you by the A.C.U. or A.A., who will give you an unbiassed report?

PRICE

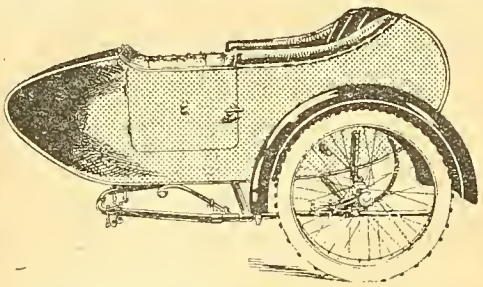
4 h.p. DOUGLAS 3-speed, Kick-start (Solo) — **£80** (ex works) — **Complete with NEW lighting set and accessories.**

4 h.p. DOUGLAS 3-speed, Kick-start (Combination) — **£100** (ex works) — **NEW Sidecar and Chassis, lighting set and accessories.**

THE NUMBER IS LIMITED.

Secure a machine, subject to inspection, for a deposit of five per cent.

MOTOR VEHICLES (Engineering and Supply) ASSOCIATION, Ltd.
(Dept. M.C.), 15, 16 & 17, ELDON STREET, LONDON, E.C.2



The original and still the best.

"COOPER"

THE NAME THAT MEANS SO MUCH ON A SIDECAR
LEARN THE REASON WHY BY OBTAINING A
COPY OF OUR NEW CATALOGUE——————
POST FREE——————IT'S WORTH HAVING!

COOPER SIDECARS
BELGRAVE RD., BIRMINGHAM

NORTH'S BRITISH MADE
Watford

SPEEDOMETERS for Motor Cycles.

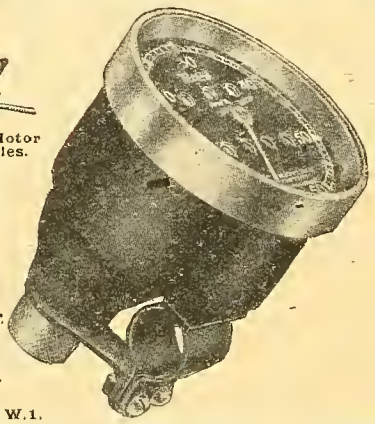
Model 42 *(as illustrated)* — Black finish. Nickel-plated bezel. Indicates speeds to 60 miles per hour. Total mileage counter to 10,000, and repeats. Quickly reset trip-counter.

Price £6 5s. 0d.

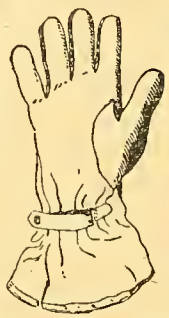
Model 40 corresponds in other details but is without trip mileage counter.

Price £5 15s. 0d.

Back wheel drive for "Triumph," **5s.** extra. Back wheel drive for "Indian" or "Harley-Davidson," **10s.** extra.



Manufactured by
NORTH & SONS, Ltd.
WATFORD,
and 14, Soho Square, London, W.1.



12/9 a pair.

GREAT SLUMP IN GLOVES.

Purchase of Manufacturer's Stock.

10,000 pairs of Leather Driving Gauntlets, strap and buckle fastening, lined natural wool to finger tips, Light Blue finish, wide gauntlet, fits well over coat sleeve. Will wash with warm water. Hard wearing, and warm hands assured.

Sent on approval against deposit; cash returned if not satisfactory.

FARREN, Regent St., CAMBRIDGE

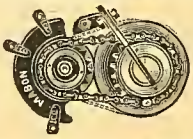
Triumph Spares.

All 1914 in stock, also J.S. hub parts to suit 1916 onward and Sturmey countershaft parts.

Good trade discount, and carriage paid.

Dene Motor Cycle Co.,
Handyside's Arcade,
NEWCASTLE-ON-TYNE.

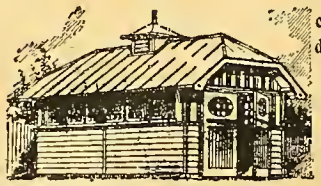
"Mabon" Ball Bearing Countershaft Variable Pulley Gears & Free Engine



Readily fixed to Motor Cycles, of 3½ h.p. and upwards, having clearance of 8¼ inches between the centre of engine-shaft and pedal, bracket, or foot-rest, without structural alterations.
Large diameter belt pulley. Belt always in tension.
Indestructible and foolproof.
Complete sets, including Chain, Sprocket bored for engine-shaft. Controls, Bolts for fixing to Crank Case. Machined to suit the various makes. **Price £10 8s.**

MABON MOTOR WORKS,
Woods de Gardens, Bruce Grove, Tottenham. N 17.

Motor Car Houses AND Portable Buildings



of every description.

Illustrated List Free.

SOUTH-WESTERN APPLIANCE CO.
HIGH ST., FULHAM, LONDON, S.W.

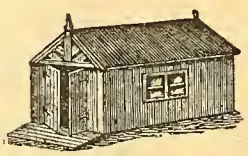
FRANK B. ROPER,

166-168, London Rd., Sheffield.

Sole Agent in this district for
A.J.S., Scott, Wilkin, Indian, Bat-Jap, Bradbury, Motor Cycles also Lagonda Light Cars

See next week's issue for actual list of Roper models

Phone: 2802 Wires: Roper 2802 Sheffield.



PRATTEN'S Motor Cycle Houses.

Revised Prices.
Superior Quality.

Long	Wide	Eaves.	Price.	Strong Floor.
8 ft.	5 feet.	5 ft. 6in.	£9 8 0	£1 19 6
9 ,,	6 ,,	6 ,,	13 13 0	2 7 0
10 ,,	8 ,,	6 ,,	16 19 0	4 1 0
12 ,,	8 ,,	6 ,,	18 9 0	4 15 0

All made in sections and bolted together, easily re-erected on arrival, of strong frames and well-seasoned Red Deal, tongued and grooved Match Board Roof covered in addition with Rubberoid. Window to open. Doors with Bolts, Lock and Key complete. Out of Stock. Catalogue Free. Carriage Paid.

F. PRATTEN & CO., WORKS COVER TWO ACRES.
MIDSOMER NORTON, BATH.

INVENTIONS PATENTED

Guide Free.

J. E. S. LOCKWOOD,
3, NEW STREET, BIRMINGHAM.

RAINES RADIATOR PAINT

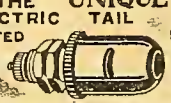
ASSISTS IN HEAT RADIATION
IS OIL PROOF
PREVENTS RUST.

Tins 1/2 & 2/3 Post Free. 1 Gall. Tins 25/- Carr. Paid.

RAINES & PORTER LTD—HULL

THE "UNIQUE" ELECTRIC TAIL LAMP

EASILY FITTED TO ANY NUMBER PLATE.



NICKEL PLATED WITH BULB for 6 VOLT,
6/- EACH.

ASK YOUR DEALER TO FIT ONE OR APPLY THE MAKERS.

M. MOLE & SON LTD., MOTOR ACCESSORY MANUFACTURERS.
CHARLOTTE ST., BIRMINGHAM.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every ad- itional word. Paragraphs of under 8 words re charged double rate. Each paragraph is harged separately. Name and address must e counted. Series discounts, conditions, and pecial terms to regular trade advertisers will e quoted on application.

Postal Orders and Cheques sent in payment for dvertisements should be made payable ILIFFE & SONS Ltd., and crossed & Co. reasury Notes, being untraceable if lost in ansit, should not be sent as remittances.

All advertisements in this section should be ccompanied with remittance, and be addressed the offices of "The Motor Cycle," 20, Tudor treet, London, E.C.4, or 19, Hertford Street, oventry. To ensure insertion letters should e posted in time to reach the offices of "The lotor Cycle," by the first post on Friday orning previous to the day of issue.

All letters relating to advertisements should ote the number which is printed at the end of ch advertisement, and the date of the issue which it appeared.

The proprietors are not responsible for clerical r printers' errors, although every care is taken avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be ddressed to numbers at "The Motor Cycle" Office. hen this is desired, the sum of 6d. to defray the cost of gistration and to cover postage on replies must be added the advertisement charge, which must include the ords Box 000, c/o "The Motor Cycle." Only the number ll appear in the advertisement. All replies should be ddressed No. 000, c/o "Motor Cycle," 20, Tudor Street, C.4. *Replies to Box Number advertisements containing mittances should be sent by registered post, but in all such ses it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box mber, as it is unusual for these to be sold without first ing inspected by the intending purchaser, advertisers will cilitate business by embodying in their advertisements me mention of the district in which the machine fered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons ay deal in perfect safety by availing themselves of our eposit System. If the money be deposited with "The otor Cycle," both parties are advised of this receipt. The time allowed for a decision after receipt of the ods is three days, and if a sale is effected we remit the mount to the seller, but, if not, we return the amount the depositor, and each party to the transaction pays rriage one way. For all transactions up to £10, a posit fee of 1/- is charged; on transactions over £10 d under £50, the fee is 2/6; over £50 and under £75, 5/-; er £75 and under £100, 7/6; and on all transactions er £100, ½ %. All deposit matters are dealt with at Tudor Street, London, E.C.4, and cheques and money lers should be made payable to Iliffe & Sons Limited. The letter "D" at the end of an advertisement is an dication that the advertiser is willing to avail himself of e Deposit System. Other advertisers may be equally sirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no swer to their enquiries are requested to regard the ence as an indication that the goods advertised have eady been disposed of. Advertisers often receive so any enquiries that it is quite impossible to reply to ch one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

NEW 1920 A.B.C. 4-speed; £140; in stock.—Randall, Andover. [0367

A.B.C 1920 (Ang.), dynamo model, accessories and spares, perfect order and condition; £125.—Clarke, Lyon Rd., Ely, Cambs. [1339

A.B.C., 1920, perfect order, must sell; best offer over £85.—Jones, Brynsiolun, Llanfairpwll, Anglesey. [4342

A.B.C. New Models from Stock, 1920; best cash offer entertained.—A. J. Young and Co., Ltd., Newmarket. [1252

ALEXANDER'S SALE

SEND FOR LIST!

ALEXANDER'S SALE

WILL SAVE YOU MONEY!

ALEXANDER'S SALE

NEW 1920 SHOP-SOILED MACHINES!

ALEXANDER'S SALE

A RECORD BARGAIN EVENT!

ALEXANDER'S SALE

SEND US YOUR ENQUIRIES!

ALEXANDER'S SALE

IS YOUR BEST OPPORTUNITY!

SEND FOR LIST!
LOSE NO TIME!

ALEXANDER'S

113-115, LOTHIAN ROAD, EDINBURGH.

272-274, GT. WESTERN ROAD, GLASGOW.

IMPORTANT NOTICE.

Owing to the Easter Holidays, the issue of "The Motor Cycle" for March 24th must be closed for press earlier than usual. Insertion of **Miscellaneous Advertisements** in that issue can only be guaranteed if in our hands by Thursday, March 17th.

MOTOR CYCLES FOR SALE.

A.B.C.

1920 A.B.C., tax paid, fully equipped; 108 gns.—Ramsden's, 8, Mayhell Av., Blackpool. [5567

A.B.C., new, with kick start and dynamo lighting; £140.—54, St. James's St., Ashted, Birmingham. [X8635

A.B.C., 1920, 4-speed, shop-soiled, dynamo lighting, electric horn; £130.—North, Bridgefoot, Peterborough. [5266

1920 A.B.C., mileage 700, unscratched, beautifully equipped; £92; exchanges.—60, Wallingford Av., N. Kensington. [5127

A.B.C.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5738

A.B.C. 1920 3h.p., dynamo model, speedometer, horn, small mileage; £115.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0067

A.B.C., 1920, sporting model, exceptionally fast, perfect condition; £105; licensed; ride anywhere to purchaser.—164, Broadfield Rd., Catford, S.E.6. [5554

A.B.C., 1920, new condition, electric lighting, horn, spares; £115; tax paid; exchange combination.—W. Ayers, Garage, Kensington Palace. 'Phone: Park 86. [5364

1920 A.B.C. Combination, dynamo lighting, small mileage, beautiful condition throughout, Cameo wind screen, etc.; owner buying car; £140.—H., Kenwood, Banstead, Surrey. [4399

A.B.C. 1920 Combination, dynamo lighting, speedometer, Cowey, special sidecar de luxe, wind screen, outfit nearly new, perfect condition; what offer.—Box 2,498, c/o *The Motor Cycle*. [4368

A.B.C. 1920 T.T., Miller lamps and generator, Bonnikson Isochronous speedometer, Klaxon, long exhaust pipes to each cylinder, specially tuned, and has done 65 (electrically timed) tyres excellent; £100.—H. F. Muse, Braconadale, Norwich. [5225

A.B.C., 1920, good as new, Lucas dynamo lighting, Smith speedometer, perfect running condition, new spare tube, £3 worth spare parts, accessories, year's licence and holder, small mileage; nearest offer £130.—Whitehead, 26, Tennyson Av., Chesterfield. [5110

A.B.C. 3h.p., new mid-January last, dynamo lighting, horn, speedometer, negligible mileage, beautiful condition, carefully run in, many spares; any trial; genuine reason; would consider exchange new cycle car; £140, offers.—Elveyen, 93, Willows Rd., Cannon Hill, Birmingham. [X8728

Abingdon.

4h.p. Abingdon King Dick, 2 speeds, clutch, Bosch, in good running order; nearest £32.—Sims, 61, London Rd., Salisbury. [4740

1919 6h.p. Abingdon King Dick Combination, first-class condition; 110 gns.—Midland Garage, 7, Broad St., Birmingham. Central 6238. [4424

1920 Abingdon King Dick Combination, 6-7h.p., 3 speeds, all accessories, low mileage; £130; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5510

ABINGDON King Dick 4h.p., nearly new Dunlops, clutch, lamps, new Amac, in excellent condition; price £40, or offer.—East Grinstead Motor Garage, London Rd., East Grinstead. [3238

1920 Abingdon King Dick Combination, 6-7h.p., 3-speed, tools, and accessories, hood, screen, lamps, etc., Palmer cords, speedometer; £140.—Lucas's, 390, High Rd., Chiswick, W. [5363

Acme.

BRAND New 1920 8h.p. Acme Combination, J.A.P. engine, detachable wheels, spare wheel, luxurious sidecar with cantilever springing; list price £213, reduced to £180 spot cash; only one at this price.—The Premier Motor Co., Aston Rd., Birmingham. [5284

1920 8h.p. Acme Combination, with spare wheel, never been used, tyres like new, never been punctured, electric lighting, new spare belt, complete set of accessories, owner buying car, cost £250; take £190, or best offer.—Massa, Astoria Hotel, Bridlington. [4961

MOTOR CYCLES FOR SALE.

A.J.S.

ARE You Requiring a new combination for Easter?

JULIAN'S, of Reading, have 1921 A.J.S. in stock.

SECURE One Early, otherwise you may be disappointed. [0477

DAN GUY, Weymouth.—1921 A.J.S. in stock; £215. [2173

A.J.S. New 6h.p. Combination; £195.—Jones, Garage, Droitwich. [4680

1921 A.J.S. 7h.p. in stock; £215.—Taylor's Garage, Wednesbury. [5387

A.J.S. Combinations in stock, 7h.p., 1921; lightweights shortly.—Clifford Motories, Eastwood, Notts. [4623

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [4557

BRIGHTON, Hove, and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. Late 1919 6h.p. Combination, complete, first-class condition; £155.—Bousfield, Westbury, Wilts. [4543

A.J.S. 1920 Combinations, unused, shop-soiled; £195. —Coventry Motor Mart, London Rd., Coventry. [X8573

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

A.J.S., 1915, and coachbuilt sidecar, very nice condition, head lamp, horn, etc.; £90.—Crow Bros., Guildford. [4335

1919 A.J.S. Outfit, spare wheel, good condition, tax paid; £148.—Motor, 174, Hanover St., Sheffield. [5331

A.J.S. Combination, wind screen, equipped; £110; tax paid; bargain.—Mosedale, 30, Canterbury Rd., Kilburn, N.W.6. [4891

A.J.S. 2¾h.p., 1915, 3-speed, clutch, all on, perfect condition; £55.—Price, 42, New Cavendish St., W.1. Any time. [4269

A.J.S.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5736

A.J.S.—1921 models for early delivery.—Authorised District Agents: J. V. Madgwick and Co., Bolton, Lancashire [4121

6h.p. 1919 A.J.S. Combination, complete with full accessories; £145, or near offer.—W. H. Johnson and Sons, Ltd., King's Lynn. [4430

A.J.S.—The new 7h.p. combinations for early delivery. —Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone Hammersmith 80 [5704

GET an A.J.S. from A.S.J. Any model, any distance. Good deliveries, good service.—Allen S. Jones, Pool Hill Garage, Carnarvon. [X7683

1915 A.J.S. Combination, 6h.p., spare wheel, all accessories, excellent order; any trial; £95.—Cranleigh, College Slip, Bromley, Kent. [4483

1920 A.J.S. Standard Combination, with Lucas lamps, Watford speedometer, etc., splendid condition; £185.—McNeill, 10, Monument St., E.C.3. [4895

1915 A.J.S. 6h.p. C.B. Combination, screen, luggage grid, just overhauled (cost £20), excellent condition; £105 lowest.—10, Clarendon Rd., W.11. [5321

1921 7h.p. A.J.S. Combination, complete as per makers' list; delivery from stock.—Walbro Motor Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8059

A.J.S. 1921 Models, delivery guaranteed when required; deferred payments arranged.—A.J.S Specialists, The Walsall Garage, Walsall. Tel.: 444 [4009

1919 (November) A.J.S. Combination, thoroughly overhauled, well equipped; a bargain worth seeing; £170.—79, Knowsley St., Bolton, Lancashire. [4122

1920 A.J.S. Combination, dynamo lighting, Lucas horn, Cowey speedometer, hood, etc., 700 miles, as new, tax paid; £200.—Box 2,610, c/o *The Motor Cycle*. [5682

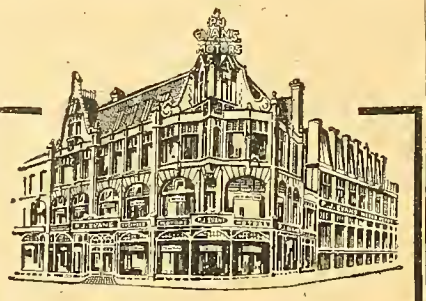
1916 A.J.S. 5-6h.p. Combination, all lamps, speedometer, hood, etc., good tyres, good condition throughout; £85.—71a, King Henry's Rd., Hampstead. 'Phone: 6552. [5539

A.J.S. Combination, new June, 1920, spare wheel (unused); Lucas lamps, horn, etc., perfect condition, little used; bought car; £190.—Warder, Blakebrook, Kidderminster. [3429

A.J.S. Combination, 1920, only done 600 miles, complete with lamps, speedometer, perfect condition and appearance; £185.—Freakley, Mornington House, Dudley Port, Tipton. [X8262

1920 A.J.S., Lucas Magdyno, special draughtproof hood, exceptionally powerful engine, fully licenced, in spotless condition; 190 gns.; Midlands.—Box 302, c/o *The Motor Cycle*. [X8745

1920 A.J.S. Combination, complete, spare wheel, etc., Cowey trip speedometer, electric lighting, mileage 200, guaranteed perfect condition; £195.—44, Morning Lane, Hackney, N.E. [X8608



'Phone: Mid. 2910. 'Grams: "Lytcar, Birm

THE BIRMINGHAM HOUSE FOR MOTORISTS.

P. J. EVANS

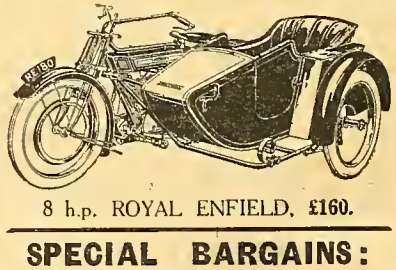
IMMEDIATE DELIVERY OF THE FOLLOWING WELL-KNOWN

MOTOR CYCLES

1921 MODELS.

A.J.S., ENFIELD, ROVER, TRIUMPH, INDIAN, HUMBER, NEW IMPERIAL, NORTON, JAMES, MASSEY-ARRAN, CALTHORPE, CONNAUGHT, EDMUND, BLACKBURNE.

CASH. EXCHANGES. DEFERRED PAYMENTS.



8 h.p. ROYAL ENFIELD, £160.

SPECIAL BARGAINS:

1920 Shop-soiled Models.

3½ h.p. ROVER, 3-speed	£125
4½ h.p. HUMBER, Flat Twin	£125
4 h.p. BLACKBURNE, 3-speed	£115
3½ h.p. ROVER, T.T.	£95
2¼ h.p. ENFIELD, 2-speed	£62
2¾ h.p. CALTHORPE-JAP, 2-speed	£63
2¾ h.p. CALTHORPE, 2-stroke, 2-speed	£58
2¾ h.p. METRO-TYLER, 2-speed	£70
2¾ h.p. CONNAUGHT, 2-speed	£58
2¼ h.p. CONNAUGHT, single-speed	£50

Also a few shop-soiled

SIDECARS

AT REDUCED PRICES.

81-91, JOHN BRIGHT ST.

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. Combination, late 1920, electric lighting, disc wheels, speedometer, and extras, new condition throughout; £170. — Frank Whitworth, Ltd., 139 New St., Birmingham. [X8632

1919 (as new) 6h.p. A.J.S. Combination, spare wheel and tyre, speedometer, horn, tools, accumulator lighting, 3 lamps, tax paid; £190 nett.—Boydell, Victoria Rd., Widnes, Lancs. [4397

A.J.S. Late 1919 6h.p. Combination, wind screen, hood and apron, spare wheel and speedometer, small mileage, tax and insurance paid; £150.—Aylward, 20, Windsor Av., Margate. [4354

A.J.S., 1914, 2-speed, 5-6h.p., hand and foot clutch control, with coachbuilt sidecar, accessories, including trip gauge speedometer; trial, seen any time; £78.—40, Ivy Crescent, Chiswick. [4535

A.J.S. Combination, 3 speeds, speedometer, Bluemel screen, luggage carrier, lamps, Low generator, splendid condition; £110; wanted lightweight.—De'Ath, 10, Slaine Grove, N.W.5. [5420

1921 A.J.S., 2¾h.p.—We are now booking for early delivery of this super machine; approx. price £100.—Official agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5511

1920 A.J.S. Combination, very little used, perfect order, horn, spare wheel, tools, electric and acetylene head lamps; £175, or near offer; owner bought car. —69, Abington St., Northampton. [X8611

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

A.J.S. 6h.p. 1920 Combination with Watford speedometer, Lucas dynamo lighting set, hood, screen, and spare wheel, excellent condition; £210, or near offer; done just over 4,000 miles.—Brannam, Pottery, Barnstaple. [0499

A.J.S. Combination, August, 1919, Easting Royal screen, speedometer, horn, lately overhauled by makers, tyres unpunctured, spare wheel unused, complete outfit spares; £175.—Doran, Mayfield, Bothwell, Lanarkshire. [4395

F.O.C.H. have a brand new A.J.S. combination, shop soiled); £190 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7 (including Saturdays. [4643

A.J.S. 6h.p., 1920 model, sidecar combination, complete with lamps, horn, tools, wind screen, guaranteed not run 2,000 miles, in exceptionally good condition throughout; £180.—Harrison, The Motor House, Burnley. Tel.: 1054. [X8423

A.J.S. 7h.p., brand new 1921 combination, complete with interchangeable wheels and spare, immediate delivery; just arrived from works; £215; easy payments arranged. — Wilkins, Simpson, opposite Olympia, London. [5483

A.J.S. Black and Gold Combination, military model, new August, 1919, appearance and condition as like new, speedometer, Easting screen, and lamps, a bargain, £145.—Dobb, 5, Abbey Rd. Mansions, St. Johns Wood, London. [4883

A.J.S. 1920 6h.p. Combination, trip speedometer, hood, screen, side curtains, Klaxon horn, Tan-Sad, pillion seat, spare wheel, unused, lamps, excellent condition; £175.—A. Edwin, 50, Chiswick Common Rd., Chiswick. 'Phone: 1954. [4758

1920 A.J.S. Combination, new June, dynamo lighting, speedometer, hood, screen and side screens, Tan-Sad, spare wheel unused, small mileage, cost £260, tax paid; accept 200 gns.; bought car.—Salmon, Yeoveney, Alexandra Rd., Watford. [4874

A.J.S. 1920 6h.p. Combination, Lucas dynamo lighting, spring seat-pillar, screen, spare wheel, etc., condition as new, mileage just over 1,000, insured £25, tax paid; best offer over £200.—Warran, 72, Windsor Rd., E.10. 'Phone: Broadway 2343. [4600

A.J.S. (July, 1920) Combination, Lucas Magdyno, hood, Cowey trip, tyres unpunctured, spare wheel unused, accessories complete, condition as new, mileage 1,700, fully insured, tax paid, owner bought car; £200 —Barber, 94, Market St., Manchester. [X8445

A.J.S. 1914 6h.p. C.B. Combination, hood, screen, C.A.V. electric lighting, special lamps, Smith speedometer, Lucas horn, Tan-Sad, tyres new, h clutch, just overhauled, spares and tools; £120.—Tayl Boltons, Daws Lane, Mill Hill, N.W.7. [52

1921 A.J.S. 7h.p., actual show model, purchas February, extras Lucas electric light, electric ho Cowey trip speedometer, hood and cover, side screen new), tax paid; cost £273, best offer; purchasing c Staffs.—Box 2,574, c/o *The Motor Cycle*. [49

1920 A.J.S., complete with sidecar, wind scre apron, etc., separate electric dynamo model, u in fine weather only, and has not done more than 2 miles, private owner; £200, or nearest offer.—Apply Anto Traders, Ltd., c/o Pugh Engineering Co., Shir Rd., Addiscombe, Croydon, Surrey. [45

1920 A.J.S. Combination, dynamo lighting, luxu ously equipped, hood cover, screen, spare wh pan seat, spring pillar, Sterling legshields, Klax speedometer, mirror, tools, tax paid, perfect conditi small mileage; best over £190; trial by appointment 12, Eastmead Av., Greenford, Middlesex. [34

MOTOR CYCLES FOR SALE.

B.S.A.

7h.p. Twin and 4¼h.p. B.S.A. in stock, fully equipped; list price.—Coffin, Holwell, Sherborne. [4749

URNER Bros. for B.S.A. Immediate delivery 1921 models.—134, Upper Thames St., London, E.C. [4954

.S.A., countershaft 3-speed, kick start, chain-cum-belt; £55.—23, Jupiter Terrace, Well Hall, S.E.9. [5263

ATE 1916 4½h.p. B.S.A., Lucas lamps, Klaxon horn, tax paid; bargain, £67/10.—Harper, Craven ns. [4270

.S.A. 3½h.p. 1915, lamps, etc., in perfect condition, must sell; £45.—Walker, 82, Oxford Gardens, 10. [5177

.S.A. 1920 Model 4¼h.p., belt drive, perfect condition; accept good offer nearest £95.—4, Fyfield , Oxford. [4713

920 B.S.A. All-chain Combination, new, £138; 1921 models, prompt delivery.—Taylor's Garage, dnesbury. [5388

920 4¼h.p. B.S.A., No. 2 sidecar, Magdyno, speedometer, horn, tax paid, perfect throughout; 45.—Below

F. EDWARDS, the B.S.A. competition specialist, can give delivery all models; also expert advice.—Harrington Rd., South Kensington. 'Phone: Ken. 09. [4199

.S.A. 1921 Twin 6-7h.p. Combination, in stock, £175; spare wheel, tyre, and luggage grid extra 3/19.—Below.

.S.A. 1921 Model H., 4¼h.p., chain drive; £110; No. 2 sidecar £35, in stock.—Below.

.S.A. Model K., 4¼h.p., 1920, chain-cum-belt, £100; No. 2 sidecar, £35; in stock.—A. Rivett, 256, gh Rd., Leytonstone. [3586

OLTON.—All B.S.A. models in stock, solo and combinations, complete.—Grosvenor Garage, Brad d St., Bolton. [X2019

.S.A. 1921 Models; orders now accepted for early delivery.—Ratcliffe Bros., 200, Gt. Portland St., Mayfair 6042 [0429

.S.A. 7h.p., 1920, only ridden 300 miles, complete with lamps, horn, and licence; £130.—Exmocyco, Bath Rd., Exeter. [X8257

919 B.S.A. 4¼h.p., coachbuilt sidecar, screen, horn, lighting set, licence, perfect condition; £115.—Grotton Rd., Acton. [4405

.S.A. 1921, all models; late B.S.A. combination, new condition, wind screen, £100, guaranteed.—Clifford tories, Eastwood, Notts. [4621

.S.A.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from ril 2nd. (See Wanted.) [5741

.S.A. Late 1919 Model K., P. and M. sidecar, splendid order, accessories, numerous spares, tax paid; 15.—7, Brandize, Okehampton. [4957

.S.A.—Our new agency open to discuss exchange any good solo or combination; early deliveries.—nting, Motors, Wealdstone. [4207

917 B.S.A. Motor Cycle, 3-speed, kick start, complete with lamps, horn, etc., tax paid; £63.—son's Garage, Letchworth, Herts. [3768

.S.A., 1919, all-chain, Montgomery sidecar, speedometer, lamps, etc.; £120; after 7 o'clock.—nes, 588-382, Finchley Rd., N.W.2. [5039

.S.A., few only, 1920 combinations; reduced price, £135.—A. Watkins, 150-2, Stoney Lane, and 565, tford Rd., Sparkbill, Birmingham. [X8626

.S.A. 1920 Combination, 4¼h.p., chain, mileage 500, as new, with lamps, horn, tools, etc.; £135; guaranteed perfect.—Young, Misterton, Somerset. [4597

.S.A. Combination, 1917, 3-speed, clutch, C.B. sidecar, equipped, perfect; £88; must sell, going oad.—240, Blythe Rd., Hammersmith. [5346

.S.A. 4¼h.p., July, 1919, coupled A.J.S. sidecar, Easting, accessories, spare tubes, cover, no lamps, trial; £100.—68, Bushwood, Leytonstone. [3618

66.—1912 B.S.A., 2-speed, completely overhauled, kick start, all on, recent Mills-Fulford sidecar, exceptional condition.—Write 5, Annington Rd., N.2. [4631

.S.A. 1917 4¼h.p., 3-speed countershaft, K.S., clutch, all-chain, splendid condition; £70, or reasonable r.—Montrose, Windmill Rd., Clapham Common. [3523

ENUINE 1919 B.S.A. 4¼h.p. Combination, luxuriously fitted, perfect throughout, unscratched; any sonable offer.—153, Knollys Rd., Streatham, S.W.16. [4362

920 B.S.A. 4¼h.p. Combination, all-chain drive, Magdyno, Bluemel screen, Binks carburetter; 50; appointment.—62, Allison Rd., Hornsey, N.8 [5017

.S.A. 1920 Combination, Magdyno lighting set, slightly used; £150.—A. Watkins, 150-2, Stoney e, and 565, Stratford Rd., Sparkhill, Birmingham. [X8627

ARLY 1920 B.S.A. Combination throughout, 3-speed clutch, etc., all-chain driven, electric lighting practically as new; £120.—11, Betchworth Rd., en Kings. [4865

.S.A. Model K. £103, Model H. £107; 1920 machines, and No. 2 sidecar £35, available for quick very; easy payments.—Harrods, Ltd., 118, Brompton , London. [4921



1921 NEW MODELS.

STANDARD 11.6 h.p. 4-seater	£645	0
LAGONDA 11.9 h.p. coupé, dickey, full equipment. Reduced price	£465	0
CALTHORPE 2-seater. Reduced price	£420	0
CALTHORPE 4-seater. Reduced price	£450	0
COVENTRY PREMIER 3-wheeler	£285	15
REX-BLACKBURNE Model 55 8 h.p. Combination, 28 × 3, spare wheel	£218	18
SCOTT, 3½ h.p., 2-speed	£130	0
*SCOUT (INDIAN), twin	£140	0
NEW IMPERIAL, 8 h.p., and Sidecar	£186	18
NEW IMPERIAL, 2½ h.p., 2-speed	£80	17
B.S.A. 4½ h.p. 3-speed all-chain Com.	£152	0
SCOTT Combination	£170	0
SCOTT, new Squirrel model	£130	0
BRADBURY, 6 h.p., and Sidecar	£187	10
ENFIELD 8 h.p. Combination	£160	0
ENFIELD, 2½ h.p., 2-speed, lightweight	£65	0
TRIUMPH, countershaft, and Sidecar.	£151	0
B.S.A. twin Combination, Lucas dyno. lighting, spare wheel. Reduced price	£212	9
SUNBEAM 8 h.p. Combination, Lucas dynamo lighting, spare wheel, etc.	£274	1

(*New 1920 models. Cash offers wanted.)

1921 DOUGLASES.

Including lamps, generator, horn, licence holder

2¾ h.p., 2-speed	£85	0
2¾ h.p., 3-speed (no clutch)	£100	0
2¾ h.p., 3-speed, kick start, clutch	£105	0
4 h.p., 3-speed, clutch	£130	0
4 h.p. 3-speed Combination	£170	0

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Guaranteed in Running Order.

A.B.C., 1920, Magdyno lighting, speedometer, electric horn, 700 miles	£125	0
EDMUND, 2¾ h.p., 1920, as new	£75	0
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NORTON, 3½ h.p., T.T.	£75	0
COVENTRY EAGLE, 1920, 3½ h.p., 3-speed, very fine condition	£98	10
METRO-TYLER, 2-speed, red	£62	10
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CLYNO, 1920, 2-sp., Lightweight	£55	0
MOTOSACOCHE, magneto, lightweight	£17	10

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RICHARDSON 1920 2-seater. Tax paid	£195	0
MORGAN 8 h.p. Sporting. Tax paid	£145	0
BUCKINGHAM 2-seater. Tax paid	£85	0
SCOTT 2-stroke coach Combination	£85	0
PREMIER, 3½ h.p., 3-speed, and S'car	£65	0
BRADBURY, 6 h.p., Grindlay Sidecar, lamps, etc., 1920 Combination	£157	10
ARIEL 3½ h.p. 1920 3-sp. Combination	£110	0
HARLEY, 7-9 h.p., 1920, and new latest type bulbous back Sidecar.	£195	0
HARLEY 1920 Combination, electric.	£200	0
DOUGLAS 1919 4 h.p. Combination	£120	0
CHATER-LEA 8 h.p. 3-speed Com.	£85	0
BRADBURY, 3½ h.p., 3-speed, Sidecar	£75	0
BAT-J.A.P. 6 h.p. 3-speed c/shaft Com., speedometer, watch, lamps, etc.	£90	0
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*Easting Windscreen, standard	£4	10 0
*British New Magnetos, single or twin, for all makes. Exchanges quoted.		
*Cowey Horns, 50/-; Klaxons	£1	16 0
*Cowey Speedometers	£8	0 0
Cowey Trip, for A.J.S., 100 miles	£5	5 0
*Binks Carburetters (post free)	£4	16 10
*New Army Knapsacks, 13½ × 11"		5 6
*Plated T.T. Bars, for Triumphs	£1	5 0
Douglas Sidecar, 1920, almost as new	£29	10 0
*Douglas Sidecar, 1921, screen	£40	0 0

*New goods. Carriage extra.

MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A. 1917 Model K., Millford sidecar, accessories, Tan-Sad, wind screen, F.E.W. valve attachments, tax paid; £90, or near offer.—Mogg, 94, Clarence Rd., Grays, Essex. [5260

B.S.A., 1916, Model H., overhauled by makers, since done 1,500 miles, with 1919 family sidecar (adult and child); £75.—Mayne, 57, Harlech Rd., Southgate, N.14. [5001

B.S.A.—All models for early delivery; also a few second-hand machines at low prices.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5705

B.S.A. 1921 Models, immediate delivery, H2 and K2; also 6-7h.p. twin combination; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [5487

B.S.A. 1920 K. Combination, luggage grid, Easting, 3 electric lamps, horn, etc., excellent condition; any examination or trial; £135.—Craigie, Cold Norton, near Maldon, Essex. [X8596

1920 B.S.A. 4¼h.p. Combination, Model H., Easting, lamps, speedometer, horn, luggage grid, tax paid; £135, or best offer.—Laidlaw, 2, Hampden Terrace, Mount Florida, Glasgow. [5548

B.S.A.—All models now in stock; the lowest price machine, but highest quality.—A. Watkins, the B.S.A. Agent, 150-2, Stoney Lane, and 565, Stratford Rd., Sparkhill, Birmingham. [X8625

B.S.A. Model K Combination, guaranteed 12 months' use only, fine condition, mechanically perfect, 3 lamps, Klaxon, insurance, tax paid; any trial; £130, or near offer.—Dickeson, Clifden, Raglan Gardens, Wembley Park, Middlesex. [5600

LATE 1920 B.S.A. Combination, 3 lamps and generators, spare tube, and accessories, only ridden few miles, as new; £125, or near offer.—Truman, High St., Sidcup. [5315

B.S.A. 3½h.p., 1912-13, 2-speed, clutch model, B.S.A. carburetter, Bosch mag., thoroughly overhauled and repainted; £60.—Apply, Larkworthy, Coopers Bridge, Liphook, Hants. [4485

B.S.A. 6h.p. and 4¼h.p. Solo in stock for immediate delivery; price list and catalogue post free; deferred payments arranged. Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4010

1921 6h.p. B.S.A. Combination, spare wheel, detachable wheels, brand new, in stock; note the price, £184.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8044

B.S.A. 1921 6-7h.p. Twin Combination, complete with spare wheel, luggage grid, and screen; cash, or extended payments.—Taylors, Ltd., 52 and 53, Sussex Place, S.W. 'Phone: Kensington 7260. [0492

B.S.A. 1920 K. luxurious sidecar, accumulator lighting, speedometer, etc., done 1,600 miles, excellent condition, tax paid; £145, or nearest offer; seen by appointment.—Bevington, The Thorns, Sevenoaks. [5181

1919 B.S.A. and Sidecar, chain-belt, speedometer, lamps, horn, tools, wind screen, hand and foot controlled clutch, spare valve, chain, belt, cover, tube, 3,000 miles, tax paid; £123.—Knight, Knebworth, Herts. [4744

B.S.A. 4¼h.p. 1914 3-speed Countershaft Chain-drive Combination (Millford sidecar), stored, renovated, and fitted Easting wind screen, looks new, licensed; nearest offer £98.—Tomkinson, Victoria Villa, Middlewich, Ches. [4694

ALL B.S.A. 4h.p. Combination, countershaft 3-speed, all chain, Cmaco, 3 lamps, horn, etc., splendid condition; £75; near offer; tax paid.—118, Craven Park Rd., Harlesden, N.W.10. 'Phone: Willesden 1239. [5158

B.S.A. 4¼h.p. Model H with B.S.A. No. 2 Sidecar and dynamo lighting, late 1920, brand new but slightly soiled; usual price, £158/15; sacrince, £139/15, a real bargain.—Wilkins, Simpson, opposite Olympia, London. [5491

IMMEDIATE Delivery of any B.S.A. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0501

1920 4¼h.p. B.S.A. All-chain Combination, all latest refinements, electric and acetylene lighting, Tan-Sad, licence and insurance paid, mileage 600, privately owned; send for full particulars.—James, Albany Villa, Ross. (D) [5089

B.S.A. 1920 Model K. Combination, Lucas lamps, Cowey trip speedometer, Klaxon, Easting screen, luggage grid, licensed, mileage 1,200, condition as new; £135, or near offer.—Canning, c/o Hucklebridge, 133, Sloane St., London, S.W.1. [X8609

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—New 1921 B.S.A. motor cycles, chain and chain-cum-belt, delivered from stock, price £110 and £107 respectively; easy terms one-fifth down and the remainder in 12 monthly payments. [5727

B.S.A. 1919 Combination, mileage under 2,000, Palmer front, Moseley rear, Easting screen, hood, spare tyre, P. and H. lamp, appearance excellent, perfect running order, tax paid; price £100; appointment —39, Cornwall Rd., Harrow. [4525

MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A. Combination, 2-speed, coachbuilt sidecar, fitted with new Dunlop tyres, Dunlop belt, new P.H. lamp, thoroughly overhauled; would exchange for 1919 or 1920 Triumph with kick start, 3-speed.—W. H. Booth, Post Office, Burwardsley, Chester. [4437

1920 B.S.A. Combination, Magdyno, Easting, luggage grid, speedometer, sprung seat pillar, mirror, spares, 4-ply Dunlops, unpunctured, insured for £185, perfect condition, tax paid; £148; deposit system.—F. Sawyer, 84, Armoury Rd., Small Heath, Birmingham. [X8652

B.S.A.—A motor cycle worthy of its name is the B.S.A. We have always in stock at least three models, Model K, Model H, and 6-7h.p. twin, immediate delivery; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0370

B.S.A. 1921 Model 6-7h.p. Twin, Model A, with B.S.A. No. 1 sidecar, Magdyno lighting, speedometer, spare wheel with tyre, tyre cover, luggage grid; immediate delivery from stock at makers' latest price; £217/10.—Wilkins, Simpson, opposite Olympia, London. Easy payments arranged. [5485

1915 B.S.A. Coachbuilt Combination, 3-speed countershaft, K.S., clutch, acetylene lighting, horn, knee grips, speedometer, spare valves, complete, tools, storm apron, Easting, suit overalls, tax and insurance paid, taking delivery car; £100, or near offer.—24, Highbridge St., Waltham Abbey. [5503

1919 B.S.A., 4¾h.p., Model K, coachbuilt sidecar, complete with 3 lighting sets, horn, Easting, luggage grid, spare tyre, tube, belt, and other spares, licence paid, fully insured, policy transferred free, good condition; bargain, £110 for quick sale.—Baker, The Knowle, Deddington, Oxon. [5295

B.S.A., new model, 6-7h.p. V twin, and Mills-Fulford bulbous back De Luxe sidecar with Easting screen and luggage grid, 3 lamps, Cowey speedometer, spares, tools, etc., tax paid; cost £215, reasonable offer wanted.—'Phone: Palmers Green 3081.—Box 2,618, c/o *The Motor Cycle*. [5663

B.S.A. 4¼h.p., Millford C.B. sidecar, 1916 model, bought new April, 1917, excellent condition, overhauled, new Wood-Milne front tyre, 26×3 heavy Dunlop back, Clincher de Luxe side, Jones speedometer, Lucas acetylene lamps, luggage carrier, patent adjustable jet, Atkinson wind screen, side curtains, hood, leg shields, Lucas horn, many spares; 98 gns.—A. T. Mole, 39, Westbere Rd., Cricklewood, N.W. Seen any time. [4533

Calcott.

2¾h.p. 1915 Calcott, recently overhauled, good condition, Bosch, new carburetter; seen by appointment.—Peters, 38, Mason's Hill, Bromley, Kent. [4697

Calthorpe.

CALTHORPE Jun., 2-speed gear, excellent condition; £25.—Bunting's Motors, Wealdstone. [5625

1916 Calthorpe-Jap, 2¾h.p., Enfield 2-speed gear, licence paid; £36/10.—Jones, Garage, Droitwich. [4682

CALTHORPE 2-stroke, 2 speeds, in splendid condition; £35.—62, Southfield Rd., Bedford Park, W.4. [4332

CALTHORPE Lightweight, 2-speed, licence, like new; £29.—Proud, Vicarage Lodge, Knowsley, Lancs. [5309

WAUCHOPE'S 9, Shoe Lane, London, E.C.—Calthorpe combination, dynamo lighting; £115/10. [5728

CALTHORPE Junior, 2 speeds, tax paid £24 quick sale; higher power required.—H. Gunn, 58, Railton Rd., Herne Hill, London. [5101

CALTHORPE.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5742

CALTHORPE 1919 2-stroke, Enfield 2-speed, fine condition, just been overhauled; £55.—Bailey, 35, Mount Pleasant Rd., New Malden. [5402

1916 2¾h.p. Calthorpe, 2-stroke, as new, tax paid, good tyres, lamps; ride away; photo, stamp; bargain, £25, near offer.—Ewers, Newton Rd., Burton-on-Trent. [4619

CALTHORPE-J.A.P., 2¾h.p., 1920 model, Enfield 2-speed gear, £65; 2-stroke model with Enfield gear, £58.—P. J. Evans, 81-91, John Bright St., Birmingham. [4657

CALTHORPE.—Immediate delivery 3h.p. 2-stroke solo, 65 gns.; combination, complete with lighting set, 110 gns.; and 2¾h.p. Calthorpe-Jap, 2-speed, 70 gns. Motor Co., Hereford. [4314

CALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon; all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

CALTHORPE-J.A.P., 2¾h.p., late 1920, brand new but slightly soiled, Enfield 2-speed; usual price, £74/11; sacrifice, £59/15, a real bargain.—Wilkins, Simpson, opposite Olympia, London. [5494

CALTHORPE-J.A.P. 2¾h.p., 1919, 2-speed, as new, discs, lamps, electric, Lucas horn, licence, leg shields, tyres like new, only done few miles; ride away; £60, or near offer.—202, Trinity Rd., S.W.17. [4777

CALTHORPE 1921 Combination, actually in stock for immediate delivery; cash or deferred terms; place your orders with the Calthorpe specialists.—Burlington Motors, Ltd., Clapham Common, S.W.4. 'Phone: Brixton 2417. [0509

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CALTHORPE, 2¾h.p. J.A.P., 1918, Enfield gear, good condition, recently overhauled, new piston and back tyre, tax paid; £35.—Malley, 4, Basingstoke Rd., Reading. (Seen at Julian's Motor Cycle Shop, Broad St., Reading. [5460

Campion.

CAMPION-J.A.P. 1917 2¾h.p., 2 speeds, T.T. bars, long exhaust, knee-grips, photo; £39.—20, Frankfort St., Birmingham. [5077

1920 Campion-Jap 2¾h.p., Sturmey 2-speed, kick starter, hand clutch, low position, very little used, splendid condition; £65.—Garaged 89, East Hill, Wandsworth. [5127

Cedos.

E. KICKHAM for Cedos; trade supplied.—Stoke Croft, Bristol. [3337

CEDOS, late 1920 2¾h.p., 2 speeds, fully equipped, indistinguishable from new; £60.—Parker's, Bradshawgate, Bolton; and 245, Deansgate, Manchester. [X8577

CEDOS 2-stroke, the finest lightweight reaching the public, earliest deliveries, particulars on application.—Largest London Agents: Fowler and Brigden, 130, Euston Rd., London, N.W.1. 'Phone: Museum 4827. [0477

Chater-Brown.

4h.p. Chater-Brown Combination, 1916 engine, Mabs variable, cane sidecar, screen, many spares, go anywhere; £30; Liverpool.—W. Appleton, Castle St., Shi [4577

Chater-Lea

8h.p. Chater-Lea C.S. Combination, condition & appearance perfect; £85.—Levene, 89, Plumstead Rd., Woolwich, S.E.18. [5077

GENUINE Bargain.—1920 2-speed 2-stroke Chater Lea, lamps, mechanical horn, aluminium foot boards and leg shields, mechanically faultless, slightly scratched, starts easily, tax paid; £54; approval Laver, 199, Unthank, Norwich. [5677

Chater-Lea-Jap.

CHATER-LEA-J.A.P. 6h.p. Combination, 3-speed, Binks, lamps, speedometer, sound condition; offers —31, Wilton Grove, Wimbledon. [4677

Chater-Lea-Kerry.

£25, for quick sale.—5h.p. twin Chater-Lea-Kerry, Bosch, mechanically perfect, tax 30s. — 'Fo minger, Hackenden, East Grinstead. [5277

Chater-Lea-Kelecom.

CHATER-LEA-KELECOM 3½h.p., long exhaust, lamps, ride away; £35.—20, Boston Rd., Hanwell, W.7. [4377

Cleveland.

1920 Clevelnnd, new; cash offers; exchange big power.—27, Eldon Rd., Blackburn. [X8677

1920 3h.p. Clevelaod, 2-speed, kick start, 26 tyres, chain drive, cost with extras £92; cept £68.—30, Talbot St., Burnley. [X8677

Clyno.

CLYNO 2-stroke, 2 speeds, clutch, fine condition; £ —75, Warwick Rd., Bowes Park. [5277

NEARLY New 2¾h.p. Clyno, 1920, 2-speed; 60 gns A. J. Young and Co., Ltd., Newmarket. [1277

DAN GUY. Weymouth.—1921 8h.p. Clyno combination, small mileage, as new; cash offers want [2777

1920 Clyno Lightweight, perfect condition, as ne bargain at 50 gns.—Box 2,551, c/o *The Mo Cycle*. [4377

CLYNO Combination, 1916, 3-speed, excellent con tion, lamps, etc., fast; £85, or nearest.—97, Ro Rd., Bow, E.3. [4977

1921 8h.p. Clyno Combination, new, £215; 1 Clyno lightweight, £59.—Taylor's Gara Wednesbury. [5

CLYNO Lightweight, electric light, Lucas horn, sp ometer, new condition; £60.—Scrase, 234, Bat sea Park Rd., S.W. [X8

CLYNO.—All models will be on sale at the seco hand Automobile Show, Crystal Palace, i April 2nd. (See Wanted.) [5

CLYNO 1917 3-speed Combination, repainted, c plete with lamps; £100, close offer.—Hayne, Spr Bottom, Osmington, Weymouth. [3

1919 Clyno Lightweight, new 1920, lamps, h licence, perfect condition throughout; offer Mardon, Windhill, Bishop's Stortford. [5

1919-20 Clyno 2¼h.p., good condition, lamps, r boards, spare inner tube, belt, tax paid; £5 Lucas, Downhills Rd., Blundellsands. [4

£85.—Clyno combination, complete spare wheel speeds, in good condition, or part exchange lower h.p.—119, Westfield Rd., Ealing. [4

CLYNO Lightweight, 1920, very little used, lam mechanical horn; 50 gns.—Vivian Hardie and La Ltd., 24, Woodstock St., New Bond St., W.1. [0

CLYNO 1920 2-stroke, 2-speed, clutch, alumin mudshields, mnffs, lamps, Klaxon, tools, new dition; £55.—19, Mervan Rd., Brixton, S.W.2. [5

MOTOR CYCLES FOR SALE.

Douglas.

1919 2¾h.p. Douglas, purchased new Feb., 1920, used only few times, guaranteed perfect; £60. -37, Arlington Rd., Surbiton. [5368

DOUGLAS.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, om April 2nd. (See Wanted.) [5744

4h.p. Douglas Combination, 3-speed, hood, screen, spare wheel, all accessories; £120.—Sibley, 106, Market Place, Romford, Essex. [4470

DOUGLAS 2-speed, kick starter, hand clutch, horn, lamps, splendid condition; £48.—Baets, 6, Wilton Mews, South Belgravia, London. [4937

1917 Douglas 4h.p., 3-speed, clutch, lamps, horn, etc., licensed; £70, near offer.—Write, Butcher, 5, Kingshall Rd., Beckenham. [4863

1920 Douglas Combination, lighting set, horn, tax paid, insured, handsome outfit, not done 600 iles.—20a, Pitshanger Lane, Ealing. [5188

1918 2¾h.p. Douglas, 2-speed, makers' colours, lamps, Amac, Thomson-Bennett, enamel unscratched; £55.—63, Solon Rd., Brixton. [5077

1915 Douglas 2¾h.p., 2-speed, all accessories, perfect running condition; £55.—Spencer, 24, Kelmore rove, Peckham Rye, Dulwich, S.E.22. [4502

3h.p. Douglas, 1917, overhauled and made as new, 4 a guaranteed perfect article; £55; A.C.U. test desired.—7, Park Rd., Chiswick, W.4. [5247

DOUGLAS 2¾h.p., 1920, 3 speeds, shop-soiled, lamps, licence, etc.; £78; cheapest in this week.—Central arage, London Rd., Thornton Heath, S.E. [5145

1920 (July) 4h.p. Douglas, fully equipped, stored 6 months, enquiries invited (Somersetshire); what ers?—Box 2,555, *c/o The Motor Cycle.* [4564

DOUGLAS 2¾h.p., clutch, 3-speed model, shop-soiled only, never ridden; £92/10.—The Baths arage, Tenbury Wells, Worcestershire. [X8259

DOUGLAS, 2¾h.p., 2-speed, with all accessories, guaranteed perfect condition; £55.—Frank Whitorth, Ltd., 139, New St., Birmingham. [X8631

1918 GNS.—1916 3-speed 2¾h.p. Douglas, fully equipped, not W.D. model, grand goer.—29, St. onard's St., Bromley-by-Bow, East 4708. [5192

£50.—1916 2¾h.p. Douglas, 2-speed, plating, enamel like new, engine and tyres perfect, tax paid.—atson, 6, Cavendish Parade, Clapham, S.W.4. [5073

h.p. Douglas, August, 1919, lamps, speedometer, and spares, 3,500 miles; £93; seen after p.m.—111, Croydon Rd., Anerley, S.E.20. [5316

DOUGLAS 2¾h.p., perfect, new pistons, crankshaft, bearings, tyres, footboards, smart; trials; £44.—nterson, 5, Wyndham Crescent, Highgate. [4536

1920 (late) 4h.p. Douglas Combination, Easting wind screen, all accessories, tax paid, low mileage; 45.—Read, 39, Higher Drive, Purley, Surrey. [4285

DOUGLAS 1915 2¾h.p., 2-speed, in new condition, special bargain, £50, tax paid.—Smith, 86, Chalk arm Rd opposite Chalk Farm Tube Station. [0491

DOUGLAS, 1915 (late), 2¾h.p. T.T. model, complete with lamps and horn, fully licensed till December; rgain, £50.—R. D. Varty, Thundersley, Essex. [9901

1916 2¾h.p. Douglas, 2-speed, very small mileage, lamps, Klaxon, pump, tool kit, licence paid; 55; worth seeing.—1, Melrose Rd., Merton Park, S.W. [4373

h.p. Douglas Combination, 3-speed, K.S., blue sidecar guaranteed; £90; exchange solo and sh.—The Haven, 120, Sutherland Rd., West Croydon. [5277

DOUGLAS, 2¾h.p., 2-speed, 1918, excellent order, tax paid; £55. — Newnham Motor Co., 223, ammersmith Rd., W.6. 'Phone: Hammersmith 80. [5699

1920 Douglas Combination, 4h.p., practically unused, lamps, horn, spare belt, etc.; Manchester strict; £135.—Box 2,607, *c/o The Motor Cycle.* [5676

DOUGLAS 4h.p. Combination, 1920, all lamps, spares, accessories, enamel, plating and mechanically perfect; £140.—Skinner, Draper, Broadstairs. [5339

1920 4h.p Douglas Combination, fitted with lamps, horn, etc., as new; accept £125.—J. Hebden d Sons, 149, St. James St., Burnley. Tel.: 488. [5434

1920 (late) Douglas 2¾h.p., 3-speed, lamps, generator, Klaxon, Bonniksen, as new, mileage negligible; 90.—Write, Rawlings, 33, Malwood Rd., S.W.12. [4719

3h.p. Douglas, new 1918, equipped, excellent condi- 4 tion, spares; best offers accepted; photograph.—pply, Prowse, Polkinghorn E., Gulval, Penzance. [4811

1916 Douglas, 2¾h.p., T.T., fully equipped, spares, as new, variable jet, etc., long exhaust, very t; £60.—Irvimey, 1, Manor Crescent, E. Molesey, rrey. [4300

1918 Douglast 4h.p., 3-speed, kick start, end clutch, appearance and condition as new, any trial or umination; £70.—A. Brown, 2, Austin St., Shoreditch, ondon. [4969

1920 Douglas Combination, completely equipped, new condition, numerous spares, tax paid; £145, ar offer.—McCarthy, Southwood, Oakwood Rd., Horley, rrey. [5198

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Douglas.

DOUGLAS 4h.p., wants assembling, been renovated and tank in makers' colours, new Bosch mag. and Amac; £57/10.—Hole, 129, Park Lane, Carshalton. [4840

DOUGLAS 4h.p. Solo, lamps, horn, 3-speed, clutch, kick starter, £55; also Douglas 2¾h.p., tyres, etc., first-class condition, £50.—Serase, 234, Battersea Park Rd., S.W. [X8595

1916 2¾h.p. Douglas, all lamps, D.A. cylinder for lamps; £46.—33, The Parade, Golders Green, N.W.4. See further bargain re gloves in Miscellaneous columns. [5476

DOUGLAS 4h.p. 1919 Combination, lamps, all accessories, saxe blue sidecar, outfit as new; any trial; accept reasonable offer.—41, Cowley Rd., Brixton, London. [5468

1916-17 Douglas Combination, 3-speed, K.S., clutch, dynamo lighting, new tyre rear, 3 lamps, electric horn; bargain, £75.—Wadlow and Wright, Orpington, Kent. [5556

4h.p. Douglas and Sidecar, July, 1919, not W.D., lamps, horn, speedometer, discs, mudshields, in good condition throughout; £140.—44, Howard Rd., S. Norwood. [5250

2¾h.p. Douglas 2-speed, new from makers Sept., 4 1919, fully equipped, condition and appearance as new; £65.—Adams, Gunton Lodge, Oulton Broad, Lowestoft. [4725

DOUGLAS Combination, 1917, 4h.p., 3-speed, clutch and kick start, electric lighting, horn, speedometer, wind screen, etc.; £90.—314, High Rd., Wood Green, N.22. [4879

DOUGLAS 2¾h.p., clutch, kick start, mechanically perfect, appearance new, small mileage; expert examination, trial invited; £62/10.—4, Devonshire Rd., Holloway. [5037

4h.p. Douglas Combination, delivered Aug., not done 100 miles, lamps, speedometer, tools, not marked; £150, near.—Seen Price's Garage, 29, Strand, Southchurch, Southend. [5183

1919½ Douglas 4h.p. Combination, Watford speedometer, horn, lamps, all tools, only done 2,000, good as new, tax paid; £125.—9, Princeton St., Red Lion Sq., W.C.1. [4853

4h.p. Douglas Combination, 1917, 3-speed, absolutely as new, new sidecar, tax paid; trial by appointment, or deliver 60 miles; £90.—Snow, 91, Mapledene Rd., Dalston E.8. [5594

1920 Douglas 2¾h.p., 3-speed, electric and acetylene lighting, Watford trip, Klaxon, legshields, spares; £86.—8, The Hawthorns, Church End, Finchley. Appointments North 1681. [4547

4h.p. Douglas 1920 Combination, P. and H. lamps, Triplex screen, spare tyre, tube, chain, tax, condition excellent; £130, or near.—Purkis, 2, Cann Hall Rd., Leytonstone, E.11. [4849

1920 4h.p. Douglas, 3 speeds, complete with Lucas lamp sets and horn, in really nice order; £100. —Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X3057

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

DOUGLAS 1921 2¾h.p., 2-speed, complete with lamps, horn, licence paid, used for less than 200 miles; bargain, £80.—Elco and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0070

DOUGLAS Late 1920 2¾h.p., new but slightly soiled, 3-speed, Model W 20; usual price, £100; our price, £89, a real bargain.—Wilkins, Simpson, opposite Olympia, London. [5490

THE Effra Motor Works.—When you have purchased a 2¾h.p. Douglas from us you have the satisfaction of knowing that our machines are entirely overhauled and worn parts renewed.—Below.

£50.—2¾h.p. Douglases, 1915-16, restored and replated, tank in makers' colours, fitted with new magnetos and 1920 Amac carburetter, new tyres, etc.; a real genuine bargain.—Below.

WHY? As we purchased the remaining entire dump of 2¾h.p. Douglases, W.D., this is the reason we are able to offer these machines at this price.—Below.

PLEASE Note that we cannot supply unrenovated 2¾h.p. Douglases.—Below.

£65.—We are now in a position to supply 4h.p Douglas solo ex W.D. machines, tanks in makers colours, miscellaneous fittings plated, new tyres and footboards, all fitted with clutch and kick start, new mags., and 1920 Amac carburetters. These machines have had very little wear, and so confident are we that you will have satisfaction, we agree to send same on approval against cash.—Below.

TO the Trade.—We are prepared to sell 4h.p. Douglases, solo and combination (in the rough), at very attractive prices. Make a point of calling upon us.—Below.

WE are in a Position to supply spares for 2¾h.p and 4h.p. Douglases, new and second-hand stock. —Below.

CHEQUES and Money Orders should be made payable to the Effra Motor Works, 14, Effra Parade, Brixton, London, S.W. [5647

MOTOR CYCLES FOR SALE.

Douglas.

BRAND New 1921 2¾h.p. Douglas, 2 speeds, complete with all lamp sets and horn, ready for the road, at £85.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8052

DOUGLAS 1918 Combination, 4h.p., 3-speed, kick start, clutch, horn, etc., tyres as new, in splendid condition throughout; £90, or offer.—Walker, 769, Romford Rd., Manor Park, London, E. [4534

DOUGLAS 2¾h.p., 1916, sporting model, fast, splendid condition, aluminium discs, speedometer, mechanical horn, tyres new; £65, offers.—Lillie, 13, St. Andrew's Rd., Chesterton, Cambridge. [4544

KICKHAM'S Yellow Douglas, 2¾h.p. racing type, guaranteed speed exceeding 70 m.p.h., complete with spares; the 'bus for the sporting clubman.—Offers to Kickham, Stokes Croft, Bristol. [5330

1919 Douglas Combination, 4h.p., 3-speed, kick start, lamps, horn, tools, Cameo wind screen, perfect condition; £95; any trial, preferably appointment.—182, Sherrard Rd., Forest Gate, E. [4825

DOUGLAS 4h.p. Combination, late 1919, speedometer, Klaxon, wind screen, mud shields, luggage grid, lamps, spare tubes, owner bought light car; £130; by appointment.—Newtb, Attenborough, Notts. [4745

4h.p. Douglas, 1916-17, electric lighting, Kempshalls, tubes new, aluminium footboards, Easting, re-enamelled; solo £80 (licensed), combination £95.—Woodward, Loxwood Cottage, Sundridge Av., Bromley, Kent. [5409

F.O.C.H. have a 1920 Douglas combination, almost new, completely equipped; £135.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4641

DOUGLAS 2¾h.p., 1916, 2-speed, perfect condition, fully equipped, large lamps, Klaxon, spare tubes and plugs, new chain, tubes, etc., taxes paid; £55.—Holton, Stoke Prior, Lenham Rd., Sutton, Surrey. [4678

FREE.—Every new 1921 Douglas purchased from us before March 9th, 1921, fitted lamps, horn, wind screen, and licence holder, free of charge; write for particulars.—Moffat, Douglas Agent, Yeovil. 'Phone: 50. [5043

1916 2¾h.p. Douglas, excellent condition, tax paid, £48; also late 1918 2¾h.p. Douglas, lamps, horn, etc., perfect condition, plating and enamel like new throughout, £58.—436, Whitehorse Rd., Thornton Heath, S.E. [4958

4h.p. Douglas Combination, May, 1920, tax paid, lamps, horn, tools and spares, 50 miles since decarbonisation; £130; would ride reasonable distance to prospective purchaser.—Hardman, Northaw, Potter's Bar. [5337

IMMEDIATE Delivery of any Douglas Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0505

DOUGLAS, 1920, 3-speed, kick start, handle-bar clutch, Cowey speedometer, horn, F.R.S. 6in. head and Lucas rear lamps, tax paid, insurance transferable; £90.—P., 91, Hambalt Rd., Clapham Common, S.W.4. [4823

4h.p. Douglas Combination, engine No. 9277, as new, Dunlops, spare tyre and tube, F.R.S. head, electric side and tail, Lucas horn, Cameo, tools, and spares, tax paid; £135, or best offer.—Hazelden, Preston Grove, Yeovil. [4977

DOUGLAS 4h.p. 1920 Combination, complete, lamps, horn, wind screen, knee grips, Binks carburetter, tyres nearly new, spare belts, licence fully paid; trial; seen Bournemouth; good condition; price £115.—Box 2,324, c/o *The Motor Cycle*. (D) [3202

4h.p. Douglas 1919 Combination, P. and H. lighting, Volta horn, Easting wind screen, luggage grid, etc., good condition; taking delivery of new mount reason for disposing; £120, or nearest offer to 7, Vauxhall Rd., Gloucester. 'Phone: 125 Gloucester. [5249

LATE 1918 4h.p. Douglas Combination, perfect condition, new Sandum de Luxe sidecar, Easting, luggage carrier, petrol can and carrier, many spares, just overhauled, new cylinders, pistons, bearings; any trial; tax paid; £100.—33, Windsor Rd., Ealing, W.5. [5265

DOUGLAS 1920 Model 4h.p. Combination and accessories, including Lucas horn and head lamp, Cowey speedometer, wind screen, spare belt, chain, tube, exhaust valve, etc., mileage under 3,000, as new, registered ready to ride away; £140, or near offer.—Brewery, Tring. [3195

REAL Bargain.—Douglas 4h.p. combination, Oct., 1920, mileage 1,400, Easting screen, lamps, horn, speedometer, coachwork and enamel good, guaranteed in thoroughly good mechanical condition; £140.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., W.1. 'Phone: Mayfair 6559. [4456

DOUGLAS Combination, late 1918, thoroughly overhauled, restored, plated, etc., blue sidecar, horn, lamps, generator, etc., very smart outfit, guaranteed mechanically perfect; any trial; tax paid; exceptional opportunity; real hill-climber; £120.—Hodby, 26, Manton Rd., Peckham, S.E. [4627

WAUCHOPE'S, 9, Shoe Lane, London.—New 1921 2¾h.p. Douglas, 3-speed, clutch and kick start model, £105; new 1921 4h.p. combination, £170; solo 4h.p., £130; new 1921 improved W.D. pattern, 2 speeds, £85; all the above models are fully equipped with lamps, horn, generator, and licence holder; easy payment or exchanges arranged: also 4h.p. Douglas, 1915, £60.—'Phone: 5777 Holborn. [5719

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2¾h.p. Douglas, 1918, engine practically new, fitted new rings, valves with Flexicas attachment, new C.A.V. mag., new racing Claudel single-lever carburetter, new sprockets, engine and gear box, new pulleys, improved brakes and footboards, new Palmer cord oversize tyres and tubes (cost £8), electric lamps (battery) front and rear, tax paid; I fitted this bike up for my own use, but having bought combination don't need it; price £67.—Dowell, Fyfleet, Surrey. [4728

Edmund.

1920 2¾h.p. Edmund, sprung frame, new; accept £80.—J. Hebden and Sons, 149, St. James' St., Burnley. Tel.: 488. [5428

1920 2¾h.p. Edmund-Jap, adjustable spring frame, Enfield 2-speed gear, lamps, horn, licence, excellent condition; £60.—Box 501, c/o *The Motor Cycle*. [X8737

2¾h.p. Edmund-Union, spring frame, Enfield 2 speed gear, 1920 model, shop-soiled; list price £86, my price £68.—Davies, 229, Deansgate, Manchester. [0528

Enfield.

1921 Enfields.

ALL Models in stock for immediate delivery; 8h.p. combination £160, with dynamo lighting set £182; Enfield lightweight, £65; easy payments arranged; your old machine taken in part payment. To enable intending purchasers to inspect after our business hours, we are prepared to show these models at any time by appointment.—Broom and Whitehead, Ltd., Authorised Agents, 88, Gt. Portland St., London, W.1. Mayfair 6638. [9899

JULIANS of Reading have 1921 Enfields in stock [0478

NEW 1920 Enfield, 2-stroke, 2-speed: £65; in stock.—Randal, Andover. [0369

ENFIELD Lightweight, 2-speed; £30.—Apply, 77, New Park St., Devizes. [4508

ENFIELDS.—1921 combinations and lightweights in stock.—Clifford Motories, Eastwood, Notts. [4623

ENFIELD Combination, 6h.p., perfect condition, any trial; £79.—159, Hornsey Rd., N.7. [X8643

BRAND New 1921 Royal Enfield Combination; £160.—Welford, St. James' St., Brighton. [4515

ENFIELD 6h.p. Combination, in splendid order, £75.—King, 66, New Rd., Chippenham, Wilts. [5376

ENFIELD 2¼h.p. 2-stroke, new machine, only ridden 50 miles; £59.—134, Bargery Rd., Catford. [5374

1919 Enfield Lightweight, 2-speed, tax paid, perfect, 44 gns.—Fersfield, Westbury Rd., New Malden. [5082

1920 Enfield Combination, Lucas Magdyno, many extras; £170.—Strettons Garage, Ltd., Gloucester. [4387

ENFIELD 6h.p. 1916 Combination, splendid condition, going away; 100 gns.—290, Brixton Hill, S.W. [4603

ENFIELD 1921, all models for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. May fair 5042. [0432

85 GNS.—1917 Enfield 8h.p. genuine combination, lamps, etc., nice condition.—54, Caval Rd., Mortlake. [X8671

ENFIELD Lightweight, twin, Bosch, spring fork, perfect condition; £25.—Bostock, Byron St., Ilkeston. [X8463

ENFIELD 1915 Twin, 3h.p., 2-speed, clutch, T.T. bars, excellent condition; 48 gns.—90, Wellesley Rd., Ilford. [4823

NEW 1921 Enfield Combination, dynamo £182, less dynamo £160.—Bounds, Garage, High Rd., Kilburn, N.W.6. [4772

1916 6h.p. Enfield Combination, electric lamps, £80.—29, St. Leonard's St., Bromley-by-Bow, East 4708. [5191

1916 Enfield Combination, all accessories, splendid condition; best offer.—98, Westcombe Hill, Blackheath. [5419

1920 8h.p. Enfield Combination, new; £152/10.—Shepherd, Enfield Highway, Enfield. Tel. Waltham X31. [0340

ROYAL ENFIELD Combination, fully equipped, daft 1916, condition excellent; £115.—Welford, St. James' St., Brighton. [4514

ENFIELD, 3½h.p. Minerva, m.o.v., mag., overhauled, rebushed, new accessories; £25/10.—28, Bourne Rd., Bexley, Kent. [5580

ENFIELD 6h.p. Combination, excellent condition, accessories, tax paid; what offers?—Kemp's Garage, Louth, Lincs. [X8566

ENFIELDS, any model, any distance; good deliveries, good service.—Allen S. Jones, The Motor Cycle Specialist, Carnarvon. [X7890

ENFIELD 1920 2¼h.p., 2-stroke, excellent order, equipped; £49.—Compton, Easter Close, Kentisbury, near Barnstaple. [4400

1920 Enfield Combination, 6h.p., Magdyno, as new, Easting, tax paid; nearest £155.—Hill, 60, Marchmont St., Russell Sq., W.C.1. [5255

MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5745

ENFIELD 2¼h.p. 2-stroke, lamps, mechanical horn, perfect condition, just overhauled; £50.—C.S., 8, Walpole Crescent, Teddington. [5029

ENFIELD 1914 3h.p. Twin, sporting, red discs, lamps, overhauled, tax paid, 30/-; £48.—Bristow, 58, Slade Green Rd., Erith, Kent. [4421

ENFIELD 2¼h.p. 2-stroke, late 1919, good condition, low mileage; £60, or offer.—Address, A. 612, c/o Deacons, Leadenhall St., London. [X8708

1920 8h.p. Enfield Combination, brand new, unused; £148.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [1901

ENFIELD 3h.p. Twin, 2-speed, kick start, lamps, horn, speedometer, new condition throughout; £48.—Jones, 2, Cambridge Crescent, Watford. [X8610

IMMEDIATE Delivery of the new 1921 Enfield combination; £160; exchanges arranged.—Eagles and Co., 275, High St., Acton, London. [5643

1921 8h.p. Enfield Combination, run 150 miles, licence paid, owner buying car, perfect; £155.—Bambers', Eastbank St., Southport. Tel.: 607. [5439

6h.p. Royal Enfield Combinations (two), fitted with lamps, horn, etc.; £110 and £120.—J. Hebden and Sons, 149, St. James St., Burnley. Tel.: 488. [5433

6h.p. 1920 Royal Enfield Combination, with accumulator lighting and full accessories; £145, or near offer.—W. H. Johnson and Sons, Ltd., King's Lynn. [4428

ENFIELD 6h.p. Combination, 1917, Lucas dynamo lighting, Easting, speedometer, licensed, excellent order, not W.D.; £115.—Clark, 7, Exhibition Rd., S.W.7. [5619

ENFIELD, 1921, 2¼h.p., 2-speed, lamps, horn, and tax paid; £63. — Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5702

1918 Enfield Combination 8h.p., fully equipped, spares and tools, tax paid; write for appointment; £80.—Saunders, 11, Trinity St., Colchester. [5335

1921 Enfield Combination, dynamo lighting, with or without dynamo; in stock, immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

1918 Enfield 3h.p., 2-speed, clutch, K.S., like new, £56; or exchange 1916 or later 4-stroke lightweight, Douglas, A.J.S., or similar.—38, Beacon St., Lichfield. [X8497

1916 Enfield 3h.p. Twin, kick start, Lucas lamps and horn, condition and appearance, including tyres, perfect; £55; genuine bargain.—20, Derby Rd., Croydon. [5465

BRAND New 1921 Royal Enfield Lightweight, 2 speeds, kick starter, in stock; £70.—Walhro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8053

ENFIELD 1916 3h.p. Twin, 2-speed, clutch, kick start, new Dunlops, good condition throughout; £45, or exchange lighter weight.—17, Eastern Rd., East Finchley. [4509

8h.p. Royal Enfield Combination, very small mileage, electric light, Klaxon horn, perfect condition; £125.—Midland Garage, 7, Broad St., Birmingham. Central 6238. [4425

ENFIELD, the 2-stroke; immediate delivery.—Sole agent for Wimbledon, Southfields, Earlsfield, Prior, Replingham Rd., Southfields, S.W.18. 'Phone: Putney 1694. [5014

ENFIELD 2¼h.p. Lightweight, new October last, perfect condition throughout, complete with lamps and horn; £55.—P. J. Evans, 81-91, John Bright St., Birmingham. [4660

ENFIELD 1920 8h.p. Combination, glass screen with sidewings, 3 lamps, mirror, new spare tyre, little used, in excellent condition; £140.—Roberts, Bodlondeb, Bala, N. Wales. [4556

1920 6h.p. Enfield Combination, Easting, Lucas lamps, Klaxon, spare chain, not done 2,000, as new; any trial; best offer over £130.—Coryn, Horndon, Essex. [4935

1920 Enfield Combination, Magdyno lighting, hood, screen, speedometer, tools, unscratched, licence paid; £150.—20, High St., Walthamstow. 'Phone: Walthamstow 14. [5574

ENFIELD Combination, privately owned, beautiful condition, Stewart speedometer, insured till August, Lucas horn, spares, tax paid; £95.—57, Shirley Park Rd., East Croydon. [4617

ENFIELD 2¼h.p. 2-stroke, 2-speed, 1921 models, brand new, £65; kick starter £5 extra; easy payments arranged. — Wilkins, Simpson, opposite Olympia, London. [5488

1921 (Feb.) Enfield, 2-speed, 2-stroke, K.S., brand new condition, under 20 miles running, electric lighting, horn, tax paid; cost £78; snip, £70.—1, Rodway Rd., Roehampton, S.W. [4807

ENFIELD 6h.p. 1918 Combination, complete with Easting screen, all lamps, in exceptionally good condition throughout; £125. — Harrison, The Motor House, Burnley. Tel.: 1054. [X8430

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ZENITH £216 COMBINATION,
Countershaft model, electric lighting, only used about 100 miles and like new,
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Enfield.

ENFIELD 1917 3h.p. Twin, 2-speed, kick start, lamps, horn, speedometer, etc., in good running order, just overhauled by makers; price £65; tax paid.—119a, Church St., Croydon. [5372

ENFIELD 3h.p., new condition, tyres hardly worn, all complete, lamps, speedometer, overalls, horn, etc., tax paid; £80; buying car, so must sell; Yiewsley.—Box 2,497, c/o *The Motor Cycle*. [4367

1921 Enfield Combination, 8h.p.; in stock for immediate delivery, £160; lightweight model, £65; extended payments or exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5515

3h.p. Twin Enfield, 1919, kick starter, battery lighting, speedometer, Klaxon, 3,000 miles, enamel and condition very good; price £65; seen by appointment.—Eustace, 41, Friendly St., Deptford, S.E.8. [4692

1920 Enfield Combination, dynamo lighting, Easting, speedometer, Tan-Sad, insurance and tax paid, cost £230, run only 439 miles; £170.—'Phone: Wanstead 48.—374, Grove Green Rd., Leytonstone. [5661

SPORTY 'Bus.—Very fast 3h.p. twin Enfield, late 1916, unused 3 years, splendid condition, lamps Klaxon; any trial and examination; £55. Wanted, combination.—Wallace, 5, Lancaster Place, Richmond Surrey. [4524

NEW Enfield Combination, 8h.p. Vickers engine, to makers' specification, £160; dynamo lighting model, £182; 2-seater sidecars 4 gns. extra; prices quoted at works.—Harrods, Ltd., 118, Brompton Rd., London. [4919

ENFIELD 6h.p. Combination, wind screen, hood, Klaxon horn, speedometer, 2 E.R.S. lamps, pillion seat, new tyres, in excellent condition, tax paid; £96, or near offer.—J.G.B., 28, High St., Lewisham (nr. Obelisk). [5375

1919 Dec.) Enfield Combination, 8h.p., Lucas dynamo lighting, Palmer light car tyres, speedometer, Klaxon, spares, tools, condition new, licence paid; £150.—Highfield, Chase, Coulsdon, Surrey, or 'Phone Smith, City 3917. [5593

WAUCHOPE'S, 9, Shoe Lane, London.—Enfield 1921 combination, with dynamo lighting set, £182; standard model, £160; 2-stroke, £65; easy terms arranged, one-fifth down and the remainder in 12 monthly payments. [5718

ENFIELD 8h.p. Combinations, brand new 1921 models, with Magdyno lighting, Lucas horn, Vickers engine, £182; without Magdyno lighting, £160; just arrived from works. Immediate delivery; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [5484

ENFIELDS.—The cheapest twin on the road. We are North London agents, and can supply from stock standard models £160, electric £182, cash, or deferred payments. All spares in stock. Trade supplied.—Jones' Garage, Muswell Hill, and at Woodside Parade, N. Finchley. [0380

6h.p. Enfield Combination, 1916, in perfect running order, complete with Lucas dynamo lighting set, large quantity of accessories, spares, and fitted travelling box for touring, fitted spare wheel for interchange with back wheel; inspection and trial invited; price £130, rock bottom, no offers. Apply, Box 2,565, c/o *The Motor Cycle*. [4785

Excelsior.

BRITISH Excelsior.—All models from the Coventry Motor Mart, London Rd., Coventry. [X8574

1920 Excelsior-Jap, 2¾h.p., new, 2 speeds, hand clutch, kick starter; £69.—Garland, 134, Bridge St., Warrington. [X8705

1920 British Excelsior 8h.p. Combination, lamps, horn, 3,000, licence paid; £130, offers.—Robson, Helmdon, Brackley, Northants. [5457

1920 2¾h.p. Excelsior, 2-speed model, £58; or clutch and K.S., £64.—J. Hebden and Sons, 149, St. James's St., Burnley. Tel.: 488. [5431

BRAND New 6h.p. Excelsior-Jap Combination, Sturmey-Archer 3-speed; £160, excellent value. The One Tree Motor Cycle Co., Huddersfield. [5088

1921 British Excelsior, new, 2-stroke, 2-speed, clutch, kick starter, models just arrived.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich. [5634

NEW 1920 Excelsior 4½h.p. Big Single Combination, luxurious sidecar; list price £160, offered at £135 spot cash.—The Premier Motor Co., Aston Rd., Birmingham. [5287

1920 Excelsior-Jap, 2¾h.p., Sturmey-Archer 2 speeds and K. starter, all accessories, as new; exchanges; price £80.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5516

4½h.p. British Excelsior Combination, first-class condition, Bosch, all-chain, countershaft, electric lamps, luggage carrier, Tan-Sad; bargain, £80.—Fairmnn, 43, Clarence Rd., St. Albans. [4635

F.N.

F.N., 5-6h.p., 4-cyl. clutch, 2-speed; £35.—Simmons, Lingfield Rd., East Grinstead. [5282

F.N., 4-cyl., drop frame, footboards, accessories; £28.—Blake, 216, Westbourne Grove, W. [5031

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F.N.

F.N. 2½h.p. Shaft-driven Lightweight, latest type, brand new, in stock; £84.—Crow Bros., Guildford. [4711

F.N. Lightweight, shaft drive, 2-speed, clutch, Sen-spray, tax paid; £27/10.—47, Curzon Rd., Ealing, W.5. [4626

F.N. 1921 Models, now arriving.—Send enquiries to S.E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [4129

4-CYL. F.N. Combinations and Solo Singles actually in stock.—Grimes and Co., 18, Bruton Place, New Bond St., W. [9443

F.N. 7h.p. Combination, latest type, brand new, in stock, complete with hood and screen; £190.—Crow Bros., Guildford. [4710

F.N. 1914 7h.p., 4-cyl., m.o.i.v., 3 speeds, Zenith, Dunlops (26×3), all in good order; bargain, £70; can be seen in Birmingham.—Box 292, c/o *The Motor Cycle*. [X8563

IMMEDIATE Delivery of any F.N. Model; cash or deferred payments; hook your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0560

F.N. 4-cyl., modernised, Bosch, 1921 automatic Claudel carburetter, clutch, aluminium disc wheels, low, smart, new Dunlop rear, perfect condition, guaranteed 50 an hour, tax paid; £38.—Titmuss, Church Rd., Limbury, Luton, Beds. [4610

1921 F.N. Combination, 7h.p., 4 cyls., equipped with hood and screen, £205; solo, £160; 2½h.p. lightweight Model A, 80 gns.; immediate delivery; exchanges or easy payments.—Official agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5517

Francis-Barnett.

JULIANS of Reading have 1921 Francis-Barnett in stock. [0479

Harley-Davidson.

HARLEY Sports, brand new, fully equipped; £145; list £164/10.—7, Exhibition Rd., S.W.7. [4139

1920 Harley-Davidson 4h.p. Flat Twin, fully equipped, as new; £115.—Box 2,579, c/o *The Motor Cycle*. [4908

HARLEY-DAVIDSON Combination, excellent condition; any trial; £89.—17, Heaton Rd., Mitcham. [5024

1919 7-9h.p. Harley-Davidson, sidecar, all accessories, tax paid; £180.—30, Lansdowne Hill, West Norwood. [4452

1919 Harley-Davidson, equal new, fully equipped, Bosch mag.; £120, no offers.—365, King St., Hammersmith. [4611

1920 Harley-Davidson, all lamps, mechanical horn, speedometer, discs; £135.—18, Park Av., Golders Green, N.W.4. [5475

1918 7-9h.p. Harley Combination, reconditioned, like new; £110.—29, St. Leonard's St., Bromley-by-Bow, East 4708. [5190

1918 7-9h.p. Harley, projectile sidecar, electric lighting; only £98.—Ramsden's, 8, Maybell Av., Blackpool. [5566

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross, 86, High Rd., Lee. [5669

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', Southport, Lancashire. Tel.: 607. [5009

1920 Harley-Davidson 4h.p. Combination, Henderson sidecar, all accessories; £145. — Apply, Pavilion Garage, Sloane Sq., S.W. [4850

HARLEY-DAVIDSON.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5746

1920 Harley 7-9h.p., electric model, discs, speedometer, special £85 sidecar, tax paid; £185.—H. Boff, 110, Woodgrange Rd., Forest Gate. [4901

HARLEY 1919 Combination, fully equipped, perfect throughout, £145; ported air sleeve for Harley, 30/-.—122, Coventry Rd., Ilford. [5355

HARLEY-DAVIDSON, 1918, replated, like new, with new Canoelet bulbous back sidecar, lamp, horn; £115.—322, Whitehorse Rd., Croydon. [2899

HARLEY-DAVIDSON 1920 4h.p., in absolute new condition, only done very few miles; bargain, £130.—Palins, Bourne St., Osmaston Rd., Derby. [2300

HARLEYS, 1918 and 1919, solo from £82, combinations from £105; lamps, horns, etc.—Post Office, Whitehouse Rd., Croydon. 'Phone: 660. [5730

HARLEY Combination, 1920, 7-9h.p., good as new, speedometer, tools, screen, lamps, 60 m.p.h.; £160; real bargain.—Jenner, The Square, Birchington. [4393

1919-20 Harley-Davidson Combination, dynamo lighting, Easting screen, Tan-Sad, etc.; £160.—Farrand, 23, Fairlawn Court, Chiswick Park, W.4. [X8637

160 GNS.—1920 electric Harley-Montgomery combination, indistinguishable from new, insurance 1921, paid licence.—54, Caval Rd., Mortlake. [X8670



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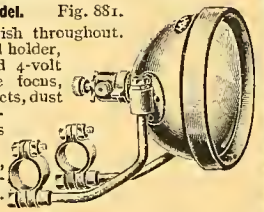
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MOTOR CYCLE HEAD, SIDE & TAIL LAMPS.

Medium Size Model. Fig. 881.

Best quality finish throughout. Totally insulated holder, with switch and 4-volt bulb, adjustable focus, adjustable brackets, dust and weather-proof front. As illustrated. Nickel-plated, **43**/- each. Black-plated, **47**/- each.



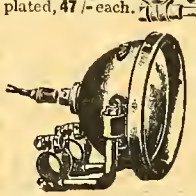


Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass Price as illustrated, **55**/- each, black-plated.

Fig. 560. Sidecar Lamp. As illustrated. Complete switch, bulb, wire, nuts, washers, etc. Price **8**/**6** each.



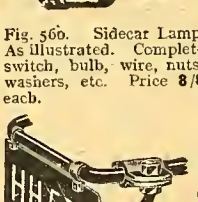
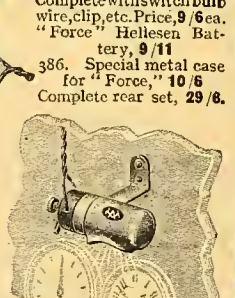


Fig. 573. Shows red danger signal, lights No. plate. Complete with switch bulb wire, clip, etc. Price, **9**/**6** ea. "Force" Hellesen Battery, **9**/**11**

386. Special metal case for "Force," **10**/**6** Complete rear set, **29**/**6**.

Fig. 348. **Dash Type Patent Speedometer Lamp.** Adjustable clip, insulated holder, with switch and 4-volt coloured bulb to prevent glare.

Price **7**/**6** each.





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COMPLETELY Equipped 1920 Sports Harley-Davidson, perfect condition, mileage under 500; £130, or near offer.—Chivers, Wychfield, Cambridge. [5254

7-9h.p. 1916 Harley-Davidson Combination, in excellent condition, complete with all lamps and horn, tyres perfect; £110.—Fryer, Commercial Rd., Hereford. [4326

HARLEY-DAVIDSONS: large selection of all models and all spare parts stocked.—The J.C.J. Motor Co., 124, Holdenhurst Rd., Bournemouth. 'Phone: 2699. [3344

HARLEY-DAVIDSON, 1915, not used till Amistice, mag., racing bars, pistons, exhaust, discs, electric lights, horn, tax paid; bargain, £70.—'Phone: Brixton 484. [5328

1920 7-9h.p. Harley, dynamo lighting, speedometer, Montgomery sidecar, Triplex screen, hood, mileage 2,000, licensed; £180.—12, Leaside Av., Muswell Hill, N.10. [4010

1920 Harley-Davidson, dynamo, Harley sidecar, speedometer, discs, perfect condition; £170.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [5614

1919 7-9h.p. Harley, luxurious sidecar, ample luggage room, electric lighting, Cameo, speedometer, mechanical horn, condition as new; £185.—Wilcox, 28, Thornton Av., Chiswick. [5261

HARLEY-DAVIDSON 1920 7-9h.p. Combination, electric, completely equipped, tax paid, as new, mileage 1,100; £190.—Barnett, c/o Boyces, 329, Archway Rd., Highgate, N. [5319

HARLEY 7-9h.p., 1920 (Nov.), electric model, lamps, horn, speedometer, perfect order, under 200 miles, licenced; £163, absolutely lowest.—23, Ravensbourne Gardens, Ealing, W.13. [5228

HARLEY-DAVIDSON, 1916, Montgomery sidecar, new chains and tyres, good order and condition; first reasonable offer accepted.—Airey, Frederick St., Crosland Moor, Huddersfield. [4499

HARLEY-DAVIDSON 7-9h.p., 1918, 3-speed, K.S., good running order, £80; sidecars, 2-seater or single-seater, to fit same, from £28/10.—Owen, 59, Schofield Rd., Upper Holloway. [X8684

1919 Harley, perfect condition, gas cylinder, lamps, Klaxon, Cowey speedometer, 1920 Dunhill's Limousette sidecar, mileage 2,00; £140.—Wilson, 16, Aberdeen Terrace, Northampton. [5013

HARLEY-DAVIDSON 1920 4h.p. Model, Swan sporting sidecar, electric lighting, in good condition, as new; £185.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X8552

HARLEY-DAVIDSON 1920 7-9h.p., dynamo lighting, Henderson sidecar, low mileage, indistinguishable from new; £160.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X8562

HARLEY-DAVIDSON, 7h.p., 3-speed, large sidecar to match, perfect order, electric lighting; £137/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5696

1920 Harley-Davidson F. Model, complete acetylene lighting, mechanical horn, speedometer, tools, disc wheels, ridden 200 miles, new last November.—Taylor and Sons, 18, Walbrook, E.C.4. [5244

HARLEY-DAVIDSON Combination, 1916, all-electric, new double-seated sidecar, mileage under 4,000; £150; condition as new.—Wallis, c/o Whittingham's, Broadway, Winchmore Hill, N.21. [4753

1920 Harley-Davidson, Model J, electrically equipped, combination, nearly new and guaranteed perfect, too fast for owner; £215, or nearest.—89, Brithweunydd Rd., Trealaw, Rhondda. [5157

1920 Harley-Davidson 7-9h.p., with Coronet sidecar not W.D., all lamps, Klaxon, speedometer, tools, new condition; £165, or exchange lower power solo or combination.—Shaw, Durkar, Wakefield. [3366

1920 Harley-Davidson Combination, 7-9h.p., mag model, electric light, luxurious sidecar, well equipped, small mileage, unscratched; £170; exchanges.—144, Ladbroke Grove, North Kensington, W. [4250

1920 (August) Harley-Davidson 7-9h.p. Combination, electric lighting, hood, side curtains, screen, speedometer; cost £265; accept £190, or near offer; owner buying car.—61, Compton Rd., Wimbledon, S.W. [4484

1920 Harley-Davidson Combination, electric model, practically new and unscratched, Easting wind screen, leg shields, speedometer light, Tan-Sad, tax paid £198.—Clifford, 22, Fitzharris Av., Bournemouth. [X7391

1920 Harley-Davidson 7-9h.p. Combination, electric model, speedometer, hood, screen, apron, Tan-Sad, guaranteed perfect throughout; any trial; £200 no offers.—234, Coombe Lane, Raynes Park, S.W.19. [4857

7-9h.p. 1918 Harley Combination, Canoelet MM4 lamps, horn, as new, tax paid; exchange 8h.p. Blackburne, Lucas Magdyno or 1921 A.J.S., cash adjustment.—Hood, 32, Fulham Palace Rd., Hammersmith. [4705

£125.—1918 Harley-Davidson and Canoelet MM4 Sidecar, overhauled, re-enamelled and plated, any examination and trial, exceptionally good engine, ready for Easter.—Langford's, 37, Cricklewood Broadway, N.W.2. [5340

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130.—Second-hand 1917 English model Harley, accessories, fitted with brand new 40 gn. model luxe Milliford sidecar, enamelled to match, guaranteed perfect; first cheque secures.—The Premier Motor Aston Rd., Birmingham. [5288

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HARLEY-DAVIDSON, 1920, shop-soiled unused Model F., speedometer, horn, makers' guarantee, ntical with 1921 model, £170, list £193/6; Montery sidecar, specially built for same, Triplex screen, d, grid, £40, or £200 the combination.—Hockerill age, Bishops Stortford. [3573

HARLEY-DAVIDSON, Indian, Matchless, and Triumph experts; complete overhauls and repairs very description undertaken, obsolete parts made; ines decarbonised and valves ground in 24 hours; es most moderate. — Carefully note name and ress: Olphert, 66, Church Rd., Barnes, S.W. [5147

HARLEY-DAVIDSON 7-9h.p. Electric Model Combination, in latest colours, condition as new, ls-Fulford sidecar, new hood, very smart outfit, too erful for owner, licence paid and insurance; £160, near offer.—Garnaged with The Star Cycle and Motor rks, 332, Woodsworth Bridge Rd., Fulham, S.W.6. [5406

HARLEY-DAVIDSON, 1920, dynamo lighting, Model C. and M. sidecar, disappearing hood, en, speedometer, electric horn, disc wheels, a t magnificent outfit, cost over £300, and is practly new; owner will accept £225.—Seen and tried Elce and Co., 15-16, Bishopsgate Av., Camomile E.C.3. [0065

1920 (Sept.) Harley-Davidson Combination, model J20, electric lamps and horn, Harley standard car, hood, Orto screen, apron, Tan-Sad, mileage 00, just decarbonised, completely overhauled, sidevarnished by Harleys, tyres as new, spare tube, ns, etc., licence paid; £210, or close offer; trial oon by appointment.—Arnold, Milton Hall, Graves- [4898

HARLEY-DAVIDSON 1920 7-9h.p. Mag. Standard combination, electric light, 2 accumulators, discs, ens, hood, horn, speedometer, pillion seat, can ier, empty can, mirror, mascot, spare bulbs, tools, p, plugs, voltameter, licenced, insured, equal to ; trial run; privately owned; buying car; will 25% under present makers' list price.—Apply, in, 21, The Parade, Golders Green, N.W. Hamp- 7290. [4298

Hazlewood.

EW 5-6h.p. Hazlewood Combination, 3-speed, clutch, and kick-starter, a thoroughly reliable outfit; rods have a large stock of these slightly shop-soiled 0 each (much below list price); deferred payments. arrods, Ltd., 118, Brompton Rd., London. [4909

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KICKHAM for Henderson; trade supplied.—Stokes Croft, Bristol. [3354

h.p. Henderson Combination, used 2 months, electric, tax paid, tools, etc.; £225.—Box 94, c/o *The Motor Cycle*. [5673

ENDERSON, 1920, sporting bulbous sidecar, screen, dynamo lighting, splendid condition; 5; North London.—Box 2,599, c/o *The Motor le*. [5668

ENDERSON Combination, dynamo lighting, hood, screen, tools, luxurious outfit; £148; take Douglas ountershaft Trinmph part.—22, Beller Rd., Thornleath. [5461

ENDERSON 4-cyl., the world's leading 4-cyl. motor cycle; all models in stock for immediate delivery es from £210.—Edinburgh Pioneer Motors, 50, nday St., Edinburgh. [3549

20 4-cyl. Henderson Combination, with electric equipment, hood, screen, luggage carrier, etc., ost luxurious outfit, in perfect condition.—17, West l, Clifton, Bristol. [5329

EW 1921 Model Henderson, the most highly developed motor cycle ever built; now in stock for ediate delivery; liberal exchanges.—The Premier Co., Aston Rd., Birmingham. [1879

ENDERSON Combination, 1920, 2,000 miles, coach sidecar by Capjohn and Mudd, screen, etc., amo lighting, Tan-Sad, Cowey.—Offers to Comder Dowman, c/o 9, North St., Havant, Hants. [4746

Hobart.

OBART.—All models Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X8575

OBART, 1920, 2-speed model, nearly new; only £55 and year's tax paid.—Moss, Wem. [X8659

21 Hobart, 2-speed, latest model, new, makers' price, £78/10.—Shepherd, Enfield Highway, Enl. Tel.: Waltham X31. [0496

OBART-J.A.P 2¾h.p., late 1920, clutch, kick starter, 2-speed, hardly used, all on; £65, lowest, 0, Navarino Rd., Hackney. [4291

16 Hobart-Villiers 2¾h.p., 2-speed, equal to new, had little use, licensed and insured, with cash Scott combination.—K., 48, Derby Rd., Croydon. [4491

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MOTOR CYCLES FOR SALE.

Humber.

HUMBER 1921.—All models Coventry Motor Mart, London Rd., Coventry. [X8576

£35.—Humber 2¾h.p V Twin, good condition throughout, all accessories, tax paid.—51, Mile End Lane, Stockport. [4687

HUMBER 2¼h.p., single gear, excellent condition; £30, or nearest offer.—Hogg, 93, Northcote Rd., Clapham Junction. [D [4805

1910 Humber 3½h.p., 2 speeds, free, Bosch, B. and and B., and C.B.S.C.; £40.—A. Owen, 42, Woodland- Park Rd., London, N.15. [4837

HUMBER.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5747

HUMBER 2¾h.p. Twin, 3-speed, clutch, just thoroughly overhauled, first-class running order; 29 gns.—159, Hornsey Rd., N.7. [X8640

HUMBER 4½h.p. Flat Twin, 1920 model, unused, shop-soiled only; bargain, £125.—P. J. Evans, 81-91, John Bright St., Birmingham. [4655

1920 Humber, 4½h.p. flat twin, shop-soiled, electric head and tail lamps, horn; bargain, £119.—Garland, 134, Bridge St., Warrington. [X8704

LIGHTWEIGHT Humber Motor Cycle, in nice condition and good running order, tax paid; price £25.—John Rigg, East Bank House, Kendal. [5179

HUMBER 4h.p. Combination, 2 speeds, thoroughly overhauled, in splendid condition; £48; would separate.—S.E., 113, Churchfield Rd., Acton. [4599

HUMBER.—Immediate delivery from stock of the 4½h.p. flat twin combination; price £174.—Harrison, The Motor House, Burnley. Tel.: 1054. [X8452

HUMBER Combination, 3½h.p., thoroughly overhauled Feb., perfect going order; 50 gns., near offer.—Crayford Bridge Garage, Crayford, Kent. [4363

3½h.p. Humber Combination, 2-speed; also 3½h.p 32 o.h.v. twin, 3-speed; exchange for countershaft machine, or sell £75. 1, Ludlow Villa, Coleridge Rd. N. Finchley. [4755

HUMBER Combination, 1916, 4h.p., 3-speed, Milton car, all complete, spares, insurance, splendid condition; £100; seen appointment.—Dawes, 213, Kingsland Rd., E.2. [4887

HUMBER Combination, flat twin, 1919-20, 3-speed low mileage, electric tail, side lamp, all on, tax paid; £135, or near offer.—Trent, 108, Craven Park Rd., Harlesden. 'Phone: Willesden 1126. [4943

HUMBER Combination, 3½h.p., 2-speed, coachbuilt sidecar, bulbous back, new tank, new gear, new tyres, etc., lamps, tax paid, just thoroughly overhauled and all re-enamelled, in fine condition; any trial; bargain, £65.—Aland, 9, Kilmaine Rd., Fulham. [4826

HUMBER 4½h.p. Flat Twin, 1920, with Milford family sidecar, screen, apron, hood and luggage grid, also lamp and horn, mechanically perfect, examination and trial by appointment; price £160, or near offer.—E., 4, Herbert Rd., Southall, Middlesex. [5418

HUMBER 3½h.p. Combination, 2 speeds, free engine, P. and H. lamps, speedometer, etc., licence paid, sidecar (Henderson Model A) fitted as lightweight touring, Anster Triplex screen and scoop, luggage box and hood, disc wheel; car alone cost £35, receipts shown; the whole in practically new condition, any trial; £80, or would separate.—Smith, 21, Moring Rd., Tooting, S.W.17. [5451

Indian.

KICKHAM for Indian; trade supplied.—Stokes Croft, Bristol. [3353

DAN GUY, Weymouth.—Indian 1914 7h.p. combination, complete; £75. [2177

INDIAN 7-9h.p., 1914, 2-speed, spring frame; snip, £43.—9, Silver St., Enfield. [5222

HORSMAN for Indians.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0470

INDIAN 5-6h.p.; clutch model, excellent order; trial; £32.—17, Henton Rd. N., Mitcham. [5025

INDIANS 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 535 Central. [2437

INDIAN 7-9h.p., 1919, 3-speed, K.S., practically as new; £70.—C., 12, Station Parade, Muswell Hill. [4932

INDIAN 7-9h.p. 1915, T.T. model, very fast, clutch, perfect; £45.—Lewis, 204, Ladbroke Grove, W.10. [5176

INDIAN 7-9h.p., spring frame, 2 speeds, clutch, K.S., splendid condition; £60.—122, Coventry Rd., Ilford. [5356

1920 Indian Scout Racing Model, fast, like new, speedometer, spare chain; £115.—Lord, 86, London Rd., Coventry. [X8569

INDIAN.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5748

INDIAN 1914 7-9h.p., 2-speed, excellent condition; 49 gns., or offer; exchange lower power.—48, Wellington Buildings, Bow, E.3. [5542

1919 7-9h.p. Indian and 1920 bulbous back sidecar, almost new; any trial; £120.—Conner, 86, Victoria Rd., Stroud Green, N.4. [5448

MOTOR CYCLES FOR SALE.

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INDIAN 7-9h.p., 1919, very little used, practically as new; £72.—Nicholson, 26, Budge Row, Cannon St., E.C.4. Tel.: City 6619. [5454

INDIAN 5-6h.p., clutch model, good tyres, lamps, etc., tax paid, ride away; £45, offer.—S. Stratford, 148, Marlborough Rd., N.19. [4690

3½h.p. Indian, splendid goer, lamps, horn, new tyre, for 4h.p. Triumph, 1918; cash adjustment.—Hearn, Press, Tupton, Chesterfield. [4545

1918 Indian Powerplus Special Racing Combination, Swan torpedo, electric lighting, very attractive; £115.—20, Canterbury Rd., Croydon. [4703

INDIAN, T.T., clutch, Bosch, Binks, new Millers lamp set, excellent condition, must sell; £40, offers.—Stoodley, Ludgershall, Wilts. [4323

INDIAN, all models, special inducements to buyers of 1921 machines.—Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X8584

LATE 1918 Powerplus Indian, 3-speed, clutch, kick start, spring frame, overhauled, re-enamelled and plated, like new; bargain, £70.—14, Kilderan Rd., Brixton. [4766

INDIAN 1915 7-9h.p., spring frame, 3 speeds, clutch, kick start, good condition; £65.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X8559

£73; Indian combination, 1915, 7-9h.p., 3-speed, electric lighting, spring frame; bargain, £73; open for trial.—6, Temperance Yard, Brewery Rd., N. [5583

1920 Indian Combination, full electric equipment, disc wheels, speedometer, mileage under 2,000, tax paid; £165.—Ritchie, Stocken, Stretton, Oakham. [4752

1920 Indian Combination, electric, many extras and spares, mileage 2,500, unscratched, and as brand new; £175.—J. Billing, Flitcham, King's Lynn. [4992

1920 Electric Indian, very roomy sidecar, hood, screen, luggage grid, large undershield, insured and tax paid, perfect; trial; £160.—16, Highgate Rd., London. [5405

INDIAN Combination, 1914, 7-9h.p., clutch, hood, screen, speedometer, electric lamps and horn; fine conditon, licensed; £92/10, offer.—85, Deodar Rd., Putney. [5276

1920 Indian Powerplus Combination, wind screen, speedometer, dynamo lighting, done about 500 miles; £150.—Spurling, 8, Courthope Rd., Hampstead, N.W.3. [5224

INDIAN 7-9h.p. Combination, 1915, complete with lamps, horn, etc., child's dickey seat behind sidecar, good condition throughout; £130.—86, Tenison Rd., Cambridge. [4595

1918 7-9h.p. Powerplus Indians, 3-speed, K.S., newly overhauled; £75 each; special quotations for quantities.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [5535

1918-19 Indian Powerplus Combination, 7h.p., 3-speed, spring frame, electric lamps, mileage 3,500, tax paid; £120.—120, Estcourt Rd., Woodside, S.E.25. [5385

INDIAN 1920 4h.p. Scout, with Grosvenor sporting sidecar, fully equipped, speedometer, etc., as new; £155.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X8558

INDIAN 7-9h.p., Mills-Fulford C.B. combination, 2 speeds, clutch, speedometer, lamp, tyres as new, mechanically sound, smart appearance; £50.—Davis, 26, Muswell Hill, N.10. [4902

INDIAN 7-9h.p., clutch model, Cancelet sidecar, wind screen, hood, new Dunlop tyres, thoroughly overhauled, guaranteed, tax paid; £70.—Jones, 132, Hornsey Rd., Holloway, N.7. [5035

1920 Indian Powerplus Combination, condition as new, dynamo lighting, speedometer, luggage grid; £150.—196, Sheen Lane, East Sheen, S.W. 'Phone: Richmond 1112. [5561

1915-16 5-6h.p. Indian, Swan sidecar, 3-speed, clutch, kick starter, new Dunlops, lamps, new condition; £88; exchange 2¾h.p. Douglas, preferred.—63, Solon Rd., Brixton. [5078

INDIAN 1914 7-9h.p. Combination, 2-speed, kick start, hood, screen, all lamps and tools, re-enamelled, and in sound condition; £85.—Lowman, 45, Church Lane, Charlton, S.E. [5362

LOOK! £60!—Guaranteed 1918 Indian Powerplus, 7-9h.p., etc., reconditioned, re-enamelled, replated. Choice of several; 1919 £65.—7, Batoum Gardens, Hammersmith. 'Phone: Ham. 1762. [5042

INDIAN Combination, 1914, 7-9h.p., 2-speed, clutch, speedometer, lamps, overhauled, new gear box and clutch, good condition, tax paid; offers.—Wood, Durfold, Chiddingfold, Surrey. [5178

1920 Powerplus Indian Combination, electric lighting and horn, mileage only 1,800, tyres unpunctured, excellent machine; price only £145.—Greenfield House, Whieldon Rd., Fenton, Staffs. [5084

1916 Indian 5-6h.p., 3 speeds, clutch and kick starter, all lamps, Bonniksen speedometer, guaranteed; £80; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5519

1913 Indian Combination, 7-9h.p., 2 speeds, clutch, and kick starter, electric lighting, leg guards; accept £60; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5518

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1920	**NEW IMPERIAL** Combination ..	£150
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INDIAN 1920 7-9h.p. Combination, large valved engine, dynamo lighting, speedometer, etc., as new; £170; tax paid.—Dentist, 162, High St., Walthamstow. 'Phone: 347 Walthamstow. [5

7-9h.p. Indian, sprung frame, o.v., magneto mod 3 speeds, clutch, K.S., £45 C.B. sidecar, discs wheels, very sporty; £135, solo part.—Reiffer, Knighton Park, Sydenham, London. [38

1915-16 7-9h.p. Indian Combination, 3 spee mileage 4,600, excellent appearance, mecha cally perfect, usual Indian accessories; £105; s week-ends.—25, Cedars Rd., Clapham. [44

POWERPLUS Indians, 1918 and 1919, thorou overhauled and renovated, absolutely as new; £ to £80 each; come early and take your choice.—Ho day Bros., 20, Queen St., Hammersmith Broadway [44

1914-15 7-9h.p. Indian Combination, 2-speed, ac mulator, electric light, wind screen, sound ty tools, accessories, excellent condition £65 lowest.—H Motor Co., Kilburn Lane, W.10. Willesden 134 [44

INDIAN Combination, 1915 7-9h.p., 3-speed, Derw coachbuilt sidecar, English controls, Amac buretter, electric lighting, Cameo screen, etc.; £85 Dixon, 172, Brownhill Rd., Catford. 'Phone: Lee Gr 921. [45

1920 Powerplus Indian Combination, only run betw two and three thousand miles, dynamo lighti Easting wind screen, first-class order, trial by appoi ment; £164, tax paid.—Hodgkinson, Harvingt Evesham. [45

SENSATIONAL Offer.—A few Indian Powerplus 19 machines, spring frames, 3 speeds, new conditi at £62/10 each.—Smiths, 86, Chalk Farm Rd. (op site Chalk Farm Tube Station), N.W. Hampst 2767. [5

1914 3½h.p. Indian, 2-speed, F.C., K.S., spr frame, electric lights and horn, tax paid, app ance and condition perfect, very little used, worth £60; best offer accepted.—Onslow, 45, Rusholme Putney. [4

POWERPLUS 7-9h.p. S.F. Indian, 1919, 3 spe H. and F. clutch, lamps, mechanical h speedometer, all accessories, just completely o hauled, tax paid; cheap.—Tonge, 42, The Gard Peckham Rye. [5

1915 7-9h.p. Spring Frame Indian Combination speeds, clutch, K. start, new tyres, everything good order, has not been used for 18 months; reasonable offer refused; room wanted.—Wadlow Wright, Orpington, Kent. [5

INDIANS.—Powerplus 7-9h.p. 1919 models, 3-sp K.S., mechanical condition, also enamelling plating as new, £75; these are genuine bargains; proval against cash and carriage.—Owen, 59, Sch field Rd., Upper Holloway. [X8

1920 Indian Combination, 7-9h.p., Swan tor sidecar, Ralli discs all round, legshields, screen, electric light, speedometer with electric li all in very good condition, licence paid; £180.—C Leigh, Southill Barracks, Chatham. [5

1920 7-9h.p. Indian, latest model, large valves, tandem sidecar, large number of spares and ex £180, or near offer; or exchange with cash for Henderson or Ace combination; can be seen by app ment.—Morris, 395, Oxford Rd., Reading. [

1920 Luxurious Indian Powerplus Combination, electric equipment, hood, wind screen, Tan speedometer, spare tube, absolutely perfect condit £190, or near offer; must sell immediately; o going abroad.—7, Southfield Rd., Tunbridge We [5

1919 (late) 7-9h.p. Indian Powerplus Combina electric model, speedometer, mileage under 5 new front and back tyres and spare, new chain spare, other spares, tools, special mudshields, pe condition.—Banister, Heathbank, Vine St., Kersal, chester. [

INDIAN Combination, 7-9h.p., bicycle 1915, un during war, sidecar new 1920, both exce condition, electric lighting, speedometer, all a sories, all tyres, brand new; must sell, bargain; est £105 secures.—Apply, Tate, 198, Bishopstl Rd., York. [

1920 7-9h.p. Indian Combination, mileage 3,000, excellent condition throughout, hand and foot clutch, leg shields, muffs, East screen, magnificent hill-climber; any trial; first re able offer accepted for quick sale; private owner; any time.—Reeves' Garage, High St., Purley, Sur [

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VY Cycles.—1921 models in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [1796

VY 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: [5006

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VY, the aristocrat of its type; delivery of all models from stock; prices and catalogue post free.—Sole trict Agents, The Walsall Garage, Walsall. Tel. 9. [4011

Ixion.

XION, Villiers 2½h.p., 1917, lamps, horn, good condition; £28/10.—308, King's Rd., Chelsea. [4929

918 (late) Ixion-Villiers, lamps, speedometer, etc., tax paid, enamel and condition perfect; £38.—Cowley Rd., Mortlake, S.W. [5006

XION, 1921 model, kick starter, 2-speed, lamps, horn, 3 months old; sacrifice £20 under cost; must —Adie, Wales, Ltd., Oozells St., Birmingham. [X8674

James.

AN GUY, Weymouth.—James agent, early delivery dates given. [2178

920 James 3½h.p. Twin Solo, as new; £110.—Strettons Garage, Ltd., Gloucester. [4383

919 James 4½h.p. Combination, many extras; sacrifice £100.—Strettons Garage, Ltd., Gloucester. [4382

AMES 1920 Model 2-stroke, 2-speed gear, 6 months in use; £60, or nearest offer.—Stevens, 8, Aston's ay, Dublin. [5603

920 5-6h.p. James Combination, new; list price £190; best offer over £150.—Clarke and Sons, rth St., Ripon. [4419

1h.p. 1919 James Combination, full accessories, in 4 good condition; £75.—W. H. Johnson and Sons, l., King's Lynn. [4427

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1h.p. James Combination, smart outfit, grid and 4 screen, used 12 months only; £118, or near offer. Valker, Redbourn, Herts. [X8656

920 5-6h.p. James Combination, new; accept £170.—J. Hebden and Sons, 149, St. James's . Burnley. Tel.: 488. [5427

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AMES 5-6h.p. Combination, 1920, used only for rural runs, fully equipped; £170.—Ratcliffe Bros., 0, Gt. Portland St., W. Mayfair 5042. [0423

AMES 5-6h.p., 1919, luxe sidecar, dynamo lighting, Easting, legshields, speedometer, Binks, mileage 00, perfect; £170.—Palmer, 33, Minster Rd., Oxford. [X8496

919 6h.p. Twin James Combination, Campion sidecar, mileage 500, ridden by owner only, like w; £110.—85, Butterley Hill, Ripley, Derbyshire. [4986

-6h.p. James Combination, 1920 model, electric light, wind screen, leg guards, condition as new; 50.—Winterton, 57, Sparkenhoe St., Leicester. Tel.: 55. [4500

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AMES 5-6h.p. and Sidecar, Mar., 1920, electric lights, Klaxon, speedometer, hood, etc.; £135, er.—Brough, 26, Mount Rd., Hendon, N.W.4. Willden 866. [8423

920 James Combination, 3 speeds, K.S., and clutch, coachbuilt sidecar, Cameo wind screen, fully nipped, as new; £150.—10, Royal Parade, Dawes ., Fulham. [4951

AMES 6-6h.p. Combination, 1920 model, complete with lamps and horn, hood, and screen, perfect ndition throughout; £145.—P. J. Evans, 81-91, John ight St., Birmingham. [4654

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EW 1920 6h.p. 3-speed James Combination, model de luxe sidecar; list price £190, offered at £165 t cash; write for clearance bargain list.—The Premier Motor Co., Aston Rd., Birmingham. [5289

920 James 2¾h.p., 2-speed countershaft, new Oct., done only 500 miles, lighting set, horn, tax paid, t scratched, guaranteed as new, cost £75; sacrifice gns.—Ogden, 11, Thomas St., King's Lynn. [5569

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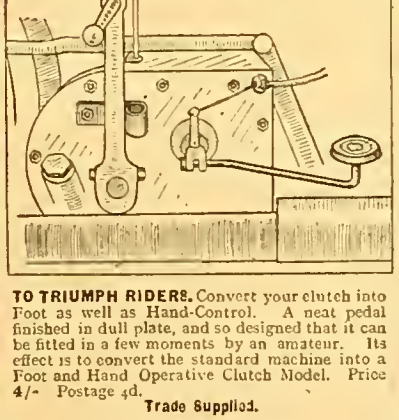
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J.A.P.

J.A.P. 4h.p. overhauled, tax paid, C.A.V. magneto, Cox atmos tyres and tubes all new, £34 lowest; also 4h.p. Alldays engine, brand new, complete decompressor, magneto and engine sprockets, platform and induction pipe; £8/10.—Curry, Digbeth Tram Station, Birmingham. [X8694

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J.E.S.

J.E.S. 1921 Models from stock.—Gibb, Gloucester. 'Phone: 852. [0441

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JUNO VILLIERS, good order, new belt and back tyre, recently overhauled, tax paid; £33.—54, Fentiman Rd., Clapham Rd., S.W. [4952

Kildare Club.

2-STROKE Model Kildare Club, just overhauled, guaranteed perfect condition; bargain, 50 gns.—10, Fairlawn Grove, Chiswick. [5240

Leader.

8h.p. Leader-Precision Combination, Bosch mag., 3-speed countershaft gear box, kick starter, chain drive, electric sidecar lamps, gas head lamp, electric horn, Easting wind screen, disc wheels, machine just been overhauled, licence paid to Dec. 31st, privately owned; price £100.—W. Beal, The Wharf, Bourne End Bucks. [4532

Lea-Francis.

LEA-FRANCIS 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2436

LEA-FRANCIS, 1920, J.A.P. engine, complete lamps, etc., mileage 400; £105.—Donovan, 19, West St., Ryde. [5443

LEA-FRANCIS, 1920, M.A.G. engine, new and fully guaranteed; £115.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X8634

LEA-FRANCIS.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5750

LEA-FRANCIS 3½h.p. Twin, disc wheels, enamelled red and black, lamps, winner gold medal, licence paid; £75.—Tucker, Highbridge. [X8269

NEW Lea-Francis, 2-speed clutch and kick starter, M.A.G. engine; £130; deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [4910

LEA-FRANCIS, 1920, shop-soiled only; list price £130, our price £115; orders now accepted for 1921 models.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0431

LEA-FRANCIS Combination, 4h.p. J.A.P., 2-speed, F.R.S. accumulator lighting set, carrier and spares, in good order; any trial; licence paid; £140.—Young, 19, Dugdale Rd., Coventry. [X8591

1920 3½h.p. Lea-Francis Twin, complete with Lucas lamps and horn, Cowey speedometer, licence paid for one year, absolutely perfect condition, not run 1,500 miles; owner going abroad; £100, or near offer.—Capt. Wellesley, c/o Dan Guy, Weymouth. [4561

Levis.

LEVIS. Levis. Levis.

1916 Levis, single gear, good running order, tax paid; £30.—Surridge, Ongar, Essex. [5087

MOTOR CYCLES FOR SALE.

Levis.

JULIANS, of Reading, have 1921 Levis in stock. [0483

DAN GUY, Weymouth.—Levis 1921 models in stock; £60. [2180

GIBB, Gloucester.—1921 Levis from stock.—'Phone: 852. [0442

2¼h.p. Levis, condition as new; £36; cash wanted.—198, King St., Hammersmith. [4950

LEVIS, 1915, stored during war, lamps and horn; £36, guaranteed.—Denman, Knowle, Birmingham. [X8623

LEVIS 2¼h.p., new tyres, belt, and E.I.C. mag.; £28/10.—Shaw, Park St., Wellington, Salop. [X8612

LEVIS 1917, Enfield 2-speed, fast, overhauled, perfect; £45.—Sibley, 106, Market Place, Romford, Essex. [4471

1920 Levis, mileage about 800, beautiful condition; 42 gns., very great bargain.—Julian, 84, Broad St., Reading. [0490

1921 Levis, electric lighting, Cowey horn, licence paid, soiled only; £57/10.—Welford, St. James' St., Brighton. [4516

LEVIS, Aug., 1920, all accessories; £30, or exchange for light combination.—6, Fullerton Rd., Addiscombe, Croydon. [5546

LEVIS.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5751

LEVIS 1920 2-speed, footboards, all accessories, new tyres, belt, new condition, genuine; £55.—Nixon, 8, Bynner St., Shrewsbury. [4395

LEVIS, the finest 2-stroke in the world; delivery from stock; £60.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4013

LEVIS Popular, practically new, variable ignition, accessories, licence and insurance; £50, no offers.—13, Gosberton Rd., Balham, London. [4873

LEVIS 2¼h.p., 2-speed, countershaft, 1916, Brampton Biflex, newly enamelled and plated, overhauled; £42.—36, St. Thomas Rd., Hackney. [4466

LEVIS 2¼h.p. Popular Model, late 1920, brand new but slightly soiled; usual price £60; sacrifice, £52/10.—Wilkins, Simpson, opposite Olympia, London. [5495

LEVIS Popular, practically brand new, property of lady, only ridden 100 miles, P. and H. lamps and horn; sacrifice, £52.—Miss Tofts, 34, Trent Rd., Brixton. [5481

IN Stock, 1921 Levis, £60. Good wine needs no bush. Nuff sed!—Sole agents, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [0494

1921 Levis Popular, the super 2-stroke; immediate delivery from stock; £60; easy payments or exchanges.—Official agents, Homae's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5520

LEVIS 2½h.p., fine condition, £30; also Motor-Reve, mag. requires slight attention, otherwise perfect, £14/10; particulars for stamp; would exchange for Triumph.—Shailer, 88, Maybury Rd., Woking. [5136

IMMEDIATE Delivery of the new Model S Levis, with Sturmey-Archer 2-speed, handle-bar-controlled clutch; £68; the cheapest high-grade lightweight. Place your order now.—The Premier Motor Co., Aston Rd., Birmingham. [3037

NEW 1921 Levis 2¼h.p. Touring, sports, and lady's models, all in stock for immediate delivery; £60; you will obtain a specially picked machine if you place your order direct with the Levis Specialists, The Premier Motor Co., Aston Rd., Birmingham. [5290

GENTLEMAN'S Popular Model, £60; lady's Popular Model, £60; Model S, 2-speed, hand-controlled clutch, £68; immediate delivery. Levis specialists and sole distributors for London and district. Spare parts stocked, repairs undertaken.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., W.1. [0384

Lincoln-Elk.

LINCOLN ELK, 4½h.p., 2-speed, chain-belt drive, kick start, as new; £65; take lower power part.—57, Kenbury St., Camberwell, London. [4979

L.M.C.

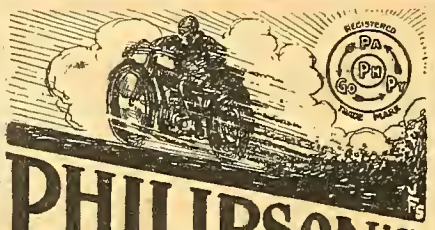
6h.p. L.M.C., 3-speed, K.S. and clutch, chain-cum-belt, spring saddle suspension, 1920 model, shop-soiled only; list price £150, my price £127/10; a real opportunity for a sidecar machine.—Davies, 229, Deansgate, Manchester. [0526

Martin.

MARTIN-J.A.P. 4h.p. Clutch Model, new condition, lamps, horn; £54.—60, Whymark Av., Wood Green, London. [5235

MARTIN-J.A.P. 2¾h.p., 1915, Enfield 2-speed, Amac, good tyres and condition, stored 3 years, accessories, tax paid; £40.—Garaged 89, East Hill, Wandsworth. [5155

MARTIN-J.A.P. 1921 Model, carrying makers' guarantee, 2¾h.p., 2-speed, kick start and clutch, shop-soiled only, never been ridden; £75 to clear.—Welford, St. James St., Brighton. [4512



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Martinsyde.

JULIANS, of Reading have 1921 Martinsyde in stock [0483

1921 Martinsyde, as new, mileage about 800 146 gns.—Julians, 84, Broad St., Reading 'Phone: 1024 Reading. [5611

SPECIAL Offer of 1920 standard Martinsyde 6h.p combination, absolutely new and unused, at £150 deferred payments arranged.—Hewios' Garages, Ltd., The Real Service Firm, Taunton. [3486

MARTINSYDE 6h.p. Combination, July, 1920, dr battery side and rear, D.A. head lamp, hood Triplex screen, muffs, horn, excellent condition; nea est £160.—Kenilworth Garage, High St., Putney. [5351

MARTINSYDE 1921 Standard Combination; £175 actually in stock; other models early deliver Place your order now with the authorised agents. The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. 'Phone: Victoria 7164. [4631

Matchless

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DON'T Hesitate.—If makers reduce prices befo the end of May I guarantee to refund the diffe ence.

1921 Combinations, any model from stock, or in fe days. Gradual payments can now be arrange Every outfit personally tested by the Matchless specialis Spares of all dates in stock.—J. Tassell, 1a, Bloomfie Rd., Plumstead. [688

JULIANS of Reading have 1921 Matchless in stoc [0483

GIBB, Gloucester, can deliver 1921 Matchless mod from stock.—'Phone: 852. [0442

1920 Matchless, Magdyno lighting, absolutely bra new, unused; £190.—Below.

ALL 1921 Models Immediate Delivery from Stoc deferred payments and exchanges if desired. Edwards, 50, Harrington Rd., South Kensingto 'Phone: Kens. 3709. [183

WHITBYS, 7, The Vale, Acton, W.3, have 19 Matchless in stock. Write for list. [380

1920 Matchless Combination, run 300 miles, abs lutely perfect; £175.—136, Lambeth Walk, S. [350

MATCHLESS Combination, 8h.p. J.A.P., 2-spe K.S., full equipment; £72.—17, Heaton Rd., Mitcham. [500

MATCHLESS 1920 8h.p. Combination, all lamps a horn, excellent order; £175.—The Spalding Mot Co., Ltd., Spalding. [430

O.H.V. 5-6h.p. Matchless, 30/- tax paid, conditi perfect throughout; nearest offer £50.—2, A side Rd., Southport. [490

1920 Matchless Combination, Model H., comple makers' specification, shop-soiled; £175.—Wrig Saffron Walden. [560

MATCHLESS 1920 Model H Combination, splend condition; what offers?—Baets, 6, Wilton Mew South Belgravia, London. [490

8h.p. Matchless-Jap C.B. Combination, 2-speed, K hood, wind screen, Binks; £75, bargain.— Somers Rd., Walthamstow. [430

1920 (September) Matchless-M.A.G. Combinatio unsoiled, absolutely as new, hood; £175.—29 Kennington Park Rd., S.E.11. [510

MATCHLESS 1921 Models; orders now accepted immediate delivery.—Ratcliffe Bros., 200, Portland St., W. Mayfair 5042. [040

MATCHLESS Combination, 1914, M.A.G., 6-8h in perfect condition, complete lamps, wind scre etc.; £140.—43, Green Lane, Penge. [450

1920 Model H Matchless Combination, only run miles, best Lucas accessories; £155; exchang —60, Wallingford Av., N. Kensington. [510

MATCHLESS.—All models will be on sale at second-hand Automobile Show, Crystal Pala from April 2nd. (See Wanted.) [570

1917 Matchless M.A.G. 8h.p. Combination, scre spare wheel, 2 new tyres, fine condition, paid; £115.—Job, Alban House, Oxted. [510

MATCHLESS, 1920, dynamo lighting, speedome fully equipped; cost £245, perfect; £200, or n offer.—Box 2,578, *c/o The Motor Cycle.* [450

BRAND New Matchless H, 1920-21, Magdyno; o with extras £235; accept £215, or near; m realise.—Seen at 365, King St., Hammersmith. [4

MATCHLESS 1921 Combination; £205; delivery a few days.—The Moreton Garage, 2, More Terrace Mews, Pimlico, S.W. 'Phone: Victoria 71 [4

MATCHLESS Sporting, 6-8h.p. J.A.P., Full chassis, sound, overhauled; ride away; £50; changes.—Taylor, 637, Seven Sisters Rd., Tottenha [5

1912 6h.p. Matchless, single speed, really fast in new condition; £45.—Walbro Motor C Co., High St., Saffron Walden, Essex. 'Phone: 4 [X8

MATCHLESS 1920, Magdyno, spare wheel unu speedometer, small mileage, indistinguish from new; £185, offer.—3, Kildowan Rd., Goodmay [5045

MOTOR CYCLES FOR SALE.

Matchless.

19 Red Competition Matchless, 8h.p., o.h.v., complete with lighting set, Klaxon, machine as guaranteed 75 m.p.h.—228a, High St., Sheerness. [4523

20 Matchless H, J.A.P., Lucas lamps, horn, hood, speedometer, mudshields, step, Cox Atmos, mile-,600, splendid condition; £180.—57, Argyle Rd., [4734

ATCHLESS, late 1920, cost £225, perfect; £180; licence paid. New models, deferred payments 5%.—Prior, Replingham Rd., Southfields, S.W.18. ne: Putney 1694. [5016

ATCHLESS 6h.p. Coachbuilt Combination, 2-speed, clutch, K.S., full set of lamps and tools, winner any competitions, just overhauled; £95.—4, Stan-Rd, West Croydon. [4474

ATCHLESS H Combination, Lucas acetylene, just overhauled by Matchless; 150 gns.; new models stock.—Agents, R. B. Clark and Co., 7, Exhibi-Rd., South Kensington. [4138

ATCHLESS.—All models for immediate delivery; also several 1920 combinations from £160.—ham Motor Co., 223, Hammersmith Rd., W.6. ne: Hammersmith 80. [5693

21 Matchless Combination, £205; 2-seated sidecar, £212/10; immediate delivery; exchanges or easy ents arranged.—Homac's, 243, Lower Clapton Rd., 'Phone: Dalston 2408. [5521

ATCHLESS Combination, late April, 1920, complete, all accessories, lighting Lucas acetylene, p condition, mileage only 2,600; £195.—Miss ell, The Hale, Chiddingly. [4717

ATCHLESS Combination, M.A.G. engine, 3-speed, clutch, kick start, consumption 65 miles gallon, paid, all on: £100; after 3 o'clock.—Gold, 244, hall Bridge Rd., Victoria. [4540

ATCHLESS Service Depot. 'Phone: Greenwich 751.—All 1921 new models. Secure one now. Demonstration ride with pleasure at S. E. Clapham (Motors), well St., Greenwich, S.E.10. [1030

ATCHLESS 8h.p. Combination, 1920, dynamo lighting, practically as new, guaranteed perfect; genuine bargain.—Vivian Hardie and Lane, Ltd., Woodstock St., Bond St., W.1. [0418

ATCHLESS Model H Combination, to makers' specification, £205; dynamo lighting model, J.A.P. or M.A.G. engines; easy payments.—ds, Ltd., 118, Brompton Rd., London. [4914

ATCHLESS 1920 H Combination, licensed, M.A.G. engine, Lucas Magdyno lighting, all accessories. s. run about 2,000, perfect, good as new; accept easonable offer.—288, Sangley Rd., Catford, S.E.6. [5553

ATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 ls; deliveries guaranteed strictly as per order re ; a large assortment of 1919 and 1920 models in stock. [5668

ATCHLESS 1921 Models, immediate delivery, with Magdyno lighting, £230; without Magdyno light-£205; no waiting; in stock ready to drive away; payments arranged.—Wilkins, Simpson, opposite pia, London. [5483

ATCHLESS 1921 Models from £205; demonstrations daily.—Agent (wholesale and retail), for London: George Smith, 268, Lavender Hill (opp. g and Hobbs), Clapham Junction. 'Phone: rsea 1271. [9423

20½ Matchless Combination, dynamo, speedometer, Klaxon, Tan-Sad, spare chain, spare wheel, hood, , side step, thorough running order, cost £260, paid; accept £190, a bargain.—Fisher, 35, New Rd., Brixton. 'Phone: 372. [4288

ATCHLESS, Model H, M.A.G. 1914 engine, recently overhauled, chain drive, 3-speed, K.S., 80 tyres in good condition, Sandum 2-senter sidecar, Cameo aprons, lamps, speedometer, tax paid; —A. E. Prentice, Builder, New Barnet. [5212

21 Matchless Combination, M.A.G. engine, leg-shields, spare wheel, luggage grid, Lucas best sets (never lit) all round, not been 300 miles, brand new; £200.—Walbro Motor Cycle Co., St., Saffron Walden, Essex. 'Phone: 45. [X8051

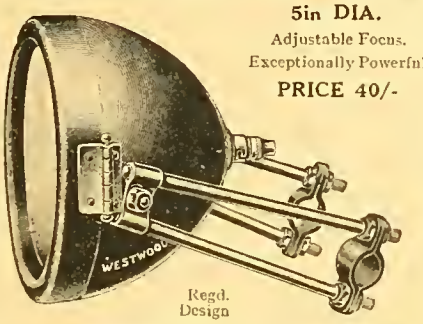
ATCHLESS 8h.p. Model H. Combination, J.A.P. engine, late 1920, including interchangeable, detachable wheels, spare wheel with tyre, screen, luggage r, spring frame, etc., new, only driven 100 miles; —16, Newport Rd., Balsall Heath, Birmingham. [X8423

21 Matchless.—We are the recognised agents for North Essex, and can deliver from stock, or, to your convenience, place your order with us now; e experts and can guarantee you real satisfac- exchanges.—Walbro Motor Cycle Co., 49, High Saffron Walden, Essex. 'Phone: 45. [X6978

ATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically ed Matchless combination; the Rolls-Royce on wheels; immediate delivery from stock, for cash, red payments, or exchange; trade supplied; all s in stock.—Jones' Garage, Muswell Hill, N.10, t Woodside Parade, North Finchley. [0381

18 8h.p. 3-speed Matchless Victory Model Combination, Orto wind screen, hood, spare wheel, used since being completely overhauled January, carburetter, 2 Lucas head lights and tail light through brass tubing from car size D.A. cylinder, ture-proof tube, Klaxon horn, Bonniksen speedo-r, watch, Tan-Sad; £150.—Pine, Cromwell, ard's Cross. Tel.: 123. [5412

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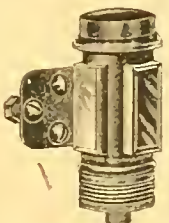
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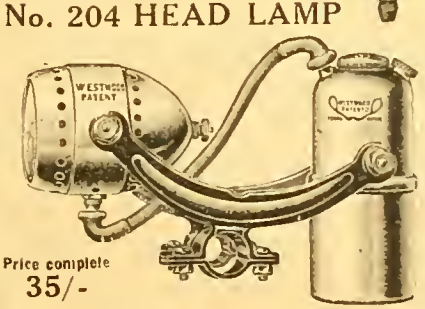


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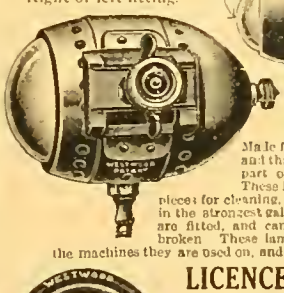
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Maxim.

MAXIM-DALM 1921 3h.p. 2-stroke, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, absolutely new; £52.—224, Pentonville Rd., London. [4012

Metro.

19 20 2¼h.p. Metro-Tyler, 2-speed, only run 50 miles absolutely as new; £58; exchanges entertained. —Bambers', Easthank St., Southport. Tel.: 607. [5438

METRO-TYLER, 1920, couple for sale; brothers want combination; accessories, electric lighting, discs, tax paid, choice, never failed; each £50; after 6.—Jones, 41, Abbeville Rd., Clapham, S.W.4. [5308

METRO-TYLER, shop-soiled 1920 model, new and unused, 2-speed model with enclosed gear box and magneto drive; bargain £70; reduced from £95.—P. J. Evans, 81-91, John Bright St., Birmingham. [4659

Motosacoche.

MOTOSACOCHE Lightweight, appearance, condition perfect, tax paid; £17/10.—8, Silver St., Enfield. [5220

2h.p. Motosacoche Lightweight, Bosch, Sen-spray, good machine; £22; accept cycle part payment.—14, Parklands Rd., Hassocks. [4972

New Hudson.

NEW HUDSON 1920 2-stroke, 2-speed, condition new, tax paid, horn; £55.—North, Bridgefoot Peterborough. [5268

19 20 2¼h.p. New Hudson, brand new, unused; £5[illegible].—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [1903

NEW HUDSON 2-stroke 2¼h.p., 1916; £37; single speed, in good condition, licence paid.—Kirkby Liphook Rd., Greatham, Hants. [4511

BRAND New 1921 New Hudson Popular Lightweight in stock; 50 gns.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8054

NEW HUDSON Combination, 4h.p., 1919, accessories, little used; a bargain, £95.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0412

19 20 New Hudson 6h.p. Twin Combination, new condition, little used, equipped lamps, etc., fully licenced; £120.—Townell, 23, High St., Horncastle. [5074

NEW HUDSON 6h.p. 1916 Combination, countershaft 3 speeds, lamps, speedometer, spares, year's licence, beautiful condition; £90.—Crow Bros., Guildford. [4333

19 21 New Hudson De Luxe Model, run 250 miles, tax paid, oversize tyre fitted to back wheel, also spare tyre; bargain, £58.—N. Shires, Quarmby Lodge, Huddersfield. [4976

NEW HUDSON Big Six, with 2-seater sidecar, 1915, perfect mechanical condition, little used, powerful, economical, and splendidly built.—Taylor, Chemist, Ashford, Kent. [X8702

BRAND New 2¼h.p. 2-stroke New Hudson, 2-speed countershaft, fully equipped for the road; accept £68, or exchange with cash for sidecar combination.—11, Auckland Rd., Upper Norwood, S.E.19. [5038

NEW HUDSON Lightweights, all models, on view; Popular, 50 gns.; de luxe, 65 gns.; Ace, 75 gns. Spares for 2¼h.p., 3½h.p., and 6h.p. machines stocked. Catalogues and any information by return.—New Hudson Depot, 45, Gray's Inn Rd., Holborn, W.C.2. [1982

New Imperial.

JULIANS of Reading, have 1921 New Imperial in stock. [0485

NEW IMPERIAL 2¾h.p. J.A.P., 2-speed, lamps; £42.—Tucker, Highbridge. [X8271

NEW IMPERIAL, 1921 models; liberal exchange.—Motories, 25, Horton St., Halifax. [4797

NEW IMPERIAL Agents.—Lightweights and spare parts in stock.—Crow Bros., Guildford. [4709

2½h.p. Imperial-Jap, 2-speed, new saddle, tyre, accessories; £38 tax paid.—174, High St., Tooting. [4441

19 16 New Imperial, very little used, good condition, 2½h.p., 2-speed, tax paid; £35.—Surridge, Ongar, Essex. [5086

NEW IMPERIAL 1919 8h.p. Combination, complete with lamps, Easting wind screen; £135.—Motor Co., Hereford. [4311

NEW IMPERIAL.—County agents for Herefordshire; deliveries from stock 2¾h.p. and 8h.p. combination. Motor Co., Hereford. [4313

IMPERIAL-J.A.P. 2¾h.p., 2-speed, lamps, horn, tax paid, splendid condition; £42.—Seen 2, Hogarth Rd., Earl's Court, London. [5205

NEW IMPERIAL.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5753

8-10h.p. Jap-Imperial, as new, only done few miles, large bulbous back sidecar; sacrifice, £125, bargain.—Beecher, 472, Archway Rd., London, N.6. [4990

19 20 New Imperial Combination, 8h.p. J.A.P., little used, excellent condition, Klaxon, lamps, tax paid, complete; £160.—161, Herbert Rd., Woolwich. [4882

MOTOR CYCLES FOR SALE.

New Imperial.

LATE 1919 New Imperial-Jap, 2½h.p., 2-speed, kick starter, hand clutch and lamps, new condition, any trial, tax paid; nearest 65 gns.—J. R. Beale, 58, Broadwall, Stamford St., Blackfriars, S.E.1. [4447

BARGAIN.—1920 (June) 2¾h.p. New Imperial, new F.R.S. electric lighting set, good Dunlops, Stewart, tools, spares, excellent condition; must sell, 65 gns.—Bradley, Littlefield, Wombwell, Yorks. [4851

IMMEDIATE Delivery of any New Imperial Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0506

NEW IMPERIAL 1919 8h.p. Model, 3 speeds, kick start, hand controlled clutch, fitted with Sunbeam sidecar, Easting wind screen, fully equipped; £145.—Parker's, Bradshawgate, Bolton; and 245, Deansgate, Manchester. [X8555

NEW IMPERIAL 2¾h.p. Light Tourist, 2-speed clutch and kick starter motor cycle, £90/4/9; and 8h.p. chain drive combination, £186; for immediate delivery; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [4913

F.O.C.H. have a brand new New Imperial, 2¾h.p., kick starter, shop-soiled; £78 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4644

WE have every model of New Imperials in stock for immediate delivery; combination £186/18, lightweight model £80/17, Model 2 £89/5; exchanges or easy payments arranged.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5522

NEW IMPERIAL 1917 T.T. 2¾h.p., kick starter, clutch, 2-speed, Capac, Watford trip, with sporting coachbuilt sidecar, polished aluminium cowl, Auster Triplex screen, luggage grid, electric lighting throughout, new Palmer covers, new enamelling, the complete outfit specially overhauled and tuned for competition work; any inspection; privately owned; £78.—Seen at Leighton Garage, Belsize Crescent, Hampstead, N.W. [4290

New Ryder.

1919 New Ryder (Villiers) 2¾h.p., 2-speed, little used, just been decarbonised and completely overhauled, appearance excellent, ride away; £55.—118, Ravensbourne Av., Shortlands. [5344

1921 New Ryder, 2¾h.p. Villiers, 2-stroke, 2-speed, kick-starter, hand control clutch, mileage 100, cost 76 gns.; sacrifice, 58 gns.; consider accepting modern piano with cash adjustment.—119, Rotton Park Rd., Birmingham. [4322

New Scale.

NEW Scale Motor Cycle; original price, £85; sacrifice £62/10; shop-soiled, less kick starter.—64, Bishopsgate, London. [0393

SCALE 3½h.p. Precision, £94/10; 4 h.p. Blackburne, £126, motor cycles you will hear more about. I have always a stock of each model; trade supplied.—Davies 229, Deansgate, Manchester. 536 Central. [2440

Norton.

JULIANS of Reading have 1921 Nortons in stock. [0489

GIBB, Gloucester, can deliver 1921 Nortons from stock.—'Phone: 852. [0444

HORSMAN for Nortons.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0471

1921 Norton.—All models Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X8577

NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [6126

NORTONS, 1921 models, immediate delivery, specially tuned.—Evans, Garage, Newport, Salop. [X8648

NORTON, complete, in splendid order; bargain, £50.—H. Jowett, 41, Falmouth Av., Bradford. [X8665

NORTON Big Four, delivered last Oct., S.A. 3-speed, as new; £112.—18, St. Mary's Rd., Peckham. [5584

NORTON 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. Phone: 72. [5005

NORTON, 1919, B.R.S., Philipson, licence paid, excellent condition; £80.—L., 4, Carlton Terrace, Child's Hill, N.W.2. [4336

1921 Big Four Norton Combination, new: £175.—J. Hebden and Sons, 149, St. James's St., Burnley. Tel.: 488. [5424

JUNE, 1920, Big Four Norton, Douglas sidecar, fully equipped, insured; £140.—Linington Bros., Commercial Rd. Portsmouth. [5227

NORTON.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5754

NORTON 1921 Motor Cycles, brand new, all models in stock, immediate delivery.—Palin, Sole Agent, Bourne St. (nr. Spot), Osmaston Rd., Derby. [5181

1921 Norton T.T. 3½h.p., 3 speeds, kick start, brand new, unused; £132; exchange any solo or combination if cheap.—Shaw, Durkar, Wakefield. [5367

GREAT BARGAINS

Messrs. MEBES & MEBES

(Est. 1893)

The Original Light Car Specialists

Beg to announce that owing to partially relinquishing their MOTOR CYCLE DEPARTMENT in favour of the LIGHT CAR, they are desirous of disposing of the whole of their MOTOR CYCLE Stock, which comprises approximately

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These are all leading makes, at greatly reduced prices, comprising, among others the following:

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Nearly the whole of these are 1920 machines, shop-soiled, but otherwise new.

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154-6, Gt. Portland St., W.1.

MOTOR CYCLES FOR SALE.

Norton.

NORTON Sports Combination, 3½h.p., 3 countershaft, chain-cum-belt; £98.—A Booth Rd., Collindale, Hendon, N.W.9.

NORTONS.—Alec Jackson (ex Dispatch Rider) them and sells them. Immediate delivery deliver anywhere.—East Parade, Keighley, Yorks.

NORTON 3½h.p., 1921 model 16H, brand £132; 1 only in stock; first cash secures.—Hardie and Lane, Ltd., 24, Woodstock St., Lo W.1.

1920 3½h.p. T.T. Norton, H.C. Philipson, lamps, horn, speedometer, as new; £9 Hebden and Sons, 149, St. James St., Burnley. 488.

NORTON 1919-20 Big Four Model, Sandum s Cameo wind screen, fully equipped; £ Parker's Bradshawgate, Bolton, and 245, Dea Manchester. [

NORTON 1920½ Big Four, Millford sidecar, e lighting, all accessories, in perfect cond must sell.—McMullin, Melton, Cornwall Rd., S Surrey.

NORTON Big Four, 1920, Gloria sidecar, P. a lamps, Klaxon, Easting, licence, 800 miles fect condition; bargain, £130.—Davy, 2, Londo Faversham.

NORTON 1921 3½h.p. Sports Model, 3-speed drive, just delivered new and unused; £1 nearest offer; seen Liverpool.—Box 2,569, c *Motor Cycle*.

DAVIES, of Manchester, can deliver 1921 N from stock; the machine you will eventually all spares stocked, prompt attention.—229, Dea 'Phone: 536 Central.

NORTON Agents.—Motor cyclists in or near O call. 'Our Mr. Mitchell' will demonstrate the finest machine in the world.—Bulloughs M Waterloo St., Oldham.

NORTON Four, de luxe sidecar, Klaxon, E wind screen, used week-ends only, mileage excellent condition; £140; appointment.—45, L Mansions, Holloway, London.

NORTON late 1920 Big Four Model, with Ca sidecar, fully equipped, low mileage, tinguishable from new; £155.—Parker's, Brad gate, Bolton, and 245, Deansgate, Manchester. [

1920 3½h.p. T.T. Norton (Nov.), perfect con small mileage, complete with licence, speedometer, etc., will exceed 65 m.p.h.; best over £90.—Capt. M. S. Fryer, Orchard End, Th Essex.

N.S.U.

1914 N.S.U. 3h.p. Twin, 2-speed; £28.—Hemel Peckham Rye.

N.S.U. Combination, 5h.p. twin, spring frame, sories; £65.—Blake, 216, Westbourne Grov

3h.p. N.S.U., new mag., Binks, clutch, good ma £26.—Hammond, 12a, Broad St., Bridgeton, gow. [

N.U.T. Latest Electrically-equipped 3½h.p. Mod makers' list prices from stock.—A. J. Youn Co., Ltd., Newmarket.

1914 N.S.U. 6h.p., spring frame, 2 speeds, Bosch, Binks, 1920 spring forks, low, fast tax paid); would exchange lower power.—W. 85, Waltoo St., Aylesbury.

N.U.T.

N.U.T., latest model, 1921, unregistered, d lighting, etc.; nearest £152.—Wilkinson, moor, Doncaster. [

1920 N.U.T. 3½h.p. Twin, 3-speed, Lucas Ma horn, splendid condition, trial; £115.—103, low Park Rd., West Dulwich.

N.U.T. 1920 3½h.p., 3 speeds, clutch, T.T. dynamo lighting, as new; £125.—Parker's, shawgate, Bolton, and 245, Deansgate, Manches [

N.U.T.—Delivery from stock of all models. wholesale and retail agents for Staffordshir trade supplied.—The Walsall Garage, Walsall. 444.

N.U.T. 1916 2¾h.p., o.h.v. twin, specially very fast, long exhausts, discs, 1920 Binks, lutely new condition; £54, nearest.—33, Streath Rd., Balham, S.W.17.

O.K.

JULIANS of Reading have 1921 O.K. in sto

1915 O.K. 2½h.p., 2-speed, accessories; £28.— 216, Westbourne Grove, W.

O.K. 1914, N.S.U. 4-stroke, geared, perfect; Hillside, Bath Rd., Worcester.

2-SPEED O.K., latest model from stock at list A. J. Young and Co., Ltd., Newmarket.

DAVIES, of Manchester, can deliver 1921 from stock.—229, Deansgate. 'Phone: 536 C

O.K.-J.A.P. 4-stroke, perfect condition, mi tax, all accessories; £38.—Write, S., 43, Rd., Leytonstone.

MOTOR CYCLES FOR SALE.

O.K.

TEMP'S Garage, Louth, Lincs, give immediate delivery of 1921 O.K. Juniors, all models. Catalogues free. [X8567

O.K. Junior, 1921, flywheel mag., 2-speed, lamps, horn, tools, done 200 miles; £57.—Coggins, St. Andrew's Rd., Nottingham. [4742

3½h.p. O.K.-Union, single speed, 1920 model, shop-soiled; list price £50/8, my price £43.—Davies, 9, Deansgate, Manchester. [0528

1920 O.K. Junior, hardly used, full equipment, licence, insurance; best offer over £45.—18, Ilsford Rd., Seven Kings. [4728

O.K.-M.A.G. 1917 2¾h.p., 4-stroke, 2-speed, lamps, etc., tax paid, excellent; £38.—16, St. Edmund's Terrace, Avenue Rd., N.W.8. [4924

O.K., 4½h.p., 3-speed, chain drive, kick start, hand clutch, Sunbeam sidecar; £88; take solo part.—, Kenbury St., Camberwell, London. [4980

1919 O.K. Junior 2¼h.p. 2-stroke, single-speed, tyres nearly new, splendid running order; £30. , Wexford Rd., Wandsworth Common. [4271

O.K. Lightweights, arriving from works almost daily; single speed £50/8, 2-speed clutch and kick starter 9/17; easy payments.—Harrods, Ltd., 118, Brompton R., London. [4920

O.C.H. have a brand new O.K., 2-speed, shop-soiled; £59 cash; exchanges and easy payments arranged. , Heath St., Hampstead (near Hampstead Tube tion). 'Phone: Hampstead 3752. Hours 9-7, ing Saturdays. [4645

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall Andover. [0368

1920 Omega-Jap, 2¾h.p., 2-speed, clutch, kick starter; £60.—Jones, Garage, Droitwich. [4681

OMEGA 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2438

OMEGAS, 1921 models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X8579

OMEGA.—Immediate delivery of all models.—The Rochester Auto Supply Co., Corporation St., Chester. [0465

OMEGA, 2¾h.p., 2-speed, 1920, nearly new, tax paid, lamps, horn; £55. — North, Bridgefoot, Peterborough. [5267

1920 Omega-Jap 2¾h.p., 2 speeds, lamps, horn, speedometer, rebushed, licence paid; £58.—13, Portmouth Park Rd., N.W.5. [5581

OMEGA-J.A.P., late 1919, 2-speed, 2¾h.p., tyres and general condition excellent, lamps, horn, and tools; .—'Phone: 6011 Bank.—Totland, Station Rd., Orpington, Kent. [X8041

1921 Omegette-Villiers, flywheel mag., single speed, just delivered from makers, not ridden; must ; 40 gns.; seen North London.—Box 2,577, c/o *The Motor Cycle*. [4906

1919 2¾h.p. Omega-Jap, 2 speeds, complete with Lucas lamp sets and horn, in new condition; 8.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8058

O.C.H. have a brand new Omega, 2¾h.p., kick started, shop-soiled; £73/10 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead ear Hampstead Tube Station). 'Phone: Hampstead 52. Hours 9-7, including Saturdays. [4647

Overstone.

OVERSTONE 2½h.p., 2-speed, 1920 model, equal to new, complete lamps, tools; £55; private owner.— Nix, Brisley, North Elmham, Norfolk. [4600

P. and M.

CLIANS, of Reading, have 1921 P. and M. in stock. [0488

1921 P. and M.—All models from the Coventry Motor Mart, London Rd., Coventry. [X8581

50.—1918 3½h.p. P. and M., an excellent runner.— 53, Pelham St., South Kensington. [6591

. and M., 1920, ridden 50 miles, Klaxon; £96.— Clark, 7, Exhibition Rd., S.W.7. [5620

17-18 P. and M., minus mag., carburetter, and few small parts; £35.—1, Othello St., Liverpool. [4676

. and M. Late Combination; offers; separate; exchange Douglas.—114, Hill St., Peckham, S.E.15 [5169

35; P. and M., R.A.F. models, less mags and carburetter; magnetos for same, £3.—24, Church lk, Hampstead. [5596

. and M., new 1920, with specially built de luxe sidecar, condition as new, complete; £130.—7, arlmont Rd., Tooting. [5601

. and M.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from ril 2nd. (See Wanted.) [5755

. and M. 1918 3½h.p. Solo, including new mag., minus small parts; £32.—35, St. Clements Mansions, Lillie Rd., Fulham. [5360

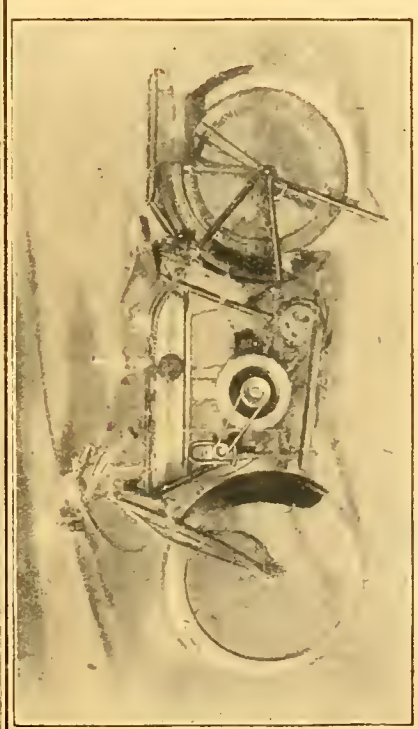
. and M. Solo, just overhauled, enamelled and plated, as new; £60.—DeCort and Flynn, 39, ex Rd., London, N.1. [5470

ASTRA LIGHTING SETS

Motor Cycle sets COMPLETE with all fittings, from £12 2 0
6 volt Light Car sets COMPLETE, from £15 0 0
Dynamos only, 4-volt model £6 10 0 6-volt model £8 10 0
We carry a stock of fittings which enable our dynamos to be installed on all types of Motor Bicycles.
Fully illustrated catalogue free on request.

WE HAVE VACANCIES FOR AGENTS IN A FEW DISTRICTS.

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The illustration shows our No. 1 set fitted to a Douglas motor cycle

MOTOR CYCLES FOR SALE.

P. and M.

60 GNS.—P. and M. 1918 combination, in first-class condition throughout; any trial.—24, Church Walk, Hampstead. [5599

1920 P. and M. Combination, new condition, fully equipped; accept £55 below list; Clapham.—Box 2,609, c/o *The Motor Cycle*. [5681

P. and M., R.A.F. Model, overhauled and renovated; £48; owner out of work.—Simpson, 4, St. Ann's Gardens, Kentish Town, N.W.5. [4698

P. and M., 3½h.p., 2-speed, and sidecar, tax paid; £75.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5695

P. and M. Combination, 1915, just overhauled, speedometer, accessories, new Dunlops; £60.—Press, 160, Charlton Lane, Charlton, S.E.7. [5208

P. and M. Combination, late model, ex W.D., in running order, requires slight adjustment; quick sale, £55.—14, Effra Parade, Brixton, S.W. [5646

1910 3½h.p. Phelon and Moore, 2 speeds, in good running order; £28.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8056

P. and M., 1919, Mills-Fulford sidecar, 1920, excellent condition throughout; bought car; nearest £100.—Hampshire, Ivydene, Northgate, Wakefield. [4767

1919 (Dec.) P. and M. Combination, excellent condition, accessories, spares; nearest £125; must sell; tax paid; appointment.—L., Collingham, Sidcup. [4933

£68.—1917 P. and M., with 4-point sidecar, lamps, horn, apron, perfect throughout.—5, Stroud Green Rd. (close Seven Sisters Rd.), Finsbury Park, N.4. [5323

1918 P. and M., just overhauled, rebushed, mechanically perfect, makers' 1920 colours, coachbuilt sidecar; £75, solo £68.—Snow, 21, Hobson St., Cambridge. [5551

P. and M., 1920 (late), 3½h.p., only done 500 miles, all latest improvements, latest colours, tyres like new; ride away; £98, or near offer.—202, Trinity Rd., S.W.17. [4776

P. and M. 1919 3½h.p. Combination, good order, many spares and accessories, paint scratched, mileage 10,000; accept £95 cash.—Lawson-Walton, Grange Colliery, Rotherham. [4634

JANUARY, 1920, P.M. Combination, 9188, splendid condition, equipment, spares, insurance; trial appointment Saturday, Sunday; £129; ride away.—85, Norwood Rd., Herne Hill. [4714

P. and M. Combination, 1919, not W.D., electric lighting, excellent condition, very carefully used, tax paid; 98 gns., or offer.—Robinson, Chalecote, Torrington Park, North Finchley. [4893

1915 P. and M. and tradesman's box carrier, countershaft 3-speed, kick start, chains renewed, powerful and perfect; £55, or near offers.—Arthur, 336, Acton Lane, Acton, W. [4939

P. and M. 3½h.p., late 1920, post-war model, mechanical lubrication, very little used, condition as new, complete with electric lighting; £90.—Casey, 18, Crescent Rd., Tunbridge Wells. [4422

1920 P. and M., as new, only done few miles, beautifully equipped, £10 worth extras, sidecar licence, reason for selling car; sacrifice, genuine, £115. L. J. Schmanssmann, 1, Grange Rd., Bishop's Stortford. [4750

P. and M. Combination, latest post-war model, mechanical lubrication, new type kick starter, best P. and M. sidecar, run under 500 miles, guaranteed perfect as delivered; £140.—41, Ashford Rd., Cricklewood, N.W.2. [5019

P. and M., late 1919, Millford sidecar, Enfield, Cowey, tools, new Lucas dynamo set, electric horn, spares, bulbs, case, tubes, chain, pumps, cups, privately owned, trial, tax paid; what offers?—Lowde, 41, Howard Rd., Mansfield, Notts. [4702

PHELON and Moore R.A.F. Machines, reconditioned and re-enamelled by makers, same guarantee as with new machine, only a few left; £90; sidecars to match, £28.—Phelon and Moore, Ltd., 4, Berners St., Oxford St., W., and Cleckheaton, Yorkshire. [4390

SPECIAL Bargain 1920 P. and M. Combination, latest post-war model, new type kick starter, mechanical lubrication, best P. and M. sidecar fitted, Triplex £5 wind screen, luggage grid, Lucas lamp sets and horn, tax paid; we will give a written guarantee that this combination has not been 450 miles, not a scratch on it and running better than brand new; list price £185; for quick sale, £138.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X8045

P. and S.

1920 P. and S., 2½h.p. Villiers, 2-speed, first-class components, lamps, etc., under 500 miles, owner going abroad; £55, cost £75.—Capt. Booth, 1, Avenue Rd., Highgate. [4347

Paragon.

1920 Paragon, 2-speed, 2-stroke, not ridden 40 miles; £58.—17, Wilcox Rd., Wandsworth Rd., London, S.W.8. [4757

Peugeot.

PEUGEOT 2½h.p., spring forks, mag., good running order and condition; £14.—159, Hornsey Rd., N.7. [X8639

MOTOR CYCLES FOR SALE.

Precision.

PRECISION Junior 2h.p., 2-speed, free engine, go anywhere, tax paid.—117, Dale Rd., Canning Town, London, E. [4493

Premier.

PREMIER Motor Co. for 1921 Nortons.

WE Can Deliver to your address within 24 hours new 1921 type 16H 3½h.p. 3-speed Norton, £132; Big Four solo, £135; Big Four with family sidecar, wind screen, child's dickey seat, £184/10; write for catalogue, or call for trial run.—The Premier Motor Co., Aston Rd., Birmingham. [5291

1912 Premier 3½h.p., excellent condition throughout, overhauled; £20, lowest.—Parkinson, Builder, Chatteris. [5271

PREMIER, 2½h.p., 3-speed, new condition; £45; take push cycle part.—57, Kenbury St., Camberwell, London. [4978

PREMIER, 3½h.p., 3 speeds, clutch, in good running order; £35, or nearest.—62, Southfield Rd., Bedford Park, W.4. [4331

PREMIER 2½h.p., Philipson pulley, Bosch, Senspray, acetylene lamp, good tyres; offers.—Box 2,553, *c/o The Motor Cycle.* [4566

1915 2¾h.p. Premier, Klaxon, etc., splendid condition and appearance, tax paid; £26.—Clapshaw, 19, Park St., S.E.1. [5149

PREMIER 3½h.p. Twin, Roc 2-speed, handle start, brand new Dunlops, perfect condition, expert inspection; £45.—Titshall, 28, Loughborough St., Kennington. [4967

3½h.p. Premier, 3-speed, clutch, K.S., spares, lamps, etc., new spare tyre, excellent condition and appearance, take sidecar, tax paid; £45.—Baker, Abbey Lodge, Glastonbury. [5109

Priory.

PRIORY 2¾h.p. 2-stroke, 2-speed, price £66/10; kick start, £75. Sub-agents required for Lancashire, Cheshire, North Wales, Isle of Man.—Liverpool and County Motor Co., 16, Preesons Row, Liverpool. [2351

Quadrant.

HORSMAN for Quadrants.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0472

QUADRANT.—All models reduced prices.—Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X8583

1920 Quadrant Combination, new condition, Easting wind screen; £115.—Taylor's Garage, Wednesbury. [5390

QUADRANT 3½h.p., Tan-Sad. lighting, tax paid, ride away, must sell; £24.—25, Brymer Rd., Albany Rd., S.E.5. [4279

1920 Quadrant 4½h.p. Combination, all accessories; £90.—Clifford Wilson Co., 177, Westminster Bridge Rd., S.E.1. [5611

1920 4½h.p. Quadrant, unsoiled, 3-speed, clutch, kick start, permit refused; will sacrifice for £95.—P. Deery, Strabane. (D) [X8700

1921 Quadrant 4½h.p. Combination; £125, from stock; deferred payments arranged.—Clifford Wilson Co., 177, Westminster Bridge Rd., S.E.1. [5608

1921 Quadrant 5h.p. Combination; £135, from stock; deferred payments arranged.—Clifford Wilson Co., 177, Westminster Bridge Rd., S.E.1. [5609

1921 Quadrant 4½h.p. Solo Model, all-chain, or chain-cum-belt; £105; deferred payments arranged.—Clifford Wilson Co., 177, Westminster Bridge Rd., S.E.1. [5610

1920 Quadrant Combination, all lamps, horn, Cameo wind screen, mileage 500, absolutely as new; £125; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5523

QUADRANT.—Sole distributers and agents for London, Southern and Eastern Counties.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd., S.E.1. All spares in stock. All models for immediate delivery. Selection of guaranteed second-hand machines. [5612

Radco.

1919 Radco, perfect condition, as new, tax paid; £38.—King, Egrove, Oxford. [X8695a

RADCO 2¾h.p., new tyres, fast, reliable; £25.—Shaw, Park St., Wellington, Salop. [X8615

RADCO, late model, 2-speed, perfect; £33; must sell.—20, Treen Av., Hoggers Corner, Barnes. [5347

RADCO 1920, perfect condition, little used, all accessories; £45.—Willis, 12, Raul Rd., Peckham, S.E.15. [4831

1916 Radco, good condition, Amac, Dunlop, footboards, horn, complete; £29/10.—2, Weston Av., Esher, Surrey. [3963

RADCO 1920, 2-speed Albion, mileage 300, perfect order; any trial; £48; Easter bargain.—36, St. Thomas Rd., Hackney. [4467

PRICE Reduction on new 1921 model Radcos; immediate delivery of 2¼h.p. 2-speed; £60/10; 2¼h.p. single gear, £52.—The Premier Motor Co., Aston Rd., Birmingham. [5292

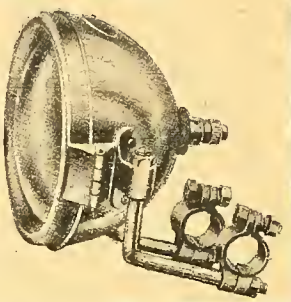
"TAW" Lamps.

MODEL No. 29.

"Spotfinder"
5½in. diam.

Price:
55/- each.

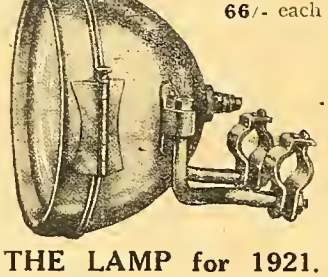
White Nickel or Black Plated.



MODEL No. 28.

"Road Lighter"
7½in. Diam.
900 ft. Beam.

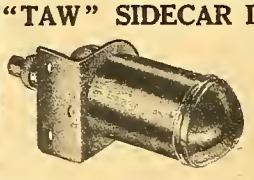
Price:
White Nickel—
65/- each
Black Plated—
66/- each



THE LAMP for 1921.

HIGHLY RECOMMENDED FOR
POWERFUL MACHINES
AND
FAST NIGHT RIDING.

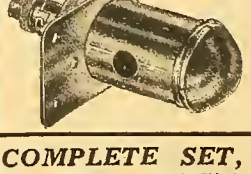
"TAW" SIDECAR LAMP, No. 33



Gives a pencil beam light; screws direct to sidecar body.

Prices:
White Nickel—
11s. 6d. each
Black Plated—
12s. 0d each

"TAW" TAIL LAMP, No. 32



Screws to Number Plate. Back removes and can be used as an inspection lamp.

Prices:
White Nickel—
11s. 6d. each
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Raleigh.

RALEIGH Flat Twin in stock.—Welford, St. James St., Brighton. [452

RALEIGHS, solos and combinations in stock; exchanges entertained.—Hicking, Bromley Rd., Beckenham. [327

1921 Raleigh 5-6h.p., flat twin, in stock; catalogue on application.—Roe's Cycle Depot, West Bridgford, Nottingham. [293

RALEIGH Combination in stock; delivered anywhere.—Prior, Repplingham Rd., Southfields, S.W.18. 'Phone: Putney 1694. [501

RALEIGH 5-6h.p., solo or combination, in stock; orders now accepted.—Ratcliffe Bros., 200, Gt. Portland St., W.1. 'Phone: Mayfair 5042. [042

RALEIGH 5-6h.p. Twin, spring frame; in stock for immediate delivery.—Newnham Motor Co., 22, Hammersmith Rd., W.6. 'Phone: Hammersmith 8 [570

1921 Raleigh, 5-6h.p., flat twin, spring frame, chain drive, solo, 155 gns.; sidecar, 195 gns.; first usually with anything really good, we now have both in stock.—Sole Birmingham Agents, The Premier Motor Co., Aston Rd., Birmingham. [304

Reading-Standard.

READING-STANDARD Combination, hood, Came screen, 10-12h.p., Bosch mag., 3 speeds, han and foot clutch, new sidecar, very little used, perfe running condition, 1917 model: £110.—T. H. Til and Co., 10, Duke's Mews, Duke St., Oxford St., W [493

Rex.

£15.—3½h.p. Rex, 2-speed, clutch, waterproof Bosc pan saddle.—King, Egrove, Oxford. [X869

REX 3½h.p., Bosch, B.B., clutch, lamps, etc., splend condition; £52, including licence.—222, St. Leonard's Rd., East Sheen, S.W. [528

6h.p. Rex, clutch, Dixie, Binks, new Dunlops, lo copper exhausts, perfect, newly overhauled; £40. Main, 108, Broad St., Bridgeton, Glasgow. [X842

REX 5-6h.p., clutch model, pan saddle, B.B., Bosc spring forks, good belt, tubes, tyres; any tria £27, offers, tax paid.—Lees, 17, Fairbridge Rd., Hig gate, N.19. [473

REX Twin, 6h.p., 2-speed, C.B. combination, 191 Bluemel screen, lamps, Flexeks, gear overhaul makers January; not rubbish; £59/10.—41, Elm Ro Malden, Surrey. [440

REX, S.G., 3½h.p., tax 30/-, 1920 additions: M mag., Senspray, cylinder and piston, Broo saddle, lamps, toolbag, perfect; £36.—Midgley, 1 Duke St., Colne, Lancs. [499

REX 6-8h.p. Combination, coachbuilt, 3-speed, et all accessories, perfect condition throughout, t paid; £80, bargain; exchange for good solo.—38, Ch sey Rd., Brockley, S.E.4. [554

Rex-Jap.

6h.p. Rex-Jap and Sidecar, in good going order; lev exchange for two P. and M., must be sound seen by appointment only.—Bevington Hall, Evesha [432

Rover.

ROVER 3½h.p., 1920, countershaft, accessories, new; £90.—52, Baker St., W.1. [539

£52/10.—Rover genuine coach 3-speed 1914 combin tion.—Shaw, Park St., Wellington, Salop. [X861

1919 Rover Combination, 5-6h.p., beautiful condition grand hill-climber; £135.—26, Digbeth, Walsa [432

ROVER T.T. 3½h.p., clutch, lamps, etc.; £28. Apply (6 to 8), 104, St. Paul's Rd., Kennington S.E. [453

1919 5-6h.p. Rover Solo, all-chain drive, T.T. ba splendid condition; £110.—Wright, Saffr Walden. [563

ROVER 1920 3½h.p., shop-soiled; list price £13 our price £125.—Ratcliffe Bros., 200, Gt. Po land S., W. Mayfair 5042. [042

ROVER.—All models will be on sale at the secon hand Automobile Show, Crystal Palace, fro April 2nd. (See Wanted.) [579

5-6h.p. Rover and Sidecar, delivered April, 192 done 500 miles, lamps, horn, perfect.—Stannar Littlehales, Leek, Staffs. [X873

3½h.p. T.T. Rover, complete lamps, Binks carb 2 retter, long copper exhaust, fast; £45.—Wrigl Exchange Roller Mills, Luton. [554

1920 T.T. Rover, Philipson pulley, all accessori only run few miles, very fast; £80.—Cy Verey, Manor Farm, Buckingham. [533

3½h.p. T.T. Rover, h.b.c. Philipson, perfect conditi 2 as new; any trial; £80.—Aldwinckle, Fairvi Cottage, Barrowby High Rd., Grantham. [50

1920 Twin Rover 5-6h.p., shop-soiled, 3-speed, con tershaft, £137/10; with new Watsonian sidec £160.—Edwin Knight, Church St., Reigate. [54

ROVER Combination, tax paid, hardly used, fu equipped; great bargain. £140.—'Phone: Wa stead 48.—374, Grove Green Rd., Leytonstone. [41

ROVER T.T., 1919, fully equipped, fast and econon cal, carefully used, in excellent condition throug out; £80.—Cautrill, 172, Cross Rd., Coventry. [X85

MOTOR CYCLES FOR SALE.

Rover.

0 Rover 5-6h.p. Combination, complete with Lucas equipment, perfect condition; £125.—Mid-Garage, 7, Broad St., Birmingham. Central 6238. [4423

VER 3½h.p., 1916, Philipson, lamps, tools, in good condition; price £40, or near offer.—East ead Motor Garage, London Rd., East Grinstead. [3237

—Brand new Rover 3½h.p. T.T. model, Philipson alley, Cowey horn, only used 500 miles, guaran-erfect.—Wallis, 23, Hartington Grove, Cambridge. [3584

2 3½h.p. Rover, 3 speeds and free engine, foot-boards, in good running order; £35.—Walbro Cycle Co., High St., Saffron Walden, Essex. e: 45. [X8055

VER 3½h.p. 1920 Combination, P. and H. lamps omplete, Cameo, Lucas, splendid condition; any r examination; £145, including tax.—Ivy Cottage, ld Rd., Redhill. [5246

VER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; im-te delivery; hire-purchase if desired.—Collard, Garage, Shilnal. [2684

VER 1919 5-6h.p. Twin Combination, not W.D., ood, screen, lamps, etc., has been stored for 12 s; bargain, £135.—Elce and Co., 15-16, Bishops-Av., Camomile St., E.C.3. [0068

9 3½h.p. Rover Combination, 3-speed counter-shaft, kick starter, perfect condition, tyres un-ured, Lucas lamps, luggage grid, Tan-Sad, as new; —34, East Sheen Av., S.W.14. [4406

9 (Oct.) Rover 3½h.p., 3-speed, clutch, kick starter, engine No. 7888, mileage under 1,000, essories, in new condition, unscratched; price 90 Kidner, Dental Surgeon, Oswestry. [3249

.p. Rover, 3-speed countershaft gear, clutch, and kick starter, absolutely new, but shop-soiled; or with smart coachbuilt sidecar; £155; easy pay-.—Harrods, Ltd., 118, Brompton Rd., London. [4916

VER 3½h.p., September, 1919, 3-speed counter-shaft, kick starter, lamps, Klaxon, condition ppearance perfect; cost £148, including tax, ce £98.—Denham House, Headington, Oxford. [5326

19 Rover 3½h.p., 3-speed countershaft, coachbuilt sidecar, 1920 Cowey speedometer, lamps, Lucas tax paid, full insurance to August, excellent condi-£145, or near offer.—Sven, or write 241, Main Sidcup. [4769

VER 5-6h.p. Combination, from makers Oct., 1919, special sidecar, child's extra seat, speedometer, all ories, appearance and condition almost as new, aid; nearest £140.—17, Pepys Rd., Wimbledon, 20. [4760

20 Rover 6h.p. Combination, Henderson de luxe sidecar, Easting wind screen, D.A. lighting, lamps and horn, speedometer, pump, tools, spares, mileage; cost £235, accept £150.—1, Melrose Rd., on Park, S.W. [4372

17 Rover 3½h.p. and 1919 Burbury Sidecar, new cylinder, piston, 2 months ago, whole outfit t and fully equipped, Cowey speedometer, Easting, xamination; £110, or nearest.—Rover, Eastwood, urgh Rd., Weston-Super-Mare. [X8495

VER 5-6h.p. Sept., 1919, Combination, run 1,250 miles, original tyres still good, Cameo screen, acetylene lamps, mechanical horn; £148; easy payments, or exchange industrial shares or er's materials.—Sherratt, Church Stretton. [X8464

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VER Combination, 3½h.p., 1915, engine and mag-neto just overhauled and rebushed, Swan sporting ar, Easting wind screen, 2 new tyres, acetylene s and accessories, aluminium disc wheels, very smart at; 100 gns.; Saturday afternoon, or by appoint-—72, Gordon Rd., Ealing, W.5. [4568

ECIAL 3½h.p. T.T. Rover; splendid condition throughout, long nickel exhaust, racing bars, pson, knee-grips, 6in. P. and H., h.b.c., clutch, ast, special engine, racing cams, etc., fully insured. nical horn, ideal bike for speed merchant, but flexible; £75.—Colquhoun, 1, Camden Villas, Wye. [5199

Royal Ruby.

AVIES, of Manchester, can deliver 1921 Royal Rubys from stock.—229, Deansgate. 'Phone: 536 tal. [2433

OYAL Ruby 2¾h.p. 2-stroke, accessories, new tyres; £40.—Sibley, 106, Market Place, Romford. [4472

21 Sports Model Royal Ruby, 2¾h.p., 2-speed, kick start; list price, 85 gns.—North, Bridge-Peterborough. [5269

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19 20 3h.p. Royal Ruby, sprung frame, the ideal mount for comfort; accept £99.—J. Hebden and Sons, 149, St. James's St., Burnley. Tel.: 488. [5430

ROYAL RUBY 1919 8h.p. Combination, fully equipped, excellent condition; £120; engineer owner bought car.—Farringford, Capel Rd., East Barnet. [4663

4 h.p. Royal Ruby Combination, 1918, 3-speed S.A., K.S., all accessories; exchange solo; sell £80.—Everett, c/o Mea Motors, 126, Benlah Hill, Norwood. [5165

ROYAL RUBY 3h.p., 2-speed, clutch, spring frame, lamps, horn, tools, good condition, very comfortable; £90, or near offer.—Hunnby, 12, New St., Salisbury. [4529

ROYAL RUBY, 1919, 2¾h.p., single speed, lamps, horn, tax paid, splendid order; £35.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5697

3 h.p. Spring Frame Royal Ruby, 2-speed gear, K.S. and clutch, 1920 model, shop-soiled; a beautiful machine; list price £120, my price £102.—Davies, 229, Deansgate, Manchester. [0529

3 h.p. Royal Ruby, spring frame, 2-speed, clutch, and kick-starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used and condition as new; reduced to £100; deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [4911

ROYAL RUBY, late 1919, 8h.p. J.A.P., luxurious combination, 3 speeds, all-chain, fully licensed and equipped, expensive accessories; cost over £200, exceptional bargain, 130 gns., or exchange.—Clapham Motors, 113, High St., Clapham. 'Phone: Latchmere 4290. [4587

LATE 1920 3h.p. Royal Ruby, spring frame, hand control clutch, 2-speed countershaft, kick start, fully equipped, lighting set, horn and tools, cost £128 in September, guaranteed as new, trial willingly; sacrifice 78 gns.—Mason, Ivy House, Thomas St., Kings Lynn. [5570

Rudge.

RUDGE, in good running order; £35.—43, Green Lane, Penge. [4571

I.O.M. Rudge Multi at makers' list price, from stock.—A. J. Young and Co., Ltd., Newmarket. [1259

£85.—1920 Rudge Multi Combination, all accessories, perfect, tax paid.—40, Aynhoe Rd., W.14. [4747

RUDGE Multi, about 1914, new tyre, licence paid; £33 10.—Shaw, Park St., Wellington, Salop. [X8614

19 15 Rudge 5-6h.p. C.B. Combination, excellent condition; £65.—10, Clarendon Rd., W.11. [5320

RUDGE Multi, 3½h.p., 1914, and sidecar, lamps, etc.; £65.—Chestnut House, Thicket Rd., Sutton. [5278

RUDGE 1919 Road-ter, done 4,000, lamp, horn, tax paid; £73.—Seville, Sherborne House, Norton-on-Tees. [4460

RUDGE Multi Combination, 7-9h.p., 1920 model, shop-soiled; price £165.—Tilleys, South St., Dorchester. [4418

RUDGE 5-6h.p., May, 1920, splendid condition, mileage 2,300, tools, licence; £90, or nearest.—C. Hawkins, Cirencester. [X8529

£35.—Rudge 1915 3½h.p., clutch, lamps, etc., runs splendidly, good condition.—143, Ravensbury Rd., Earlsfield, S.W. [5441

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3½h.p. Rudge, 1917-18, all accessories, excellent condition; £75. [5724

3½h.p. Rudge Multi, 1914-15; £50; splendid condition, all accessories, powerful, reliable.—26, Munster Rd., Teddington. [4872

19 20 I.O.M. Rudge Multi, ridden dozen times only, guaranteed perfect; £95.—Particulars, Ternecroft, Market Drayton, Salop. [X7893

3½h.p. Rudge Multi, genuine Brookland model, lamps, Klaxon, tax paid; £65, offers.—Bishop, Fernbank Rd., Ascot, Berks. [4608

RUDGE.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5757

5-6h.p. Rudge Multi C.B. Combination, all accessories, screen, just overhauled; £95.—Sibley, 106, Market Place, Romford, Essex. [4473

3½h.p. 1920 Rudge Multi, practically new, complete with full accessories; £105.—W. H. Johnson and Sons, Ltd., King's Lynn. [4431

RUDGE Canoelet Combination, 2-speed, accessories, perfect running order; £55.—Bradford, 43, Racton Rd., Fulham, London. [5306

19 20 5-6h.p. and 7-9h.p. Rudge Multi Combinations, new; £152 and £175.—Shepherd, Enfield Highway, Enfield. Tel.: Waltham X31. [0341

19 20 3½h.p. Rudge Multi, new, I.O.M. frame; accept £95.—J. Hebden and Sons, 149, St. James's St., Burnley. Tel.: 488. [5429

RUDGE 3½h.p. and Sidecar; believed 1914, Grade gear, Sensprav, long exhaust, very fast, lamps, tax paid; £55.—Benlah, Wimborne Rd., Poole, Dorset. [5124

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Rudge.

1920 I.O.M. Rudge, Lucas lamps and horn, perfect; accept £85, or exchange with cash for late combination.—20, Derby Rd., Croydon. [5466

7-9h.p. Rudge Multi, with Rudge sidecar, absolutely new, but shop-soiled; £160; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [4917

1920 5-6h.p. Rudge Combination; P. and H. lamps, Klaxon, etc., perfect condition; £130, or offers.—Brown, 48, Peel Sq., Bradford, Yorks. [4598

RUDGE Multi 1920 3½h.p., unused, with cancelet Minor sidecar, complete with lamps; £120; will sell without sidecar.—Motor Co., Hereford. [4312

BRAND new I.O.M. Rudge Combination, list £140, our price £105; another nearly new, £92, or solo.—Ramsden's, 8, Maybell Av., Blackpool. [5563

RUDGE 3h.p., T.T., discs, lamps, perfect condition; £40.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. 'Phone: Victoria 7164. [4640

3½h.p. Rudge Multi Combination, T.T. bars, sporting sidecar, lamps, horn, in running order; £65; no licence.—22, Wimbledon Park Rd., S.W.18. [5202

RUDGE Multi 3½h.p., T.T., late 1920, brand new but slightly soiled; usual price £110/5; sacrifice £90.—Wilkins, Simpson, opposite Olympia, London. [5493

3½h.p. Rudge Multi 1917 Combination with 1920 sidecar and chassis, Cameo wind screen, 3 lamps, tax paid; £72.—151, Globe Rd., Bethnal Green. [4722

RUDGE Multi, 1919 (Dec.), 5-6h.p. engine 16878, coachbuilt combination, electric lighting, wind screen; £120.—Browne, 32, Onslow Sq., South Kensington, S.W.7. [4550

RUDGE 1920 3½h.p., Multi-gear, I.O.M. frame, speedometer, electric horn, equal to new; £90.—Parker's, Bradshawgate, Bolton, and 245 Deansgate, Manchester. [X8557

1920 Rudge Combination, 7-9h.p., F.R.S. electric lamps, very fast, guaranteed; £130; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [5524

T.T. Rudge, 1914, completely overhauled, new Grado gear, excellent condition throughout, accessories; Easter bargain, £48; tax paid.—Davidson, 2, Lynton Rd., Gravesend [4391

RUDGE Multi Combination, 3½h.p., 1915, coachbuilt sidecar, in splendid condition; £85, or near offer; can be seen any time.—G. Edwards, Fire Station, East Ham, E.6. [4448

1920 3½h.p. Rudge Multi, touring model, lamps, horn, etc., good condition, tax paid, £85; also 1-ton lorry body, hardly used, £10.—Enquiries, Bailey, Tarnock, Axbridge. [X8535

RUDGE Multwin 7-9h.p. Combination, delivered Sept., 1920, all accessories; price £175 for quick sale, or exchange Morgan.—Chauffeur, San Jacapino, Oakleigh Park, N.20. [4726

RUDGE Multi 1919 3½h.p., T.T., perfect condition, specially tuned, and very fast, discs, etc., with Cancelet Minor sidecar; £90, or offer.—Kingwill, 81, George St., Edinburgh. [X8261

RUDGE-WHITWORTH, coachbuilt sidecar, 1912, 3½h.p., 2-speed gear, accessories, good mechanical order; £45.—Taylors, Ltd., 52, Sussex Place, S.W.7. Phone: Kensington 7260. [0460

RUDGE 3½h.p., believed 1913, clutch, powerful, fitted with nearly new torpedo coach sidecar, excellent condition; bargain, 37 gns.; would separate.—Apply, Garage, Hausler Rd., East Dulwich, 10 to 5 (not Sunday). [5274

Scott.

SCOTT Squirrel in stock.—Welford, St. James' St., Brighton. [4522

GIBB, Gloucester, can deliver 1921 Scotts from stock. —'Phone: 852. [0445

SCOTT, Squirrel, and other models from Coventry Motor Mart, London Rd., Coventry. [X8582

SCOTT T.T., discs, perfect, electric lights, fast; £56. —5, Park Terrace, Headingley, Leeds. [5500

SCOTT 3½h.p., pre-war model, trial, 2-speed, lamps, etc.; nearest £55.—Scott, Loiton, Cumb. [4366

1920 Scott Combination, all lamps, Lucas horn, as new: £125.—Welford, St. James' St., Brighton. [4519

1920 Scott Combination, electric lighting, tax paid; £150.—E. Cockell, Holly Lodge, Dalston, E.8. [5185

IMMEDIATE Delivery 1921 Scott motor cycle and combination, in stock.—Millards, Chesterfield. [4003

1915 Scott C.B. Combination, excellent condition; sell or exchange 1920 solo.—Elmhurst, Ellesmere Park, Eccles. [4945

SCOTT 1919-20 model, semi-T.T. bars, 3in. tyre, in excellent order; £90; no offers.—Box 287, c/o *The Motor Cycle.* [X8526

1916 Scott, perfect order, lamps, horn; £60, or offer.—A. Adhemar, St. John's Cottage, Roehampton, S.W.15. [5142

SCOTT, 1920, 500 miles, M-L Maglita combined lighting and ignition, electric horn, 3in. tyres, Smith speedometer, Ace discs; see photo M-L advert. last week; perfect; £140.—B., 7, Draper's Fields, Coventry. [X8570

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1920 Scott Combination, Godfrey's electric l Cowey speedometer, Lucas horn, Easting mileage 1,067, tax paid; cost £209 last Augus £160; absolutely as new, guaranteed; exchanges agents (below).

1920 Scott, with Rennoc sidecar, P. and H. Lucas horn, etc., magnificent condition, teed perfect, tyres unscratched; £145; excha Scott agents, Homac's, 243, Lower Clapton Rd 'Phone: Dalston 2408.

1920 Scott, sidecar model, semi-T.T. bars, horn, tools, low mileage; £120.—Box c/o *The Motor Cycle.*

SCOTT.—All models will be on sale at the hand Automobile Show, Crystal Palace April 2nd. (See Wanted.)

SCOTT New Combination, 3in. tyres, all acce what offers? mileage about 300.—Grim Bruton Place, Bond St., W.1.

SCOTT 1920, guarantee perfect, cost £150, discs, Cowey horn, lamps, licence paid; Wilkinson, Twigmoor, Doncaster.

SCOTT 1920, Cox Atmos carburetter, electric l disc wheels, speedometer, perfect order; Spencer, Crofts Lea Park, Ilfracombe.

SCOTT Combination, June, 1920, cost £180, Easting wind screen, Tan-Sad, licence, spar £140.—Exmocyco, 7, Bath Rd., Exeter.

SCOTT, 1920 sports model, horn, tools, ver mileage, enamel as new, plating fair, perfec £110.—D. Lavin, Old House, Sonning, Berks.

SCOTT Squirrel, immediate delivery from stock all spares stocked.—The J.C.J. Motor Co Holdenhurst Rd., Bournemouth. 'Phone: 2699.

SCOTT, recently thoroughly overhauled, sev placements, perfect running order, ena poor; £38.—Brain, Elmdene, Strand, Bideford.

1920 Scott and Cancelet sidecar combinat lamps, horn, and tools, all new tyres, no taken this year; accept £130.—Orton, Fair Vie Shilton.

1920 Scott, 3½h.p., mileage 600, unscratche lamps and horn, purple, disc wheels; cos accept £90; exchanges.—60, Wallingford Av., N singtón.

ADVERTISER, owing to financial reasons, paid £20 deposit on Scott, brand new packed; will sacrifice half deposit.—Box 260, *Motor Cycle.*

SCOTT Combination, 1919-20, 2-speed, smal age, excellent condition, electric lamps, screen, tax, insurance paid; offers.—59, Pala Streatham Hill.

SCOTT, 1910, special radiator, jackets, engi plete overhaul at works, Bosch, Binks, with all accessories, tax paid; ride away; £40.—S Beelsby, Grimsby.

SCOTT Sports Model, 1920, 2-speed gear, shop-soiled, and unused; at £130.—Bu Motors, Ltd., South Side, Clapham Common, 'Phone: Brixton 2417.

SCOTT, 1916, aluminium sidecar, black, ne lops, Cowey horn, lamps, spares, recentl hauled, perfect order; £90.—Seen, 41, Mersha Thornton Heath, London.

LATE 1919 Scott Combination, Klaxon, electr ing set (accumulator), speedometer, small perfect mechanical condition; £120.—Atkinson house Mills, Pateley Bridge.

SCOTT 3½h.p., Binks, Bosch, re-enamelling hauling cost £14, splendid engine to pull; ing test, unused since 1916; first £46; exchan Knoll, Gillingham, Dorset.

SCOTT Late 1920 Combination, electric l hood, screen, speedometer, mileage under £155.—Newnham Motor Co., 223, Hammersmi W.6. 'Phone: Hammersmith 80.

£125.—Scott motor cycle, 1920, lamps, horn ometer, long copper exhaust pipe, sets pole plugs, spare Palmer tube, spare chains, m cally perfect.—O. Stewart, Deben Lodge, Melto folk.

1915 Scott Combination, Lucas lamps, speed Klaxon, latest improvements, overhau makers, guaranteed mechanical condition, sel rately; £95.—Morven, Canonbie Rd., Fores S.E.23.

1919 Scott Combination, Cameo wind F.R.S. Major, just had complete ov practically new condition, many spares, i semi-T.T. handle-bars, tax paid; £100, or high and cash.—Ogle, Denstone College, Staffs.

SCOTT, 1920, just overhauled, new touring b Lucas horn, also original T.T. bars, Cowey meter, lamps, new chains, all spares and tools, studded, perfect internally and externally, req expenditure; £105, no offers, or lightweight a adjustment.—Batten, Killin, Perthshire.

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

Editorial Offices: Hertford St., Coventry.
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Psychology of the Motor Cyclist.

ON the road the average motor cyclist is a cheerful personality, even in adversity. His youthful mind gives him the happy knack of looking on the bright side of things. Yet curiously, when he decides to express his views on paper, he is apt to become a pessimist. He will write long screeds on the iniquity of Government taxation, the terrible state of the roads, the callous behaviour of car drivers who cut him closely, and about dogs which chase him, while the current price of motor cycles is the last straw. On the other hand, it is comparatively seldom that he writes of the brighter side. However strongly he feels them, the brighter views are never committed to paper. Have we, after all, so much to grumble at? Taxation admittedly is high, and in certain cases unfair, but money had to be raised, and the one system which would be fair to all proved impracticable for reasons which the average motor cyclist did not take the trouble to understand. There remain, it is true, certain anomalies which we must all fight in order to get them straightened out before the next Budget. On the other side of the picture we have a real attempt to improve roads, both as regards width, surface, and classification. It will necessarily take a certain amount of time to repair the ravages due to war-time neglect, but signs of improvement are not lacking.

The Ministry of Transport, whatever its failings, has taken an interest in the welfare of motorists, and reasonable signposts and identification signs are promised. Manufacturers' prices are high—but the blame is not altogether on their shoulders—and several have recently been able to effect appreciable reductions. Again, the price of fuel has dropped, and shows a tendency to continue so doing. Spring is here, and those who, by reason of delicate health, have been unable to enjoy the pleasures of winter riding have the best season of the year before them in which they may enjoy all the benefits of the open road.

In spite of all the wails which are sent up at any kind of change, the motor cyclist still enjoys the most economical means of travel.

There is something encouraging in that! In many cases also he is able to save fares by putting to practical use the machine which is the source of his pleasure and sport out of business hours.

Easter Events.

NEITHER in actual participation in nor in observation of competitions does the interest of the motor cycle public appear to wane; indeed, never at any time in the history of the movement have motor cycle events, whether sporting or social, received stronger support or been more enthusiastically followed.

It does not require an elaborate pleonasm to prove that the motor cycle movement is stronger than ever it was, and keen riders may follow the Easter events in almost every part of the country. On Good Friday the north-eastern focus is the annual Richmond Meet in North Yorkshire; on the evening of the same day the 200 odd competitors start from London on the M.C.C. Land's End run, and West Country riders will be in force at Porlock and Lynton to see the performances on the Saturday.

Easter Monday provides *rendezvous* in the north-west, the East Midlands, and the north-east coast, the events being the Westmorland Hill-climb at Orton Scar, the A.C.U. North-Western Centre Rally at Ribchester, the East Midland Centre speed trials at Bourne in Lincolnshire, and the Scarborough Hill-climb at Staxton Brow. In addition to these important events, the Easter week-end is chosen for the holding of a two-day trial by the Glasgow Western Club, while closed events are being run by individual clubs in almost every district.

Each of these meetings will draw hundreds of motor cyclists, not to mention attracting the interest of the general public, from which recruits to the movement must be drawn.

An index to the advertisements in this issue will be found on page supplement ia.



OCCASIONAL COMMENTS

BY IXION

A Good Hogbus Gear.

I AM at present disporting myself on an experimental machine designed by a New Zealander (Mr. A. R. Bannister). Its main novelty is the drive, which consists of an undergeared pulley with an infinitely variable belt transmission. As far as I know, such a combination has never yet been marketed, and my first impressions are that it would be simply ideal for a fast sporting mount. In actual fact it adorns a rather heavy machine with a 2½ h.p. J.A.P. engine and a light sidecar, the designer having adopted this layout in order to demonstrate its efficiency without outraging the police of this country. Mechanically, the design is wholly unexceptionable, but in road practice two chief merits emerge into high relief.

The first—with which all road burners will sympathise—is that the gear changing is wholly performed by the feet, so that both hands are continuously available for steering, horn-blowing, throttle work, etc.—a factor of prime value in speed work. The second is that, thanks to the undergeared pulley, a large effective pulley diameter is obtained on the bottom gear of 12½ to 1. As the belt tension is automatically increased as the gear is lowered, belt-slip is almost unknown, even with the double load.

How the Gear is Changed.

THE noble army of hoggers will doubtless be interested to hear how the gear is changed. On the off side footboard there is a pedal. Depress this pedal and you lower the gear, an operation which can be performed with the 'bus stationary or in motion. In a competition if you suddenly meet an arrow which orders you to twist back to the tune of 335°, and tackle an unsuspected slope of 1 in 2, you merely stamp with your right foot, and up she goes. This pedal stays wherever it is put, being self-locking.

On the other hand, should you wish to raise the gear, your left foot gently depresses a small button on the other footboard, when the gear promptly raises itself *ad lib.*, the off side pedal rising in the operation. If you don't want the gear to come right back to top again, you either release the foot button when the desired ratio is attained, or slow down the big pedal with the other foot. Could anything be nicer?

When the inventor was driving me in the sidecar, he kept his engine revs. practically unaltered uphill and down dale for several miles, during which distance we were averaging about 30 m.p.h. with a dead-weight of some 6 cwt., propelled by a 2½ h.p. engine. The petrol consumption is correspondingly low. I long to try out this Bannister gear on a hotstuff 3½ h.p. engine, and hope that when trade picks up, we may all have the chance of using it.

Split Leggings.

THIS cross-heading may not be particularly intelligible. I referred some weeks ago to the defects of ordinary leg overalls, which are awkward to put on and take off, especially if nature has afflicted one with a weedy calf and a club foot; and which ruin your trousers in time because your boot fouls the inside of the legging. At that time I alluded with distinct appreciation to the Brooks and John Bull leggings, which eliminate all these defects. Last autumn a North-country rider introduced me to a legging which is possibly the best in its class. The leg portions are split down the sides, and are fastened by two long flat springs per leg; both ends of each spring slip into clips, and the garment can be removed in a couple of seconds. A single push-button is fitted to a flap at each kneecap, to prevent "gaping," and the workmanship is excellent. This first-rate legging is sold by Messrs. Henry and Murton, of Grainger Street, Newcastle-on-Tyne. I know of nothing to beat it, and it deserves to be better known.

Becoming Tedious?

THE other week a doctor asked me to accompany him on his morning round, citing no reason. I went. His machine was a clutchless, two-speeded baby two-stroke; mine was something much bigger and heavier with a clutch. His practice was situated in an agricultural district, and embraced two or three of those comic townlets where they hold cinemas in disused chapels. As the result of our morning, the following conclusions were arrived at:

1. A doctor *must* use a lightweight motor cycle for such a practice, because

   (*a*) A car would make his fees higher than his patients can afford, or cause a loss on the working of his "panel."

   (*b*) The handling of a big machine is altogether too exhausting, considering the frequent stoppages and the queer places into which he must go.

2. His machine *must* have a clutch. The push start is quite impracticable after some of his visits. If he has no clutch, he must leave his machine at a point of the road where a push start is possible, and waste time by walking to the farm or cottage.

3. His machine ought to have a quick-action one leg stand of the leaning prop variety. On one long climb through a wood we had to open five gates; in no case was there any natural support for the machine while the gate was being opened; the grade was too severe for us to push our mounts and open the gates

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

simultaneously. The only plan for a solitary rider was to prop up his machine, open the gate, drive through, prop up machine, close gate, and remount.

4. In this work, as in the experience of many others, a machine often has to be left out of doors for hours—possibly all night in certain cases. Its finish, ignition, carburation, and saddle must therefore be weatherproof.

I could not suggest a machine which met all his needs; but at the risk of growing tedious I must underline the huge demand which unquestionably exists for a quick-action "prop" stand, consisting of one hinged leg on the near side of the machine.

That Retriever.

THOSE readers who are privileged to know Capt. Vinter, of the Scott Co., will be aware that he is an incorrigible leg-puller. Moreover, he has a special down on me, because I once described the petrol consumption of the Scott in terms which he considered unkind. So he now assails my infallible anti-dog recipe. Half a mile from the Scott works there resides a retriever with such a massive frame that Vinter thinks it was designed for pulling sidecars. When the retriever hears the Scott approaching he lies down on the pavement on his tummy, takes an observation of Vinter's speed, works out the deflection allowance, and leaps at the psychological moment. The Scott manager has tried my tip in vain, and has come to the reluctant conclusion that this retriever's proboscis must be seriously calloused. Am I flummoxed by this problem? Not at all. Here is my prescription—two of them, in fact. First plan. Procure a twin Scarf gun mounting from the Aircraft Disposal people. Saw off the barrels of two shotguns. Load them with buckshot. Take a short refresher course in gunnery, and act according. If the owner of the retriever is a personal friend or an influential person, here is an alternative method. Catch the dog. (Some simple stunt, such as sweeping him up in a tennis net trailed between two Scotts driven in open order, *à la* mine sweeper.) Anneal his proboscis (see tempering formulæ in any engineers' pocketbook). Then apply my original tip of pretending to throw something.

Petrol Gas Lamps.

MY recent comment on alternatives to paraffin lamps for country dwellers have evoked quite a correspondence. It seems that a number of motorists regularly use the so-called "air gas" lanterns for illuminating night jobs in their garages. ("Air gas" is simply an advertising inexactitude—it is just as much "air gas" as a motor cycle is air-propelled.) Furthermore, the Coleman Quick-lite is by no means the only pebble on the beach, for there are several other versions of the idea. They all furnish 300 c.p. and burn about forty-eight hours on a gallon of No. 1 spirit, which is cheap lighting. The hurricane pattern can be used out of doors, and if hung 8ft. from the ground will throw a bright light over about 600 sq. ft. The makers call the hurricane type a "safety" lamp. I should not be prepared to risk one in the immediate neighbourhood of petrol leakages, but it can safely be employed for night work if it is hung at a moderate height some distance away.



AN EGYPTIAN SCENE.

This attractive snapshot of little native caddies "guarding" a Triumph was taken at the Sezira Sporting Club, Cairo. Had we not been favoured with such a remarkably bright February, this sunny scene might well make one envious of the lucky individuals who can winter in Cairo.

SIDECAR OR CYCLE CAR



A Vexed Question for the Man who desires the Best Type of Passenger Machine.

SIDECARS fulfil their purpose so well that it becomes difficult to imagine that they will ever cease to score over their rivals.

In the light and mediumweight classes, indeed, the sidecar is the unchallenged passenger machine, and there is no evidence of the arrival of any type of machine to supplant it. When the heavier and more luxurious machines are considered, however, two classes of vehicles have rival claims to attention, and now that the price question is settled, in so far that almost all types are equal, the prospective purchaser is swayed between the merits of the high-powered sidecar, the three-wheeled runabout, and the four-wheeled cycle car.

An Adventitious Advantage.

Under existing legislation, the three-wheeled machines possess an initial advantage by escaping the minimum tax of £6 which burdens the four-wheeler. The difference between that figure and the £4 of the three-wheelers and sidecars represents a considerable economy in standing charges.

A person who intends investing something over £200 in a passenger machine for two people may well pause when he considers that his selection of type will give him complete protection for passenger, self, and "machinery" on the one hand, while on the other the passenger only enjoys freedom from the unpleasantness of the elements. The high-powered sidecar machines which are built as complete outfits, and which are never ridden solo, while providing extreme comfort for the passenger, still leave the driver to face the weather, still necessitate that he shall wear special clothing, and still leave the greater part of the mechanism exposed. Runabout machines, built as such, are simpler in outline, offer equal protection for driver and passenger, and a considerable amount of concealment for the major portion of the "works."

Why, then, should one pause for a moment in selecting? Has not the runabout all the advantages?

No! The sidecar outfit possesses qualities which still gain for it a wide and enthusiastic circle of users. Mechanically it is more an evolutionary product than a sound initial design, and in consequence, the heavy, powerful, and reliable outfits cannot always be built with strict economy of means, but it gives convincing results on the road, and, thanks to its enormous power compared with comparatively low weight, its extreme steering lock, narrow track, sensitive clutch, and easy changing gears, it can go where most cars would stall. The degree of comfort provided by the best sidecars is probably greater than is offered by any other road vehicle, while the adaptability of the sidecar chassis, which will permit two-seater bodies to be used, gives the sidecar outfit (with its pillion possibilities) the capability of transporting four persons with comparative ease. A final point in favour of the sidecar outfit is that the engine may be started after the driver has taken his seat.

Claims of the Cycle Car.

Most runabouts, or cycle cars, although designed on homogeneous lines, have failed as a class to equal the performance records of similarly-engined sidecar outfits. For the ordinary tourist, however, who is not interested in freak hill-climbing, the runabout machine offers an equal amount of protection for both driver and passenger. Usually the comfort is inferior to that of the sidecar, but its compensation lies in the fact that it is shared in sociability. Generally speaking, the chassis of a three or four-wheeler is simpler than the framework of a sidecar outfit, and the power and transmission units are out of sight beneath bonnet and bodywork.

General accessibility of the mechanism is usually about equal, for the cramping of parts into a small

Sidecar or Cycle Car?—

area on the motor cycle renders even exposed mechanism somewhat difficult to manipulate, while the accessibility of the cycle car's details can only be taken advantage of when the bodywork is taken away. In most cases the cycle carist who stops his engine has to climb out, disturb his passenger, and crank up at the front or side of the machine, but this process is not universal.

Lastly, and perhaps of most moment to the family man, comes the unfortunate truth that the cycle car is not very adaptable if more than its normal two passengers are to be carried. Designed for two people, it does not offer the same possibilities for additional seats as does the sidecar, and for this reason alone many would-be cycle carists, who wish to tour *en famille*, still remain faithful to the sidecar, which, speaking generally, is still the pre-eminent machine for the transport of most people the most miles at the smallest cost.



THE QUESTION OF PROTECTION.

(Left) The sidecarist who turns to the three-wheeler probably appreciates his machine more on wet days than on fine—the simple procedure of putting up the hood solves all his weatherproofing difficulties.

(Right) On the other hand, the sidecar can be made proof against water on the road, for the rider of the sidecar depicted passed through the splash without getting a spot of wet on his clothing.

(Bottom) Will the sidecar de luxe develop into a miniature coupé? The lady passenger who is desirous of being fully protected is keenly interested in this vehicle.

REMODELLING THE TRANSPORT MINISTRY.

THE work involved in the supervision of roads and road traffic calls for ability of a specific kind capable of dealing efficiently with normal conditions. "We hope," says *The Autocar*, "to see a remodelling of the Transport Ministry on a plan less grandiose than the present *régime*. The forthcoming decontrol of the railways will relieve the Transport Ministry of many duties, and open the way for reconstruction. We hope that the remodelled department will have as one of its chief concerns, and not as a mere side show, the encouragement and progress, as contrasted with the repression, of the comparatively young and virile motor movement upon which, no less than upon the older railway system, the vital interests of the community so largely depend." With this opinion we thoroughly concur.



". . . the genial, semi-cynical, completely joyous, and rather contemptuous grin."

FACIAL EXPRESSION ON THE ROAD.

One Hour at Wisley Hut. "Ixion" proves a Veritable Sherlock-Sexton-Blake-Holmes in his Deductory Notes on our Artist's Impressions of Motor Cycling Types.

ILLUSTRATED BY HELEN McKIE.

A DOCTOR man once conscripted me into attending an illustrated lecture by some Harley Street bird who knew more about heart action than D. R. Donovan knows about valve timing. The talk was enlightened by snapshots of famous athletes both "on" and "off"—"on" being represented by photographs of them at the finish of a gruelling race, and "off" by presentments of the same men with their hair brushed and their best girls alongside.

Now 'Varsity blues are generally regular Apollos; but it is astounding what loathsome criminals they appear if snapped about Barnes Bridge in the boat race or at the tape of a fierce hundred yards at Fenner's. If filmed at rest, their faces would inspire any flapper with a week's dreams after one visit to the pictures; but when filmed in strenuous physical effort they become convulsed, distorted, formidable, horrific.

Nothing but the Truth.

It has long been suggested in certain hostile quarters that just as there is an athlete's face, so there is a special motor cycling expression which we all of us assume when we take the saddle. Some years ago the A.C.U. almost brought a libel action against some horrid rag which prated of our "wild and haggard expression." So the Editor commissioned Helen McKie to explore the Portsmouth Road one week-end to verify these scandalous rumours, with the happy results which appear amidst my notes. For a woman, Miss McKie has a judicial mind, and does not allow her brief to overbalance her. She caught one unfortunate stalled by tyre trouble; his natural irritation was apparently exacerbated by the somewhat callous aloofness of his carrier passenger.

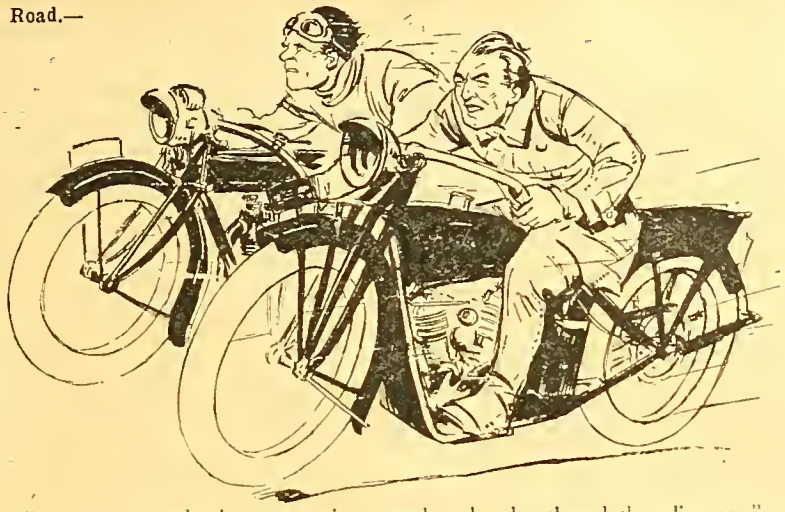
I ask my readers whether the other eight faces which she has portrayed are not all of them redolent of various types of bliss? Look at the two pals who are scrapping as much as they dare through the police zone. Both are as jolly as sandboys. If the outside man is a trifle less abandoned to the joy of the road than the Indian fellow, the reason is obvious; when they reach the safer area west of Guildford, the big Indian engine will be opened out. Miss McKie has chosen to be enigmatic in the little sketch in the heading, but she is not too enigmatic for me. I can read from the genial, semi-cynical, completely joyous, and rather contemptuous grin under the helmet what machine would have been depicted if the artist had the room to include it. This boy has clearly just taken delivery of a Brough Superior—8 h.p., o.h.v., geared 3 to 1. He knows nobody on the Portsmouth Road can catch him; he is aware that presently some fool will try; he intends to give that poor fool a wholesome object lesson. What could be nicer?

Or take again the human little crush of five motor cyclists in another sketch, not forgetting the baby. We can place them all. Papa at the helm of the sidecar is a small tradesman from the South London district. He is a Socialist of the academic type, and rather a deadly foe at the local billiard saloon on winter evenings. I *think* he is a pawnbroker. He has no illusions left in this world, and he never had any about the next. So he is quite aware—subconsciously—that his engine may seize or his back tyre burst within the next mile. Should such a catastrophe befall him, he won't worry. He will settle down to meet the emergency in a dour, business-like way, remarking sagely to Maria, "Wot's the odds, old gel? It'll all be the syme in a 'undred years." And so it will, too. Mamma—probably christened Maria, perhaps Maria Jane—is not sniffing the pine trees or feeling good because the Japanese cherries in the villa garden have begun to look like pink snow. Not a bit of it. She had a small stout before Alf depressed the kick-starter; but that small stout is not really responsible for her somewhat fœtid expression. She heard Mrs. Jones, next door, make a rather acid remark to Mrs. Smith, the greengrocer's



". . . his natural irritation was apparently exacerbated by the somewhat callous aloofness of his carrier passenger."

Facial Expression on the Road.—



". . . two pals who are scrapping as much as they dare through the police zone."

wife, as the outfit burbled off from the kerb; and she knows that inwardly these two ladies are terribly upset this fine Saturday afternoon because Smith and Jones cannot afford to buy sidecars, and their ladies are even now washing up amidst the haunting odour of boiled greens.

The baby? Ah, precious little innocent, we can hardly ascribe his angelic meditations to any petrolic cause. Any novel sensation would stir the same reflection of heaven on his cherubic countenance. But we may at least remark that were it not for papa's motor cycle, little Percy would probably be grubbily playing with a cod's tail in the gutter. So even here the motor cycle deserves some indirect credit.

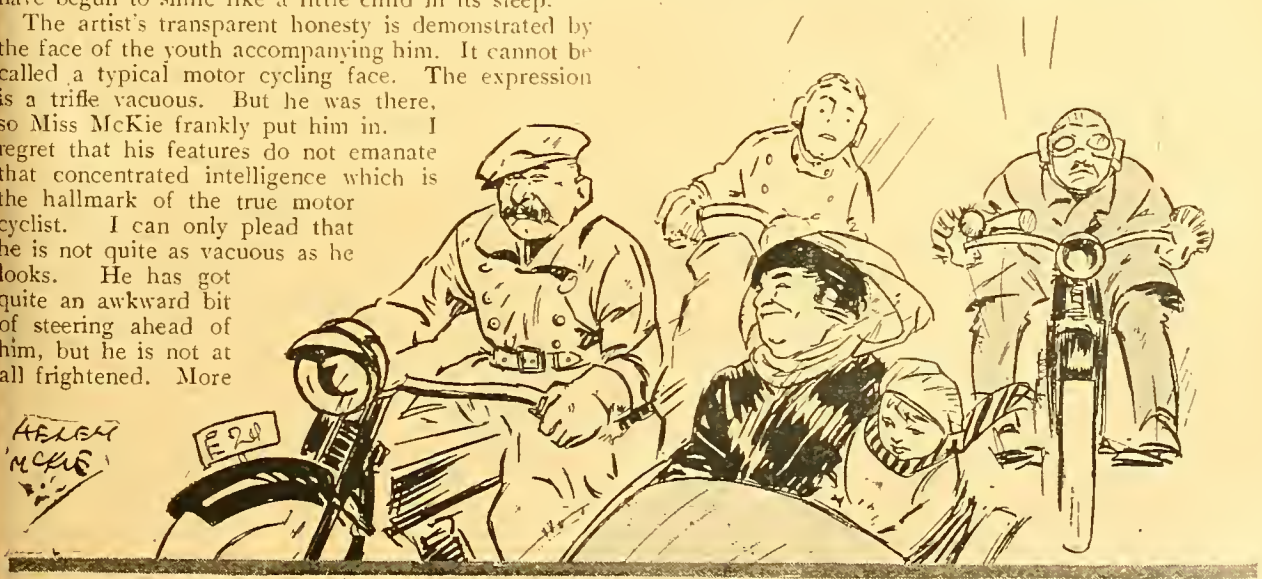
Why he didn't buy a Sidecar.

We had almost forgotten the two men who are anxious to overtake the family sidecar. It is clear that the stout man wearing goggles has an element of sourness in his composition. Do not blame the motor cycle for it. Miss McKie got him at 2.11 p.m. precisely. All married readers can expound his face like an open book. He is henpecked. It is barely an hour since he escaped from connubial bliss. The mark it leaves upon him has not yet evaporated. If Miss McKie had been able to chase him, say as far as Petersfield, those deep lines round his mouth would have been smoothed clean away, and he would have begun to smile like a little child in its sleep.

The artist's transparent honesty is demonstrated by the face of the youth accompanying him. It cannot be called a typical motor cycling face. The expression is a trifle vacuous. But he was there, so Miss McKie frankly put him in. I regret that his features do not emanate that concentrated intelligence which is the hallmark of the true motor cyclist. I can only plead that he is not quite as vacuous as he looks. He has got quite an awkward bit of steering ahead of him, but he is not at all frightened. More than that. In the face of the dexterous wriggle with which he intends to dodge an impending collision, he can spare the effort to notice that the lady in the sidecar is rather a scream. I really believe his motor cycle may yet make a man of him: possibly his rich and indulgent papa gave it to him with that very intent.

Let me conclude by meeting an inevitable objection to the eloquent defence I have put forward to answer the foul charge that we are nasty looking people. Some readers may have watched cinema films of the leading trials, and noticed agonised expressions on the faces of famous riders when a trials secretary has confronted them with a combination of (1) a narrow lane; (2) a grade of 1 in 2; (3) a watersplash; (4) oolitic mud two feet deep; (5) three baulked sidecars. I grant all this. I suggest that under these terrible conditions a motor cyclist, however mobile his features, looks no more frightful than an ordinary man does under a parallel test—the waiter who has spilt a plate of soup down the neck of a female royalty, the dancer who has trodden his best girl's skirt off her waist, the parson who has audibly uttered an unclerical word when he can't find the place in his prayer book. No. To judge our looks, we must be tested under normal conditions; and such a proviso is well met by selecting the Portsmouth Road on a Saturday afternoon, and preferably a fine Saturday afternoon in Spring.

IXION.



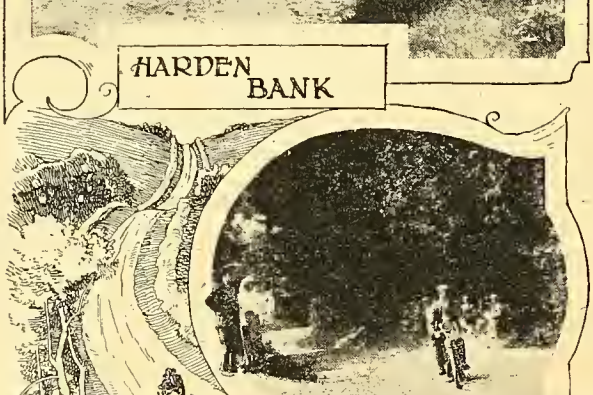
"He has no illusions left in this world, and he never had any about the next. . . . the stout man wearing goggles has an element of sourness in his composition."

The most Difficult Hill—and Why

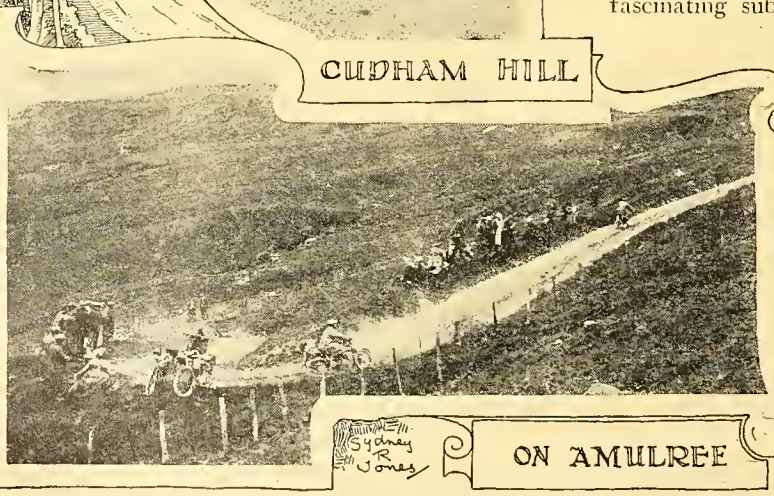
OPINIONS OF WELL-KNOWN COMPETITION RIDERS AS TO WHICH IS THE MOST DIFFICULT HILL ENCOUNTERED IN RECENT TRIALS.



HARDEN BANK



CUDHAM HILL



ON AMULREE

LET any reader who has followed recent trials through the pages of *The Motor Cycle* ask himself which is the most difficult hill to climb. Before reading further, let him pause and think which of the many notorious test hills stands out in his mind. (Remember that any hill on which one fails appears very much steeper than it really is.)

Is it the much-talked-of Park Rash in Yorkshire, the stiff and greasy Porlock in Somerset, the Devonshire terror—Lynton, the famous Applecross in Scotland, or Alt-y-Bady or Bwlch-y-Groes in Wales? Or is the hill which has been impressed upon the mind as the most difficult to trials competitors one which is less famous?

When Experts Disagree.

Even among the staff of *The Motor Cycle* who have seen—and sampled—most of them, opinion is not unanimous. Harden Bank, Porlock, Lynton, Alt-y-Bady, and Applecross are all regarded as first "favourites" (after all there *is* a fascination in conquering precipitous hills), and any attempt to bring opinion into line by argument has always failed because personal experience on all the hills discussed has not been enjoyed on one and the same machine. What may have been comparatively easy with one motor cycle might have been very difficult with another—the red clay of Porlock is like dough in wet weather—so it has not always been a problem determined by engine capacity.

It is indeed difficult to obtain a true census of opinion for the reason that few competition riders have tried them all. In order to test opinion on this fascinating subject, we recently invited a number of

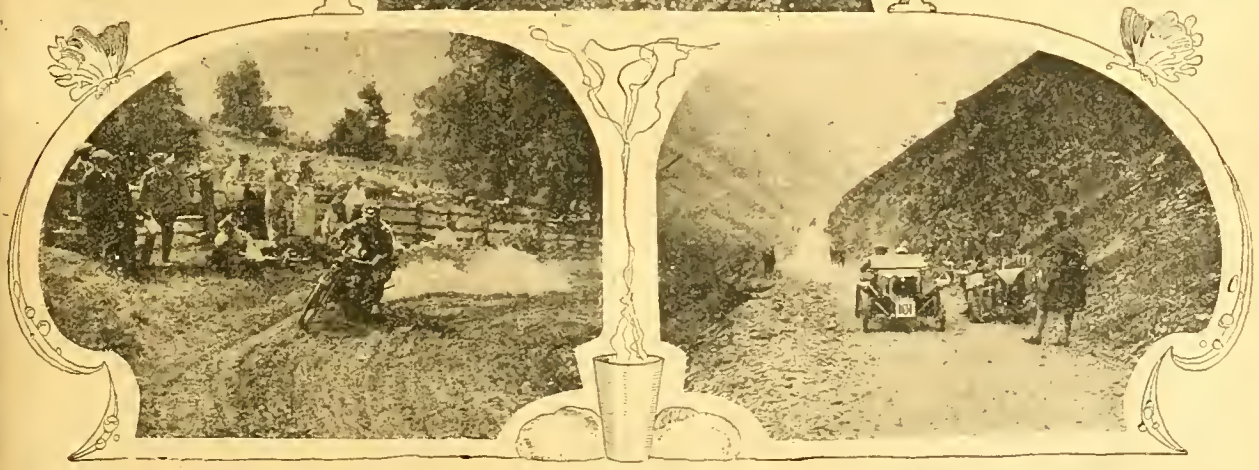
The Most Difficult Hill—and Why—

prominent trials riders to give their views. Exactly fifty-four were mentioned, and this is the scoreboard :

Alt-y-Bady, near Llangollen	13
Bwlch-y-Groes	8
Summer Lodge (1920 A.C.U. Six Days) ...	7
Park Rash	4
Applecross	4
Porlock	3
Harden Bank	2
Litton Slack	2
Glendoe, Amulree, Kenmore, Mam Rattachan, Urry's Pet (Harlech), White Shaw Moss, Beacon, Blea Tarn, Cudham Church, Aultnaharie, and Succombe Hill	1

Such a wide diversity of opinion is, to say the least, somewhat mysterious. When hills such as Kirkstone Pass, Rosedale Abbey Bank, Draycott (Mendips), Keighley Gate, Thwaites Brow, Rising Sun, and Abriachan are omitted altogether, and such a hill as Beacon in Worcestershire included, one immediately assumes that the rider who votes for the latter cannot know the severity of the others. It may therefore surprise the reader to know that Beacon Hill is considered the most difficult by the well-known trials rider, Albert Milner, who knows most of the hills included in recent Scottish and English Six Days Trials.





(LEFT) KENMORE HILL. (TOP) PARK RASH (RIGHT) BWLCH-Y-GROES.

"My pet bogey in the way of hills," he writes, "is the Beacon at Rednal, which most competitors find so easy; anyhow, it is the most difficult hill I have climbed, and my first attempt was with an old Humber single gear tricar some twelve years ago, and I never had so much experience in ninety minutes in all my life."

We venture the opinion that Milner must have come a cropper in one of the ruts on Beacon Hill, otherwise how can it be that he should forget his ascent on a Levis of Amulree and Abriachan in the 1914 Scottish Six Days?

One can quite understand the hill at Harlech, named Urry's Pet in last year's M.C. and A.C. Trial, being mentioned by only one rider, since, although it was included in an open trial, it has since been decided that it is a freak hill, and therefore outside the class under discussion. Probably a larger number would have mentioned this hill, had they not excluded all freak climbs from their minds. It is Capt. J. L. Stocks, the Ariel exponent, who votes Urry's Pet, the surface of which consists of large boulders and loose stones. It may be recalled that this hill caused the drivers of passenger machines to "go on strike," and it was afterwards "washed out."

Also among the single vote hills is Aultnaharie, in the 1919 Scottish Six Days. Vivian Olsson opines that it is the worst hill, because of its half-mile of 1 in 4, with large rocks in lieu of a proper surface. Starting from the loch side, there is no means of rushing the hill, and if one cannot climb it the only way to get out of Aultnaharie village is to take a boat over a wide loch to Ullapool.

W. F. Guiver, a most consistent medal gatherer since 1910, considers Cudham Church hill the most difficult, because of its approach by a narrow winding lane, followed by a steady climb, then two bad corners, and a final stretch of 1 in 4 to be taken with a hot engine.

The Matchless exponent, J. A. Hoult, thinks Blea Tarn the worst climb he has met with in trials, and he gives as his reason that the severe gradient and rough surface combined need all the skill one possessed in driving.

The well-known George Brough is another who votes for a hill not mentioned by anyone else. The Kenmore side of Amulree is his choice, "because," he says, "the sporting Scots always include it on the last lap of a six day trial which has been a daily succession of mountain tracks and river beds.

White Shaw Moss, too, receives but a single vote, and its sponsor is G. W. Wilkin, whose recent coast ride with one of his motor cycles is still fresh in the memory of our readers. White Shaw Moss was one of the hills in the Ilkley trial, and has a very severe gradient and an atrocious surface. And such a lot of gradient!

J. R. Alexander, of the famous Scottish motor cycling family, as was to be expected, votes for the Scotch hills he knows so well. "For sheer gradient," he says, "Glendoe is about the worst hill to climb; but another hill, which has not the gradient of Glendoe, is Amulree, and it is a much more difficult ascent for the inexperienced rider, owing to the hairpin bends and loose surface."

An airman-motor cyclist, H. R. Davies, whose terrestrial mount is an A.J.S., considers Mam Rattachan, in last year's Scottish Six Days, the most difficult hill he has encountered in open reliability trials. His reasons for instancing this hill are, in his own words : "(1.) Its extreme length, being between two or three miles long, and necessitating middle and low gear all the way, with very little cooling facilities, owing to its sheltered position. (2.) Its

The Most Difficult Hill—and Why—

sandy surface, which is decidedly treacherous, especially on the S bend about halfway up, where the road bends sharp to the right over a bridge."

There are not many hills which have been included in, and then washed out of, an A.C.U. Six Days Trial. Litton Slack, in Derbyshire, is one of the exceptions, and will long be remembered by some of the competitors in the Six Days of 1914. We admit we rather expected that it would have been mentioned by more than two of our fifty contributors—Jack Haslam (of Sheffield) and Harold Finch (of Coventry). Both these riders were on 3½ h.p. Premier sidecars in the 1914 Six Days, and the first-mentioned obtained a special award for his splendid performance. We, too, agree that there are very few worse hills to be found than Litton Slack, and it would be interesting to see how post-war motor cycles show up on its gradient. All the hill is visible from the bottom, therefore there are no awkward hairpins and surprises, but the gradient is so severe and the surface so loose as to cause bad wheel slip under the best conditions, while in the wet it is well-nigh unclimbable. In the 1914 A.C.U. Trial, the first dozen or so competitors delayed the rest of the entry for over an hour, when they were sent round by another route, and the hill was "washed out."

The Dreaded Porlock.

The veteran Harold Karslake—or, as he is known to his intimates, "Oily"—names Porlock Hill, the *test de résistance* in the London-Land's End Trial at Easter. Karslake has climbed the hill many times since his first ascent in 1906 (he omits the name of his mount), and still it stands out in his mind as the worst trials hill, because of its treacherous surface, varying from day to day, the high banks with deep gutters, and its first bend, which is "fatal" if taken too fast or too wide.

Porlock is also J. S. Bennett's worst hill. This rider of a Metro-Tyler views hills as a lightweight competitor, and, perhaps, is in a better position to draw comparisons than one with a 1,000 c.c. engine at his disposal.

Another hill mentioned by J. S. Bennett is Succombe Hill, Warlingham, which has a reputed gradient of 1 in 2½, with a right-angle bend at the top.

Dan Bradbury, the Sheffield rider of Nortons, also selects Porlock as the *pièce de résistance*, and, strange to say, is the only one of the fifty to refer to Lynton. In the confines of *The Motor Cycle* office he will find supporters, however. Bradbury, in fact, names five hills: Park Rash, Alt-y-Bady, Lynton, Porlock, and Bwlch-y-Groes.

Bwlch-y-Groes figures quite prominently; in fact, it comes second to Alt-y-Bady in the schedule given on the preceding page. It is a mountain pass which is very deceptive, and for this reason is a trap into which many fall on ascending it for the first time. Among those who have a special regard for this hill may be mentioned such leading men as Hugh Gibson, Victor Horsman, Alexander Lindsay, M.B., P. W. Moffatt, and Kaye Don.

A Test for Engines

Dr. Lindsay gives as his reason "because it looks dead easy. It is a test of scientific engine design rather than of cyclobatics and rear tyre adhesion." Victor Horsman reminds us that "there is so much of it"; while Kaye Don writes: "I consider the most difficult hill in open reliability trials is Bwlch-y-Groes, owing to the length and severe gradient, especially at the top."

P. W. Moffatt says: "It is the steepest long hill that I know, with a nice steadying hairpin at the bottom"; while Hugh Gibson considers it the finest test hill in the country. "It is simply a long grind," he writes. "If a representative batch of new stock machines could be taken from depots and run fifty miles and then up Bwlch-y-Groes, the percentage of failures would very likely exceed 90%."

Donald S. Parsons, the captain of the Essex Motor Club, also gives Bwlch-y-Groes pride of place, for reasons given in the words below: "The bottom has to be reached by very heavy going; the two hairpins at the foot are teasers. Then follows over a mile of hard collar work; the gradient appears easier, and the novice is tempted to allow his engine to run at a good speed, resulting in overheating and failure."

The P. and M. rider, P. O. Cunningham, also considers this long Welsh hill the worst hill in modern reliability trials.

Personally, we have found Bwlch-y-Groes only second to Applecross as a test for air-cooled engines, but memory regarding the latter appears to be short, and it is mentioned by only three of our fifty exponents. A. G. Fenn, who used to figure conspicuously on a B.S.A., but now with the Raleigh Co., votes for this long and trying grind. "The surface is poor," he says, "the corkscrews keep you busy, and you generally manage to strike it when behind time."

The veteran Quadrant rider, T. Silver, also cites Applecross as the most severe hill to climb; and this opinion is confirmed by Jesse Baker, the Scott rider from Wigan, who describes it as "about a couple of miles of serious single figure climbing, preceding two wickedly acute hairpins on 1 in 4 gradient at least. This, coming after a tiring climb, just puts the 'tin hat' on both man and machine."

Last Year's Six Days Hills.

Considering the "howl" raised by competitors during last year's Six Days, it is perhaps a little surprising that only four competition riders mentioned Park Rash. Frank Smith (of Clyno fame), H. Mortimer Batten, and E. F. Goodman (the Velocette rider) are among those who refer to Park Rash as "villainous," "an absolute terror," etc.; while F. J. Ellis, hon. secretary of the Woolwich, Plumstead, and District M.C., who frequently figures in the big trials on a Matchless, hesitates between Park Rash and Summer Lodge. The latter hill was probably the worst of last year's A.C.U. Six Days Trial, and is one of the trio of terrors, of which Park Rash is one and Harden Bank the third.

W. A. Fell Smith, now an ardent Rex rider, replied: "Without hesitation, Summer Lodge. I think it safe to say that this hill will never again be included in an open trial until such time that caterpillar tractors are standard."

D. A. Atkin, who competed on a Rover solo, also votes for Summer Lodge, as does Capt. R. Charlesworth, the Zenith rider. P. W. Bischoff gives a rather curious reason for his choice of Summer Lodge, concerning which he says: "The first mile kills the engine, the double hairpin bend is extremely difficult, the gradient is far more severe than it appears to be, and *an air pocket just below the final crest upsets carburation* at the critical moment."

R. W. Duke, of the Birmingham M.C.C., and G. J. Shemans, of Coventry, both experienced Triumph riders, regard Summer Lodge as their worst hill; while F. W. Applebee, who flies up Snaefell like a two-year-old, says, if it must be done, he has little preference between scaling Park Rash, Summer Lodge, and Harden Bank.

A Southern Hill.

In wet weather, the intrepid veteran cites Old Chalky as the worst of all. Ride you ever so wisely, the machine will most likely get on top of you.

Including F. W. Applebee, only three mentioned Harden Bank, which Mrs. O. M. Knowles, of Gissing Hall, Diss, considers the "toughest proposition"; while Norman Rycroft mentions that it is one of the few hills he knows which is little affected by weather conditions.

And now to Alt-y-Bady, the Llangollen terror, which in some trials has brought every sidecar to a standstill, and shattered the reputations of many "non-stop" soloists. Small wonder that it scored the largest number of votes.

What can one say about Alt-y-Bady, except that it is as steep as the roof of a house, very, very rough, and, in the words of more than one, "a holy terror." It is narrow, there are bends at the approach, there are deep gulleys, an uneven surface, rocks (plenty of them), and, owing to fields on either side, it is very slimy. Verily a sticky mixture!

J. A. Newman, a consistent Sunbeam rider, says: "You can never be *sure* of making a clean ascent, even the best rider on the best machine."

Frank Giles, of the A.J.S., claims that it calls for a high standard of individual driving skill. G. D. Hardee, the Greenwich Matchless rider, says its gradient and surface demand the greatest skill in holding any sort of machine on it. R. B. Clark, who usually rides a Coulson, says its characteristics make it "a real teaser."

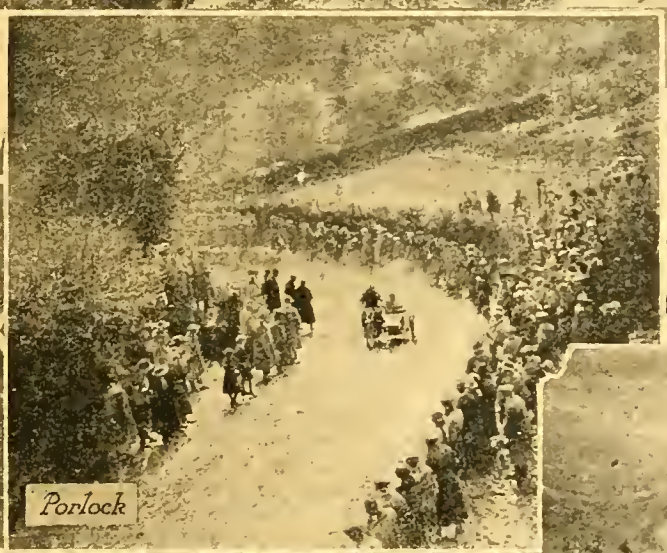
And the roll call supporting the Llangollen titbit includes such names as the Rev. J. M. Philpott, G. Packman, Leslie Guy, Gus Kuhn, J. Watson Bourne, S. W. Phillpot, W. H. Carson, J. E. Greenwood (the Sunbeam designer), and Bert Kershaw, which is in itself convincing. And so Alt-y-Bady wins the International comfortably for Wales.

DIFFICULT HILLS IN MODERN TRIALS.

Where Reputations have been Made and Lost.
Scenes of Many a Waterloo.


Mam Rattachan


Aultnaharie


Porlock


While Shaw Moss


Litton Slack


Alt-y-bady


Old Chalky

The FENLAND as a TOURING GROUND

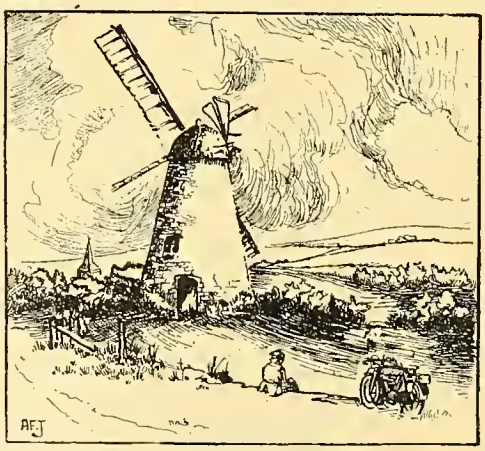


The Attractions of Big Boundaries and Vast Spaces.

A STRANGE weird land is the English Fen Country, especially under a brooding sky. It is land more foreign than any part of England under any weather condition, but on those days when a deep palpitating gloom gathers over those vast expanses, a strange mystery that baffles description seems to permeate everything around. A storm on a Welsh or Scottish pass is a magnificent spectacle, but there is nothing quite like the threatening shadows of a storm in the Fens. The mighty space of clouds and the leagues upon leagues of wild luxuriant greenery, and the ominous leaden glint of the waters together make the scene more impressive than can be observed elsewhere in Britain.

A Strange Attraction.

It may seem strange to open an article on the Fens by describing the beauties and mysteries of stormy weather, for storms are no more frequent there than in any other part of the East Coast—a coast notorious for its sunshine. But if one is fortunate enough (or unfortunate, according to one's nature and clothing) to experience a storm in this exposed district, one will not forget the experience. The odds, however, are greatly in favour of the touring motor cyclist not experiencing a storm, but to be blessed with sunshine—sunshine and air of such a quality not to be found anywhere except on the coast between the Humber and Cromer; air steeped with ozone of such tonic value that it makes the mountain breezes weak wine in comparison.



The Wolds, which are in strange contrast to Fen country.

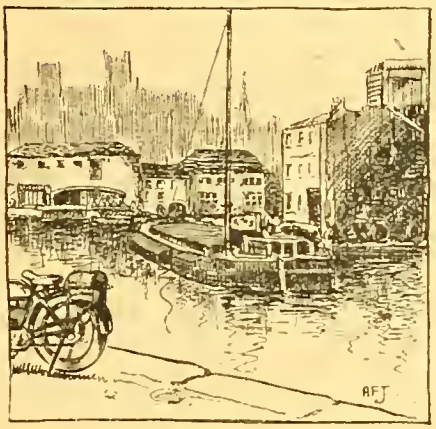
As a touring district, Lincolnshire is comparatively new ground. The motor cyclist who has not climbed the hills of Lincolnshire or traversed the great expanse, smiles at a suggested tour in the Fens, but he smiles in pitiful ignorance. I have motored in the Trossachs and along the glorious banks of Loch Lomond, in Yorkshire, Derbyshire, Wales, Sussex, Surrey, Warwickshire, and the Wye Valley, but, strange as it may seem to some, the most vivid remembrances are those of motor cycling in Lincolnshire.

Sunset Effects.

It is difficult to define the outstanding features of this part of England. When one journeys to Westmorland and North Wales, one goes expressly for mountain scenery or the lakes; Warwickshire for sylvan beauty and old world cottages; Sussex and Surrey for rolling downs and wooded races. All the beauty spots of the British Isles have their particular and definable attractions, but the great expressive fenland is beautiful in some subtle majestic way that simply cannot be analysed. Compare the deep charm of Hobbema's "Avenue of Middelharnis," with Leader's pretty Welsh or Thames pastorals. Both have their charms, but the old Dutch masterpiece—that magnificent study in perspective and spaciousness—compels and intrigues when the others are forgotten; and so with the Fens. Its skies are the finest in the world, and nowhere in the world, not even in the Pacific or in California, can one see more gorgeous sunsets. It is worth much to see a Fen sunset.

The Fenland as a Touring Ground.—

But the motor cyclist does not choose a touring ground because nature is prodigal in its sky colouring in that particular district—something of greater material value must induce him to break new ground. One does not care to waste precious days of a fortnight's holiday on experiments, although the adventurer in a new land must be prepared to take what is found. So one of the first things the practical motor cyclist will enquire about will be the road conditions, for bad roads may entirely spoil one's impression of a country. If attention is absorbed in dodging holes there will be few rhapsodies about the cerulean blue above. But the question of bad road surface need not bother him. There are long stretches on which he would have difficulty in finding a pot-hole. The run, for instance, from Nottingham *via* Newark, Sleaford, Tattershall, to the coast is a revelation after the corrugations on some of the Midland highways. He will find narrow little stretches, and stretches—just a few of them near the coast—of such aggravating sinuosity that one would imagine no one but a corkscrew designer could have planned them. Of course, one knows that the eternal dykes and soft ground were originally responsible for the "crooked ways"; but the speedman should be careful on his first visit, for the grand stretches that lead from all parts of West Lincolnshire to the marshes near the coast allow one to maintain a high speed. Perhaps he will suddenly find himself on a perfectly straight narrow bit of going. He may open out, only to find that the road ends not with a curve, as he expected, but with an acute hairpin bend with a deep dyke on each side, and if careless he would not be the first motor cyclist to cut through those luscious reeds and plunge into the black Fen water below.



One of the many quaint scenes to be found in the picturesque city of Lincoln.

Wold, Fen, and Marsh.

Roughly speaking, Lincolnshire may be divided into Wold, Fen, and Marsh, each district having its own distinctive characteristics. The Marsh is about seven or eight miles wide, running along the coast and noted for its fine cattle and purifying winds. In summer the wind is simply an appetite-generating zephyr, except on rare occasions. In the late autumn it can lay on your chest like a ton weight—not in gusts as in the mountains, but with one long, untiring, unyielding pressure. Yes, a cleansing wind, indeed, and one that can transform the flat into a 1-6 for miles on end. Then comes the Fen—flat, rich corn land once perpetually flooded; lands which are fat, lands which have made many fat purses. The third portion of the country—the Wolds—is of different character. These "backbones," reaching 500ft. in height, run north and south, and are in strange contrast to the rest of the country. They can provide pretty good fun, too, for the motor cyclist who has tired of the flats, further east.

Of the historic association one could write reams. Lincolnshire possesses one monument to the skilful engineers of ancient Rome in the old sea bank that modern engineers look on with profound respect even to-day. The Romans left their mark here—there is no doubt about that—and so did other invaders. The Humber and the Wash were such useful places to land marauding parties. It could not have been a very peaceful picnicking sort of existence before Julius Cæsar decided to colonise the place, and it certainly was not peaceful after the good people of those days decided to leave us to ourselves. But history will keep; one does not want history on a short motor cycling holiday—modern hotels and accommodation are subjects much more in keeping. It is with a certain sense of diffidence that I suggest how to see the Fens and Wolds. Some may decide on a "flying visit"—others may dip more deeply into the country whilst journeying to other fields and pastures.

Everyone knows Grantham on the Great North Road (the "Angel" is a good hotel there, very ancient, very picturesque). This old-world town is a good place from which to branch into the Fens from the South or the Midlands—or Stamford would do as well. From the former place one may journey towards Sleaford and Boston through a district richer in fine churches than any part of England. Sleaford behind, the Fens proper are entered, and soon Boston Stump will loom in the distance—a dominant and graceful landmark, crowning a picturesque, and probably more distinctive, town than any other of its size in England.

St. Botolph's has been likened unto the Campanile of Venice, and quite an apt parallel too. For Boston Steeple was certainly a Queen of Waters before the Fens were drained. Boston is a town whose history is like old wine, full bodied and rich. The history of some "historic" towns is musty and flat, and never creates thrills, but not so the past of this ancient seaport.

Skegness—and a Contrast.

Do not attempt to reach the sea from this town, although it is quite close—journey instead on to Skegness. It is a winding road—there is no denying that; but it runs through a quaint and interesting country.

Skegness, as a seaside resort, may not attract you: it is not a second Blackpool by any means, but it has fine sands, one or two good hotels, golf links, and it is "so bracing." "Long low dunes and lazy plunging sea: a coast of league-long rollers," as Tennyson says of this shore, and true it is indeed. Tennyson knew this part, for his birthplace is near-by.

To gain an adequate impression of the varied style of landscape in this country, take the road to Spilsby, Revesby, Coningsby, to Tattershall. There the shell of an old castle remains, a brick built structure rising majestically from the flats. Tales to tell there are of these parts, and even the most prosaic motor cyclist must, on occasions, have his interests stirred when the old tales of the country are told—tales of murders on the highways; of the days when the great lighthouse,

The Fenland as a Touring Ground.—

Dunstan Pillar, was erected on Lincoln cliff to guide travellers over the vast fens and marshes; of the weird legends that abound; the folk-songs, the strange belief in witchcraft that exists in some parts to this day; of the ghost haunted roads, and a score of other mediæval tales and beliefs.

From Tattershall, make your way to Horncastle unless you want to see the "Dutch" village of Billinghay and its mills and dykes, which appear to have been transplanted directly from Holland. It is about two miles or so from Tattershall, on the Sleaford Road, and is well worth a visit.

The Hills of Lincolnshire.

The journey from Tattershall *via* Coningsby to Horncastle should be continued on to Louth. It is along this road that one first tastes of the hills of Lincolnshire. From a 300ft. elevation just before the town is entered, one confronts a magnificent panorama; the country from the Humber and across the ten miles to the sea lies unrolled before you, a scene of shifting lights and shades and colour.

It is not a country to race through, and, as one switchbacks across the Wolds to Market Rasen, if a halt be made in one of the many villages, a good deal of unconscious humour may be heard among the older Lincolnshire peasants. Last time I was in the county, I heard the following story—though attributed to a Fen man, it may have had its origin elsewhere.

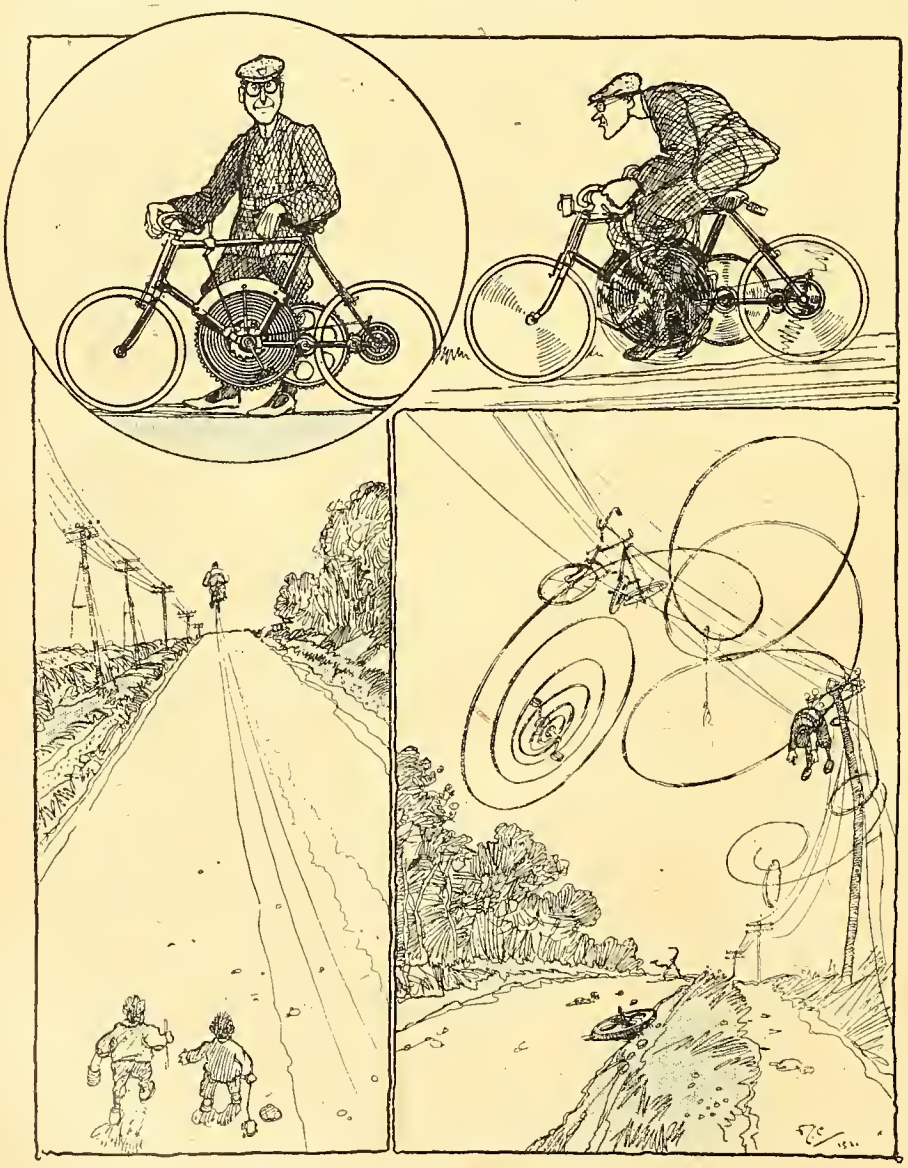
A small farmer was asked how he had cured his cow that had been ill, and this was his reply. "I got haafe a pound o' sulphur and mixed it wi' warm watter, and bottled it into her," he said with a broad smile. "Eh! it's a fine thing, I reckon," he went on, "is sulphur, for owt that's badly, cow or pig, or the missis or anythink." Other stories come to mind of Fen men, but not having the necessary motor cycle flavour, this one had better stand alone. So onwards from Market Rasen to Lincoln City, taking any of the roads that happen to be handy, for the surfaces of all are good.

A Suggestion.

A powerful outfit is not necessary either to tour the district, and great pleasure could be obtained even with a two-stroke sidecar—in the summer. A really fine tour from London would be to cover the best of the Broadlands, then on to the Fens of Lincolnshire. From Lincoln, one could touch Robin Hood's and Little John's country (the Dukeries of Nottinghamshire), and pass on from there to Derbyshire and back through Nottingham on to Grantham and the Great North Road again. What a contrast in types of scenery this run would embrace! and good roads too, with the exception of the journey from Matlock to Derby.

But it is the Fens that I would mark as a district to see. One may have visited every part of the British Isles; may have indeed purposely avoided the Fens; but one does not know England unless one has passed through this foreign looking, dignified county, that fascinates in some strange and unaccountable way—this county of deep luscious shadows, mysterious lighting effects, and vast spaces—swept by an air borne from the grey North Sea.

FRIAR JOHN.



SOME SPRING.
A helical tragedy in four acts

THE MOTOR CYCLE BUYERS' GUIDE OF 1921 MODELS

SPECIFICATIONS (ALPHABETICALLY ARRANGED) AND ILLUSTRATIONS OF MOTOR CYCLES AT PRESENT ON THE BRITISH MARKET.

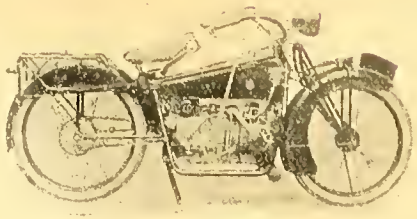
THIS Guide, first published in 1906, has become a regular and popular feature of "The Motor Cycle." The possession of this issue will enable readers to make a close study of the various motor cycles now available. A straight edge or a piece of folded paper renders the line more easy to follow. In the case of lightweights made in various forms, the prices given are for two-speed models with clutch and kick-starter where such models are included in the respective ranges. All information has been supplied by the makers, and every effort has been made to avoid inaccuracies, but we cannot be held responsible for any errors which may have occurred.

KEY TO ABBREVIATIONS.

Valves: S.S., side by side; O.H., both overhead; I. over E., inlet over exhaust; E. over I., exhaust over inlet. Lubrication: Auto., automatic. Mech.: Mechanical. Transmission: Ch., chain; B., belt. Engines: T.S., two-stroke; F., twin, flat twin. Where no type is indicated: Single-cylinder four-stroke.

Name of Machine and Model.	H.P., Name, and Type of Engine.	C.C.	Bore and Stroke.	Valves.	Lubrication.	Change Speed.	Transmission.	Size of Tyres.	Weight Unladen, lb.	Carburetter.	Price. Solo.	Price. With S/car.	Remarks.
A.B.C.	3 A.B.C., F twin	398	69×54	O.H.	Drip	A.B.C. 4, K.S.	Chain	26×2½	230	Claudel Hobson	£120 0	£158 0	—
Abingdon King Dick	3½ King Dick	499	85×88	S.S.	Splash	3-speed, K.S.	½" ch. & 1" B.	26×2¼	262	Amac 2-lever	£120 0	£151 6	Single-speed, £90.
Abingdon King Dick	6-7 K. Dick, V twin	795	73×95	S.S.	Splash	3-speed. K.S.	½" ch. & 1" B.	26×2½	282	Amac 2-lever	£150 0	£188 15	—
Ace	10 Ace, 4-cyl.	1229	68.6×82.5	I. over E.	Mech.	3-speed, K.S.	½" chain	27×3½	360	Schebler 1-lever	£210 0	—	Electric light, £25.
Acme	8 Jap, V twin	976	85.5×85	S.S.	Auto.	3-speed, K.S.	½" ch. & 1" B.	28×3	310	Acme 2-lever	—	£213 15*	Magdyno, £24.

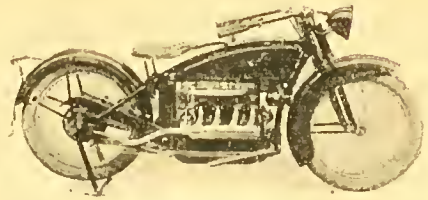
*Acme, including spare wheel; smaller model, with 5-6 h.p. Jap engine, £210 18s.



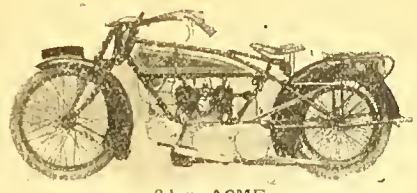
3 h.p. A.B.C.



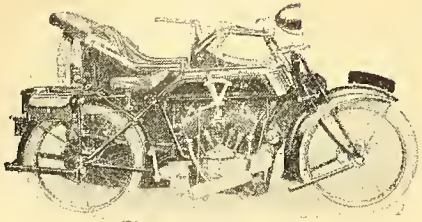
3½ h.p. ABINGDON KING DICK



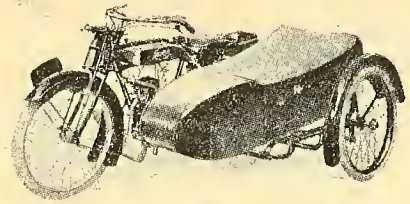
10 h.p. A.C.E



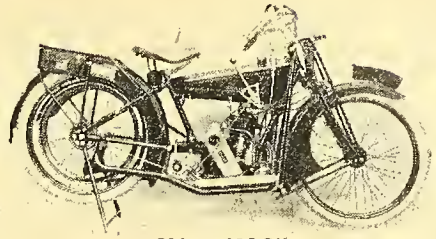
8 h.p. ACME.



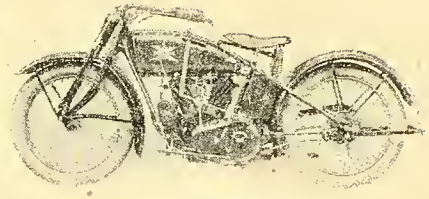
7 h.p. A.J.S.



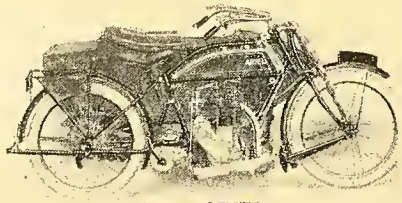
3½ h.p. ALECTO.



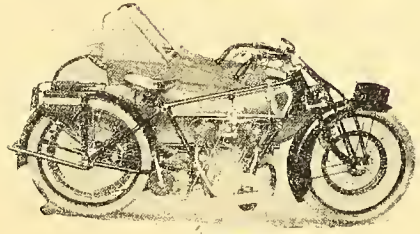
2¾ h.p. ALLON.



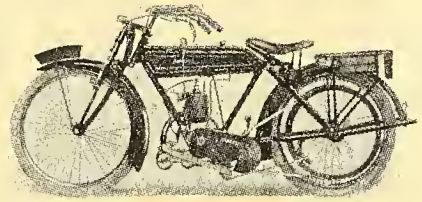
7-9 h.p. AMERICAN X.



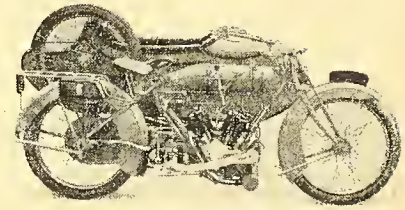
4½ h.p. ARIEL.



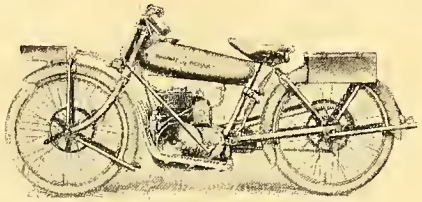
5-6 h.p. ARMIS.



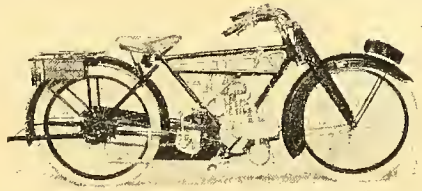
2½ h.p. BANSHEE.



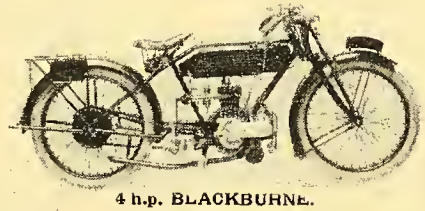
8 h.p. BAT.



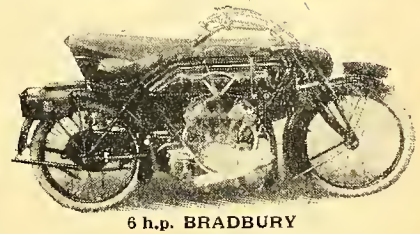
3½ h.p. BEARDMORE-PRECISION.



¾ h.p. BEAUMONT.



4 h.p. BLACKBURNE.



6 h.p. BRADBURY

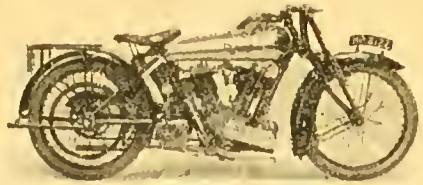
Machine.	*Engine and h.p.*	*c.c.*	*Bore. Stroke.*	*Valves.*	*Lub'tion.*	*Change Speed.*	*Transmission.*	*Tyres.*	*lb.*	*Carburetter.*	*Solo.*	*Sidecar.*	*Remarks.*
A.J.S.	7 A.J.S., V twin	799	74×93	S.S.	Drip	A.J.S. 3, K.S.	⅜″ chains	700×80	304	Amac	—	£210 0	—
A.J.S.	2¾ A.J.S.	—	74×81	S.S.	Drip	A.J.S. 3, K.S.	½″ chains	26×2½	—	Amac	—	—	—
Alecto	3½ Alecto, T.S.	345	76×76	—	Drip	Burman 2, K.S.	5/16″ ch. & ¾″ B.	26×2¼	189	Amac 2-lever	£87 10	£125 0	Single-speed, £75.
Alldays Allon	2¾ Allon, T.S.	292	70×76	—	Auto.	Alldays 2, K.S.	5/16″ ch. & ¾″ B.	26×2¼	194	Any	£80 15	£105 15	—
American X	7-9 X., V twin	999.5	84.5×88.9	I. over E.	Mech.	X. 3, K.S.	⅜″ chains	27×3½	360	Schebler	£173 5	—	Electric light, £21.
Ariel	3½ Ariel	498	86.4×85	S.S.	Drip	Ariel 3, K.S.	¼″ ch. & 1″ B.	26×2⅜	259	B. & B. 2-lever	£120 0*	£157 10*	—
Ariel	4½ Ariel	586	86.4×100	S.S.	Drip	Ariel 3, K.S.	½″ chains	28×3	319	B. & B. 2-lever	£135 0†	£177 10†	—
Armis	5 Jap, V twin	654	70×85	S.S.	Mech.	Burman 3, K.S.	⅜″ ch. & 1″ B.	26×2½	250	Atmos 1-lever	£135 0	£165 0	—
Armis	3½ Precision, T.S.	350	74×81	—	Drip	Burman 2, K.S.	½″ ch. & ¾″ B.	26×2¼	185	Atmos 1-lever	£85 0	£115 0	2¾ Jap, £85.
Banshee	2½ Villiers, T.S.	269	70×70	—	Drip	Albion 2, K.S.	5/16″ ch. & ¾″ B.	26×2¼	180	B. & B. 2-lever	£57 0	—	Single-speed, £45.
Bat	6 Jap, V twin	770	76×85	S.S.	Drip	Sturmey 3, K.S.	⅜″ chains	28×3	325	Amac 2-lever	£165 0	£200 0*	Magdyno, £25.
Bat	4 Jap, V twin	496	64.5×70	S.S.	Drip	Sturmey 3, K.S.	⅜″ chains	26×2½	198	Amac 2-lever	£125 0	—	—
Beardmore-Precision	3½ Precision, T.S.	350	74×81	—	Mech.	Precision 2, K.S.	½″ chains	26×2¼	250	Amac 2-lever	£105 0	£140 0	Zenith 1-lever carburetter optional.
Beaumont	2¾ Blackburne	348	71×88	S.S.	Drip	Sturmey 2, K.S.	5/16″ ch. & ¾″ B.	26×2¼	193	Any	£99 15	—	—
Beaumont	2¾ Wall, T.S.	269	70×70	—	Drip	Roc 2	5/16″ ch. & ¾″ B.	26×2¼	165	Any	£68 5	—	Single-sp., £54 12s.
Blackburne	4 Blackburne	499	85×88	S.S.	Drip	3-speed, K.S.	⅜″ chains	28×3	250	Any	£135 0	—	—
Blackburne	8 Blackburne, V twin	998	85×88	S.S.	Drip	3-speed, K.S.	⅜″ chains	28×3	330	Any	£180 0	£240 0*	Including spare wh.
Bradbury	2¾ Bradbury	349	74.5×80	S.S.	Drip	Bradbury 2, K.S.	5/16″ ch. & ¾″ B.	26×2¼	182	B. & B. 2-lever	£95 0	—	Single-speed, £80.
Bradbury	4 Bradbury	554	89×89	S.S.	Drip	Bradbury 3, K.S.	½″ chains	26×2⅜	280	B. & B. 2-lever	£121 12	—	—
Bradbury	6 Bradbury, V twin	749.7	74.5×86	S.S.	Drip	Bradbury 3, K.S.	⅜″ chains	650×65	325	B. & B. 2-lever	£147 5	—	—

*Ariel, with 6-7 h.p. twin engine and 26×2½ tyres, £140 solo, £177 10s. sidecar; †with 6-7 h.p. engine £155 solo, £197 10s. sidecar. *Bat, interchangeable wheels, 8 h.p. engine, no extra charge. *Blackburne, including spare wheel.

Machine.	Engine and h.p.	c.c.	Bore. Stroke.	Valves.	Lub'tion	Change Speed.	Transmission.	Tyres.	lb.	Carburetter.	Solo.	Sidecar.	Remarks.
British Standard ...	2½, T.S.	269	70×70	—	Drip	Burman 2, K.S.	½" ch. & ¾" B.	26×2½	165	Amac 2-lever .	£64 0*	£95 0	Single-speed, £53.
Brough Superior	8 Jap, V twin	986	90×77.5	O.H.	Hand	Sturmey 3, K.S.	⅞" chains	700×80	285	Amac 2-lever .	£175 0*	£210 0	—
Brough	5-6 Brough, F. twin	680	70×90	S.S.	Drip	Sturmey 3, K.S.	¾" chains	650×65	260	Amac 2-lever .	£140 0	£180 0	—
Brough	3½ Brough, F. twin.	496	70×64.5	O.H.	Drip	Sturmey 3, K.S.	½" chains	26×2⅜	220	Amac 2-lever .	£130 0	—	—
B.S.A.	4½ B.S.A.	557	85×98	S.S.	Drip	B.S.A. 3, K.S.	⅜" ch. & 1" B.	26×2½	255	B.S.A. 2-lever	£107 0	£149 0	All-chain, £3 extra.
B.S.A.	6-7 B.S.A., V twin .	770	76×85	S.S.	Mech.	B.S.A. 3, K.S.	⅞" chains	28×3	350	B.S.A. 2-lever	£150 0	£198 0	Interchangeable wh.
Calthorpe	2¾ Jap	292	70×76	S.S.	Drip	Enfield 2	3/16" ch. & ⅞" B	26×2¼	150	Amac 2-lever .	£73 10*	—	—
Campion	8 Jap, V twin*	976	85.5×85	S.S.	Drip	Sturmey 3, K.S.	⅞" chains	28×3	315	B. & B. 2-lever	—	—	Also 5-6 h.p. model.
Campion	2¾ Jap single†	293	70×76	S.S.	Drip	Sturmey 2, K.S.	3/16" ch. & ¾" B	26×2½	170	B. & B. 2-lever	—	—	Also 4 h.p. Jap mod.
Carfield	2½ Villiers, 2	269	70×70	—	Drip	Albion 2, K.S. .	3/16" ch. & ¾" B.	26×2¼	180	Amac 2-lever .	£72 0*	—	Single-speed, £56.
Cedos	2½ Cedos, T.S.	211	62×70	—	Drip	Cedos 2, K.S. ..	½" ch. & ¾" B	26×2½	138	Cedos 2-lever .	£65 2	—	Lady's mod., £67 4s.
Cedos	2¾ Cedos, T.S.	219	65×70	—	Drip	Cedos 2, K.S. ..	½" ch. & ¾" B.	26×2½	147	Cedos 2-lever .	£74 11	—	K.S., £79 16s.*
Chater-Lea	2½ Chater, T.S. ...	269	70×70	—	Drip	Chater 2	½" ch. & ¾" B.	26×2	154	Amac 2-lever .	—	—	—
Chater-Lea No. 7 ...	8 Chater, V twin ..	976	85.5×85	S.S.	Drip	Chater 3, K.S. .	⅞" chains ...	700×80	310	Amac 2-lever .	—	—	Interchangeable wh.
Cleveland (U.S.A.) ..	3 Cleveland, T.S. ..	266	69.9×69.9	—	Petroil	Cleveland 2, K.S.	Shaft & 5/16" ch	26×3	175	Schebler 1-lever	£80 0	—	—
Clyno	2½ Clyno, T.S.	269	70×70	—	Petroil	Clyno 2*	½" belt	26×2	148	Senspray 2-lev.	£75 0	—	—
Clyno	8 Clyno, V twin ...	925	76×102	S.S.	Mech.	Clyno 3, K.S. ..	⅞" chains	28×3	300	Amac 2-lever .	—	£250 0	Spring frame
Connaught	2½ Connaught, T.S.	293	73×70	—	Petroil	Sturmey 2, K.S.	3/16" ch. & ¾" B.	26×2½	180	Any	£80 0*	£100 0	Single-speed, £65.

*British Standard, with Blackburne engine, £85; larger model, 4 h.p. engine, 3-speed, £118. *Brough Superior, equipped with lamps, horn, and aluminium number-plates.
*Calthorpe, with Peco engine, £68 5s.; sidecar outfit, with Maglita, £115 10s. *Campion, specification includes interchangeable wheels; †also with Villiers engine;
*Carfield, with 2¾ h.p. Blackburne engine, £90; with Coventry Victor flat twin engine, £145. *Cedos, lady's model, with clutch and K.S., £81 18s. solo; £105 sidecar.
*Clyno, unit construction, with clutch. *Connaught Miniature, with plain 2-speed and 24in. wheels, £70; single-speed miniature, £55.

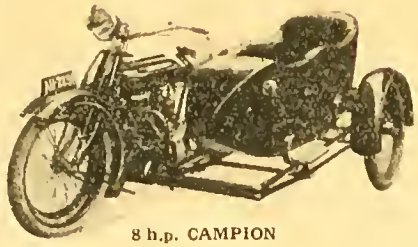

2½ h.p. BRITISH STANDARD.

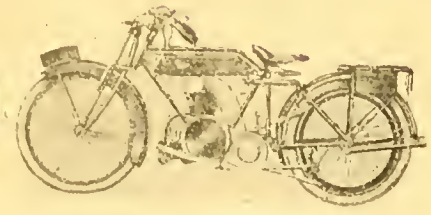

8 h.p. BROUGH SUPERIOR

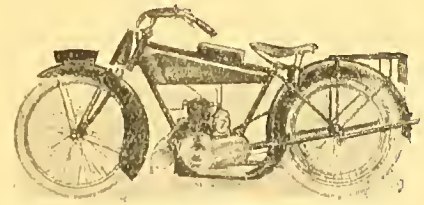

3½ h.p. BROUGH.

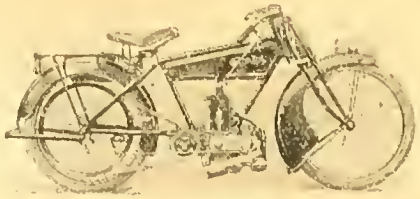

6 h.p. B.S.A.


2¾ h.p. CALTHORPE.

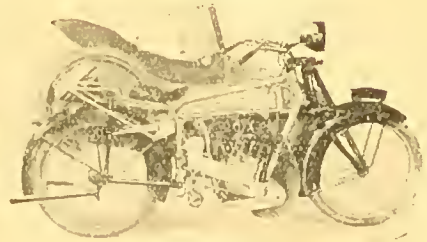

8 h.p. CAMPION

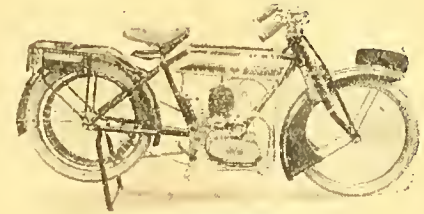

2¾ h.p. CARFIELD.

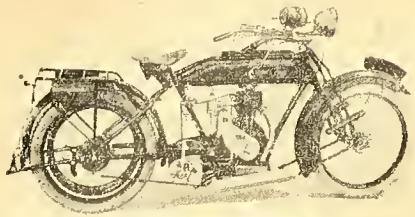

2½ h.p. CEDOS.


2½ h.p. CHATER-LEA.

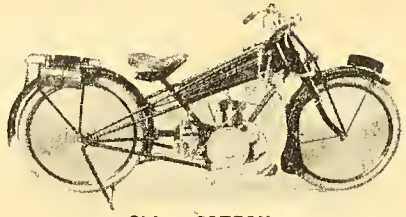

3 h.p. CLEVELAND.


8 h.p. CLYNO.

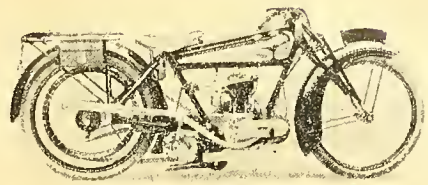

2½ h.p. CONNAUGHT.



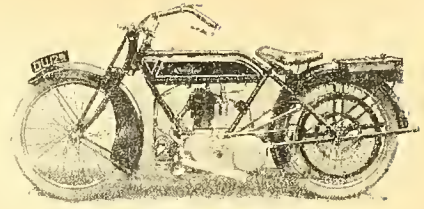
4 h.p. CORONA JUNIOR.



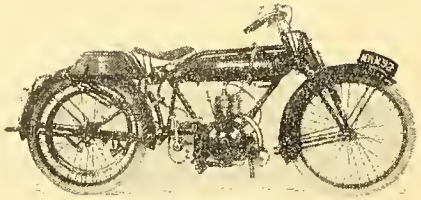
2½ h.p. COTTON.



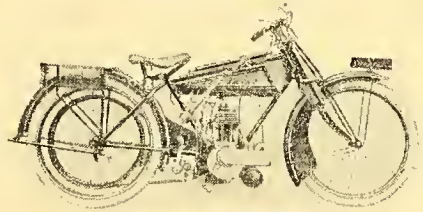
4 h.p. COULSON-B.



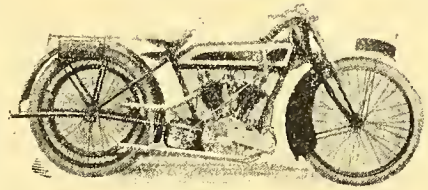
3½ h.p. COVENTRY EAGLE.



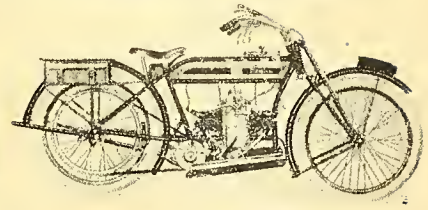
2½ h.p. DEFY-ALL.



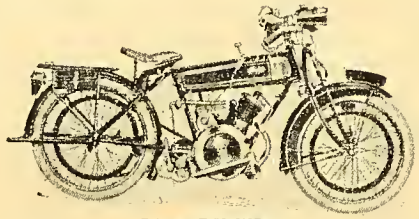
2¾ h.p. DIAMOND.



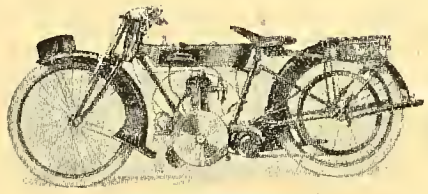
3½ h.p. DOT.



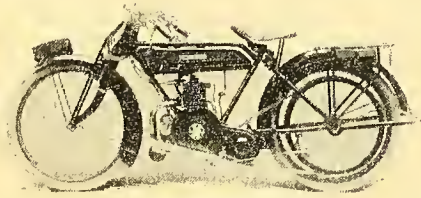
2¾ h.p. DOUGLAS.



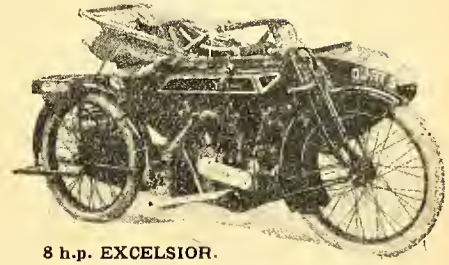
5 h.p. DUNELT.



2¾ h.p. EDMUND.



2¾ h.p. ENDURANCE.



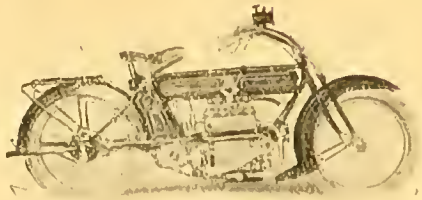
8 h.p. EXCELSIOR.

Machine.	*Engine and h.p.*	*c.c.*	*Bore. Stroke.*	*Valves.*	*Lub'tion*	*Change Speed.*	*Transmission.*	*Tyres.*	*lb.*	*Carburetter.*	*Solo.*	*Sidecar.*	*Remarks.*
Corona Junior	4 Corona	450	72×110	S.S.	Mech.	3-speed, K.S.	⅜″ ch. & 1″ B.	26×2½	224	Any	£100 0*	£135 0	Single-speed, £80.
Cotton	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	163	Amac 2-lever	£76 18*	—	Single-speed, £63.
Coulson-B.	4 Blackburne	499	85×88	S.S.	Drip	Sturmey 3, K.S.	1″ ch. & 1″ B.	26×2½	198	Flexi. or Amac	£126 0*	£165 0	Spring frame.
Coventry Eagle	2½ Villiers, T.S.	269	70×70	—	Hand	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	186	Amac 2-lever	£78 0*	—	Singfe-speed. £65.
Coventry Eagle	3½ King Dick	499	85×88	S.S.	Hand	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	26×2½	250	B. & B. 2-lever	£112 0	£139 0	——
Coventry Eagle	5-6 Jap, V twin	680	70×88	S.S.	Hand	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	26×2½	260	B. & B. 2-lever	£140 0	£180 0	——
Defy-all	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	—	Amac 2-lever	—	—	Spring frame.
Diamond	2½ Villiers, T.S.	269	70×70	—	Drip	Enfield 2	3/16″ ch. & ¾″ B.	26×2¼	156	Amac 2-lever	£76 13*	—	——
Diamond	2¾ Jap	293	70×76	S.S.	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	160	Amac 2-lever	£89 5†	—	——
Dot	8 Jap, V twin	976	85.5×85	S.S.	Drip	Sturmey 3, K.S.	⅜″ chains	28×3	550*	Amac 2-lever	£165 0	£200 0	Also 3½ h.p. twin.
Dot	3½ Jap, V twin	499	70×64.5	S.S.	Drip	Albion 2, K.S.	¼″ ch. & ⅞″ B.	26×2¼	197*	Amac 2-lever	£120 0†	—	——
Douglas	2¾ Douglas, F. twin	349	61×60	S.S.	Drip	Douglas 2	¼″ ch. & ¾″ B.	26×2¼	175	Amac 2-lever	£85 0	—	3-speed, K.S., £105.
Douglas	3½ Douglas, F. twin	499	68×68	O.H.	Mech.	Douglas 3, K.S.	½″ chains	650×65	236	Amac 2-lever	£150 0	—	Also 2¾ model, £130.
Douglas	4 Douglas, F. twin.	595	74.5×68	S.S.	Mech.	Douglas 3, K.S.	¼″ ch. & ⅞″ B.	26×2⅜	252	Amac 2-lever	£130 0	£170 0	——
Dunelt	5 Dunelt, T.S.	499	85×88	—	Drip	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	26×2½	290	Amac 2-lever.	£115 0	£150 0*	——
Edmund	2¾ Jap	292	70×76	S.S.	Drip	Burman 2, K.S.	¼″ ch. & ¾″ B.	26×2¼	196	Amac 2-lever	£95 0*	—	——
Endurance	2¾, T.S.	259	68×72	—	Drip	Burman 2, K.S.	¼″ ch. & ¾″ B.	26×2¼	175	Amac 2-lever	£80 0*	—	——
Excelsior	8 Jap, V twin*	976	85.5×85	S.S.	Drip	Burman 3, K.S.	⅜″ chains	28×3	328	Amac 2-lever	£154 0	£195 0	Interchangeable wh.
Excelsior	4½ Excelsior	650	86×112	S.S.	Drip	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	650×65	284	Amac 2-lever	£119 0	£152 0	——
Excelsior	2¾ Blackburne	348	71×88	S.S.	Drip	Sturmey 2, K.S.	⅜″ ch. & ¾″ B.	26×2¼	193	Amac 2-lever	£95 0†	—	2½ h.p., T.S.. £73 8s.

*Corona, plain 2-speed, £89. *Cotton, plain 2-speed, £71 8s.; 2¾ h.p. Blackburne, K.S., £97 8s.; plain 2-speed, £92 8s. *Coulson, 2¾ h.p. Blackburne engine, £117 12s.; plain 2-speed, K.S., £100 6s. *Coventry Eagle, with 2¾ Jap engine, £85. *Diamond, single-gear, £60 18s.; Sturmey gear and K.S., £81 18s.; plain 2-speed, £76 13s.; †with Enfield gear, £84. *Dot weight includes sidecar; †also 2¾ h.p. sports model with o.h.v. V twin engine £130, and 2¾ h.p. single £89 5s. *Dunelt, interchangeable wheels; price includes spare wheel; electric lighting set £10 extra. *Edmund plain 2-speed, £85; with 2¾ h.p. Blackburne engine, £105. *Endurance, plain 2-speed, £75; single-speed, £65. *Excelsior, with 8 h.p. Blackburne engine, at same prices; 6 h.p. Jap, £125 and £160; †Excelsior single gear, £49 10s.

Machine.	Engine and h.p.	c.c.	Bore. Stroke.	Valves.	Lub'tion.	Change Speed.	Transmission.	Tyres.	lb.	Carburetter.	Solo.	Sidecar.	Remarks.
F.N.	2½ F.N.	285	65×86	S.S.	Drip	F.N. 2, K.S.	Shaft	26×2¼	180	Amac 2-lever	£94 10	—	Plain 2-speed, £84.
F.N.	7 F.N.	748	52×88	S.S.	Auto.	F.N. 3, K.S.	Shaft	26×3	280	Amac 2-lever	£160 0	£205 0*	—
Francis-Barnett	2¾ Jap	292	70×76	S.S.	Hand	Sturmey 2, K.S.	3/16″ ch. & ¾″ B	26×2¼	188	B. & B. 2-lever	£89 5	—	—
Francis-Barnett	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	174	B. & B. 2-lever	£81 18	—	Single-speed, £69 6s.
Gough	2¾ Jap	292	70×76	S.S.	Hand	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	156	Amac 2-lever	£83 0*	—	—
Gough	4 Blackburne	499	85×88	S.S.	Hand	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	26×3	235	Amac 2-lever	£120 0	£155 0	—
Hoskison	2¾ Blackburne	349	75×88	S.S.	Mech.	Burman 2, K.S.	1″ ch. & ¾″ B.	26×2⅜	187	B. & B. 2-lever	£98 14	—	—
Hoskison	4 Blackburne	499	85×88	S.S.	Mech.	Burman 2, K.S.	1″ ch. & ¾″ B.	26×2⅜	175	B. & B. 2-lever	£95 0	£125 0	—
Harley-Davidson	7-9 H.-D., V twin	988	84.1×88.9	I. over E.	Mech.	H.-D. 3, K.S.	⅝″ chains	28×3	300	Schebler	£196 0	£245 0*	—
Harley-Davidson	4 H.-D., F. twin	584	69.8×76.2	S.S.	Mech.	H.-D. 3, K.S.	Gear & ⅜″ ch.	26×3	250	Schebler	£164 10	—	Including equipm't.
Hazlewood	6 Jap, V twin	700	70×90	S.S.	Drip	Hazlew'd 3, K.S	⅜″ chains	650×65	301	B. & B. 2-lever	£170 0	£196 0*	Ch.-cum-belt £10 less
H.B.	2¾ Blackburne	349	71×88	S.S.	Hand	Burman 2, K.S.	¼″ ch. & ¾″ B.	26×2½	199	Amac 2-lever	£99 15	—	—
H.B.	4 Blackburne	499	85×88	S.S.	Hand	Burman 3, K.S.	⅜″ ch. & 1″ B.	26×3	238	Amac 2-lever	£126 0	—	—
Henderson (U.S.A.)	10 4-cyl.	1301	68.3×89	S.S.	Mech.	3-speed, K.S.	⅜″ chains	27×3½	380	Zenith	£210 0*	—	—
Henley	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	165	Amac 2-lever	£68 5*	—	—
Henley	4 Blackburne	499	85×88	S.S.	Drip	Sturmey 3, K.S.	¾″ ch. & 1″ B.	650×65	230	Amac 2-lever	£126 0	£152 5*	—
H.J.	2½ Wall, T.S.	269	70×70	—	Drip	2-speed, K.S.	1″ ch. & ¾″ B.	26×2½	150	Amac 2-lever	£60 0	—	—
Hobart	2¼ Villiers, T.S.	269	70×70	—	Petroil	Sturmey 2, K.S.	¼″ ch. & ¾″ B.	26×2	165	Amac 2-lever	£70 0*	—	—
Humber	4½ flat twin	609	75×68	—	Mech.	Humber 3, K.S.	¼″ chains	26×2½	275	Claudel-Hobs'n	£140 0	£173 13	—

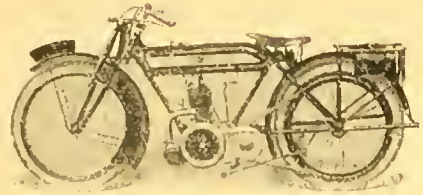
*F.N. includes hood and screen. *Gough single-speed, £75; Villiers engined 2-speed, as Jap model, £68; single geared, £80. *Harley-Davidson, complete with gas lamps, horn, speedometer, etc.; electrical model, £3 10s. extra. *Hazlewood 8 h.p. model, chain-cum-belt, £200, and all-chain £210. *Henderson, reverse, £10 extra; electric lighting, £25. *Henley, single-speed, £52; plain 2-speed, £60 18s.; Jap model, 2-speed and K.S., £87 13s.; Henley 5-6 h.p. Jap model, £136 10s. solo, £168 sidecar. *Hobart, plain 2-speed, £62 10s.; single-speed, £52 10s.; Jap engined models, £89 10s., 2 speed and K.S.; £6 extra for spring frame on all models.



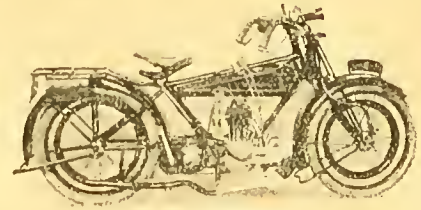
7 h.p. F.N.



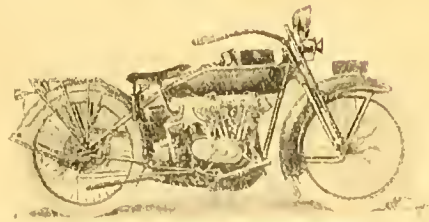
2¾ h.p. FRANCIS-BARNETT.



2½ h.p. GOUGH.



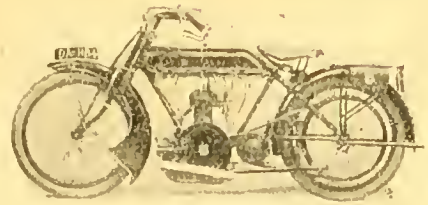
4 h.p. HOSKISON.



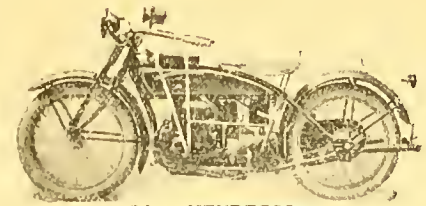
7-9 h.p. HARLEY-DAVIDSON.



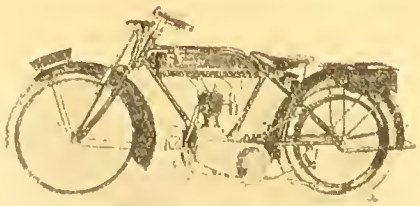
8 h.p. HAZLEWOOD.



2¾ h.p. H.B.



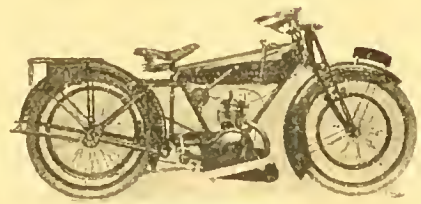
10 h.p. HENDERSON



2¾ h.p. HENLEY-J.A.P.



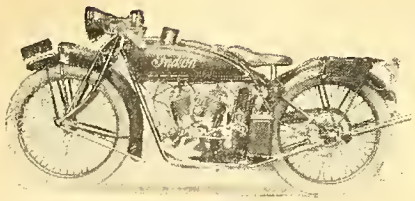
2½ h.p. H J.

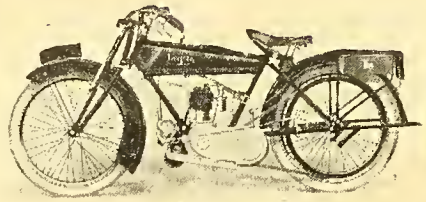


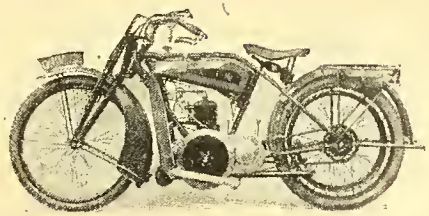
2½ h.p. HOBART.

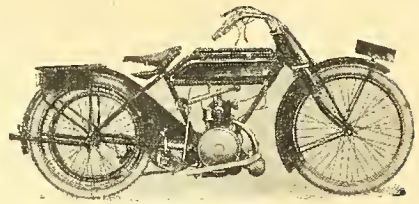


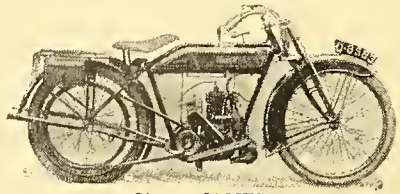
4½ h.p. HUMBER.

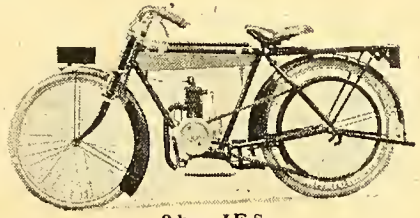

4 h.p. INDIAN SCOUT.

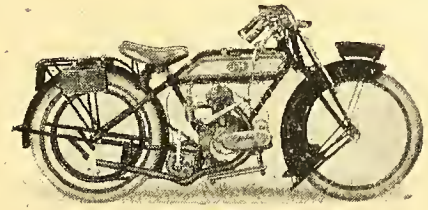

2¾ h.p. INVICTA.

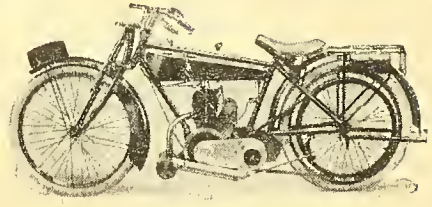

3 h.p. IVY.

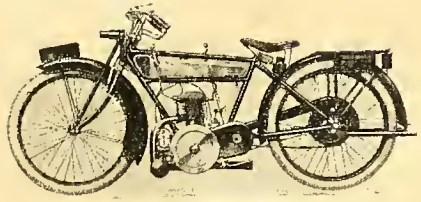

2½ h.p. IXION

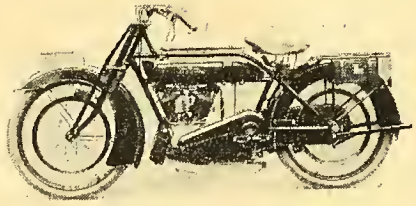

2½ h.p. JAMES.

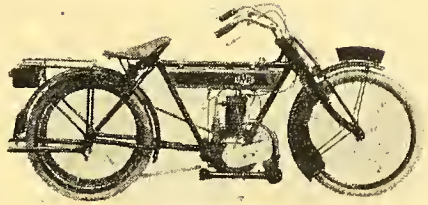

2 h.p. J.E.S

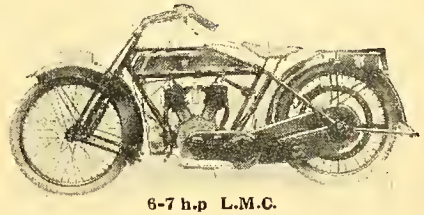

2¾ h.p. J.H


2¾ h.p. J.N.U.


2¾ h.p. KINGSBURY


3½ h.p. LEA-FRANCIS


2¼ h.p. LEVIS.


6-7 h.p L.M.C.

Machine.	*Engine and h.p.*	*c.c.*	*Bore. Stroke.*	*Valves.*	*Lub'tion.*	*Change Speed.*	*Transmission.*	*Tyres.*	*lb.*	*Carburetter.*	*Solo.*	*Sidecar.*	*Remarks.*
Indian	7-9 Indian, V twin	997	79×100	S.S.	Mech.	Indian 3, K.S.	⅜″ chains	28×3	328	Schebler	£186 0	£226 0	Dynamo lighting.
Indian	4 Indian, V twin	596	70×78	S.S.	Mech.	Indian 3, K.S.	⅜″ chains	26×3	280	Schebler	£157 0	£196 0*	—
Invicta	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	174	Amac 2-lever	£77 0*	—	—
Invicta	3½ Abingdon	499	85×88	S.S.	Hand	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	26×2½	251	B. & B. 2-lever	£110 0	£145 0*	—
Ivy	2½ Ivy, T.S.	224	64×70	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	160	Amac 2-lever	£79 0*	—	—
Ivy	3 Ivy, T.S.	348	75×79	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	185	B. & B. 2-lever	£89 0*	£118 0	—
Ixion	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2	¼″ ch. & ¾″ B.	26×2	156	Amac 2-lever	£75 0	—	—
Ixion	3½ Precision, T.S.	350	74×81	—	Mech.	Sturmey 2	¼″ ch. & ¾″ B.	26×2¼	160	Amac 2-lever	—	£110 0	—
James	2¼, T.S.	239.5	66×70	—	Drip	James 2	¼″ ch. & ¾″ B.	26×2¼	168	Amac 2-lever	£75 0	—	—
James	3½, V twin	500	64×77	S.S.	Drip	James 3, K.S.	¼″ chains	26×2½	232	Amac 2-lever	£135 0	—	—
James	4¼, single	600	86×103	S.S.	Drip	James 3, K.S.	¼″ chains	28×3	280	Amac 2-lever	£135 0	£170 0	—
James	7, V twin	749	73×89.5	S.S.	Drip	James 3, K.S.	⅜″ chains	28×3	296	Amac 2-lever	£160 0	£195 0	—
J.E.S.	1½ J.E.S.	143	55×60	I. over E.	Mech.	—	5/8″ belt	26×1¾	80	J.E.S. auto.	£44 2	—	—
J.E.S.	2 J.E.S., T.S.	169	60×60	—	Drip	—	5/8″ belt	24×2	95	J.E.S. auto.	£44 2	—	—
J.H.	2½ Villiers	269	70×70	—	Drip	Albion 2, K.S.	3/16″ ch. & ¾″ B.	26×2	142	B. & B.	£75 0	—	2¾ Blackburne, £105
J.N.U.	2¾ Dalm, T.S.	318	73×76	—	Drip	Burman 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	190	Amac 2-lever	£75 0	—	—
Kingsbury	2¾, T.S.	261	68×72	—	Drip	Kingsbury 2	⅜″ chains	26×2¼	148	Senspray	£65 0	—	—
Lea-Francis	5 M.A.G., V twin	592	64×92	I. over E.	Drip	L.F. 3, K.S.	½″ chains	26×3	280	Amac 2-lever	£165 0	—	—
Lea-Francis	3½ M.A.G., V twin	496	64×77	I. over E.	Drip	L.F. 3, K.S.	¼″ chains	26×2⅜	250	Amac 2-lever	£145 0*	—	—
Levis	2¼ Levis, T.S.	211	62×70	—	Auto.	Sturmey 2	⅜″ ch. & ¾″ B.	26×2¼	135	Any	£68 0*	—	—
L.M.C.	8-9 L.M.C., V twin	960	79×98	S.S.	Drip	Sturmey 3, K.S.	⅜″ chains	28×3	310	B. & B. 2-lever	£150 0	£185 0*	—

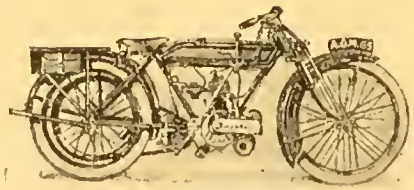
*Indian, electric equipment, £15 extra. *Invicta, 2¾ h.p. Jap model, £85; 5-6 h.p. Jap model, £20 extra. *Ivy, plain 2-speed model, £72; single-speed, £62; all-chain, £6 extra; single-speed, £72. *Lea-Francis, 2-speed and K.S., £130. *Levis, single-speed, £60; special T.T. 2½ h.p., single-speed, £65. *L.M.C., 6-7 h.p., chain-cum-belt model, £130 solo, £165 sidecar; Magdyno £26 extra.

Machine.	Engine and h.p.	c.c.	Bore. Stroke.	Valves.	Lub'tion	Change Speed.	Transmission.	Tyres.	lb.	Carburetter.	Solo.	Sidecar.	Remarks.
Marloe	3½ Precision, T.S.	350	74×81	—	Mech.	Burman 2, K.S.	½″ ch. & ¾″ B.	26×2¼	185	Amac 2-lever	£86 0*	—	—
Marloe	4 Blackburne	499	85×88	S.S.	Drip	Burman 3, K.S.	½″ ch. & 1″ B.	26×2½	220	Amac 2-lever	£112 0*		
Martin	2¾ Jap	293	70×76	S.S.	Drip	Albion 2, K.S.	½″ ch. & ¾″ B.	26×2½	165	Claudel Hobs'n	£82 19	£103 19	—
Martin	4 Jap, V. twin	498	64.5×76	S.S.	Drip	Burman 3, K.S.	½″ chains	26×2½	235	Claudel Hobs'n	£126 0	£168 0	—
Martinsyde	6 Martinsyde, V twin	680	70×88	E. over I.	Drip	A.J.S. 3, K.S.	⅝″ chains	650×65	298	Amac 1-lever	—	£175 0	Magdyno £25 extra.
Massey-Arran	2¾ Jap	292	70×76	S.S.	Drip	Sturmey 2, K.S.	5/16″ ch. & ¾″ B.	26×2¼	196	Any	£90 0	—	Blackburne engine, £99 15s.
Massey-Arran	5-6 Jap, V. twin	680	70×88	S.S.	Drip	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	700×80	—	Any	£145 0	—	—
Matchless	8 M.A.G., V twin	996	82×94	I. over E.	Drip	Matchless 3, K.S.	⅝″ chains	28×3	588	Amac 2-lever	—	£205 0*	Spring frame.
Motro-Tyler	2½ M.-T., T.S.	269	70×70	—	Auto.	2-speed	5/16″ ch. & ⅞″ B.	26×2¼	179	Amac 2-lever	£80 0*	£100 0*	3-sp., £5 5s. extra.
Monopole	2¾ Jap	293	70×76	S.S.	Hand	Sturmey 2, K.S.	⅜″ ch. & ¾″ B.	26×2¼	186	B. & B. 2-lever	£89 5*	—	—
Monopole	3½ Abingdon	499	85×88	S.S.	Hand	Sturmey 3, K.S.	3/16″ ch. & 1″ B.	26×2½	251	B. & B. 2-lever	£115 10	£143 17	—
Monopole	5-6 Jap, V twin	680	70×88	S.S.	Hand	Sturmey 3, K.S.	3/16″ ch. & 1″ B.	26×2¼	260	B. & B. 2-lever	£142 16	£182 18	—
Motorped	1¾ Simplex, T.S.	105	50×50	—	Petroil	Plato clutch	5/16″ chain	28×1½	65	Amac	£42 0	—	Also lady's model.
Mountaineer	2½, T.S.	269	70×70	—	Petroil	Albion 2	⅜″ ch. & ¾″ B.	26×2	158	Amac 2-lever	£72 0*	—	Single speed, £62.
M.P.H.	2½ Wall, T.S.	269	70×70	—	Drip	Roc 2	⅜″ ch. & ¾″ B.	26×2¼	180	Amac 2-lever	£54 0	—	Single speed, £46.
New Comet	2½ Climax, T.S.	293	70×76	—	Petroil	2-speed, K.S.	3/16″ ch. & ¾″ B.	26×2¼	161	Any	£69 6	£92 8	Single sp., £52 10s.
New Hudson	2½ N. Hudson, T.S.	211	62×70	—	Drip	N. Hudson 2	5/16″ ch. & ⅞″ B.	24×2	148	B. & B. 2-lever	£68 5	—	Single-sp., £52 10s.

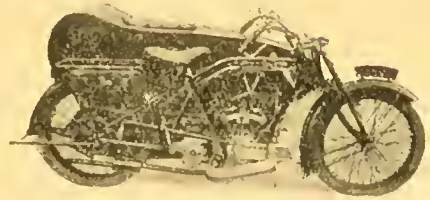
*Marloe 2¾ h.p. Blackburne, £102 18s.; all-chain, £115. *Metro-Tyler, Sparklight set, £12 12s. extra. *Monopole, also 2-stroke at £69 6s. (single geared) and £81 18s. (2-speed, K.S.). *Mountaineer, also Sturmey gear and K.S., £78; special 2-speed racing model, £78 15s. *Matchless, detachable wheels.



2½ h.p. MARLOE.



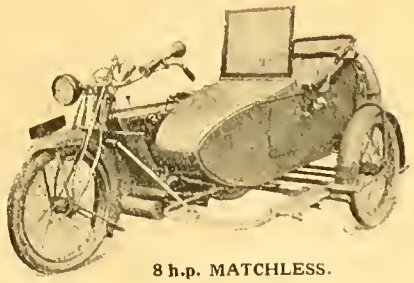
2½ h.p. MARTIN.



6 h.p. MARTINSYDE.



2¾ h.p. MASSEY-ARRAN.



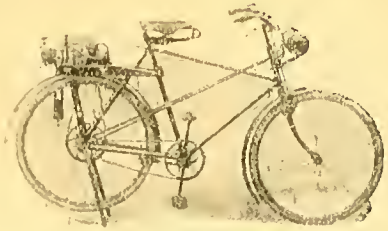
8 h.p. MATCHLESS.



2½ h.p. METRO-TYLER.



2¾ h.p. MONOPOLE.



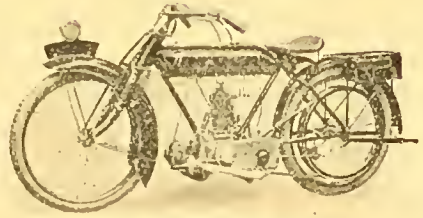
1¾ h.p. MOTORPED.



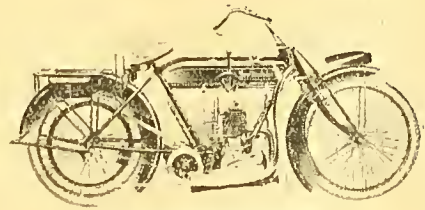
2½ h.p. MOUNTAINEER



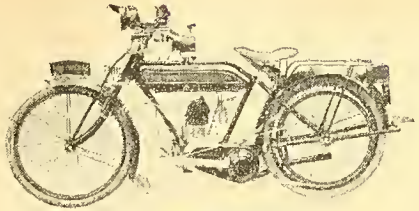
2½ h.p. M.P.H.



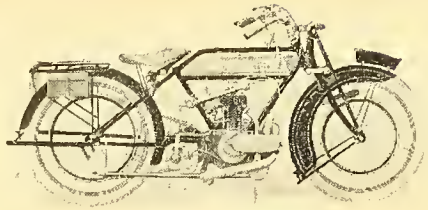
2½ h.p. NEW COMET.



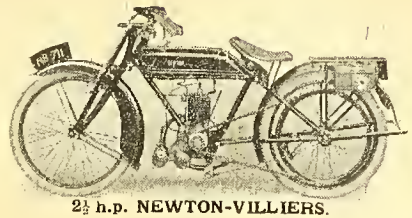
2½ h.p. NEW HUDSON.



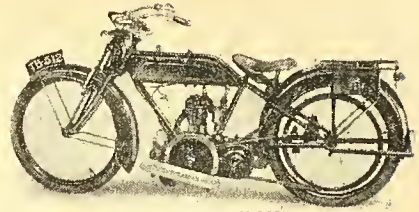
2¾ h.p. NEW IMPERIAL.



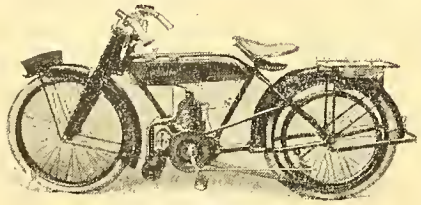
4 h.p. NEW SCALE



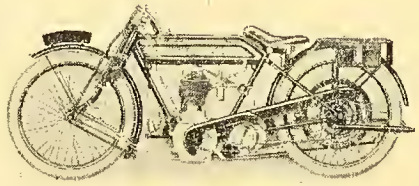
2½ h.p. NEWTON-VILLIERS.



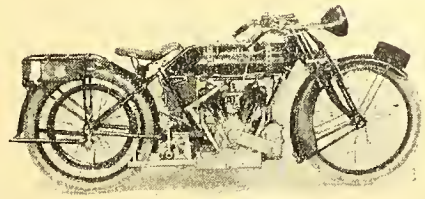
2¾ h.p. NICKSON.



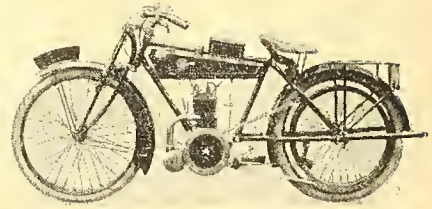
2¾ h.p. NORBRECK.



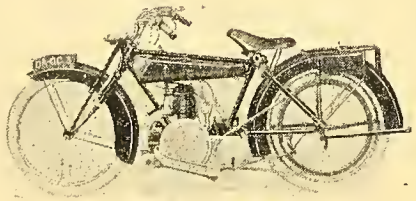
3½ h.p. NORTON.



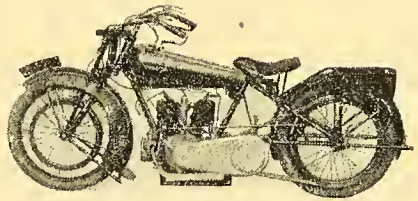
3½ h.p. N.U.T.



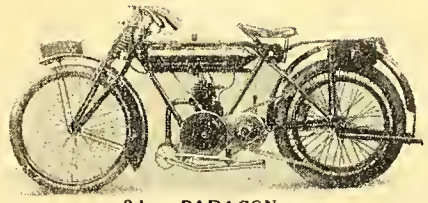
2½ h.p. O.K.



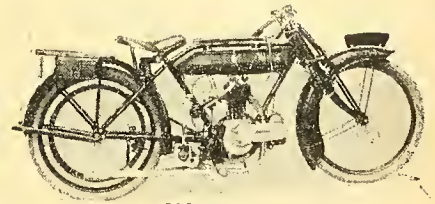
2½ h.p. OLYMPIC.



5-6 h.p. OMEGA.



3 h.p. PARAGON



2¾ h.p. PAX.

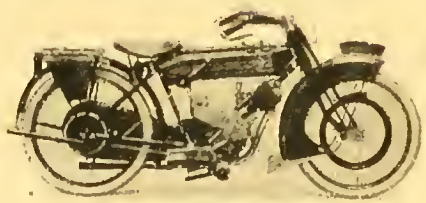
Machine.	*Engine and h.p.*	*c.c.*	*Bore. Stroke.*	*Valves.*	*Lub'tion.*	*Change Speed.*	*Transmission.*	*Tyres.*	*lb.*	*Carburetter.*	*Solo.*	*Sidecar.*	*Remarks.*
New Imperial	2¾ Jap	293	70×76	S.S.	Hand	N. Imp. 3, K.S.	¼″ ch. & ¾″ B.	26×2¼	172	B. & B. 2-lever	£89 5*	—	Maglita, £15.
New Imperial	8 Jap, V twin	976	85.5×85	S.S.	Hand	N. Imp. 3, K.S.	7/16″ chains	28×3	320	B. & B. 2-lever	£147 0	£186 18	Magdyno, £22.
New Scale	3½ Precision, T.S.	350	74×81	—	Mech.	Sturmey 2, K.S.	¼″ ch. & ⅞″ B.	26×2¼	190	Amac 2-lever	£94 10	£123 0	—
New Scale	4 Blackburne	499	85×88	S.S.	Drip	Sturmey 3, K.S.	¼″ ch. & 1″ B.	26×2½	220	Amac 2-lever	£126 0	£160 0	—
Newton-Villiers	2½ Villiers, T.S.	269	70×70	—	Drip	Single gear	¾″ belt	26×2¼	150	Amac 2-lever	£48 0	—	—
Nickson B.	2¾ Blackburne	348	71×88	S.S.	Drip	Burman 2, K.S.	¼″ ch. & ¾″ B.	26×2½	196	Amac 2-lever	£105 0	—	—
Nickson B.	4 Blackburne	499	85×88	S.S.	Drip	Burman 3, K.S.	¾″ chains	26×2½	250	Amac 2-lever	£128 0	—	—
Norbreck	2½ Arden, T.S.	269	70×70	—	Drip	Burman 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	160	B. & B. 2-lever	£60 0*	—	—
Norton	4 Norton	633	82×120	S.S.	Drip	Sturmey 3, K.S.	⅜″ chains	650×65	285	B. & B. 2-lever	£135 0	—	Sidecar, £30-£45 extra.
Norton	3½ Norton	490	79×100	S.S.	Hand	Sturmey 3, K.S.	⅜″ chains	650×65	252	B. & B. 2-lever	£132 0*	—	
N.U.T.	3½ N.U.T., V twin	499	64.5×76	S.S.	Drip	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	26×2½	—	Amac 2-lever	—	—	—
N.U.T.	5 N.U.T., V twin	680	70×88	S.S.	Drip	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	26×2½	—	Amac 2-lever	—	—	—
N.U.T.	3½ N.U.T., V twin	499	64.5×76	O.H.	Drip	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	26×2½	—	Amac 2-lever	—	—	Six valves.
O.K.	2½ Villiers, T.S.	269	70×70	—	Drip	Albion 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	165	Any	£67 4*	—	—
Olympic	2¾ Orbit, T.S.	261	68×72	—	Drip	Juckes 2, K.S.	5/16″ ch. & ¾″ B.	26×2½	185	Any	£84 0*	—	—
Omega	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	156	Amac 2-lever	£68 0*	£90 0	—
Omega	4 Blackburne	499	85×88	S.S.	Drip	Sturmey 3, K.S.	¼″ ch. & 1″ B.	26×3	230	Amac 2-lever	£120 0†	£155 0	—
Paragon	3 Paragon, T.S.	349	76×79	—	Drip	Albion 2, K.S.	¼″ ch. & ¾″ B.	26×2¼	—	B. & B. 2-lever	—	—	—
Pax	2¾ Blackburne	348	71×88	S.S.	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	198	Senspray	£99 15	—	3-sp., £10 5s. extra.
Pax	4 Blackburne	499	85×88	S.S.	Drip	Sturmey 3, K.S.	⅜″ ch. & 1″ B.	26×2½	220	Senspray	£120 0	—	—

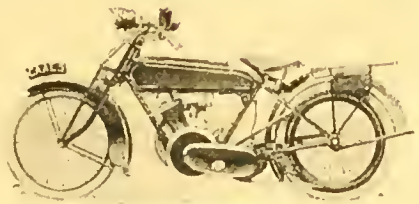
*New Imperial, plain 2-speed, £80 17s. *Norbreck, plain 2-speed, £55 10s.; single-speed, £47 10s.; with 3-speed and K.S., £66; Blackburne engine and 2-speed, £87 10s.
*Norton 3½ h.p., single-speed, £98 to £123. *O.K. other models from £52 8s. *Olympic, also single-speed, £65; 3-speed, £90; plain 2-speed, £77. *Omega, with Jap engine, £83; plain 2-speed, £75: Miniature, with 24×2in. wheels, single-speed, £58; two-speed, £58; †with 5-6 h.p. Jap engine, £135 solo, £170 sidecar.

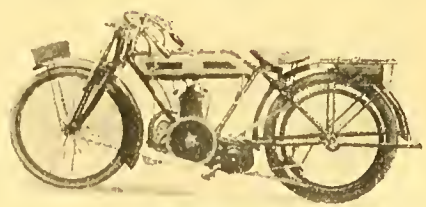
Machine.	Engine and h.p.	c.c.	Bore. Stroke.	Valves.	Lub'tion.	Change Speed.	Transmission.	Tyres.	lb.	Carburetter.	Solo.	Sidecar.	Remarks.
Peters	3 Peters, T.S.	347	76×76	—	Ex.Pres	Variable	3/4" belt	26×2½	140	Cox-Atmos	£85 0	—	Spring frame.
P. & M.	3½ P. & M.	498	84.5×88.9	S.S.	Mech.	P. & M. 2, K.S.	½" chains	26×2½	265	B. & B. 2-lever	£125 0	£165 0	——
Powell	4 Powell	547.8	85×96.5	S.S.	Auto.	Sturmey 3, K.S.	3/4" ch. & 1" B.	26×3	260	Claudel Hobs'n	£130 0	—	——
P. & S.	4 Blackburne	499	85×88	S.S.	Drip	Sturmey 3, K.S.	½" chains	26×3	—	Amac 2-lever	£110 0	£145 0	——
P. & S.	2¾ Jap	293	70×70	S.S.	Drip	Sturmey 2, K.S.	½" chains	26×3	185	Amac 2-lever	£85 0	£105 0	——
P. & S.	3 Dalm, T.S.	318	73×76	—	Drip	Sturmey 2, K.S.	½" chains	26×3	175	Amac 2-lever	£80 0	£100 0	——
P.V.	2½ Villiers, T.S.	269	70×70	—	Drip	Burman 2, K.S.	½" ch. & 3/4" B.	26×2¼	170	Senspray 2-lev.	£85 10*	—	Spring frame.
Quadrant	4½ Quadrant	565	87×95	S. & R.*	Hand	Sturmey 3, K.S.	½" chains	26×2½	250	Senspray or Amac	£105 0	£125 0	Also chain-cum-belt models at same prices.
Quadrant	5 Quadrant	654	87×110	S. & R.*	Hand	Sturmey 3, K.S.	½" chains	26×2½	260	Senspray or Amac	£110 0	£135 0	
Radco	2½ Radco, T.S.	247	67×70	—	Drip	Albion 2, K.S.	3/16" ch. & 3/4" B.	24×2	128	Amac 2-lever	£66 10*	—	Single-speed, £52.
Radco	2¼ Radco, T.S.	211	62×70	—	Drip	Albion 2, K.S.	3/16" ch. & 3/4" B.	24×2	124	Amac 2-lever	£57 12†	—	Single-sp., £44 2s.
Raleigh	5-6 Raleigh, F. twin	700	77×75	S.S.	Auto.	Sturmey 3, K.S.	½" chains	650×65	295	Amac 2-lever	£162 15	£204 15*	Spring frame.
Reading Standard	10 R.S., V twin	1170	85.7×101.6	S.S.	Mech.	R.S. 3, K.S.	Chains	28×3	—	—	—	—	——
Ready	2¾ Jap	293	70×76	S.S.	Drip	Burman 2, K.S.	3/16" ch. & 3/4" B.	26×2¼	176	Amac 2-lever	£80 17	—	Single-sp., £72 9s.
Revere	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	3/16" ch. & 3/4" B.	26×2	144	B. & B. 2-lever	£77 0*	—	Single-sp., £60.
Rex (solo)	4 Blackburne	499	85×88	S.S.	Hand	Sturmey 3, K.S.	3/4" ch. & 1" B.	26×2½	228	Amac 2-lever	£125 0	—	54¾" wheelbase.
Rex	4 Blackburne	499	85×88	S.S.	Hand	Sturmey 3, K.S.	3/4" ch. & 1" B.	28×3	245	Amac 2-lever	£133 13	£179 0*	59½" wheelbase.
Rex	8 Blackburne	998	85×88	S.S.	Hand	Sturmey 3, K.S.	3/4" ch. & 1" B.	28×3	324	Amac 2-lever	£173 18	£218 18*	65" wheelbase.

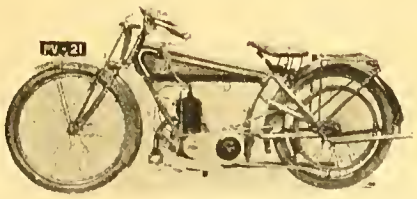
*P.V., plain 2-speed, £78 15s.; Jap engine, £92 8s. *Quadrant valve arrangement: exhaust at side, inlet at rear. *Radco, plain 2-speed, £60 10s.; †plain 2-speed, £52 12s.
*Raleigh includes interchangeable wheel. *Revere, plain Sparkbrook 2-speed, £73. *Rex includes spare wheel; all-chain model £230 18s. complete.

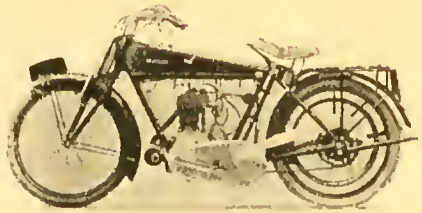

3 h.p. PETERS.

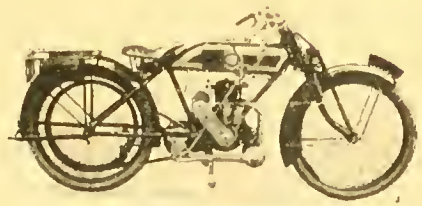

3½ h.p. P. and M.

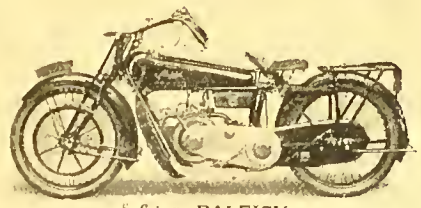

4 h.p. POWELL.

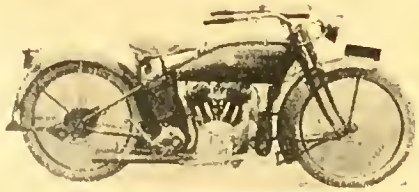

2½ h.p. P. and S.


2½ h.p. P.V.

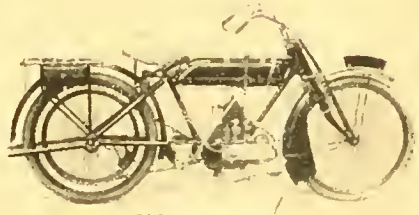

4½ h.p. QUADRANT.


2½ h.p. RADCO.


5-6 h.p. RALEIGH.


10 h.p. READING-STANDARD.

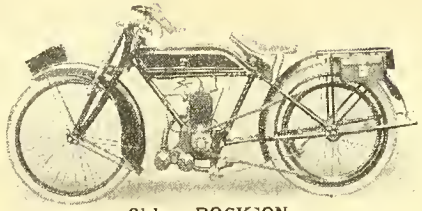

2¾ h.p. READY


2½ h.p. REVERE.

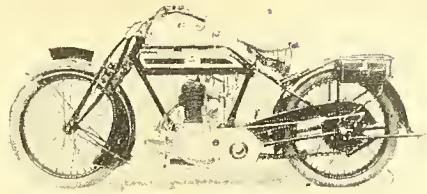

3 h.p. REX.



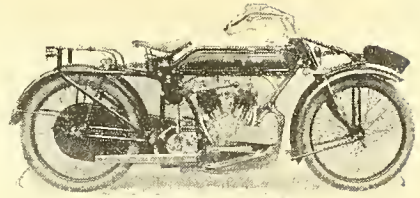
8 h.p. ROYAL ENFIELD.



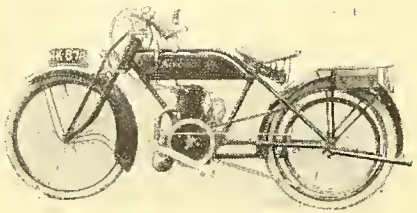
2½ h.p. ROCKSON.



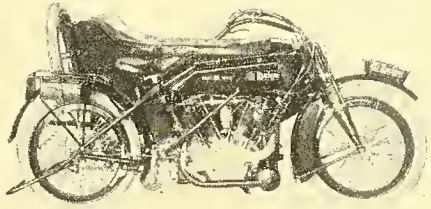
3½ h.p. ROVER.



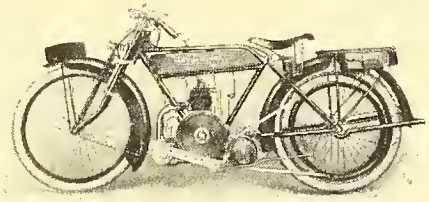
8 h.p. ROYAL RUBY.



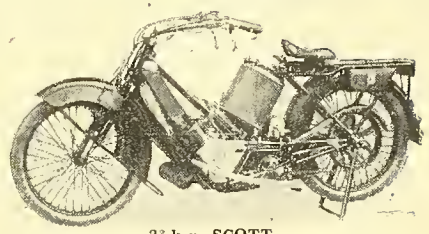
2½ h.p. R.W. SCOUT.



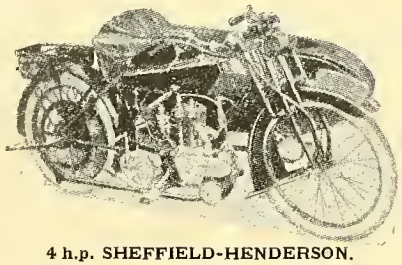
7-9 h.p. RUDGE TWIN.



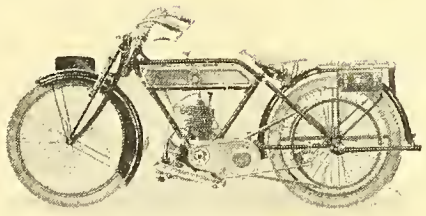
2½ h.p. SARCO-RELIANCE.



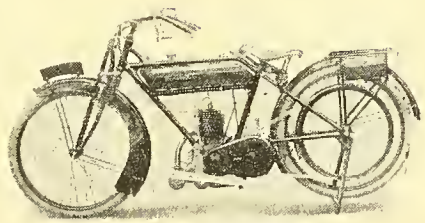
3¾ h.p. SCOTT.



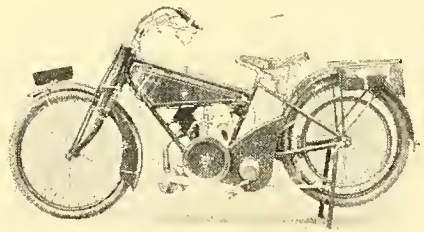
4 h.p. SHEFFIELD-HENDERSON.



2½ h.p. SILVER PRINCE.



2½ h.p. SPARKBROOK



2½ h.p. SUN.

Machine.	*Engine and h.p.*	*c.c.*	*Bore. Stroke.*	*Valves.*	*Lub'tion.*	*Change Speed.*	*Transmission.*	*Tyres.*	*lb.*	*Carburetter.*	*Solo.*	*Sidecar.*	*Remarks.*
Royal Enfield	2¾ Enfield, T.S.	225	64×70	—	Petroil	Enfield 2	¼″ chains	26×2¼	147	Amac 2-lever	£65 0	—	K.S. model, £70.
Royal Enfield	8 Enfield, V twin	965	85×85	S.S.	Mech.	Enfield 2	¼″ chains	700×80	289	Amac 2-lever	—	£160 0*	Hand-starting.
Rockson	2½ Villiers	269	70×70	—	Drip	Burman 2. K.S.	3/16″ ch. & ¾″ B.	26×2	160	Amac 2-lever	£65 2*	—	Single-sp., £50 8s.
Rover	3½ Rover	499	85×88	S.S.	Hand	Rover 3, K.S.	Chains*	650×65	280	B. & B. 2-lever	£135 0	£180 0	Single-sp., £115.
Rover	5-6 Jap, V twin	680	70×88	S.S.	Hand	Rover 3, K.S.	Chains*	28×3	294	Amac 2-lever	£150 0	£195 0	——
Royal Ruby	2¾ Ruby	349	74.5×80	S.S.	Drip	Ruby 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	185	Amac 2-lever	£89 5	—	——
Royal Ruby	3 Ruby	375	74.5×86	S.S.	Drip	Ruby 3. K.S.	3/16″ ch. & ¾″ B.	26×2½	235	Amac 2-lever	£120 0	—	Spring frame.
Royal Ruby	8 Jap V twin	976	85.5×85	S.S.	Drip	Sturmey 3. K.S.	⅜″ chains	28×3	672	Amac 2-lever	—	£235 0*	Spring frame.
R.W. Scout	3 Dalm, T.S.	318	73×76	—	Drip	Albion 2, K.S.	3/16″ ch. & ¾″ B	26×2¼	170	Amac 2-lever	£81 18	£105 0	Single-sp., £63.
R.W. Scout	2¾ Villiers, T.S.	269	70×70	—	Drip	Albion 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	145	Senspray 2-lev.	£44 2	—	——
Rudge	3½ Rudge	499	85×88	I. over E.	Foot	Rudge-Multi	⅞″ B.	650×65	270	Senspray	£110 5	—	3-speed, £125.
Rudge	7-9 Rudge, V twin	998	85×88	I. over E.	Foot	Rudge 3. K.S.	⅜″ chains	650×65	278	Senspray	£135 10*	—	Multi, £120 15s.
Rudge	5-6 Rudge	750	85×132	I. over E.	Foot	Rudge 3, K.S.	⅜″ chains	650×65	292	Senspray	£167 0*	—	Multi, £147.
Sarco-Reliance	2¾. T.S.	259	68×72	—	Drip	Burman 2, K.S.	¼″ ch. & ¾″ B.	26×2¼	180	Amac 2-lever	£85 0	—	Plain 2-sp., £77 10s.
Scott	3¾ Scott. T.S. twin	532	73×62.5	—	Drip	Scott 2, K.S.	3/16″ & ¼″ ch.	26×2½	227	Amac 2-lever	£130 0	£170 0	——
Scott Squirrel	3½ Scott, T.S. twin	481	70×62.5	—	Drip	Scott 2, K.S.	3/16″ & ¼″ ch.	26×2½	198	Amac 2-lever	£130 0	—	——
Sheffield Henderson	4 Blackburne	499	85×88	S.S.	Vacu'm	Sturmey 3, K.S.	⅜″ chains	26×2½	225	Amac 2-lever	—	£150 0	Spring suspension.
Silver Prince	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	169	B. & B. 2-lever	£66 3	£86 3	Single-sp., £48 6s.
Sparkbrook	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2	153	B. & B. 2-lever	£77 10*	—	Single-sp., £64.
Sun-Vitesse	2½ Sun. T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	3/16″ ch. & ¾″ B.	26×2¼	164	B. & B. 2-lever	£70 0*	—	Lady's model, £73.

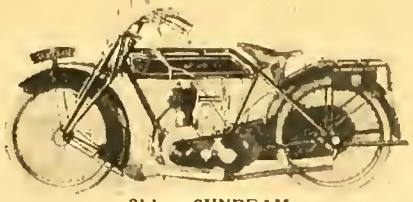
*Enfield, Magdyno £22 extra. *Rockson, plain 2-speed, £58 10s. *Rover silent chain primary drive, spring link chain final. *Royal Ruby, complete with spare wheel, windscreen, and electric lighting, £275. *Rudge, detachable wheels. *Sparkbrook, plain 2-speed, £70. *Sun, single-speed, £52 10s.

THE MOTOR CYCLE

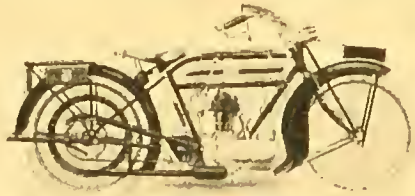
MARCH 17th, 1921.

Machine.	Engine and h.p.	c.c.	Bore. Stroke.	Valves.	Lub'tion	Change Speed.	Transmission.	Tyres.	lb.	Carburetter.	Solo.	Sidecar.	Remarks.
Sunbeam	8 Jap, V twin	976	85.5×85	S.S.	Drip	Sunbeam 3, K.S.	⅞" chains	28×3	330	Amac 2-lever	£184 16	£237 6	Interchangeable wheels.
Sunbeam	3½ Sunbeam	499	85×88	S.S.	Drip	Sunbeam 3, K.S.	⅞" chains	650×65	280	Amac 2-lever	£155 8*	£204 15	
Triumph	4 Triumph	550	85×97	S.S.	Hand	Triumph 3, K.S.	⅞" chains	26×2½	242	Triumph 2-lev.	£140 0*	£195 0*	—
Triumph	2¼ Triumph, T.S.	225	64×70	—	Petroil	Triumph 2	3/16" ch. & ¾" B.	24×2¼	129	Triumph 2-lev.	£75 0	—	—
Velocette	2½ Velocette, T.S.	220	62×73	—	Mech.	Velocette 2	½" chains	24×2¼	158	B. & B. 2-lever	£75 0*	—	—
Verus	2½ Verus, T.S.	269	70×70	—	Drip	Burman 2, K.S.	3/16" ch. & 3/8" B.	24×2	176	Any	£85 0*	—	—
Verus	2¾ Blackburne	348	71×88	S.S.	Drip	Sturmey 2, K.S.	½" ch. & 1" B.	26×2¼	195	Any	£108 0†	—	—
Verus	4 Blackburne	499	85×88	S.S.	Drip	Sturmey 3, K.S.	½" ch. & 1" B.	26×3	224	Any	—	£180 0‡	—
Victoria	2¼ Villiers, T.S.	269	70×70	—	Drip	Albion 2, K.S.	5/16" ch. & ⅜" B.	26×2¼	131	Amac 2-lever	£65 0	—	—
Victoria	4 Jap	490	85×85	S.S.	Drip	Sturmey 3, K.S.	½" ch. & 1" B.	26×2½	230	Amac 2-lever	£100 0*	£125 0	—
Viper	2½ Jap	292	70×76	S.S.	Drip	Albion 2	5/16" ch. & ⅜" B.	—	170	Amac 2-lever	£75 0	—	—
Waverley	2¾ Pero, T.S.	269	70×70	—	Drip	Albion 2, K.S.	¼" ch. & ¾" B.	26×2¼	165	B. & B. 2-lever	£65 0*	£90 0	Single-sp., £53.
Wilkin	4 Blackburne	499	85×88	S.S.	Drip	Sturmey 3, K.S.	⅞" chains	26×2½	228	Any	£130 0	£160 10	—
Winco	2½ Orbit, T.S.	261	68×72	—	Drip	Burman 2, K.S.	3/16" ch. & ⅜" B.	26×2¼	160	Amac 2-lever	£65 2	—	—
Wolf	2¾ Blackburne	349	71×78	S.S.	Drip	Sturmey 2, K.S.	½" ch. & ¾" B.	26×2¼	193	Amac 2-lever	£99 15*	—	—
Wooler	2¾ Wooler, F. twin	345	60.5×60	I. over E.	Mech.	Variable	¾" belt	26×2¼	168	B. & B. 2-lever	£99 10*	—	Spring frame.
Zenith	2¾ Zenith, F. twin	346	58.2×65	S.S.	Hand	Variable	½" ch. & ⅞" B.	26×2¼	228	Amac 2-lever	£107 0	—	—
Zenith	5 Jap, V twin	680	70×88	S.S.	Hand	Variable	1" belt	650×65	254	Amac 2-lever	£123 0*	—	—
Zenith	3½ Bradshaw, F.twin	500	68×68	O.H.	Hand	Variable	1" belt	26×2½	220	Amac 2-lever	—	—	—

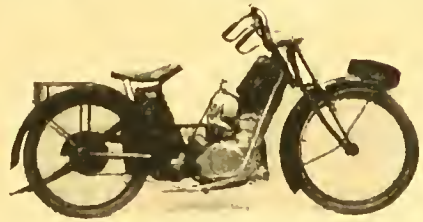
*Sunbeam sports model, 230 lb., no K.S., £152 5s. *Triumph, also chain-cum-belt model Sturmey gear, £127 10s. solo, £182 10s. sidecar. *Velocette, lady's model, £80; 3-speed, £10 extra. *Verus, also single-speed, £60 (smaller engine), †2¾ h.p. Blackburne model with 3-speed, £120; ‡light 4 h.p. solo model, £126. *Victoria, with Coventry Victor F twin, £140 solo; £170 sidecar. *Waverley, 2¾ h.p. Blackburne engine, £95. *Wilkin 2¾ h.p. chain-driven model, £120. *Winco, plain 2-speed, £57 15s.; single-speed, £47 5s. *Wolf, single-speed, 2-stroke, £50; plain 2-speed, £60; K.S., £65; Jap engine, 2-speed, £65; with Sturmey gear, £70; †with 4 h.p. Jap engine, £100; 4 h.p. Blackburne engine, 3-speed, £110. *Wooler, Brooklands model, £105; 3-speed, chain drive, £112. *Zenith, 6 h.p. model, £139; 8 h.p. countershaft, £162 solo, £204 sidecar.



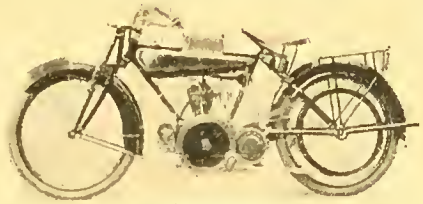
3½ h.p. SUNBEAM.



4 h.p. TRIUMPH.



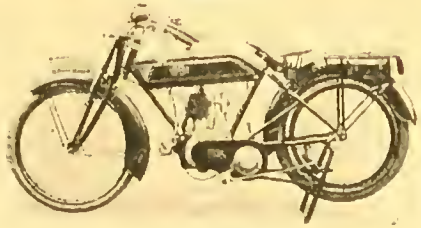
2¼ h.p. VELOCETTE



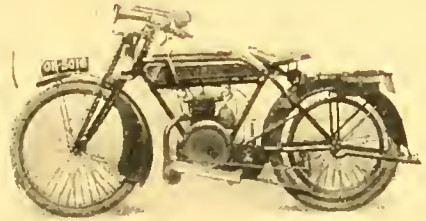
2¼ h.p. VERUS.



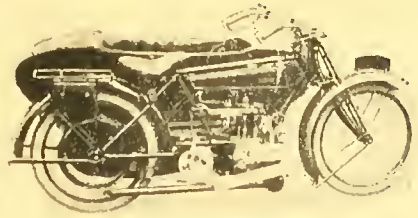
2½ h.p. VICTORIA.



2¾ h.p. VIPER.



2½ h.p. WAVERLEY.



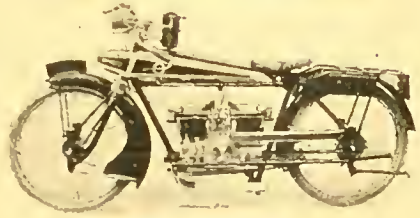
4 h.p. WILKIN.



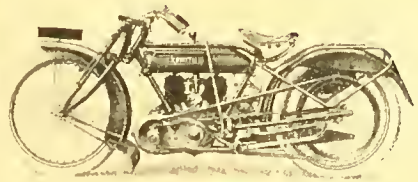
2½ h.p. WINCO.



2¾ h.p. WOLF.



2¾ h.p. WOOLER.



8 h.p. ZENITH.

ADDENDA TO "THE MOTOR CYCLE" BUYERS' GUIDE.

Machine.	*Engine and h.p.*	*c.c.*	*Bore. Stroke.*	*Valves.*	*Lub'tion.*	*Change Speed.*	*Transmission.*	*Tyres.*	*lb.*	*Carburetter.*	*Solo.*	*Sidecar.*	*Remarks.*
Baron	2¾ Blackburne	349	71×78	S.S.	Drip	Albion 2, K.S.	⅜" ch. & ¾" B.	26×2½	205	Senspray	£90 0	—	Plain 2-speed, £84.
Baron	2½ Villiers, T.S.	269	70×70	—	Drip	Albion 2, K.S.	⅜" ch. & ¾" B.	26×2½	160	Senspray	£64 0	—	Single-sp., £52.
Dalton	2¾ Blackburne	349	71×88	S.S.	Drip	Burman 2	1" ch. & ¾" B.	26×2¼	192	Any	£99 15	£124 15	—
Dalton	4 Blackburne	499	85×88	S.S.	Drip	Burman 3, K.S.	⅜" ch. & 1" B.	26×2½	220	Any	£115 10	£140 10	—
Dalton	5-7 Cov.Vic., F. twin	688	75×78	S.S.	Drip	Sturmey 3, K.S.	⅜" chains	650×65	285	Amac 2-lever	£150 0	£182 0	—
Dreadnought	2½ Villiers, T.S.	269	70×70	—	Drip	Albion 2	⅜" ch. & ¾" B.	26×2	177	Amac 2-lever	£65 0	—	Single-speed, £57.
Haden	3½ Precision, T.S.	349	74×81	—	Mech.	2-speed, K.S.	⅜" ch. & ¾" B.	26×2¼	175	Any	£78 15	£101 17	Plain 2-sp., £73 10s.
New Rider	2½ Villiers, T.S.	269	70×70	—	Drip	Albion 2, K.S.	1" ch. & ¾" B.	26×2¼	158	B. & B. 2-lever	£66 3	—	Single-sp., £53 11s.
Portland	2¾ Jap	293	70×76	S.S.	Drip	Albion 2, K.S.	½" ch. & ¾" B.	26×2¼	—	B. & B. 2-lever	£68 0	—	—
Priory	2½ Villiers, T.S.	269	70×70	—	Drip	Burman 2, K.S.	¼" ch. & ¾" B.	26×2½	160	B. & B. 2-lever	£75 0	—	—
Slaney	5-7 Cov.Vic., F. twin	688	75×78	S.S.	Drip	Sturmey 3, K.S.	⅜" chains	28×3	250	B. & B. 2-lever	£140 0	—	—
Southey	2½ Villiers, T.S.	269	70×70	—	Drip	Sturmey 2, K.S.	⅜" ch. & ¾" B.	26×2	172	Amac 2-lever	£65 0	—	—

RESULTS OF THE OPENING TRIAL OF THE YEAR.

Single-cylinder Sunbeam wins Colmore Cup. Little Levis Lightweights Figure Conspicuously. The "Special" Prizes for Motor Cycles taken by Singles. Morgan Drivers win the Team Prize.

DESPITE the severity of the recent Colmore Cup Trial, British motor cycles have again proved that they are reliable, efficient hill-climbers, and mounts which are easy to ride, for any motor cycle that was not well balanced could not be handled in ruts and stones and on greasy lanes in a manner to give its rider a "non-stop" run. The fact that the retirements represented but 9% of the starters shows that motor cycles have passed that stage when trials were necessary to develop them into machines capable of surmounting hills and running to time. Considering the nature of the course, and the fact that a few years ago so few succeeded in covering it non-stop, it is a tribute to the British motor cycle industry which should convince any intending purchaser who is not *au fait* with the movement that a modern motor cycle is a safe investment. An illustrated report of this trial appeared in last week's issue of *The Motor Cycle*.

The Colmore Cup for Best Performance throughout the Day.

H. O. Hayes (3½ Sunbeam solo).

The Calthorpe 100 gn. Motorcyclette Trophy and Replica for Best Performance on a Machine up to 250 c.c. Capacity.

H. Newey (2¼ Levis solo).

The Levis Cup for the Best Performance on a Single-geared Machine.

Geoffrey S. Davison (2¼ Levis solo).

Special Prizes.

First amateur: H. O. Hayes (3½ Sunbeam solo).
Second amateur: H. J. Willis (3½ Norton solo).
First sidecar: Tom Peck (4½ Ariel sc.).
First cycle car: H. F. S. Morgan (Morgan Runabout).

The Phosphor Bronze Team Prize.

The Morgan Team: H. F. S. Morgan, W. A. Carr, and J. W. Shaw.

Gold Medals for Best Performances in their Respective Classes.

250 c.c. Solo: H. Newey (2¼ Levis).
251 to 350 c.c. Solo: B. Kershaw (2¾ Verus).
251 to 350 c.c. Sidecar: Only one entry, no award.
351 to 550 c.c. Solo: H. O. Hayes (3½ Sunbeam).
351 to 550 c.c. Sidecar: T. C. de la Hay (3½ Sunbeam).
551 to 750 c.c. Solo: L. Crisp (4½ Humber).
551 to 750 c.c. Sidecar: Tom Peck (4½ Ariel).
Over 750 c.c. Solo: E. F. Cope (7-9 Indian).
Over 750 c.c. Sidecar: F. W. Giles (7 A.J.S.).

Silver Medals (Full Marks).

A. Woodfield (4¼ James sc.).
J. N. Roberts (3 A.B.C.).
Tom Silver (4½ Quadrant sc.).
H. R. Lane (2¼ Levis).
W. A. Fell-Smith (8 Rex sc.).
Capt. J. A. Watson-Bourne (2¾ Blackburne)
H. J. Glendinning (8 Rex sc.).
S. H. Brand (4 Indian Scout).
J. H. Ross (3½ Sunbeam).
T. H. Richards (4 Triumph).
G. J. Baragawanath (4 Triumph).
H. Boynton (5-6 James sc.).
A. H. P. Pehrson (4½ Dunelt sc.).
H. Langman (3¾ Scott).
T. J. Ross (7 Matchless sc.).
R. R. Grindlay (3 A.B.C.).
G. L. White (5 New Rover sc.).
L. L. Sealey (4¼ B.S.A. sc.).
G. Dance (3½ Sunbeam sc.).
E. Walker (2¼ Excelsior).
H. F. S. Morgan (Morgan Runabout).
G. Davison (2¼ Levis single-geared).
W. H. Carson (8 Excelsior sc.).
T. F. Blumfield (6 Ariel sc.).
P. Pike (2¼ Levis).
A. J. Elliott (5-6 Rover sc.).
W. L. Guy (3¾ Scott).
H. R. Davis (7 A.J.S. sc.).
R. E. Pugh (2¼ Levis).
H. L. Cranmore (3¾ Scott).
W. T. Woodcock (3½ Ariel sc.).
E. J. O'Brien (7 Matchless sc.).
W. A. Carr (8 Morgan).
Harry Poole (4¼ B.S.A. sc.).
B. L. Bird (4¼ B.S.A. sc.).
R. C. Cooper (2¾ Alldays Allon).
L. E. Clulee (2¾ Alldays Allon).
F. J. Ellis (7 Matchless sc.).
L. S. Norton (8 New Imperial sc.).
C. W. Hartwright (2¾ New Imperial).
Cyril Williams (7 A.J.S. sc.).
T. B. Haddock (7 A.J.S. sc.).
T. G. Amphlett (4¼ James sc.).
R. W. Duke (4 Triumph).
S. A. Thomson (4 Triumph).
H. P. Cutler (4 Norton sc.).
R. A. Wright (4 Triumph).
W. H. Riley (5-6 A.J.S. sc.).
R. F. Wade (4 Triumph).
H. Greaves (3½ Beardmore-Precision).
A. W. Thrush (4 Triumph).
T. R. Gibbins (8 Coventry Acme sc.).
A. E. Rollason (3½ Ariel sc.).
H. Poole (6 A.J.S. sc.).
A. E. Shaw (Morgan Grand Prix)
J. W. Moxon (4 Coventry Eagle)
G. Kuhn (2¼ Verus).
R. T. M. Ayshford (7-9 Indian sc.).
Sam Wright (4½ Humber sc.).
H. R. Guest (3½ Hoskison).
R. Harveyson (4 Indian).

Bronze Medals.

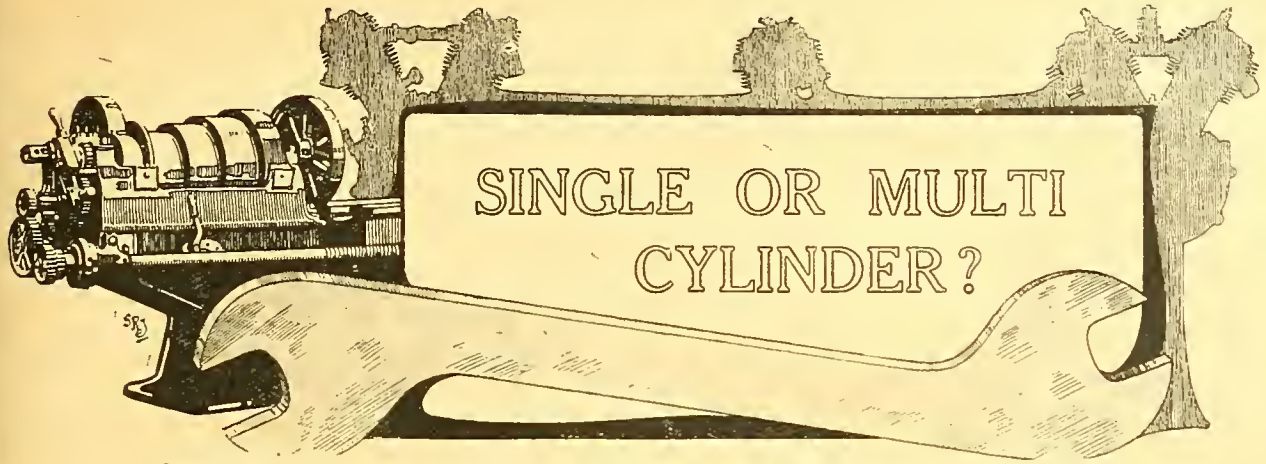
F. Arbuckle (4½ Humber sc.).
J. E. Greenwood (3½ Sunbeam sc.).
C. R. Little (5-6 Ivy sc.).
C. L. Hull (2¼ Levis).
F. Porter (2¼ Levis).
F. Goodman (7-9 Indian).
W. E. Smith (2½ Connaught).
W. Brandish (5-6 Rover).
W. L. Handley (2½ O.K.).
Geo. Brough (8 Brough Superior sc.).
H. R. Godfrey (G.N. cycle car).
L. G. Tonks (2¾ New Imperial).
G. W. Ravenhill (3½ Rover sc.).
H. S. Nokes (2¾ Dalton-Blackburne).
C. W. Ranstedt (2½ Cotton).
P. S. Platts (6 A.J.S. sc.).
A. J. Jacobs (5-6 New Imperial).
F. A. Watson (3½ Sunbeam sc.).
P. Newman (3 Ivy sc.).
T. H. Meakin (4 Triumph).
F. W. Applebee (2¼ Levis).
Eric Williams (2¾ A.J.S.).
T. F. Watson (4 Norton sc.).
G. W. Walker (3½ Norton).
L. Paynter (3½ Norton).
D. S. Heather (6-7 B.S.A. sc.).
J. H. Walker (4½ B.S.A.).
J. Wainswright (10 T.B. cycle car).
T. C. Thacker (4¼ B.S.A.).
J. Allen (3 Neal-Dalm).
C. Field (2¾ Hoskinson).
R. C. Bennett (2¾ Federation).
C. B. Hanwell (2¼ Cedos).
H. Finch (4 Triumph sc.).
C. P. Wood (3¾ Scott).
N. Hall (2½ O.K.).
Reg. Brown (3½ Sunbeam sc.).
W. Chapman (7 A.J.S. sc.).
B. P. Ransom (5 Lea-Francis sc.).
L. Constantine (3¾ Hobart).
E. Mundey (2½ New Hudson).
A. Milner (2¼ Diamond).
A. H. Stubbs (4¼ B.S.A.).
A. Thom (7-9 Harley-Davidson sc.).
F. Hallam (8 Excelsior sc.).
J. Parker (2¼ Cedos).
W. A. Ridley (10 New Hudson c.c.).
W. J. Lord (2¼ Hobart).

No Award.

H. L. Burley (2¾ Marloe).
H. R. Payne (3 Royal Enfield).
J. H. Watson (3½ Beardmore-Precision).
H. Russell (8 Brough Superior).
H. Close (2¼ Triumph).
E. Foster (8 Dot sc.).
T. Doyle (3½ Lea-Francis).
R. Potter (4¼ James sc.).
J. W. Meredith (10 T.B. cycle car).
E. S. Astley (5 New Rover sc.).
S. J. Marston (1½ Mohile Cyclette).

In Abeyance for Further Consideration by Committee.

F. J. Price (2¼ Diamond).
A. W. G. Martin (4 Triumph).
F. H. Brown (8 Rex sc.).
H. W. Hassall (3½ Norton).
W. Tong (3½ Rover sc.).
F. Begley (4 Dalton sc.).
C. M. Green (4 Triumph).
W. F. Smith (2¾ Hobart).
S. Hall (3½ Sunbeam).



SINGLE OR MULTI CYLINDER?

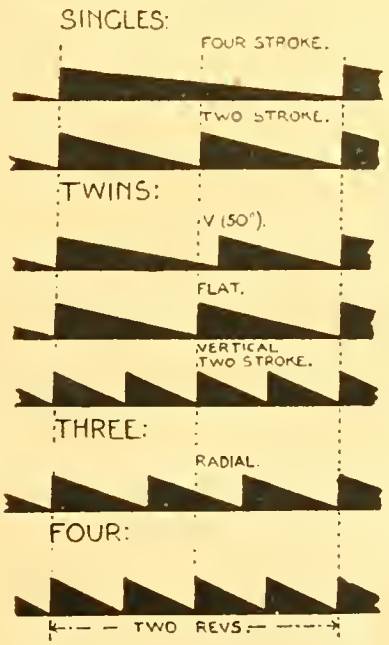
Describing the Characteristics of the Various Types of Power Units. The Importance of Continuity of Torque on Motor Cycle Development.

MOTOR cycle engines, as all other power units, are undergoing an evolutionary process, and finality remains a long way ahead.

The question so often asked by the inexperienced in motor cycle matters, "What is the best type of engine?" can only be parried by another, "What has it to do?"

In the case of stationary and boat plant, simple cylinder arrangements may be adopted, because there is room for the employment of large flywheels for the smoothing out of torque inequalities, the total weight of the unit being more or less negligible. The same truth obtained in the early development of cars, and still holds in the motor cycle world.

Let us consider the *desiderata* of a successful power unit for road vehicles; six qualities are needed, and these are placed in order of desirability:



Torque impulses of standard types of engines.

(*a*) Power (for given capacity).

(*b*) Reliability.

(*c*) Cheapness of operation.

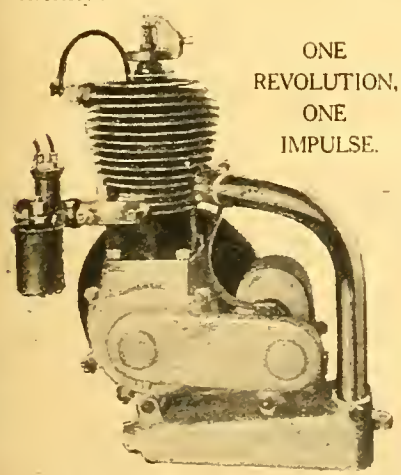
(*d*) Smoothness of running, *i.e.*, absence of unbalanced forces and freedom from torque variations.

(*e*) Lightweight.

(*f*) Cheap manufacture (*i.e.*, simplicity).

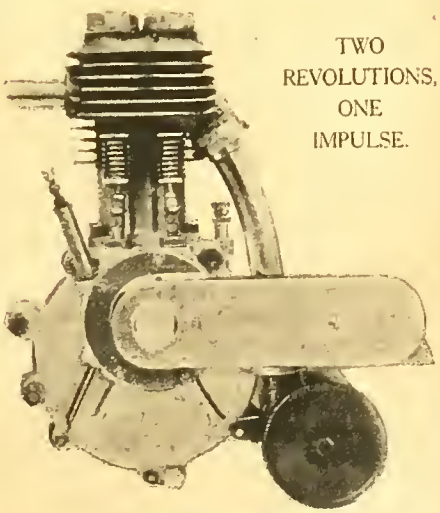
Existing power units are fairly evenly matched on points (*a*), (*b*), and (*c*), but owing to the necessary freedom from frictional losses, the smaller the number of cylinders the greater the available power for any capacity; thus the single usually scores over the twin, as the twin scores over the four-cylinder in sheer b.h.p. for a given total capacity. Reliability is not necessarily greater with one cylinder than it is with two or more. If a one-cylinder engine is reliable for 10,000 miles, surely a four-cylinder engine should be equally reliable, since it is merely a combination of four single-cylinder engines, each smaller and less highly stressed, and each correcting certain defects of the others, resulting in vibration-free running. On the score of cheapness of operation the single again shines, for its comparatively high thermal efficiency and essential robustness of construction permit it to run, as an engine, very economically—the overall economy of the machine it propels, however, may be less than a machine fitted with a more complicated but smoother running power unit.

ONE REVOLUTION, ONE IMPULSE.



Single two-stroke, which scores on power for weight, simplicity, and smooth running.

TWO REVOLUTIONS, ONE IMPULSE.

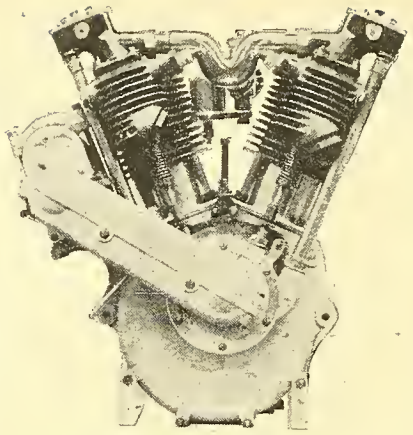


The four-stroke single, pre-eminent for power output from a given capacity.

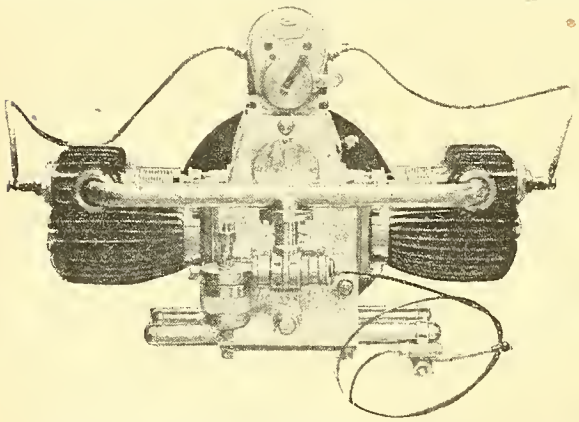
Single or Multi-cylinder?—

The other qualities (*d*), (*e*), and (*f*), may now be considered. First, smoothness of running: this attribute of good engines has two great sub-divisions. To the average motor cyclist the difference between balance and torque is somewhat hazy, but the distinction between the vibration due to unbalanced parts and that arising from uneven firing intervals is clear and distinct.

Unbalance results in vibration which is felt equally, whether the engine is giving power or whether it is being driven by some external means, and in consequence has nothing to do with the number or disposition of the firing intervals. For a given capacity a single-cylinder engine presents the greatest problem in balancing, and a narrow angle V twin is also balanced only by compromise; on the other hand, a flat twin is almost



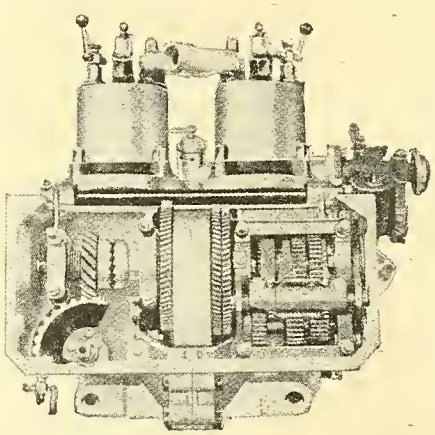
Despite uneven firing intervals, the V twin is pre-eminent on passenger machines.



Absence of vibration—the outstanding characteristic of the flat twin.

perfectly balanced, and therefore runs with practically no vibration at all, while four-cylinder engines, although somewhat inferior to the flat twin, have likewise a minimum of vibration. Vertical twins with cranks at 180° show an unpleasant transverse vibration which cannot be eliminated, while three-cylinder radials occupy a midway position between the flat twin and V twin, almost approaching the former in the absence of vibration.

Torque vibrations may be described as pulsations in the power delivery of the engine, and they have a tremendous effect upon the design of a machine, its comfort and its performance; in many cases smooth torque outweighs the disadvantages of certain unbalanced vibrations, notably in the case of vertical twin two-strokes, where the almost continuous power output compensates for a thoroughly objectionable "couple."

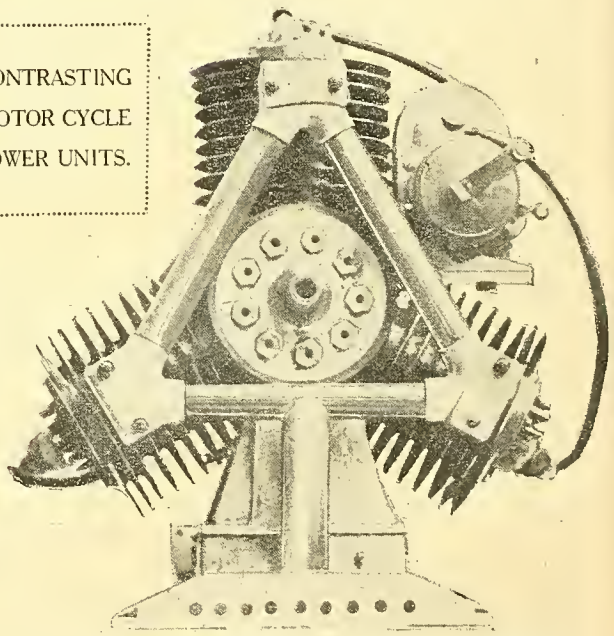


A twin two-stroke; this type gives "four-cylinder" effect with only five moving parts.

Just as a greater number of cylinders allows the engine's reciprocating parts to be smaller and lighter for a given power, so an increase in the number of power impulses over a given period permits a lightening of the transmission elements, and is conducive to a reduction of the stresses and wear imposed upon frames, wheels, and tyres, as well as to an increase in the rider's comfort.

Torque comparisons between the various types of engines are most easily shown diagrammatically, when it will be seen that over a given two revolutions the four-cylinder has the advantage. The power output of this type is delivered in four

CONTRASTING MOTOR CYCLE POWER UNITS.

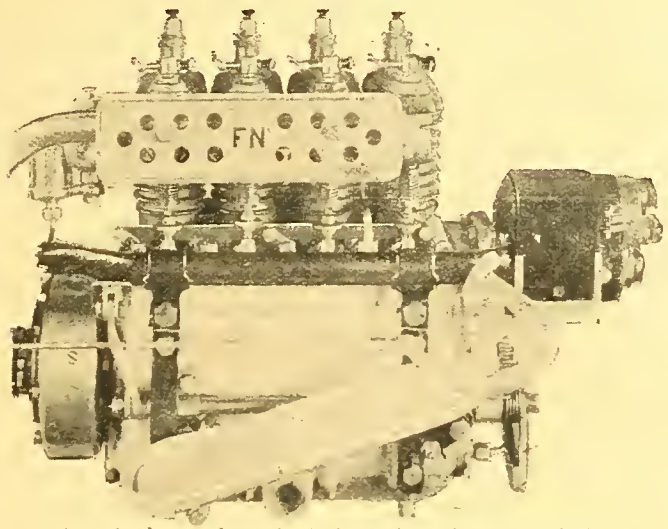


Even torque, simplicity and low vibration, distinguish the radial three-cylinder.

comparatively small blows, the three-cylinder radial follows closely with three slightly greater impulses, but is beaten by the twin two-stroke, which gives a "four-cylinder" effect. Flat twin four-strokes and single two-strokes give their power in greater impulses at even intervals, twice in two revolutions, while the V twin gives its Morse effect—"dot dash, dot dash"—in the same period. Finally comes the single four-stroke, fated to give its power in widely spaced smashing thumps, and calling for heavy flywheels and staunch transmission gear to deal with its one impulse every other turn of the crank. To review, then, the various types of

Single or Multi-cylinder?— power units on the motor cycle market it is obvious that the question, "What do you want it to do?" must be continually kept in view.

The designer whose slogan is comfort, silence, and smooth acceleration with minimum overall weight, must look to the smooth torque units; he must decide whether cost shall sway the balance between the four-cylinder four-stroke or the simple twin two-stroke. Compactness may make a compromise desirable, in which case the three-cylinder radial offers many advantages. Single two-stroke and flat twin offer similar torque characteristics, but the former lacks refinement of balance just as it laughs at all other types in cost; while finally there is the four-stroke single, first choice of the man who demands maximum power for a given capacity, and who *will* have the entire reliability of the stationary engines which were its forebears.



Luxuriously smooth running is the attribute of the four-cylinder

Has this summary ignored the V twin? Yes and no! Like "crash" gears, the only remark that can be made of this type is that it is terrible, but that it goes. The V twin was developed "because it fitted motor cycle frames"—there can be no excuse for its uneven torque and crude unbalance other than the most telling excuse of all, that it has made possible the success of the splendid and powerful passenger motor cycles which have done so much to popularise the movement. Like many faithful servants, it may have to be discarded, but the day is yet far distant. WHARFEDALE.

PRICES OF SECOND-HAND MOTOR CYCLES.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

MAKE, H.P., AND DATE.	CLASSIFIED PRICES.	AVERAGE PRICE.
A.B.C. 3 h.p., 1920	£85, £92, £100, £110, †£125, †*£130, †*£140	£112
Abingdon 5-7 h.p., 1920	£130, £140	£135
Acme 8 h.p. sc., 1920	£180, £190	£185
A.J.S. 6 h.p. sc., 1920	£175, £180, £180, £190, †£195, £195, £200, £200, £200, †£200, †£210, †£210	£195
Allon 2¾ h.p., 1920	£58, £70, £75	£68
American X., 7-9 h.p., 1920	£150	—
Ariel 3½ h.p., 1920	£88, £90, *£105	£91
Bat 8 h.p. sc., 1920	£140, †£200	£170
Beardmore 3 h.p., 1920	£80, £84	£82
Blackburne 4 h.p. sc., 1920	£115, £125	£120
Blackburne 8 h.p. sc., 1920	£175, £210	£193
Bradbury 6 h.p. sc., 1920	£175	—
B.S.A. 4½ h.p. sc., 1920	£120, £125, £135, £135, †£110, †£118, †£150, †£150	£138
Calthorpe 2¾ h.p., 1920	£60, £65	£63
Clyno 2¾ h.p., 1920	£53, £55, £55, £60, £60	£57
Connaught 2½ h.p., 1920	£18, £50	£19
Coulson-B. 4 h.p., 1920	£85, £87, £90, £98	£115
Coulson-B. 2¾ h.p., 1920	£85	—
Coventry Eagle 2¾ h.p., 1920	£75, *£84	£80
Diamond 2¾ h.p., 1920	£59	—
Douglas 2¾ h.p., 1920	£70, £85, £86, £87	£82
Douglas 4 h.p. sc., 1920	£115, £125, £130, £130, £135, £110, £110, £140	£132
Enfield 8 h.p. sc., 1920	£140, †£148, †£150, £153, †£155, †£170, †£170	£155
Enfield 2¼ h.p., 1920	£19, £55	£52
Excelsior 2¾ h.p., 1920	£64, £70, £80	£71
Harley-Davidson 7-9 h.p. sc., 1920	£160, †£198, †£200, †£210, †£215, †£225	£201
Hazlewood 5-6 h.p. sc., 1920	*£170	—
Hobart 2¾ h.p., 1920	£55, £65	£60
Humber 4½ h.p. sc., 1920	£160	—
Indian 7-9 h.p. sc., 1920	†£145, †£150, †£160, †£175, £180, †£180, †£190, †£200	£173
Indian 4 h.p., 1920	£115	—
James 5-6 h.p. sc., 1920	£145, £150, £150, £160, *£165, £170, *£170	£159
Lea-Francis 3½ h.p.	£100, £105	£103
Levis 2½ h.p., 1920	£50, £50	£50
Martinsyde 6 h.p. sc., 1920	*£150, £160	£165
Matchless 8 h.p. sc., 1920	£155, £175, £175, £175, £180, £180, £185, †£185, †£190, †£200, †*£215	£183
New Hudson 2½ h.p., 1920	£55, £58	£57
New Imperial 8 h.p. sc., 1920	£160	—
Norton 4 h.p., sc., 1920	£110, £155	£148
N.U.T. 3½ h.p., 1920	†£115, †£115, †£125	£118
O.K. 2¾ h.p., 1920	£45	—
Omega 2¾ h.p., 1920	£58, £60	£59
P. & M. 3½ h.p. sc., 1920	£130, £138	£134
Quadrant 4½ h.p. sc., 1920	£95, £115, £125	£112
Radco 2½ h.p., 1920	£15, £18	£17
Rover 3½ h.p., 1920	£90, £95, £125	£103
Rover 5-6 h.p. sc., 1920	£150, £160, £160	£157
Royal Ruby 3 h.p., 1920	£99, £102	£101
Rudge 3½ h.p., 1920	£85, £85, £90, £95, £95, £105	£92
Scott 3½ h.p. sc., 1920	£125, £130, £140, £140, £150, £155, £160	£137
Sunbeam 3½ h.p., 1920	£140, £146, £148	£145
Sunbeam 3½ h.p. sc., 1920	£165, £180, £210	£185
Triumph 1 h.p. Model H., 1920	£110, £118	£114
Triumph 4 h.p. sc., 1920	£120, £130, £135, £175	£140
Velocette 2½ h.p., 1920	*£69	—
Verus 4 h.p., 1920	£105	—
Wooler 2¾ h.p., 1920	£72, £84	£78
Zenith 8 h.p. sc., 1920	£155, £165	£160

*Unused. †Dynamo lighting.

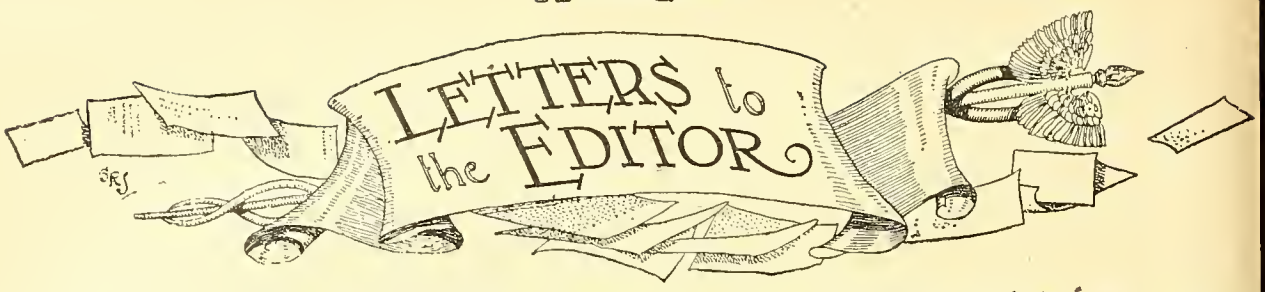
THE COST OF HIRING A MOTOR CYCLE.

WE frequently receive enquiries from readers asking where motor cycles may be hired. A firm which has lately undertaken this work is Messrs. Maudes' Motor Mart. The cost of hiring is on the following scale:

	Week-end or mid-week (3 days).	One full week.	Per week for two weeks or more.	Extra days.
	s. d.	s. d.	s. d.	s. d.
Motor cycle ...	42 6	85 0	76 6	10 0
Sidecar outfit ...	52 6	110 0	90 0	13 0

All hiring charges are payable in advance together with a deposit of £10 for a motor cycle or motor cycle and sidecar, which is held to cover any petty damage or loss of accessories not covered by insurance. The deposit is returnable in full when the motor cycle or motor cycle and sidecar is returned in sound condition. Week-ends are counted from 6 p.m. on Friday to 10 a.m. on Monday and mid-weeks from 10 a.m. Tuesday to 6 p.m. Thursday.

All motor cycles are sent out fully equipped. No machines can be hired to persons who have not held a driving licence for at least twelve months.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

WEIGHTS—IN 1902 AND NOW.

Sir,—Though principally concerned with the motor car side of the press, I am a keen follower of your paper privately, and have noticed the difference of opinion existing with regard to the ideal weight limit for the solo machine.

Looking through an article on motor cycling in an issue of *The Car*, dated June 11th, 1902, I was highly amused at the report of a lecture given by Mr. Graham Murray, one of the pioneers of the sport, who expressed his opinion that the absolute practical weight limit of a motor cycle should not exceed 100 lb., as a machine of greater weight would be difficult to handle or to lift into a guard's van!

Perhaps some of the London-Land's End entrants would be pleased to read this. F. T. POULTON.

DETACHABILITY.

Sir,—Your contributor, Mr. Davies, in his remarks on my patent, No. 139,980, in your issue of February 24th, overlooks, or misses, the main purpose of the patent.

In the present makes of engines with outside flywheel, when it is necessary to withdraw the connecting rod and piston for rebushing, the engine must be entirely removed from the frame, dismantled, and in this process and the reassembling a considerable amount of time is spent and expense incurred. My patent does away with the dismantling of the engine, as the power transmission end of the driving shaft and the crank pin can be removed through an opening in the crank case, leaving the engine in the frame without disturbing the setting of the valve timing mechanism and a magneto. WILLIAM MALCOLM.

CLASSIFYING COMPETITION RIDERS.

Sir,—Now that the time for trials and competitions approaches I think that an added interest would be given to their descriptions in your journal if some distinction was drawn between trade riders and amateurs.

Most of us judge the merits of the different machines by the performances of the former, while the efforts of the latter appeal to our sporting instincts.

I would suggest that a leaf might be taken from the book of cricket, and that the names of all professional riders should be given, shed of their initials, while the real amateur should have his full title.

No trade rider, I think, wants to be thought an amateur; no competitor, who rides for the sport alone, wishes to be thought to be connected with the trade. ETAPLES.

London.

[This is not an isolated suggestion, and we should be glad of further opinions from readers on the subject.—ED.]

ORGANISATION AND CO-OPERATION.

Sir,—I read from time to time, in *The Motor Cycle*, letters from newly joined A.A. members complaining of the iniquity of the new subscription and lack of personal benefits, and have heard many motor cyclists on the road expressing similar opinions.

It is true the A.A. has more or less brought this attitude upon itself by emphasising too much, in its advertisements, the immediate and personal benefits, such that those who cannot see beyond their noses, and who expect tangible individual results, practically want free petrol, oil, and tyres in return for their subscription. Even so, there *are* tangible personal benefits. The A.A. village signs, fingerposts, warnings, and so on are so numerous and so familiar that one forgets they are all part of the organisation. A.A. scouts have several times saved me a heavy fine for exceeding the speed limit; and the free legal defence alone may save the subscription a dozen times over in a police-ridden district.

But the chief, and far the most vital, benefit is not immediately evident; but it is that to which practically every motor cyclist owes his very existence on the road to-day, so that those who do not join the A.A. are to a certain extent defrauding those who do. It is the fight against Government oppression, taxes, restrictions, rules and regulations, bureaucracy, and red tape officialdom generally. The A.A. is the private motorist's trade union. (I hate the word, and only use it for want of a better.) We *must* have such. If the A.A. were to give up every personal benefit it talks about in the advertisements, the subscription would *still* be worth while. It is true it failed to defeat the new 1921 taxation; and *cui culpa?* A house divided against itself—. I was formerly an A.C.U. member also, but returned my badge after the secretary signed his approval of the scheme.

Your columns have for months been full of complaints about the new tax; but it does not seem to have occurred to anyone that there will be another Budget next year, and that *if the present taxes only stop where they are*, we shall have the A.A. to thank. The A.A., as it is, is making a perfect nuisance of itself in Parliament, and I doot it hasna finished yet. A.A. 282590 AE 8675.

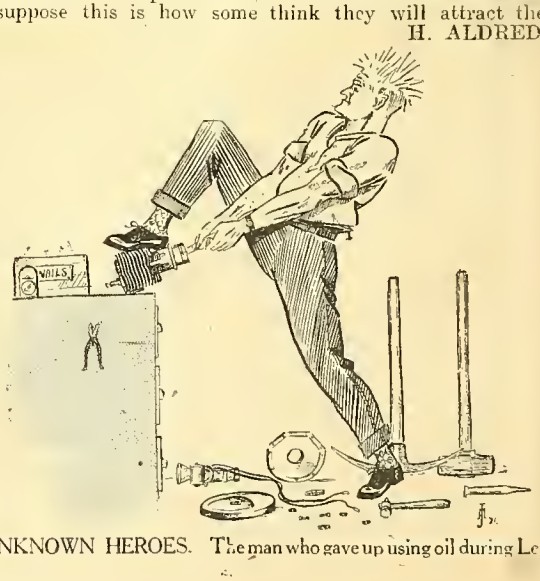
Cambridge.

SPORTING OR SOCIAL CLUBS?

Sir,—With reference to your remarks headed "Fostering Club Life," in the issue of February 24th, I should like to voice my opinion, as the late secretary of a motor cycle club, of the indiscreet decision of that club, and maybe of others, of making the club of a purely sporting nature. There seems to be a notion in some minds that every motor cyclist is "single," or *should be*, and this seems to be approved by the A.C.U. as a governing body of the pastime which, since the formation of the various centres, has resolved, I believe, that no other club can be recognised where one already exists unless that centre *approves*.

It has been a topic of late as to "Where are the ladies?" I suppose this is how some think they will attract them.

H. ALDRED.



UNKNOWN HEROES. The man who gave up using oil during Lent.

COPPEN, ALLAN & CO.,

89, GREAT PORTLAND STREET, LONDON, W.1.

SOLE DISTRIBUTORS

'Phone: MAYFAIR 5399.

"READING STANDARD"

THE WORLD'S MASTER MOTOR CYCLE.

SOLO, £184. COMBINATION, £229.

COMBINATION, with PLUS ONE SIDECAR, a Single or Double Seater at will, £250.

Above prices include Dynamo Lighting (not combined with magneto), all Electric Lamps, Electric Horn, Shock-Absorber, Coverall Apron, etc.

EARLY DELIVERY ON GUARANTEED DATES. IMMEDIATE DELIVERY OF SPARES. CONSIDERATE ATTENTION

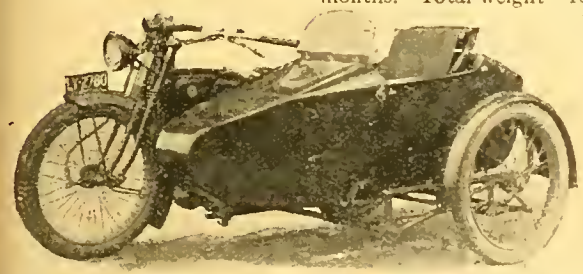
+1 PLUS ONE

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FOR FITTING TO YOUR OLD OR NEW MOUNT.

A SINGLE OR DOUBLE SEATER AT WILL.

SPECIFICATION. Sidecar body and chassis (finished in any one of the six standard colours) Coverall apron, complete with turn-buttons. Adjustable lamp bracket. Aluminium step plate. Self-locking sidecar wheel stand. 26in. or 28in. wheel, tyre. Four point suspension complete with steel sidecar lugs for attachment to most makes of motor cycles. The whole of these guaranteed for six months. Total weight—185 lb. No irritating extras. Will carry two adults in comfort.



58 GNS.



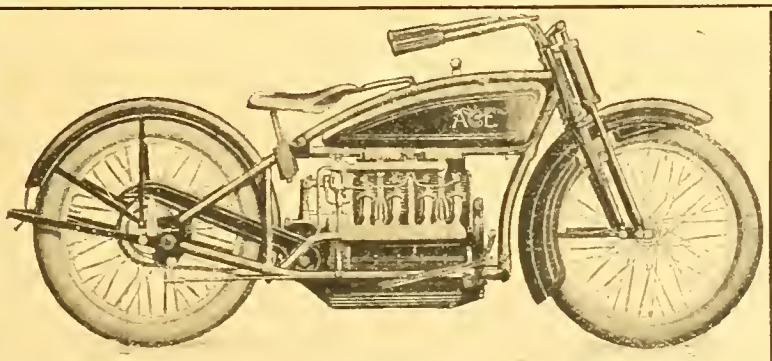
"THE ACE"

4-CYL. MOTOR CYCLE

The ACE engine represents the last word in what is now admitted to be the motor cycle engine of the future as far as machines of the highest class go.

The lubrication is of the motor car type, a sump in the crank case supplying oil (under pressure) to all bearings. The lower half of the crank case is ribbed to aid cooling of oil and also give greater strength. Heated air intake to the carburetter ensures perfect vaporisation and therefore maximum fuel economy.

The rest of the machine is on equally advanced lines. The front forks are of extraordinary strength, and the springing arrangements are sensitive to light as well as heavy shocks; the mudguarding is designed to prevent any clogging, and the rear guard is movable to allow tyre repairs to be easily done.



SOLO ORDINARY, £210 SOLO ELECTRIC, £235

Distributors for

"M.P." SIDECARS

"The Sidecar without a Chassis."

38 Guineas.

New Machines in Stock.

B.S.A., Lea Francis, Clyno, Triumph, Harley-Davidson, New Hudson, Ace, Reading Standard, Zenith.

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NEW HUDSON

Lightweight 2-stroke Types. All 30/- tax.

The Famous de Luxe Tourer

Two speeds, plus everything of the finest and best in fittings and equipment.

65 guineas.

The "ACE" Racer

The sporting and competition type "par excellence." Special Engine—Attractive Finish—Remarkable Speed.

75 guineas.

The New Popular Utility Model

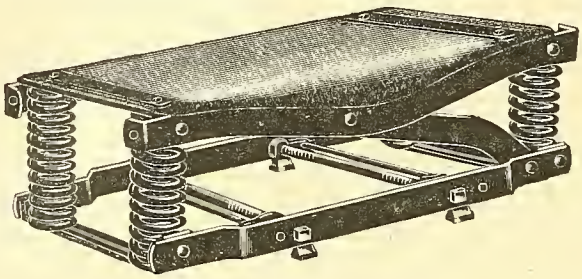
Latest introduction. Simple — Light — Efficient — Inexpensive. With refined appearance, finish, and equipment, ensuring good service and complete satisfaction.

50 guineas (complete)

In answering this advertisement it is desirable to mention "The Motor Cycle." C17

YOUR EQUIPMENT
for 1921

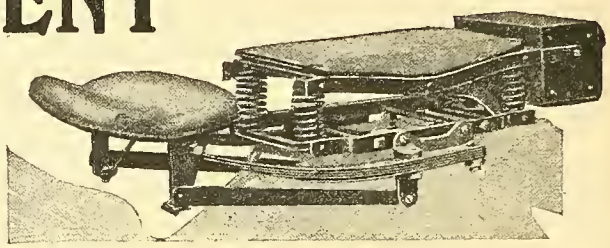
For pillion riding you need
A TAN-SAD PILLION SEAT.



The Ever-Tried and Trusty.

FOR SAFETY:
A TAN-SAD INSURANCE POLICY.

For all of these enquire of your agent, or



FOR UNTOLD RIDING COMFORT YOU NEED A
TAN-SAD "NO-HURTS" SADDLE.

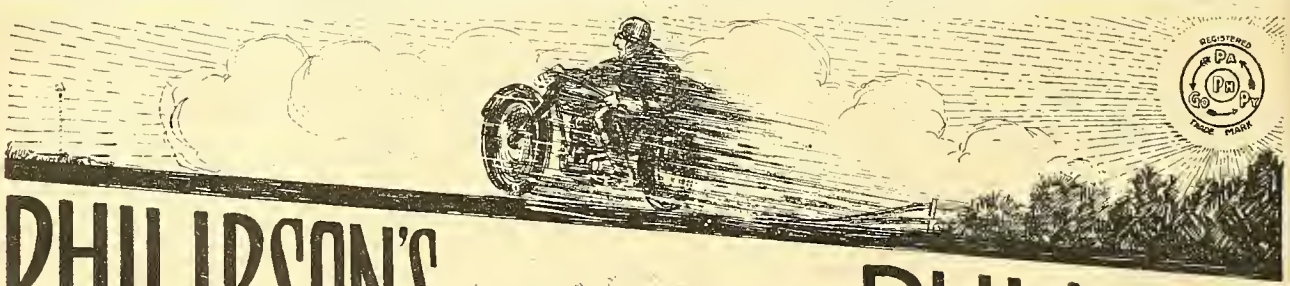
AN INCONTESTABLE TREASURE, says Mr. Short.

TESTIMONIAL.

Dear Sirs, Birmingham, 1/2/21.

Having obtained one of your Tan-Sad "NO HURT" Saddles, I took the opportunity of testing its merits over that impossible stretch of pot holes between Erdington and Wolverhampton, via Walsall and Willenhall, returning via Wednesbury—a very "choice" 40 miles of road to test the Shock Absorbing properties of any Saddle or Seat, and I found the "NO HURT" an *Incontestable Treasure* to Motor Cyclists, and shall be pleased to recommend it to all my friends.—(Signed) F. Short.

TAN-SAD WORKS, FREEMAN STREET, BIRMINGHAM
(F. H. HEADLEY.)



PHILIPSON'S PULLEY

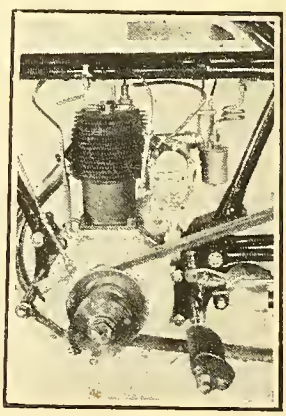
Patent Automatic Governor
and Gear Combined.

Note the simplicity of the
PHILIPSON PULLEY

This is the Pulley that is used by amateurs and professionals, and is the ONLY pulley which has numerous successes to its credit in hill-climbing contests.

No rods, chains, sprockets, wheels, etc., to worry the rider and give trouble when least expected.

Send for illustrated booklet.



PHILIPSON & Co., Ltd.,
Astley Bridge,
BOLTON, Lancs.
Established over 40 years.

FOR LIST OF MACHINES WE HAVE RECENTLY FITTED WITH THE PHILIPSON PULLEY

See our advertisement in this issue, page Sup. xii.

IMMEDIATE DELIVERY.
Price £8 = 8 = 0 Carriage Paid.

NOT ENOUGH MUD TO WORRY ABOUT.

Sir,—As an old and appreciating reader of your valuable paper, may I be permitted a small space in your columns regarding wet weather riding? Many riders—to judge by the letters one reads—appear to think it is high time machines were so constructed that one could start—and finish, a wet weather run in a spotless condition. If they were to take notice of passing cars, they would see that only the body work prevents the passengers from getting smothered in much the same way as a motor cyclist, so that nothing short of a "limousine" motor cycle will ever cure mud splashing.

Personally, on my present mount, I have made many wet weather trips without becoming unduly plastered with mud, and I might mention the machine is not fitted with any special protection beyond a good guard to each wheel.

Passing traffic is responsible for more than half the liquid slush, but if good mudguards are fitted, and a few seconds spent to put on overalls—which, to my mind, need not be particularly unsightly — the most fastidious "Beau Brummel" can ride without being fearful of his appearance at the journey's end.

OPINION.

Tooting, S.W.17.

WIDENING PERFORMANCE.—PRICE RATIOS.

Sir,—There is, I am sure, among the motor cycling community, a certain section who, while possessing funds sufficient to purchase a lightweight only, desire a more powerful and yet essentially simple machine at approximately the same initial cost.

The specification should include a 500 c.c. engine, a plain two-speed gear, and (for the sake of lightness and low cost) chain and belt transmission. The ratios provided should be about the same as the top and middle of the usual three-speed box, say 4¾ and 7½ to one. Given a reasonable surface, there is no gradient that a 3½-4 h.p. will not take in second—with ease. A third speed is therefore merely a luxury, and should, without hesitation, be discarded. To fit a lower low speed would be like equipping a phaeton with dray harness; the machine would lose speed on hills and that sprightliness so dear to the semi-sporting rider and the fast tourist. In this respect and other details every care should be taken to prevent the machine from developing into a weighty, often cumbersome, and usually over-developed, steady going 'bus, which is offered us to-day as a 3½ h.p. solo machine.

The details must be as simple as efficiency will permit; items, such as magneto, tyres, and forks should be as reasonable in price as possible. The brake, for instance, of the belt rim type: for a cheaply built band type is a curse. A low frame should be designed purely for solo riding, and made too light for sidecar work. The total weight would not exceed 190 lb. Apart from the tax-saving point of view, low weight is obviously beneficial in tyre wear and petrol consumption, points too often overlooked by the buying public.

A two-speed 2¾ h.p. J.A.P. engined motor cycle sells at about £75, and, considering that the frame would remain practically identical in both machines, I hope to see the 3½-4 h.p. marketed at somewhere about £85 or £90.

In conclusion, I would like to point out that this design embodies almost all the advantages of the sporting "single gearer," combined with the capabilities of a go-anywhere machine: and this at "lightweight cost." J.H.I.

Dartmouth.



Where one instinctively closes the throttle and travels quietly—the Bishop's Close at Wells, Somerset.

ARE THEY WORSE THAN ELSEWHERE?

Sir,—I should like to bring before your notice, and before the notice of any readers of *The Motor Cycle* who intend to visit Eastbourne in the future, the disgusting condition of the roads round this town. The roads actually in the town and in the immediate neighbourhood are not so bad, even quite good in some places; but outside they could only be described as—hum!—well, appalling is a very mild term to apply.

Riders of spring-framed machines would be able to test the efficiency of their springs. The authorities concerned are evidently asleep. DISGUSTED.

Tonbridge.

OPEN FRAMES FOR ALL.

Sir,—Up to the present very little is being done, or spoken of, regarding the "open type framed machines." I allude to the larger sized machines other than scooters. The nearest approaches are, of course, the few ladies' with "looped" frames, or with the top tube brought rather low at the saddle-pillar bracket. Discussing this subject with many members of the motor cycle world they all agree that the machine of the future will be constructed with double parallel tubes running from each side of the back wheel under gear box, engine, and thence to the head similar to the A.B.C., Superb Four and the handy Reynold Runabout. This latter certainly appears to be so far one of the best attempts to combine comfort and clean riding in all weathers, but we must see more of its endurance to be perfectly satisfied. *The Daily Mail's* motor cycle correspondent remarked recently on "Woman's Keenness to Ride," and why she does not is easily answered in a few words. Open frames are wanted and not the type of cut down or loop frame now being served out as a lady's mount. The properly constructed open framed machine with dashboard for protection is suitable for all, and the sooner the obsolete and "cribbed" push bicycle frame is done away with, the larger the ranks of motor cyclists will become.

Can anyone tell me if he has experienced a certain amount of vibration found at the "grips" on the handle-bars of several makes of two-strokes on long runs of 80 to 100 miles? It is very tiring. Is it caused by their frames not being so stoutly made (in the gauge of frame tubing) as compared with heavyweights? I find the same "dither" on the footboards. Rubber "grips" and rubber blocks under the running boards might help. HAROLD SOLOMON.

LUBRICATION OF BOWDEN CABLES.

Sir,—I should like to send along the following tip, in the hope that it may interest some readers of your valuable paper, who, like myself, are all-weather riders, and may possibly have been at a loss to lubricate their Bowden cables.

Get a piece, about 8in. long, of an old push-bicycle inner tube, and into the end of this insert the end of the cable, then bind the lot over with insulating tape, making a good joint.

Next fill the tube about two-thirds full of a suitable oil, and close the other end tightly with a piece of string. When this is done, get the oil-filled tube between your two hands and squeeze hard. The oil will then travel the full length of the cable, and squirt out at the far end.

This only applies to cables where the ends are detachable from their seats of operation.

I have never heard of this method being adopted before.

Dublin. W.G.R.

CONSUMPTION OF TWO-STROKES.

Sir,—With regard to consumption of two-strokes, I should like to state my experience with an O.K. two-speed Villiers. I get 110 m.p.g. on petrol with the following setting: Amac carburetter, jet No. 22, and level in float chamber about $\frac{1}{16}$in. lower than set by makers. I can give full air on this setting, and usually run with air lever fully open.

I must say this engine is a splendid puller, and the way it takes hills is wonderful. The plug I am using is an Apollo, the best plug I have used, and I can recommend it to your readers. A. WIGGINTON.

UNDER DIFFICULTIES.

Sir,—I have noticed several letters from your correspondents containing accounts of various runs made on (mostly) high-powered new "'buses." I think my adventures on an old lightweight machine might interest your readers.

My machine is a 1911 2¼ h.p. F.N. The tyres (wired-on) were in a bad condition. The rear one, although new some months before, had had all the rubber studs cut off by the mudguard coming adrift. The front one had a groove round the centre where the number plate screw had been rubbing. The induction pipe had a split in it of 2in. in length, which occasionally opened to ¼in. in width.

The cycle was in this condition when I started from Lymington to ride to Westcliff, Essex. I had threequarters of a quart of oil and two gallons of petrol. I left at 8 a.m. on a Saturday. After two or three miles the engine konked out on a small gradient. I cleaned the carburetter, and made a fresh start. For ten miles I went with the engine firing once or twice, "spitting" back in the carburetter, and then firing with an ear-splitting bang in the silencer. I then awakened to the fact that I was getting pre-ignition. I changed the plug, and from that moment I did not have any more signs of engine trouble. But the engine is not the only potential cause of trouble on an old mount.

Arriving at Southampton, I lost my way, and, in addition to getting about five miles on the wrong road, I got a puncture in my rear wheel. Upon looking in my toolbag I discovered I had lost all my patches, and also found my pump was bent to such an extent that I could neither use it nor could I extract the connection. Nothing special happened to me then until I reached Kingston-on-Thames at four o'clock—four and a half hours on a terrible road with no trouble whatever.

Arriving at Kingston, I again lost my way, but I eventually found myself in Piccadilly. I crossed the City with my heart in my mouth, my foot on the brake, in low gear, and with slipping clutch. I had never ridden in the City before, and the roads were very greasy. Near the Tower the back wheel tried to race the front, and I came off, seeing many stars in so doing. I gingerly mounted again, and got as far as the Barking Road, which was under repair, all traffic being diverted to a side road, which had been torn up by hundreds of omnibuses. My tyres stuck it for a few yards, then the rear tube burst!

I went through my vocabulary of choice words, and asked for the nearest railway station. I finished the journey by train from Plaistow, arriving at my destination at 8 p.m., twelve hours after the start. The next day I mended the tube, and without any adjustment did from forty to fifty miles per day for the four following days. My mileage per gallon worked out to over one hundred, and the threequarters of a quart of oil lasted for 120 miles.

The total distance from Lymington to Westcliff is 144 miles, of which I covered on the cycle about 110, excluding miles covered by going on wrong roads. IIJ 1478.

Lymington.



A WINDMILL IN THE CENTRE OF A CITY.

Within a mile of the station at Newcastle-on-Tyne this old windmill defies the winds of Time, and incidentally forms a contrast in power producers with the Victory Model Matchless shown in the foreground.

SIDECARS AND CYCLE CARS

Sir,—I am glad to see the sensible view of the cycle car taken by *The Motor Cycle*.

Although a keen motor cyclist, I must confess that I do not enjoy a mud bath while my sidecar is dry and empty.

I have had an A.V. monocar for a year, and, although admitting that it is not a Rolls-Royce, I must say that its extreme accessibility, simplicity, and cleanliness make a strong appeal to the all-weather rider.

The cycle car, whether having three or four wheels, should be allowed to compete with the sidecar instead of having to compete with cars costing £400.

At a meeting of a newly-formed club in this district, it was decided to debar the cycle car, as it was thought that the cycle car members would "look down on" the sidecar members. We must get rid of this spirit.

Hoping that your valuable paper will do its best to promote friendly competition between the cheap cycle car and the sidecar. A.V.

Sussex.

[While we agree with our correspondent in the main, we do not think that the club incident he mentions is typical of the general attitude of sidecar and cycle car owners. —ED.]

THE FIRST LOVE.

Sir,—Speaking as an ex-motor cyclist who has turned "carist," I do not think a car can hold a candle to a solo motor cycle for sport in driving and in speed on long runs, but the comfort of a car compared to the saddle of a sidecar outfit is very marked. In dirty weather, of course, the car is the vehicle to choose, but in summer there is no pleasure so great as to be astride a good old big single which *can* "mop," but which runs sweetly at low speeds as well.

If you can find room in the columns of your invaluable paper for this letter, I think it will be of interest to those motor cyclists who are wondering (as I did) whether a car would be the thing for the summer or not.

I am now on the look out for a single at a reasonable price for use when I want a joy ride. TRIEDBOTH.

Letchworth.

INSTEAD OF DETACHABLE WHEELS.

Sir,—With reference to "Windy's" complaint of the lack of detachable and interchangeable wheels, etc., on the Harley, perhaps my own case may be of interest.

When buying my 1920 Harley I felt the need of a spare wheel, and turned to a puncture-proofed tube as a solution of the difficulty. It has been completely successful.

On more than one occasion I have removed nails from the tread which must have pentrated the tube, without noticing the slightest loss of air—in fact, the rear tyre has not been pumped up since I fitted the tube, some seven months ago.

I am not an expert on motor cycles, but it strikes me that the Harley engine transmits such power to the rear wheel that an exceptionally strong wheel is essential. The weight of it would be unwieldy in the case of the front wheel.

As far as the exposed rear chain is concerned I welcome it, after experience of chain cases. Graphite keeps the chain in good condition, and adjustment can be carried out in ten minutes. ROE DOG.

Halifax.

MORE TAXATION ANOMALIES.

Sir,—After reading through your article under "More Taxation Anomalies" in the issue for February 24th, I thoroughly endorse your last sentence, "Comment is needless."

Surely "Auld Reekie" did not intend to be read seriously? Take his first point, about two identical machines and a sidecar attachable at will to either. Most of your readers will agree that if "Auld Reekie" can afford two machines he can very well afford to pay the extra £1 involved. All my sympathy goes out to the man who has just managed to scrape enough together to buy a mount and now finds he has to fork out an additional £2. "Auld Reekie's" complaints, however, leave me stone cold.

His second query is even more unreasonable. He wants a refund from the authorities if he happens to sell his sidecar during the year. In the interests of national economy this concession is undesirable. It would mean the creation of an extra staff at tremendous expense.

"Auld Reekie" is an expert at "making mountains out of molehills." After all, the sidecar tax only amounts to a paltry 1s. 8d. monthly, and supposing "Auld Reekie" wants to sell his sidecar in December for £20, everyone would be quite happy if he demanded £20 1s. 8d. for it.

Bolton. FAIRPLAY.

SIDECAR V. CYCLE CAR.

Sir,—I was much interested to read "Ixion's" comments on my recent letter under the above heading. My first impression was that we had joined issue over a very interesting topic and one which will excite the imagination of motor cyclists in particular for many months to come. But after reading his concise deductions, I am half inclined to think that we are both approaching the matter from the same side, but at slightly different angles.

I, personally, am not antagonistic to the cycle car. I am an engineer, in addition to being an enthusiastic private motor cyclist, and am not inclined to turn down the cycle car as a faulty conception purely because the present examples are noisy and somewhat rough. I have too often tasted the bitterness of early defeat and experienced the hours of incessant labour and brain work necessary before a new design of any engineering product can be passed as perfect. The designer of the cycle car has my sympathy; but I prefer to express it in the form of criticisms, as being more helpful from a practical point of view.

The future successful cycle car must have three main outstanding features. It must be simple, both from the manufacturers' and the users' standpoint. It must be reliable in every sense of the word. It must be well-made, and this latter is only possible if the first feature has been thoroughly grasped by the design and production departments. The price is only a secondary consideration, as this point will have been discussed prior to the designing state. There is only a limited market for an article built up to an ideal and not down to a price.

I have come into contact intimately with two of the post-war makes of cycle cars, one of which I owned personally, and the other I very frequently drove and often had in my hands for tuning and adjustment during the same period. One is repeatedly assailed with the statement that the cycle car will do all that the sidecar will do and with a greater degree of personal comfort. This statement is erroneous.

In addition to having sympathy for the under dog, I think "Ixion" will agree the average Britisher relies on deeds and not words. What the cycle car lacks, experience alone can supply. It is the world old process of evolution.

Let the A.C.U. organise fair tests in its forthcoming events so that the sidecar and the cycle car can compete in friendly rivalry, and let us have the same candid criticisms and the same endeavour to advance which marked the evolution of the sidecar. There is room for both types at present. Time alone will decide the ultimate victor.

F. E. SCHOFIELD.

SUMMARY OF CORRESPONDENCE.

One or two other correspondents this week complain of short measure from petrol stand-pipe installations. In one case "two gallons" proved, on measurement, to consist of seven quarts only.

Referring to "Ixion's" remarks on house lighting in *The Motor Cycle* of the 3rd inst., "Brilliant" recommends the Blanchard high-power inverted incandescent paraffin lamp.

Mr. A. J. Thomson states that some time ago he had developed a very satisfactory form of incandescent lighting for motor cycles, but, as the illuminant was of German manufacture, he was compelled to drop the idea.

"R.H.H.," an Edinburgh correspondent, states that he experienced the same elusive noise on his machine as Mr. J. Witham, and evidently caused in the same way, *i.e.*, a loose timing cover allowing the washer to act as a reed.

"Fair to All" calls attention to the fact that a well-known big twin sidecar outfit costs but £5 more than an equally well-known solo machine. He forgets that several good four-seater cars cost only £300, while one or two *two-seaters* cost nearly £650.

Mr. J. T. Bradford revives the old suggestion of a trial for standard stock machines only. He suggests that the trial take the form of a three hours' race at Brooklands, and that a trophy be subscribed for by motor cyclists in general. There would be, he considers, more honour in holding this trophy than in winning the T.T.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

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Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

CURRENT CHAT

Times to Light Lamps.

Mar.	17th	6.35 p.m.
,,	19th	6.38 ,,
,,	21st	6.42 ,,
,,	23rd	6.46 ,,

A Big Industry.

In this issue over 120 different makes of motor cycles available in this country are illustrated.

Spring.

Usually during the initial preparations for *The Motor Cycle* Spring Number, the weather is somewhat wintry—last week, however, real spring weather prevailed.

Must we all buy Tanks?

Amongst items recently picked up on the road is a motor cycle rear stand. This does not at all surprise us, considering the district was Uxbridge.

Roads in Portugal.

According to a report issued by the R.A.C., the roads in Portugal are in a very bad state. The majority of us are not going to Portugal this year, so there is no cause to worry.

A.C.U. 1921 Handbook.

The 1921 edition of the Auto Cycle Union's official Touring Guide and Handbook is now in the press, and will be published very shortly. Members of the Union desiring a copy of the Handbook before Easter are advised to apply at once to the Secretary, Auto Cycle Union, 83, Pall Mall, S.W.1. The volume is obtainable by non-members at a cost of 3s. 6d. post free.

British Imports and Exports Down.

Only twenty-three complete motor cycles were imported during February, but a considerable number of parts and accessories brought the value up to £10,484 as compared with £27,260 in January. February exports of motor cycles, both numerically and in value, are only about half the January figures. The following are comparative tables culled from the Board of Trade Returns for January and February:

IMPORTS.

	January, 1921.	February, 1921.
Number of motor cycles ..	136	23
Value of machines and parts	£27,260	£10,484

BRITISH EXPORTS.

	January, 1921.	February, 1921.
Number of motor cycles ..	1,203	663
Value of motor cycles only ..	£106,172	£55,004
Value of parts	£54,511	£31,066
Total value	£160,683	£86,070

Easter + Good Weather = That New Mount.

The L. and N.W. Railway's Goods Depot at Coventry is an extremely sensitive but accurate barometer of conditions in the motor cycle industry. After a period of almost unparalleled slackness, March opened with brisker conditions, and now such a rapid increase in traffic has there been that there is quite an acute shortage of transport.

Licences of Stolen Machines.

If a motor cycle is stolen along with its licence-card, must the owner pay again for a licence when he replaces it? As might be expected, the Ministry of Transport replies in the affirmative. It is recommended, however, that owners should extend their insurance policies to cover the value of their licences. This point was first raised by the R.A.C. with reference to stolen cars; and, naturally, a bigger financial loss is sustained in such cases by automobile owners than by the motor cyclist. Incidentally we seem to recall that one of the supposed benefits of the new taxation scheme was to be the impossibility of motor thefts!

Special Features.

BUYERS' GUIDE (ILLUSTRATED).
THE MOST DIFFICULT HILL—AND WHY
FACIAL EXPRESSION ON THE ROAD.

Tourist Trophy Entries.

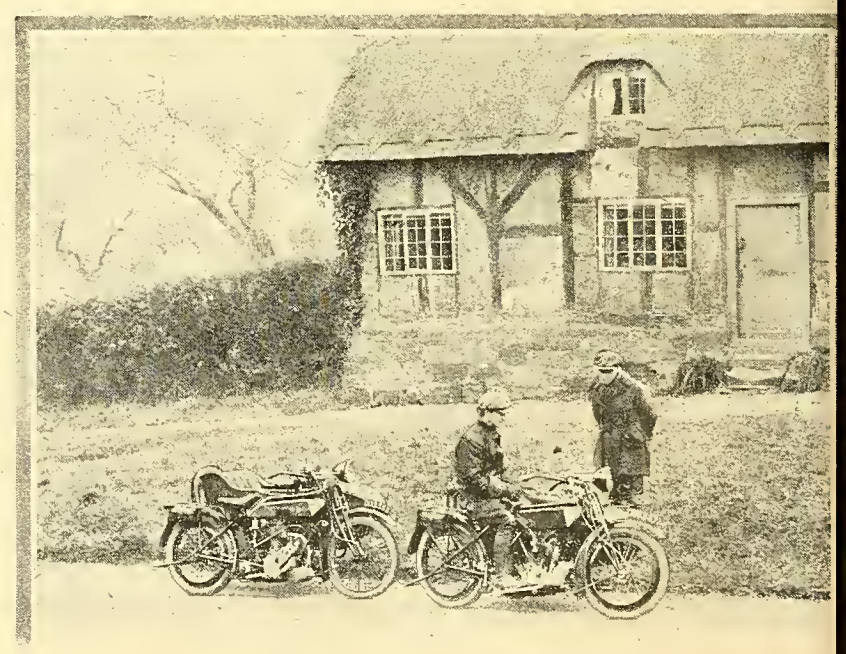
To the list of entries for the Junio Tourist Trophy Races must be added th names of H. Petty and L. Nicholson who will ride 2¾ h.p. Coulsons.

350,000 to 1.

Those who consider the motor cycl industry overcrowded should bear in min that each of the 120 British manufac turers have 350,000 people in the Britis Isles as his share of the potential marke without considering overseas trade.

Another New Institution.

It has been decided to form an Institu tion of Production Engineers, and general meeting will be held on Apr 2nd. Those interested should commun cate with the honorary secretary, Mr. A T. Davey, 6, St. James's Square, Hollan Park, Kensington, W.11.



CHAIN-DRIVEN RUDGES ON THE ROAD.

7-9 h.p. and 3½ h.p. models equipped with interchangeable wheels and all-chain drive. Three-speed Rudge gear boxes are used, and a new plate clutch on the engine-shaft is fitted. Descriptions of a road test of both models will appear in an early issue.

The Most Difficult Hill.

Too late to be included in our article on the most difficult trials hill, George Grinton, the well-known Scotch rider of a Harley-Davidson, writes that Alt-y-Bady is, in his opinion, the most severe climb. As Grinton knows all the severe Scottish hills, this opinion is not without considerable interest.

Speed through Warwick.

Complaints have been made recently by the local authorities and by the public of the speed at which many motor vehicles are driven through Warwick, particularly in Smith Street approaching the East Gate where the road is very narrow. Special police attention is now being given to the cause of these complaints. Motor cyclists should drive with special care through the streets of Warwick, where unusual caution is always required.

Motor Cyclists and Camping.

Motor cyclists to whom camping appeals will be interested to know that the 1921 fixture list of the Camping Club of Great Britain and Ireland has recently been published. The headquarters of the Camping Club are 4, New Union Street, London, E.C.2. One of the features of the list is a Dutch tour extending from July 16th to 30th.

Airmau and Motor Cyclist.

Lieutenant McIntosh, who flew to Australia from England some months ago, has recently succeeded in making the overland trip across the Australian continent from east to west, on an Indian sidecar outfit. The difficulties of the journey were so great that at the end of it he declared he would rather fly back to England than again make a journey across Australia on a motor cycle.

The Buyers' Guide.

The "Buyers' Guide" given in this issue reveals the fact that 127 manufacturers offer 52 V twin-engined motor cycles, 92 four-stroke singles, 81 two-strokes, 17 flat twins, and 3 four-cylinder machines, the last-mentioned being of foreign manufacture. The above figures do not include the several models offered with different types of gear boxes.

The Richmond Meet.

Already upwards of thirty clubs have promised to attend the annual meet of Northern motor cyclists at Richmond (Yorks.), and, given fine weather on Good Friday, a successful gathering is assured. Prizes to be awarded consist of the A.C.U. Challenge Cup for the club with the greatest percentage of members present, taking mileage travelled into account, the Mayor of Richmond's prize, two prizes for ladies and *The Motor Cycle* prize.



STANDARDISED DIRECTION POSTS AND VILLAGE SIGNS.

The post on the left depicts the village and place-name sign, showing also the national route number. On the right the upper arm shows the style of lettering (the route number being white and black) adopted for second-class roads, the lower being that of first-class roads. Clear and explicit recommendations concerning the erection of these up-to-date direction signs have been issued by the Ministry of Transport to all highway authorities.

Week-end Weather.

The weather last week-end was not so favourable in many parts of the country; but numbers of owners of new machines were to be seen on the road.

A.C.U. One Day Trial.

The one day spring trial organised by the Auto Cycle Union, and which takes place on Wednesday, April 27th, will start and finish at Brooklands. The route will include Street Cobham, Church Cobham, Stoke D'Abernon, Leatherhead, Tothill, Walton-on-Hill, Kingswood, Chipstead, Succums Hill, Warlingham, Titsey Hill, Tatsfield, Polesteeple Hill, Cudham Hill, Brasted Hill, Westerham. In the afternoon there will be Chalk Pit Hill, Tilberstone Hill, Batts Hill, Pebblecombe Hill, Burford Bridge, Ranmore Hill, Effingham.

Colmore Cup Addenda.

In addition to the Colmore Cup award given on page 330, R. Ayshford (7-9 Indian) has been awarded a silver medal.

174 Aspirants for the Victory Cup.

Next Saturday's big Midland event, the Victory Cup Trial, which starts from the Austin works, Longbridge, near Birmingham, at 9 a.m., has attracted 174 entries, made up as follows: 108 solo machines, 55 sidecars, and 11 three and four-wheeled cycle cars. There are no fewer than twenty-four teams.

500 Miles on Brooklands.

A 500 mile race open to members of the B.M.C.R.C. will be staged at Brooklands on Saturday, July 2nd. The first man to cover the distance, irrespective of class, will be awarded a 200 guinea gold cup, presented by Capt. A. G. L. Miller. Silver cups for second and third places, and for the winner of each class, will be presented, and in addition each man to complete the course within twelve hours will receive a certificate.

Wave Transmission and the Motor Cycle.

So much publicity recently has been accorded "wave transmission," that motor cyclists are asking if there is any likelihood of this system being adapted to the motor cycle of the future. While not beyond the realms of possibility, we venture to point out that the main advantages of the invention are more pronounced for comparatively long-distance power transmission. It might, however, prove a solution of the hoary spring frame variation of centres problem.

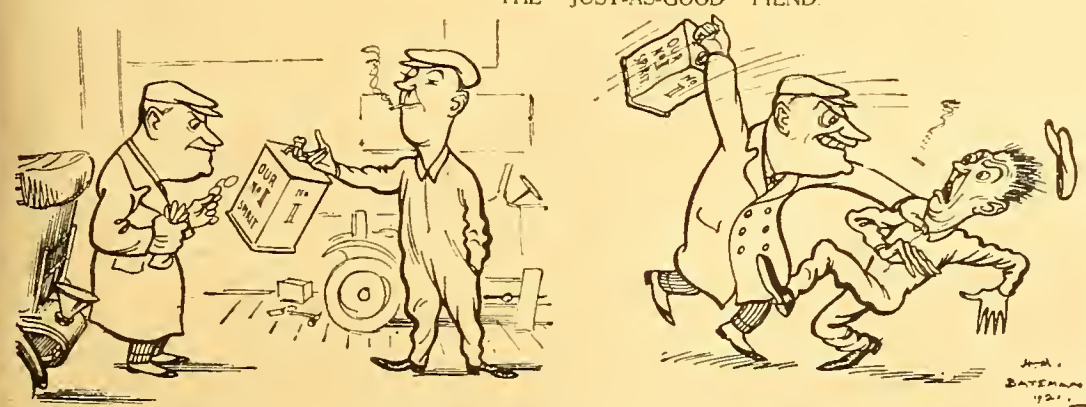
O'Donovan Again Breaks Record.

That intrepid rider, D. R. O'Donovan, on a Velocette, again broke a Class A record on Wednesday last. On his first attempt he covered the flying kilometre in 38.29s. (58.42 m.p.h.). On the second attempt he lowered his speed to 33.03s. (67.72 m.p.h.). The average time worked out to 35.66s., the average mean speed being 62.93 m.p.h.

This breaks the record standing in the name of J. V. Prestwich, on a Diamond-Jap, 249 c.c., time 37.2s., average mean speed 60.13 m.p.h., November 23rd, 1920.

The day was fine, but rather windy, and the times were taken by Col. F. Lindsay Lloyd. Speedwell oil and Pratt's spirit were used.

THE "JUST-AS-GOOD" FIEND.



We have all suffered from the unscrupulous dealer who, when asked for an article of a well-known brand, offers a substitute which, in his words, is just as good. In every branch of commerce he is to be found, be it in the sale of patent medicines, cigars, or motor cycles. In this sketch the inimitable H. M. Bateman depicts what may happen to the daring gentleman who attempts to market his own "No. I."



A FEW HINTS TO THE MOTOR CYCLIST BASED ON EXPERIENCE.

SUITABLE TENTS FOR THE SOLO OR SIDECAR PARTY.

THERE are many who have long wanted to camp, but do not know how to set about it. It is really very simple, and the first thing to consider is what kind of kit shall be made or bought, and how it will be carried. Will it be for one—just a lone camper, for a couple of chums, or for a small family of three? One motor cyclist can carry a kit for himself very easily, two chums may share suitable equipment on two solo mounts, while a sidecar does extremely well for a family of three. Personally, we have a kit for three, and we carry the outfit on our 5-6 h.p. A.J.S. sidecar with ease.

Undoubtedly the first step to do is to join the Camping Club, the address of which is 4, New Union Street, Moorgate Street, London, E.C. The energetic secretary, Mr. Searle, is always pleased to give the tyro all information on receipt of a post card. The subscription is very small—7s. 6d. per year—and for this the club issues a wonderful little handbook, and keeps one posted up in all camping matters.

We will take the case of two or three with a sidecar outfit first. Although a good hefty single will be found quite up to the work of carrying the equipment, it is better to have a reasonably high-powered 'bus for the job, for preference a twin, say, about 7 h.p. A three-speed gear is almost a necessity, as at times one comes across many little test pieces which call for the bottom gear. Another necessity is an extremely strong carrier.

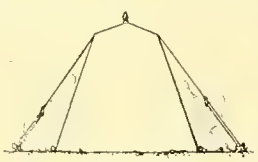
My A.J.S. may be taken as a typical machine that is particularly suitable, or even better than the new 7 h.p. model, but this does not mean that, if a machine is of lower power, a camping holiday need be deferred. The Enfield also does well, but the luggage grid of the sidecar needs strengthening a little. This is easily done by running two stays $\frac{5}{16}$in. × $\frac{3}{4}$in. from the body to the back of the platform. I have seen a 4 h.p. Triumph and sidecar used with great success, also a 3½ h.p. Sunbeam, but if buying a new machine, and serious thought is given to camping this year, I would recommend that the reader plumps for the higher horse-power. The main essentials are reliability and roominess for luggage.

TYPES OF TENTS SUITABLE FOR THE MOTOR CYCLE CAMPER

Three very portable tents, 6ft. 6in. long



"A," 5ft. 9in. high, 5ft. 9in. wide



"Gipsy," 5ft. 3in. high, 5ft 9in. wide, 2ft. 6in. spreader.



"Cottage," 5ft. 6in. high, 6ft. wide, 2ft. 6in. walls

The Tent.

Having fixed up the machine, the camping kit must be considered. First and foremost is the tent—of these there are several, the Cottage, Gipsy, A, Alaskan, and the Chalet, being the best examples. Personally, I prefer the Alaskan, which can be made almost any size, but I have found one 6ft. wide, 5ft. high, and 6ft. 6in. long the most convenient. This particular tent has small walls and eaves, and does not need a fly sheet (I will speak of this later) if one is in a hurry. It sets well, and stands any amount of weather, and has a good appearance.

The tent I use is about the above size. It is home-made, weighs 5½ lb., has been used nearly six years for about one month per year, has weathered many gales, and last, but not least, it will sleep four persons quite comfortably.

The Ground Sheet.

Next in importance to the tent is the ground sheet, to cover the whole of the floor. This may be any

SLIGHTLY MORE ELABORATE TYPES—Two with fly sheets, but none exceeding 7ft. in length.



"Alaskan," 5ft. 9in. high, 5ft. 9in. wide, 1ft. 9in. walls, 1ft. porch, 1ft. 3in. eaves.



"Small Alaskan," 4ft. 3in. high, 4ft. wide, 1ft. 6in. walls, 1ft. porch, 1ft. eaves.



"Small Cottage," 5ft. high, 4ft. 6in. wide, 2ft. 6in. walls.

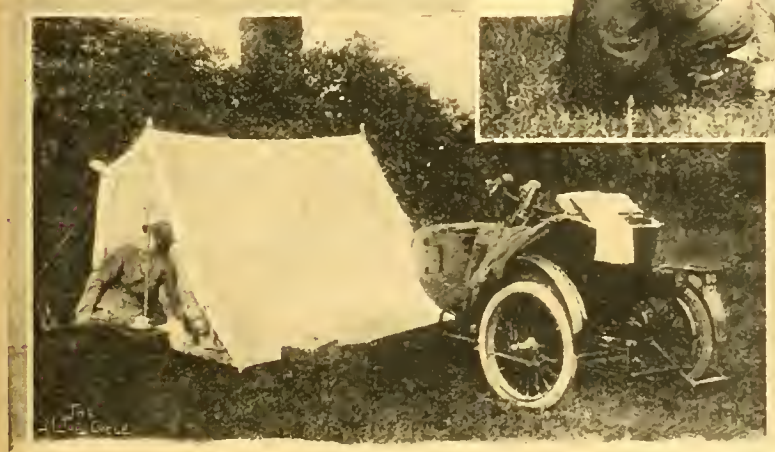
Camping Equipment.—

waterproof material, provided it is light and weighs not more than 2 or 3 lb. Rubber-proofed sheets are good, but oil spoils them; there are several others, which are impervious to oil. I have always used Moormac, and I find it stands quite a lot of hard wear. Over the ground sheet the potential camper will need something to prevent the cold striking up. Something woolly is preferable, and cashmere is hard to beat. The ground sheet and woolly ground blanket may be pegged out together by loops which will keep them nice and smooth and tidy.

Tent Details.

Next the two tent poles must be considered. These should be bamboo about 1in. diameter, and a total length of 6ft. 3in. made in three sections. A ridge pole is desirable, although not absolutely necessary. Its advantages are that the set of the tent is better and it does not sag in the wind and sun. Against this we have the extra weight and time taken to put up and take down.

Some fifty pegs will be required, and these should be made from ¼in. diameter aluminium rod 5 or 6in. long, and pointed a little at one end.



with a 1in. eye at the other. Quite a lot of campers use twisted iron skewers about ⅜in. × 7in.

I have mentioned above that a fly sheet is not absolutely necessary. All the same, it is very desirable to have one for several reasons. First, when raining, one can touch the tent as much as one likes, and there is no danger of wet coming through. Secondly, when very cold winds are blowing, the tent is much warmer. Thirdly, it provides shelter for the inevitable odds and ends, and many times an extension is added to it to cover the motor cycle. Generally, however, the motor cycle may be "garaged" with some near-by farmer.

Fly sheets require to be made large, so that they can be pegged down very near the ground to prevent the wind getting under them; also really good material is desirable, not necessarily heavy, but it should be strong, with good tapes around the edges, to reinforce it. The fly sheet I use weighs 3½ lb. Cord will be required for the guy lines. It should be very strong, and about $\frac{3}{32}$in. thick. It is not absolutely necessary to use sliding stretchers.

Now all this equipment goes in one small kit bag 20in. long and 12in. diameter, and when on tour it is not necessary to take a lot of trouble in folding. The procedure is as follows: One of the party holds the bag and another takes the fly sheet at the side, after taking out the pegs, and simply feeds the fly sheet into the bag, to be followed by the tent. Then in go the pegs (in a small linen bag), and lastly the ground blanket. The kit bag sits nicely in the front of the sidecar where it is not much in the way; it is too soft to cause any discomfort to the passenger.



What is more enjoyable than a week-end camping picnic? With a light tent, such as a Dunhill, one can make and strike camp with the greatest ease, and easily pack the outfit in a locker such as shown on the Rudge sidecar.

As regards the rest of the apparatus, for each person the following are required: Sleeping suit, sleeping bag (this may be made out of a good dark woolly blanket by sewing up one side and the bottom), and an eiderdown. The method of sleeping and making the bed is quite simple.

When the camp is pitched the eiderdown should, if at all possible, be placed down, and the motoring overalls should be tucked well under the foot of the bed and folded over the top of the eiderdown. Various things can be used for pillows.

The fastidious may use an air bed. However, beds as described are really comfortable and quite light.

We now come to the important question of cooking. The best stove undoubtedly is the No. 210 Primus, which has detachable legs, and is altogether most useful. I have used one for fifteen years, and it has given every satisfaction. There are several grid patterns which various campers swear by. One can easily be made from a sheet of 22G black plate folded like a box with open ends 6in. wide, 1in. deep, and 24in. long. Three holes should be made in the top and one hole in the bottom 4in. diameter—a fixing is needed for four legs at the corners to hold the grid over the stove when it will be found that three pots may

Camping Equipment.—

be kept boiling at once. A light screen is also wanted. This may be held on three long sticks (or wires will do). Several saucepans will be required preferably in aluminium and made to nest. Three is a convenient number, the largest about 7in. diameter and 5in. deep; one handle will serve for all three, and also for the frying pan, which should nest with the saucepans.

An Irreducible Minimum.

One should not take the best knives, forks, and spoons; aluminium implements weigh little and are cheap to purchase. Enamelled mugs will be found suitable, and, if possible, these should be without handles and with tapered sides.

Here is a list of a few more necessary items:

One quart tin for paraffin for the stove.
One small tin or bottle for salt.
One small tin or bottle for pepper.
One small tin or bottle for mustard.
One small linen bag for sugar.
One small linen bag for flour.
One small linen bag for oatmeal.
One large bag for bread.
One screwed top jar about 2in. diameter × 3in. deep for butter.
One screwed top jar about 2in. diameter × 3in. deep for jam.
One collapsible canvas bucket, three gallons capacity.
One collapsible canvas bucket for wash basin.
One small box for soap. One sea towel.
One dish cloth.
Two towels.

Other items may be added as desired, but one should remember, in camping, simplicity is the real keynote of success. Unnecessary impedimenta add to the weight and work, and consequently lessen spare time.

I have found the most convenient way to pack the sidecar is to have one large week-end basket about 24in. long, 15in. wide, and 12in. deep. This is lined with a waterproof material or thin sheet tin. One of the soft things is placed in the bottom (say a sleeping bag), the other two bags being rolled up separately and placed one on each side of the basket; the end of one of the bags is tucked in the saucepans, which then take up very little room and lie well out of the way. The middle is now left for cups, cans, etc., etc., which should be well packed by towels and other soft things to prevent rattle. Other soft materials should be placed on top, preferably those things likely to be required first. The poles lie on top in a canvas case.

We now carry the eiderdowns in our sidecar in a special waterproof case, made for us by the Para Rubber Co., John Bright Street, Birmingham.

If the soloist is camping by himself, he can use a smaller tent about 4ft. high, 4ft. wide, and 6ft. 6in. long. Two soloists on a camping tour naturally divide the kit, and it is quite easy to transport the larger tent needed. The tents should be kept as small as possible, because of the weight and wind resistance when pitched. It is much easier to find a site suitable for a small tent than for a large one, for it is advisable to pitch behind a friendly hedge, in a secluded corner for preference.

The Lone Camper.

A powerful motor cycle is not necessary for solo campers; some use little two-strokes, but I favour the somewhat heavier 3½ to 4 h.p. tyres. Still, that again is a matter of choice.

I have only just mentioned other tents besides the Alaskan, which appeals to me as "it," but the Cottage, for instance, has a greater floor space, though not so tall. It is made with high walls, so that the sitting space is much greater; but one must use a fly sheet with this type. The simple A is a good type, easy to make and pitch, or the Gipsy similar to the A, but spread out at the tip, giving greater head room; the Chalet is a glorified Alaskan. HARRY RILEY.



The author's A.J.S. ready for a camping holiday. Additional stays were fixed on the sidecar grid to support the load, but no difficulty was experienced in transporting both personal luggage and the tent.



What We May Learn from Aero Practice.

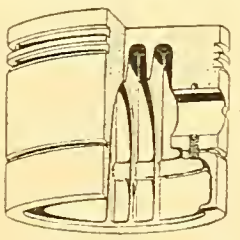
A Brief Survey of Outstanding Possibilities.

AT the conclusion of the Armistice there was an idea abroad that the effects of modern aero design would immediately be felt, and that everything from houses to motor cycles would be reduced to half their weight or less.

The years roll on and some enthusiasts are apt to feel just a little disappointed, for our motor cycles weigh, if anything, rather more than in pre-war days. How does this state of affairs come about? Let us enquire into the matter, and see how far motor cycles are likely to be modified in accordance with aero practice, and what the effects will be. First, let it be understood that unless we are to pay prices even in excess of those ruling at the present time, manufacturing costs must be considered. This is an important point, for many of those steps towards lightness, which are so glibly suggested by the uninitiated, can only be brought about by a consequent rise in production costs, by which they are automatically ruled out.

Superfluous Nuts, Bolts, and Lugs.

Undoubtedly there are methods of lightening existing types of motor cycles which may even reduce costs. A glance, for instance, at the average motor cycle frame will reveal a multitude of bent tubes and heavy lugs which are more costly, weaker, and heavier than need be. Head lugs and bottom brackets are often strengthened up to avoid breakage by adding more and more metal when a little commonsense design would entirely obviate the necessity, while seat pillars, clip joints, and numerous nuts and bolts may be entirely dispensed with.



Internal ribs are a feature of cooling this piston.

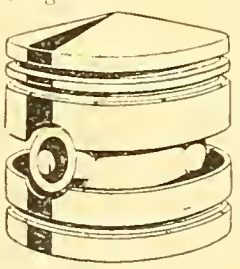
It is not in these points, however, that aero practice will have its main effects, since unless special and costly tubing is used to replace the standard article only a very few pounds weight can be saved by these means.

The first real lesson to be learned from aircraft practice is that air-cooled engines can be built to produce *and maintain* efficiency far higher than that of the average motor cycle engine.

But here a curious point arises, for in order to achieve this end it is probable that our engines will become *heavier* as regards actual weight, though possibly a fraction lighter as regards weight per horse-power. The reason is not far to seek, for it has been proved beyond doubt that the only way to prevent local overheating and distortion is to *provide a sufficient body of metal to ensure adequate internal conductivity in the head and walls.* (This statement, though not precisely accurate, is sufficiently near the truth, since the alternatives are not likely to appeal to the average motor cyclist.) This will ultimately lead to a considerable thickening up of cylinder heads, and probably to the use of higher compression ratios, without detrimental effects on the smooth running of the engine.

Efficiency and Cylinder Head Design.

Now this thickening up will lead to an increase in weight, since it is not likely that aluminium will be used for cylinder construction, except in special engines, for some time to come. Aluminium cylinder heads are certainly capable of producing the desired results, but short of "casting on," or screwing and shrinking at the same time—two processes which the average manufacturer regards with suspicion—it is not easy to produce a really satisfactory aluminium head engine.



The Zephyr type piston in aluminium.

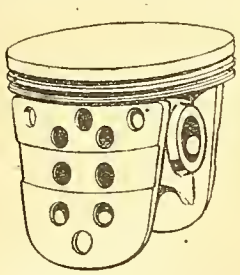
Apart from this, if the design is good and enough metal is correctly disposed in the head, the results obtained from cast iron and aluminium will be practically identical except in the matter of weight.

Aero practice has emphasised the fact that the design of valve ports and cylinder heads is of paramount importance, and consequently overhead valve gear was universal practice for aircraft engines towards the end of the war.

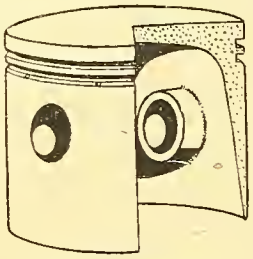
The question arises—Why does a 3½ h.p. motor cycle engine weigh 60 lb. when a 200 h.p. aero engine weighs but 400 or 450 lb.? There are many reasons. First, a multi-cylinder aero engine has no flywheel (the propeller supplies all the flywheel effect that is

What We May Learn from Aero Practice.—

necessary), while a single-cylinder motor cycle engine of normal dimension will require flywheels weighing about 30 lb. (approximately half the weight of the engine), if the normal small diameter inside flywheels are used, or rather more than half that weight if



A light slipper piston of the Ricardo type.



A plain aluminium piston with thick head and walls.

the largest practicable outside flywheel is used. Secondly, aero engines are rated at approximately their full power output, while, for some unknown reason, motor cycle manufacturers retain arbitrary figures based on capacity.

Thirdly, some parts, such as pistons, may be made lighter for war purposes, since they are not expected to wear for any great time. And, fourthly, plain bearings in conjunction with forced lubrication are usual with stationary aero engines, and this combination is much lighter than ball or roller bearings. There are many other reasons, but the above explanation is sufficient to indicate some important facts.

The Case for Forced Induction.

It is suggested that forced induction may be used for motor cycle engines—and this development may be nearer than is generally supposed—but it must be remembered that the main reason for the many attempts to introduce this practice in aero engines is absent in the case of motor cycles, since it is seldom that a motor cycle attains such altitudes as to be seriously affected by the decreased density of the atmosphere, and those who habitually ride motor cycles in comparatively high altitudes can overcome the trouble to a certain extent by raising the compression ratio of their engines. Forced induction or supercharging may prove useful in winning races or in producing a form of what may be termed a variable compression engine, but, in any case, present-day motor cycle cooling will require definite improvement before supercharging becomes general practice.

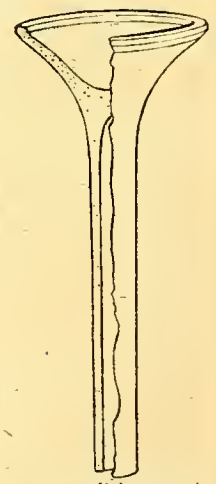
We are apt to get into a groove and to consider that present-day engines are capable of all that is required of them, forgetting that even now one or two engines stand out head and shoulders above the average as far as genuine efficiency is concerned, and that even these are capable of considerable improvement in this respect without becoming harsh or inflexible.

One feature in which the expense of following aero engine practice is well repaid lies in the use of special materials and processes in order to lighten reciprocating parts. Not only can connecting rods and pistons be lightened to a considerable extent, with a consequent reduction of bearing stresses and balance weights, but valves and valve gear, which many omit to reckon as reciprocating parts, are capable of considerable reductions.

Too many motor cycle manufacturers appear to consider that a mass of metal is the only method of guarding against valve breakage, whereas by increasing the spring strength necessary to make the heavy valve and tappet follow its cam, matters are made worse rather than better.

Where Weight does not mean Strength.

A glance at the type of overhead valve used regularly in aircraft engines, in which a broken valve is likely to prove a fatal matter, would be a revelation to many, for even in valves larger than those used in motor cycle practice, there was *less than 2 mm. thickness* anywhere, except in the neck.



A very light type of valve in constant use throughout the war period.

With regard to aluminium pistons, there is still much to learn. Suitable alloys are available, but manufacturers must devote careful study to annealing and clearance limits. By using proprietary pistons they may save themselves much trouble in this and other respects; but it must be remembered that, except in special designs, a really satisfactory piston will be but little lighter, since its main advantages lie in cooling possibilities, to take advantage of which a certain body of metal is necessary.

That proper lubrication is a *sine qua non* for an efficient engine has been proved times without number; and though pressure lubrication throughout is practically universal for aircraft work, it remains the exception—and the very rare exception—in motor cycle practice, probably for the reason that most cycle engines are either so comparatively inefficient, or are normally intended to develop so much less power than the maximum of which they are capable, that an occasional pumpful of oil when the rider thinks fit is enough to lubricate somehow.

UBIQUE.

MOTOR CYCLE v. ROLLER SKATES—A VICTORY FOR THE TWO-WHEELER.

A NOVEL race which resulted in an easy win for the 2½ h.p. Metro-Tylor was witnessed by large crowds at the Holland Park Skating Rink on Wednesday evening, March 9th.

The machine, which was ridden by J. F. Ammon, was competing in a mile race against A. R. Eglington, the world's champion roller skater. Nine laps were covered, during the first six of which the motor cycle gained little advantage, since the corners at each end necessitated very careful negotiation. The skater, however, became exhausted, and finished about fifteen yards in the rear of the machine.

The motor cyclist's time was 3m. 3⅗s. Rodace tyres were used, and considerably aided the rider to grip the slippery floor at the corners. They are of the three ribbed variety, of very soft rubber.

Club News

Birmingham University M.C.C.

A reliability trial on the 6th inst. attracted twenty-six entries, of whom the following made the best performances: 1, H. H. Wasting (3 A.B.C.); 2, G. H. Jolly (4 Norton); 3, T. A. Mackenzie (3 A.B.C.).

Proposed Club for Weston-super-Mare.

A meeting will take place at the Elm Tree Hotel (Meadow Street), at 7.30 to-night, to consider the formation of a motor cycle club. Further particulars may be obtained from Messrs. D. Read and Co., Orchard Street.

Neath and District and Ystalyfera M.C.C's.

These clubs held joint speed trials on the 5th inst., resulting as follows:

250 c.c. CLASS.—1, A. Ash (2¼ o.h.v. Massey-Arran).
350 c.c. CLASS.—1, A. Ash (2¾ Massey-Arran).
500 c.c. CLASS.—1, C. Hunt (3½ Norton).
UNLIMITED CLASS.—1, Dr. Lindsay (3½ Norton).

Herts M.C. and L.C.C.

At "The Red Lion," Hatfield, on the 5th inst., a representative gathering of motor cyclists inaugurated the Herts Motor Cycle and Light Car Club. It was decided to invite Mr. E. W. Choldcroft, of Buntingford (unfortunately absent through illness) to accept the captaincy of the club, and Mr. D. C. Archer, of Hoddesdon, was elected vice-captain. The office of secretary and treasurer was provisionally accepted by Mr. C. F. Plowman, of 37, Broadwater Avenue, Letchworth.

Luton and South Beds A.C.

New headquarters have been taken for the club at the Red Lion Hotel, Luton, and country headquarters at the Bridgewater Arms, Goddesdon. A whist drive and impromptu dance are being held at the Central Café, Cheapside, Luton, on March 18th. Any motorists wishing to join in 1921's very full programme of sport and sociability are invited to send for membership forms to the hon. secretary and trials secretary, Mr. J. Simpson, 440, Hitchin Road, Luton.

Westmorland M.C.C.

In order to remove any misapprehension in the mind of prospective competitors, we have been requested to state that the limitations regarding capacity shown in the extreme right-hand column of the particulars of events (circulated amongst possible competitors) of the open hill-climb at Orton Scar on Easter Monday apply only in the case of competitors who have entered on formula, and are not to be regarded as restricting the capacity for time purposes. Entries for this event close on March 19th; and readers who desire a copy of the particulars referred to above should apply to Mr. Guy Jeffrys, Castle Green, Kendal.

Forthcoming Club Events.

Mar. 19.—Kidderminster M.C.C. Opening Run.
Mar. 19.—Wallington and District M.C.C. Hill-climb.
Mar. 20.—Brighton and Hove M.C.C. Petrol Consumption Test.
Mar. 20.—Woolwich, Plumstead and District M.C. Inter-club Run.
Mar. 20.—West Kent M.C. Inter-club Hill-climb with Holmwood M.C.C.
Mar. 20.—Sheffield M.C.C. Hill-climb.
Mar. 20.—Public Schools M.C.C. Opening Run.
Mar. 20. Manchester M.C. Opening Run.

IMPORTANT club and OPEN events are tabulated on the "Questions and Replies" page.

Shrewsbury and District M.C.C.

On March 1st the club combined their general meeting with a lantern lecture. Mr. J. E. J. Whitaker, the secretary, of Southfield, Kingsland, Shrewsbury, will be pleased to hear from intending members or from other clubs that might care to join in trials, etc.

Newcastle and District M.C.

The A.C.U. open event for April 30th is in the hands of the Newcastle and District M.C. The premier award is the Travers Challenge Trophy, a gold cup valued at 200 guineas, together with an out-right prize of the winner's own selection to the value of £15. The club will also award gold, silver, and bronze medals. The 160 mile reliability trial will start from and finish at Newcastle, and will include the steepest hills in the Wear Valley. A hill-climb on formula will be included, only to be utilised in case of difficulty in otherwise selecting an absolute winner.

Coventry (Triangle) M.C.

The local branch of the N.M.C.F.U. has been re-formed as above. Mr. T. Mallalieu, 90, Gorton Road, is the secretary *pro tem.*

Tamworth and District M.C.C.

At the annual general meeting, held on March 2nd, there was a large gathering of both old and new members. The opening run will take place on Easter Monday, starting from the new headquarters, the Castle Hotel, at 1.30 p.m., the objective being Stile Cop Hill.

Liverpool M.C.

A non-stop speed-judging team trial, held on the 5th inst., resulted as follows:

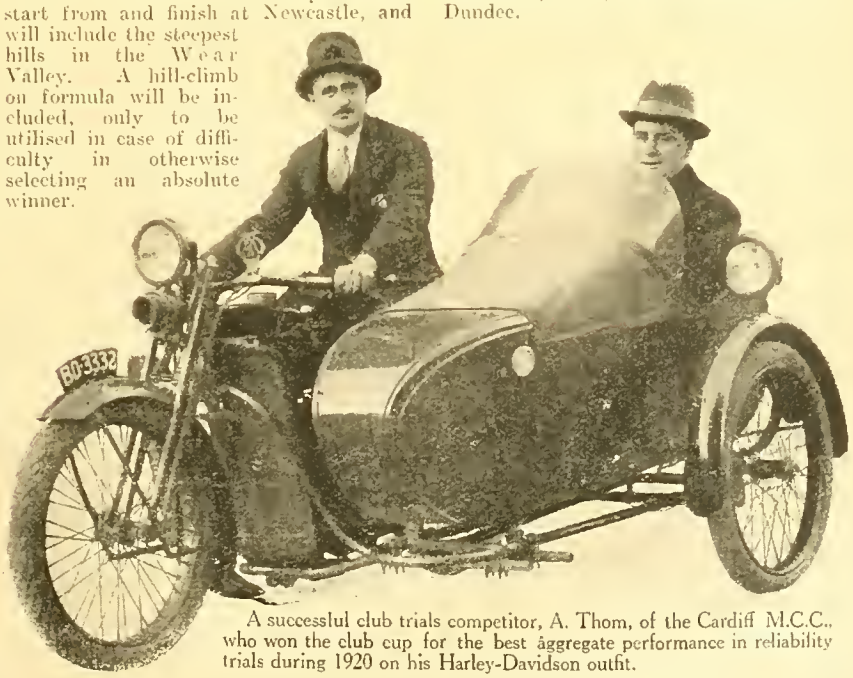
WINNING TEAM.—H. Burrell (3½ Rudge), N. C. Sclater (4 Norton), and S. Parker (8 Matchless sc.).

NO. 2.—T. H. Emery (2¾ Douglas), R. O. Evans (10 Calcott car), and J. H. Green (6 Martinsyde sc.).

The prize for the best individual performance not included in the winning team: J. H. Green (6 Martinsyde sc.).

Dundee and District M.C.C.

The annual general meeting of the above club was held in the A.A. Room, Dundee, on the 17th February, when officials were appointed for the ensuing season, and at a committee meeting held on February 21st an attractive programme of competitions, gipsy runs, etc., was drawn up. Particulars regarding membership may be had from the hon. secretary, Mr. J. Robertson, 12, Victoria Chambers, Dundee.



A successful club trials competitor, A. Thom, of the Cardiff M.C.C., who won the club cup for the best aggregate performance in reliability trials during 1920 on his Harley-Davidson outfit.



THE SPRING CAMPAIGN IN CLUBLAND.

In every part of the country there is marked activity in clubland. Last week-end many clubs held their opening runs and competitions, while others have already run off several events. The Coventry and Warwickshire M.C. last Saturday held another of its popular paperchases, the start of which is shown above.

KNOW YOUR LOCALITY!

IT is safe to say that few motorists are acquainted with every rideable road within ten miles of their own domicile. Too many frequent the beaten track, and Nature lovers are the losers thereby, for off the beaten track there are many villages, nooks, woods, and points of a picturesque type. Clubs that desire to combine lane driving and unfrequented rural scenery with an object in view should follow the example of the Coventry and Warwickshire Motor Club, and arrange a paper-chase, but take particular care in the selection of a "hare." No other officials are required except a timekeeper, so that all may join in. Last Saturday Sam Wright acted as "hare" for the Coventry Club, and if anyone knows the intricacies of Warwickshire byways better than he we should like to meet him. With a sack of paper shavings in the back of his 15.9 h.p. Humber car he laid a trail for the forty odd members of the club who took part which would have done credit to an intoxicated corkscrew manufacturer! Every hairpin within ten miles south of Coventry kept the competitors busy. Incidentally, they had drawn varying speeds, which they were required to average over an unknown distance which added interest to the event, so that timing one's self on the man in front was not a true guide by any means.

The results were announced by the hon. sec., Mr. J. F. Spencer, as follows:

MOTOR BICYCLES.—1, C. F. Dyer (3½ Triumph), no error.

SIDECARS.—1, H. Whitten (4½ Humber), 20s. early.

CARS.—2, Geoffrey Smith (15 Wolseley), 1¼m. late.

ESSEX M.C. OPEN HILL-CLIMB.

THERE will be twenty-two events in the motor cycle section of the Essex M.C. open hill-climb to be run on Saturday, April 2nd, at 1.30 p.m. All classes of machine are well catered for, including a class for three-wheeled cycle cars not exceeding 1,100 c.c. and Class L for touring cycle cars not exceeding 1,100 c.c., maximum weight 772 lb.

A LOSS ON THE YEAR'S WORKING OF THE A.C.U.

ON Friday last the Auto Cycle Union held its annual general meeting at headquarters. The Hon. Sir Arthur Stanley, G.B.E., M.V.O., C.B., president of the A.C.U., was in the chair, and the business transacted was chiefly of a formal nature.

In presenting the accounts for the year, Mr. Stanley Carter, the hon. treasurer, pointed out that there had, unfortunately, been a loss on the year's working, but he trusted that the increased subscription would make up for this, and that at the end of 1921 the loss would be wiped out.

Mr. Quinton Nicol congratulated the Union on its sound financial position, and thereafter there ensued several questions concerning the accounts. On the suggestion of Col. Lloyd that a profit and loss account should be shown in next year's report, the Chairman replied that the matter would be given due consideration.

There was a strong feeling expressed by the members of the London clubs present that a London Centre should be formed. Mr. Loughborough explained that under the old centre scheme the provincial clubs had been jealous of the Metropolitan Centre, and this had resulted in the failure of the scheme. Consequently the present centre arrangement has been made. The London clubs decided to join the South-eastern Centre, which is composed of some fourteen clubs. The whole position seemed somewhat involved and to be little understood.

HARROGATE M.C.C. HILL-CLIMB.

HELD in glorious weather, and well attended, Harrogate and District M.C.C.'s hill-climb for the Nunnerly Cup took place on Saturday last, resulting as follows:

WINNERS OF CUP. — B— Parkinson (2¾ Douglas) and D. T. Walker (10 Hillman car) tied.

WINNERS OF CLASSES ON FORMULA.—Class 1 (275 c.c.): W. E. Grange (2½ Excelsior). Class 2 (350 c.c.): B. Parkinson (2¾ Douglas). Class 3 (560 c.c.): E. R. Davies (3 A.B.C.). Class 4 (1,000 c.c.): P. A. Marks (4 Indian Scout). Class 5 (560 c.c.): G. Hill (3¾ Scott sc.). Class 6 (1,000 c.c.): P. A. Marks (4 Indian Scout). Class 7 (cars): D. T. Walker (10 Hillman).

Fastest time on first ascent: W. Backhouse (4 Triumph). Fastest time of day: M. Parkinson (7-9 Indian).

M.C.C. OPENS ITS 1921 PROGRAMME.

AS usual, on this occasion, the weather, good enough in the morning, was extremely bad during the time the majority of the members were on the road, late arrivals reporting rain over the whole journey. This, in itself, was unpleasant, laying aside the terrible condition of the road surface to almost the very end. If the journey down had made one think of the train, the evening wiped out all treason of this description, for the Motor Cycling Club is one of the few which know how to make a comparatively ceremonial dinner into a rather large family party were all feel at home. The speeches were commendably short ones; the Chairman's, Mr. Robert H. Head, dealing with the London-Land's End Trial, was chiefly a thanksgiving for the immense interest aroused by our criticisms of the 18 m.p.h. Porlock section and the 20 m.p.h. schedule to Lynton. Mr. Head stated definitely that tests made by the club conclusively proved that the schedule was safe if competition drivers used the average amount of care. A second speech dealt with the Chairman himself, to whose qualities and able leadership the committee testified by the presentation of a silver cigarette box. The gold medals for the London-Exeter run were distributed, and an excellent entertainment concluded a really enjoyable event, in every way worthy of the M.C.C.



The Feminine Goggles.

The Eternal Question discussed from the Standpoint of a Fashion Artist who also rides.

By PEGGY FRASER.

WHILE the male motor cyclist is not over particular regarding the neatness and suitability of his costume, if one is to judge from what one sees on the road, the question of attire is one of paramount importance to all ladies who ride.

We have not yet reached that stage when lady motor cyclists are regarded seriously as a class to be catered for by the fashion papers and, therefore, changes in "fashion" are not recorded, for the simple reason that, at present, they do not exist.

The motor cycling costume is a utility garment and to design it, a fashion artist must of necessity know the conditions under which it will be worn. Only a lady motor cyclist can appreciate or anticipate the requirements of her sister riders. It is hopeless to expect much assistance from our male creatures (they would tell us we look "stunning" if we mounted a motor cycle in an evening gown of georgette). This branch of the pastime of motor cycling we must control ourselves.



Costume designed by Miss Peggy Fraser as an outcome of experience as a motor cyclist.

For General Wear.

I am convinced that the reason there are not more lady motor cyclists is because so many of the existing riders do not make the most of opportunities to dress properly. *Apropos* of this, it is well recognised that the present-day style of dress does not enhance the appearance of the lady on a pedal cycle, while, unfortunately, there are many of my sisters of the petrol machine who turn out more like well filled sacks tied in the middle than the really dainty creatures they could be if they tried.

I have found the following costume most suitable for general motor cycling, and, unlike many seen in use on the road, should satisfy the most exacting riders of my sex as to smartness and appearance. I can personally vouch for its practical qualities, as being second to none. The "rig-out" comprises a three-quarter length coat, breeches, enamel calf leggings, and stout shoes, shoes and leggings being—to me—more comfortable than high boots. The shoes I have reinforced with rubber soles and heels, which it will be found eliminate much of the vibration received from footboards. The coat and breeches are made of grey suède leather (grey has the advantage of not showing the dust) and lined throughout with wool stockinette cloth. The coat has two slit pockets cut at the correct angle to prevent rain entering in case of a shower. For serious touring, I always carry a "Jap" oil-skin strapped to the back carrier, and when worn over the leather suit, it is proof against any weather.

Winter Needs.

To enable the collar to be drawn close to the neck, it is cut on the roll principle and has a strap running through slots located just where the collar turns over all the way round.

For winter travelling I have a detachable grey astrachan collar which greatly adds



An alternative costume designed by our contributor for those ladies who prefer a skirt.

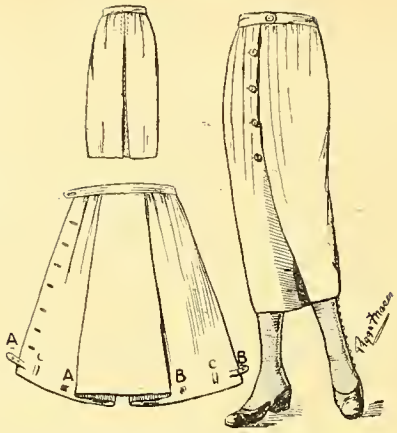
Through Feminine Goggles.—

to comfort and warmth, also I use astrachan fur for the cap and gauntlets, as the close curls show no signs of getting matted with use, like the longer haired pelts.

The sleeves are plain, as I find gauntlets the best protection. A cap on the lines of an airman's, carried out in grey suède and astrachan, completes my costume.

An Alternative Costume.

There are still many people who prefer a costume with a skirt, but an ordinary skirt is unsuitable, not to say dangerous. The accompanying sketches show a costume with a skirt designed especially for motor cycling. It buttons right down the front and has two pleats to allow fullness. At the back is a very wide inverted box pleat. When off the machine it has the appearance of a well-cut sports skirt, without any suggestion of the unbecoming divided skirt. The lady who will not bring herself to wear breeches, as suggested in my first sketch, will have objections to any other form of costume which is conspicuous. Therefore, this skirt should appeal to her. For riding purposes, it unbuttons to above the knee and is provided with a strap on each of the front edges and a buckle at each side of the back (as shown in the detailed sketch). These straps pass through the buckle (A through A and B through B) and give the skirt almost the convenience of breeches, as it forms a kind of trouser front, as shown in the sketch of the complete skirt. When fastened in this manner, it cannot catch in the wheels, etc.



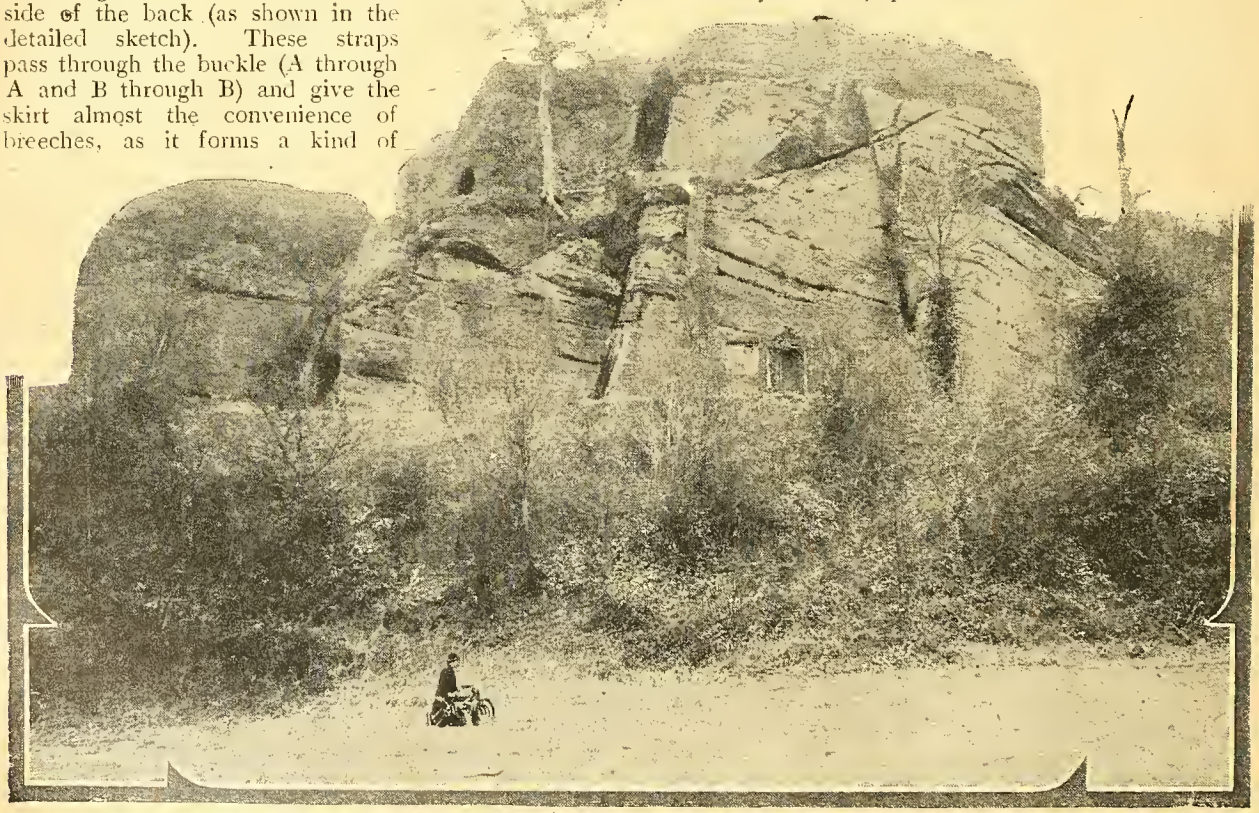
Details of the second costume referred to by our fashion artist contributor. The small drawing at the top depicts the back view of the skirt, and, beneath it, the inside view, showing details of the straps

Dress Details.

When the skirt is buttoned for walking, the straps are run through slots (marked C in the detail sketch), and therefore are out of sight and cannot hang below the hem of the skirt. Breeches, of course, must be worn underneath, and these should be of the same material, and I would suggest upholsterers' fawn corduroy velveteen as the next best thing to leather for hard wear.

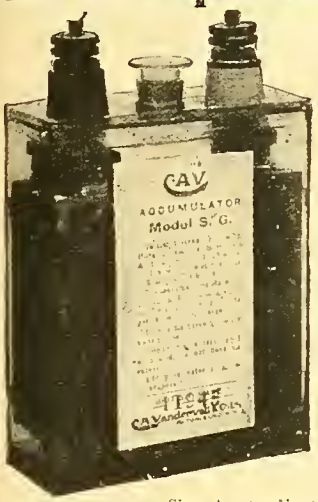
A wide woollen scarf is wound twice round the neck over the stand-up collar and double-breasted front of the coat, knotted at the front with the ends firmly fixed into the belt. It is a good idea to have the entire costume lined with a strong twill. A close fitting pull-on fawn velour hat with a narrow brim is very serviceable, and a leather waistcoat is indispensable. A fleece-lined waistcoat with sleeves should be chosen, and if it had two side pockets they may be found useful, but breast pockets should be avoided.

Goggles may not be very attractive, but on a really dusty day they are an absolutely essential part of the motor cyclist's equipment.



A CAVE DWELLING. Well-known to Wolverhampton, Kidderminster, and Stourbridge motor cyclists, Holy Austin's Rock, Kinver Edge, is well worth a visit from those who live further afield. The size of the rock may be judged by its comparison with the motor cycle at its base. Cave dwellings formed the subject of an article by C. G. Harper in *The Autocar* of January 29th.

An Exceptional OFFER!



Quantity	Price each	Total Price
1	7/-	7/-
2	6/9	13/6
3	6/6	19/6
4	6/3	25/-
6	6/-	36/-
12	5/9	69/-

Carriage Paid.

Cash with Order.

Size 5½in. × 3½in. × 1½in.

SURPLUS GOVERNMENT ACCUMULATORS

2 volts. Capacity--12 ampere hour continuous, 24 ampere hour ignition, 3 Accumulators give 6 volts, a good voltage for motor cycle lighting.

DESCRIPTION.—Five plates in celluloid boxes with sealed lids, vent plugs and non-corrosive terminals, Absolutely new and in perfect condition. Never had acid in. Weight 2 lb. each.



CHAMPION SPARKING PLUGS

Motor Cycle Pattern.

Each plug is supplied in box and guaranteed perfect.
Type J63.

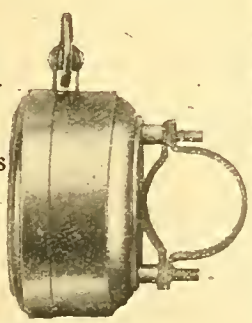
PRICES:

Quantity.	Price each.	Total price.
1	3/6	3/6
2	3/4	6/8
4	3/2	12/8
6	3/-	18/-
12	2/10	34/-



Handle-bar Watches

30-hour movement.



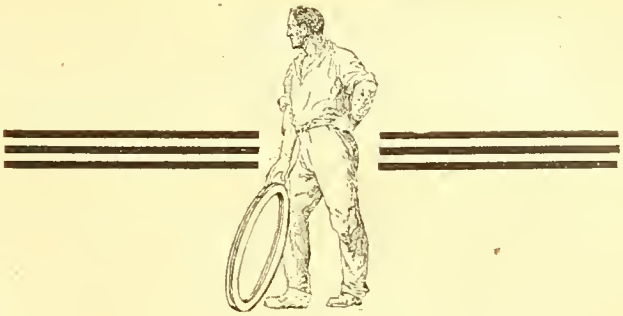
An excellently made handle-bar watch at a real bargain price.

Hands moved by depressing winder and turning.

Heavily nickel-plated and fitted in strong case

PRICE **15/-** EACH. Post free.

WATES BROS., 132, Charing Cross Rd., W.C.2



6,830 miles on rear tyre!

—and, our correspondent goes on to say, "Most of this mileage was done with my wife and 3 children in the sidecar. No sign of a cut or broken canvas; cover not once removed." And the rider had the added satisfaction of knowing that he had safeguarded himself and passengers from side slips, thanks to the famous three-rib tread— a tread that gets a "hold" on the greasiest road and keeps it.

Did you know that Moseley Motor Cycle Tyres are now **moulded in the form they take when inflated on the rim?** The saving of time and temper when fitting tyre to the rim is wonderful. The beads are also specially strengthened to avoid rim-cutting.

PRICES REDUCED.

EXAMPLES:
Moseley Heavy 3-ribbed cover, 3-ply canvas, 26″ × 2¼″. now
£2 - 8 - 3
Moseley Heavy 3-ribbed cover, 4-ply canvas, 28″ × 3″,
£3 - 18 - 3

SEND TO-DAY FOR COMPLETE LIST SHOWING NEW REDUCED PRICES.

MOSELEY

HEAVY THREE-RIB MOTOR CYCLE TYRE

DAVID MOSELEY & SONS, LTD.,
ARDWICK - - MANCHESTER.

BRANCHES:—*MANCHESTER: 2, 4, & 6, New Brown Street. LIVERPOOL: 9, Commutation Row. GLASGOW: 126, Ingram Street. LONDON: 19-20, Holborn Viaduct, E.C.1. BIRMINGHAM: 4, Lancaster Street, Corporation Street. DUBLIN: 16, William Street. NEWCASTLE-ON-TYNE: 44 and 46, High Bridge.* **Australia**—*SYDNEY: 332, Pitt Street. BRISBANE: Fitzroy Buildings.*

CALTHORPE MOTOR-CYCLES

If you are out for a "best value for money" machine, send for that CALTHORPE catalogue to-day—it deals with three such propositions.

Here they are—3 h.p. CALTHORPE 2-Stroke Combination, complete with lighting set (weight 190 lbs.), 110 Guineas.....3 h.p. CALTHORPE 2-Stroke Solo (weight 150 lbs.), 65 Guineas.....2¾ h.p. CALTHORPE-JAP (weight 148 lbs.), 70 Guineas.

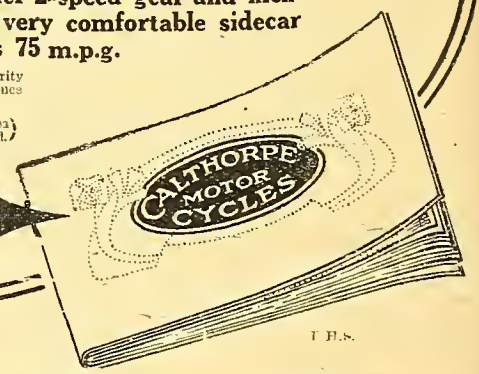
Our 3 h.p. 2-stroke engine is equal in power to any 3½ h.p. on the market, and is fitted with roller bearings. We are one of the pioneers of roller bearings in motor cycle engines—others have followed our lead. Combination is equipped with patent lubricating system (no oil mixed with petrol); remarkably efficient spring saddle pillar; Sturmey-Archer 2-speed gear and kick-start; M-L Mag-Dyno lighting set; and light, but very comfortable sidecar Averages 20-25 m.p.h. and shows 75 m.p.g.

Remember CALTHORPE Motor Cycles have attained notable popularity for reliability, speed, and utility, whilst for general mechanical excellence and superiority of finish they are still without a serious rival.

Calthorpe Motor Cycle Co. (Minstrel & Rex Cycle Co., Ltd.)
BARN STREET — BIRMINGHAM.

The RIGHT Motor-Cycle at the RIGHT Price

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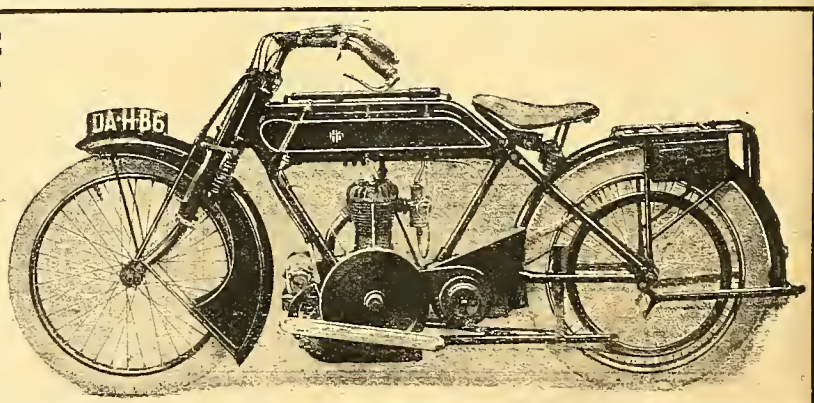
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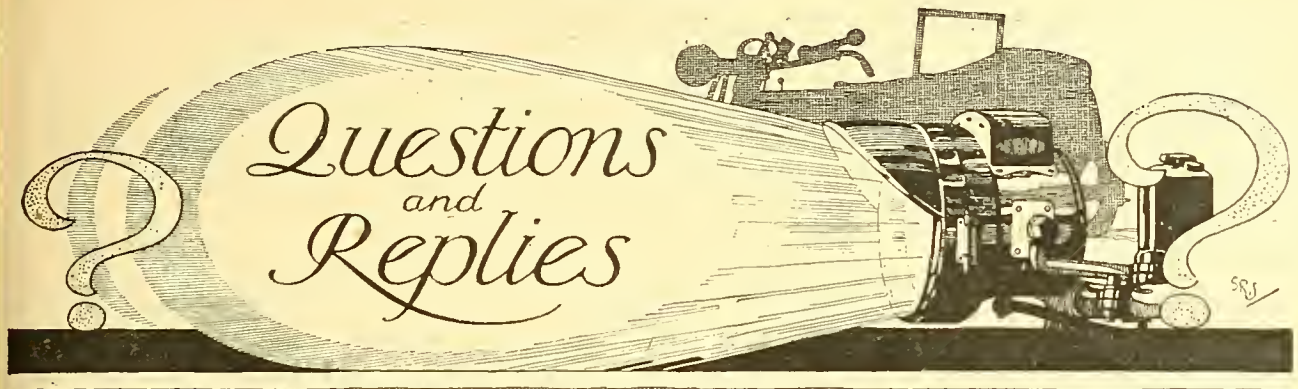
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A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

TWIN MAGNETO ON SINGLE CYLINDER.

I wish to convert (if possible) a magneto intended for a twin-cylinder engine to a single anti-clockwise. The direction of running is correct, and the engine for which the magneto was designed is a side-by-side twin-cylinder, in which the pistons move together, each cylinder firing alternately, the firing points being, I believe, 360°. Can this be done? If so, in what manner? I presume one of the cams on the contact breaker would need removal, and the corresponding brush on the distributer?—D.A.N.

It would be necessary to remove one of the cams and the corresponding high-tension brush, and the magneto must be run at half engine speed. It would be advisable to substitute the remaining cam by one which keeps the points separated during about 180° of armature revolution.

HUB CLUTCH ADJUSTMENTS.

I have taken down my Triumph free engine hub (fitted to a 1914 Rover machine), as it would frequently slip when hill-climbing. The plates were in a bad state with oil and dirt. (1.) If I put in an extra plate or two, will that cause the clutch to grip? There is space enough for one or two plates, still allowing clutch to work freely. (2.) Should plates be put back greased or dry? (3.) The surface of the plates are somewhat torn. Would that cause the slipping?—A.M.K.

(1.) There is no objection to putting in two extra plates provided there is room for them. If you can only insert one extra plate you must take care that it is placed beside a similar one, that is to say, if you decide to add an inner plate it must go next to one of the same kind, otherwise you may interfere with the working of the free engine. It is best, however, to insert the extra plates in pairs if possible. (2.) The plates should be lubricated with very thin oil, such as ordinary cycle oil. (3.) The condition of the plates does not matter very much provided they are not seriously scored. The slipping is caused either by the plates being worn, or by the weakness of the springs.

RUNNING A TWO-STROKE ECONOMICALLY.

With a two-stroke 2½ h.p. single speed machine which I use, I find that I can only do 55 m.p.g. The compression is perfect, and the ignition is just correct when fully advanced, in which position I generally keep it. The machine is fitted with an Amac carburetter and a 21 jet, which is rather too small (as it will not take full air, and I cannot get a very high speed), but which I am using to save petrol. The belt is tight and the machine runs well, and is lubricated by the petroil system in the proportion of one gill to the gallon.—F.C.F.

The consumption of your machine is distinctly poor, as you might expect at least 80 m.p.g. We would suggest that you reduce the petrol level by lowering the collar on the float chamber needle until there is barely $\frac{1}{16}$th of an inch play allowed. It would then be possible to fit a slightly larger jet, and you would obtain better power for hill-climbing. A variable jet adapter which will allow you instantly to vary the jet opening might be of considerable help to you when tuning; it is well to bear in mind that a very small jet will not necessarily give the best results unless economy alone is sought.

AN OLD MODEL FOR BUSINESS USE.

A Mark III. three-speed Armstrong gear and clutch fitted to my 3½ h.p. Rover sidecar is constantly giving out through wear. I think the gears are not strong enough. Could you advise me on the matter? I believe it is a 1912 model. Do you think the gears can be made to answer satisfactorily for transporting my tools and materials in country joinery work?—F.W.P.

The three-speed gear you mention is one of a very early pattern, and we certainly do not think that it will give you permanent satisfaction if used with a heavily laden sidecar. We should strongly advise you to dispose of the machine and purchase something more up-to-date.



OXFORD v. CAMBRIDGE.

For the first time, Oxford won the annual Inter-Varsity Hill-climb last week. Here competitors are shown at the starting point on Aston Hill, near Tring

OVERSIZE TYRES FOR A TRIUMPH.

Q. What is the largest size tyre it is practicable to fit on 26×2¼in. Triumph wheels? Can one get other wheels which will take, say, 26 × 3in. tyres, suitable for Triumph frame, and, if so, where? Briefly I want to fit the largest possible tyres to a 4 h.p. countershaft Triumph. —W.N.G.

A. 26×2½in. for 2¼in. rim is the largest size of tyre normally made for these rims, but most American size 28×3in. tyres can be used on the Triumph rims. It would be advisable, however, to seek the opinion of some of the leading tyre manufacturers before ordering a cover. There is no need to fit special wheels.

TO ELIMINATE FOUR-STROKING.

Q. I have a 1920 2¾ h.p. single-speed two-stroke, and am troubled a great deal with four-stroking, especially when running slowly. I have tried jets Nos. 25, 26, and 28 in the Amac carburetter, and seem to get better results with the 25 jet, and more so when running on benzole. I do not think it is a case of too much oil, as I get very little smoke from the exhaust.—W.E.P.

A. From the rather scanty details you give, it would appear that the trouble is due to an excessive supply of fuel, although you do not say that the carburetter is flooding. We would suggest that you lower the level considerably. This is done by tapping down the collar on the float chamber needle until the float is allowed barely 1/16in. play, or you may add one or two thin washers between the top of the float and split pin on the needle.

A LIGHTWEIGHT'S SPEED.

Q. I should be very much obliged if you would help me in a diagnosis. I have a 2¾ h.p. four-stroke machine, which has run exactly 4,000 miles, being new last spring. It runs sweetly and quietly at 19 m.p.h., but develops a loud rattle at 20-23 m.p.h., and will not exceed 25 m.p.h. It has always been much the same, and up to now I have been content with its exceedingly moderate speed. The belt is tight, the crank case bolts are tight, the timing correct, the silencer clean inside, and the tyres hard. Should the machine be able to run faster? If so, I should much appreciate any suggestions you may offer. —N.B.

A. Your machine should certainly exceed 25 m.p.h., but the details you give do not sufficiently indicate the cause of the trouble. Wear of the connecting rod bearing is usually associated with a loud rattling when the machine is travelling fast at small throttle openings—that is, when running light, and it would perhaps be advisable to remove the cylinder and inspect the mechanical condition. There is no reason why a machine with such an engine should not easily attain speeds of about 35 to 38 m.p.h.

EXPERIENCES WANTED.

L.A.C. (Leeds).—Any alternative spring fork fitted to Triumph.

R.H.B. (London, S.W.).—Auto-wheel, or other cycle attachments.

C48

RECOMMENDED ROUTES.

LEICESTER TO MANCHESTER.—H.M.

Leicester, Loughborough, Derby, Ashbourne, Leek, Macclesfield, Stockport, Heaton Norris, Manchester.

GRANTHAM TO BANGOR.—G.P.J.

Grantham, Bingham, Nottingham, Derby, Ashbourne, Leek, Congleton, Holmes Chapel, Middlewich, Kelsall, Chester, Mold, St. Asaph, Abergele, Colwyn Bay, Conway, Bangor.

TORQUAY TO ERITH.—A.S.

Torquay, Exeter, Cullompton, Wellington, Taunton, Durston, Glastonbury, Wells, Radstock, Bath, Chippenham, Calne, Marlborough, Hungerford, Thatcham, Theale, Reading, Wokingham, Ascot, Chertsey, Weybridge, Esher, Surbiton, Tooting, Mitcham, Croydon, Bromley, Sidcup, Crayford, Erith. Approximately 225 miles.

BARROW TO MELROSE.—G.H.R.

Barrow, Dalton, Ulverston, Haverthwaite, Newby Bridge, Bowness, Ambleside, Rydal, Grasmere, Keswick, Portinscale, The Castle Inn, Bothel, Red Dial, Thursby, Carlisle, Longtown, Scots Dyke Station, Canonbie, Langholm, Teviothead, Branxholme Tower, Hawick, Ashkirk, Selkirk, Abbotsford, Melrose.

Important Dates.

Sat., March 19th—Birmingham M.C.C. "Victory" Reliability Trial.

Sat., March 19th—Stockport M.C.C. Open Hill Climb.

Fri., March 25th—Richmond Meet.

Fri., March 25th, and Sat., March 26th—M.C.C. London Land's End Trial.

Mon., Mar. 28th—Westmorland M.C.C. Open Hill Climb.

Mon., Mar. 28th—East Midland Centre A.C.U. Open Speed Trials.

Fri., April 8th, and Sat., April 9th—Western Centre A.C.U. Two-day Open Trial.

Fri., April 15th, and Sat., April 16th—Ealing and District M.C.C. London-Holyhead-London 24 hr. Open Trial.

Sat., April 16th—Yorkshire Centre A.C.U. Open Hill-climb.

Sat., April 23rd—Midland Centre A.C.U. Open Reliability Trial.

Wed., April 27th—A.C.U. One-day Trial

Sat., April 30th—Newcastle and District M.C. Travers Challenge Trophy Open Reliability Trial.

Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.

Sat., May 21st—Western Centre A.C.U. Open Hill Climb.

Wed., May 25th—A.C.U. Silencer Trial at Brooklands.

Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.

Tues., June 14th—Junior T.T. Race

Thurs., June 16th—Senior T.T. Race.

Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup

Mon., July 4th, to Sat., July 9th—Scottish Six Days' Trial.

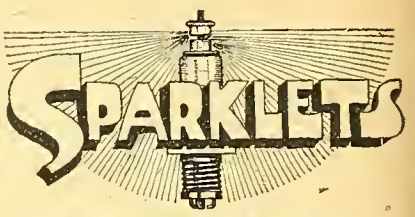
Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.

Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.



British Entries in Grand Prix.

Four B.S.A. machines have already been entered in the Motor Cycle Grand Prix race, which will take place on July 24th.

Average Second-hand Prices.

Owing to a clerical error in our table of "Prices of Second-hand Machines," 4 h.p. Norton machines have been tabulated as 1921, while the prices given actually referred to 1920 models.

Racing in Burma.

A course of ninety miles out and back again from Rangoon provided a sporting race in Burma, in which the second place was secured by A. Galstin (2¾ Douglas). His time for the 180 miles was 4h. 41m. As here, Castrol oil is popular amongst overseas speed men, and was used on the above-mentioned machine.

Price Maintenance and Reduction.

A useful price maintenance guarantee is given by the Scott Motor Cycle Co., Ltd., which is stabilising its prices until October 1st. Messrs. A. J. Stevens and Co., Ltd., take a similar line, giving June 1st as limit of their refunding offer.

Martin lightweights are being reduced by six guineas.

Catalogues Destroyed.

In consequence of a disastrous fire at their printers, the entire issue of the 1921 catalogue of the Leicester Rubber Co., Ltd., Post Office Place, Leicester, the makers of John Bull tyres and belts, has been involved, and this will naturally delay distribution. However, if it is found possible to salve any of the catalogues they will be sent to customers in due course.

Catalogues Received.

Rotherham and Sons, Ltd., Coventry: Lists describing the various tank fittings, dashboard clocks, and Bonniksen speedometers.

W. and A. Bates, Ltd., St. Mary's Mills, Leicester: Folder describing Bates "self-vulcanising" specialities, such as patches, cover patches, and repair outfits.

Triumph Cycle Co., Ltd., Coventry: A small booklet, describing the transmission of the new chain-driven Triumph and illustrating the gear box and spring drive.

Hazlewoods, Ltd., Albion Mills, Coventry: A folder embodying specifications of the 6 h.p. and 8 h.p. Hazlewood sidecar outfits. There is also an eight-paged booklet of hints on management and adjustment.

Sturmey-Archer Gears, Ltd., Lenton, Nottingham: A booklet describing the Sturmey-Archer two-speed gear for lightweight singles up to 2¾ h.p., and twins up to 3½ h.p. Riders interested in gear ratios should obtain this booklet, if only for the formula on finding numbers of teeth on engine-shaft sprocket for various reductions.

17.18.19.20.21.22.23.24.25

EACH DAY THAT PASSES LESSENS YOUR CHANCES.

You see above the number of days to Easter.

You see below the name and address of the firm who can supply you from stock with just the machine or combination you require for Easter.

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We have considerably over 100 machines in stock. New 1921 Models, New 1920 Models (at reduced prices), and a good selection of thoroughly overhauled and guaranteed second-hand machines.

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THE MOTOR CYCLE

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Lucas Dynamo equipment	28	0	0	MATCHLESS, comb., run 20 miles	195	0	0
EXCELSIOR, 8 h.p. combination de Luxe	215	0	0	ARIEL, 3½ h.p. comb., 3-speed	157	10	0
Lucas Acetylene equipment	8	7	6	P. & M., 3½ h.p. comb., 2-speed	165	0	0
Lucas Dynamo equipment	28	0	0	ENFIELD, 8 h.p. comb.	160	0	0
EXCELSIOR, 6 h.p. comb., 3-speed, Chain-cum-belt	160	0	0	Extra for Dynamo Lighting	22	0	0
ZENITH, 8 h.p. combination	204	0	0	B.S.A., 4¼ h.p. H2. comb.	152	0	0
				TRIUMPH, 4 h. p. comb., chain	195	0	0

1921 SOLO MOUNTS

EXCELSIOR - BLACKBURNE, 2¾ h.p., 2-speed, clutch and k-starter	£96	0	0	EXCELSIOR, 2½ h.p., open frame	£49	15	0
SCOTT, 3¾ h.p., 2-speed	130	0	0	ENFIELD, 2¼ h.p., 2-speed	65	0	0
O.K., 2½ h.p.	52	10	0	DOUGLAS, 2¾ h.p., 2-speed, equipped	85	0	0
				SUNBEAM, 3½ h.p, 3-speed	155	8	0

SHOP-SOILED AND USED MOUNTS

A.J.S., 1920 6 h.p. comb., electric equipment Binks, scarcely used	£190	0	0	NEW IMPERIAL, 1918 8 h.p. comb.	£110	0	0
A.J.S., 1920 6 h.p. comb., acetylene equipment, hood, etc.	180	0	0	P. & M., 1919 comb. R.A.F. model	95	0	0
A.J.S., 1918 6 h.p. comb. electric lighting	145	0	0	TRIUMPH, 3½ h.p., W.D. model solo	95	0	0
AMERICAN EXCELSIOR, 1920 7-9 h.p. comb., acetylene lighting, as new	150	0	0	LEA FRANCIS, 3¾ h.p., 2-speed, clutch, kick-starter	117	0	0
NEW HUDSON, 1919 comb.	95	0	0	EXCELSIOR, 2½ h.p., 2-speed	60	0	0
				CALTHORPE, 2½ h.p., 2-speed	50	0	0
				TRIUMPH, 3½ h.p., acetylene lighting	85	0	0
				EXCELSIOR, 6 h.p., 3-speed	142	10	0

Any machine supplied for Cash or on our "Payment out of Income System."

H. TAYLOR & CO., LTD.

SHOWROOMS :

Motor Cycles and Cars——52-53, SUSSEX PLACE, SOUTH KENSINGTON.
Accessories, Spare Parts, and Repairs——21a, STORE ST., TOTTENHAM COURT ROAD, W.C.1.
Wholesale——38, ALFRED PLACE, W.C.1.
Garage : Tottenham Court Rd., W.

Phones : Accessories & Repairs—Museum 1240. Motor Cycles & Cars—Kensington 7260 Telegrams : "Dynametro, Westcent, London."

FURTHER REDUCTIONS IN PRICE.

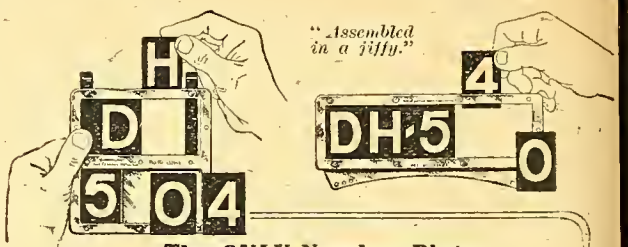
A.B.C. 3 h.p. Motor Cycle
complete with Kick-starter, now reduced to **£120**

A.B.C. Coachbuilt Sidecar
with Special Spring Chassis (Waterproof Apron £1 7 6 extra) **£38**

A.B.C. Spares
Ample supply immediately available.

We have also a few SHOP-SOILED A.B.C. MACHINES and SIDECARS at much reduced prices; we shall be pleased to supply particulars on application.

THE SOPWITH AVIATION AND ENGINEERING CO., LTD.
(In Liquidation)
:: :: **KINGSTON-ON-THAMES** :: ::



The ONLY Number Plate THAT CAN BE BUILT UP!

With this plate there is no waiting for painting or casting—your own number plate can be assembled and completed WHILE YOU WAIT!
Made from Best Quality Aluminium, rigid, strong, reliable, and passed by Scotland Yard. Don't be fined for having incorrect or indistinct Plates—use

The Ever-Ready ALUMINIUM NUMBER PLATE
(Fully Patented)

Units are highly-polished Aluminium on a dead black background—clear, distinctive, and an ornament to any machine.

PRICE 11/6 per pair, *Post free.*

Supplied by Agents from stock. If any difficulty, order from us direct.

B'HAM NON-FERROUS METAL Co., Legge St., B'HAM.

Special Note.

To put these Plates on the market we shall give a famous "IGNA" SPARKING PLUG with each Pair of Plates, FREE. Send for yours while this offer lasts.



The Complete Plates

Whatever your machine

Write us for particulars of our Carburettors.

We have a Model that will give the maximum of efficiency on every make of machine.

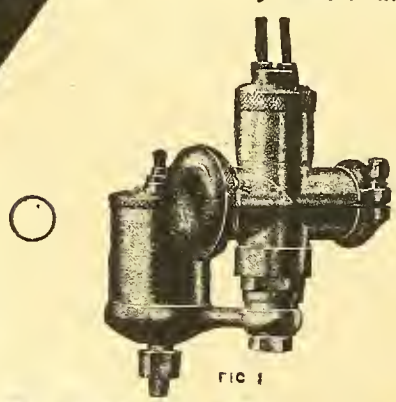
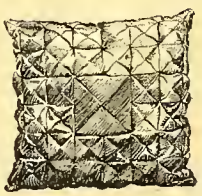


FIG 1

AMAC
CARBURETTORS
AMAC LIMITED,
Aston Cross, Birmingham

When writing for Catalogue give particulars of machine, and state if Single or Double Lever interests you. Catalogue Free. "Hints and Tips," 6d.



LEATHER CUSHION, 18 inches square, **35/-**

'SPIKAR' CRAZY LEATHER
Prov. Patent No. 7,339.

Cushions in Tan, Suede, Chocolate, etc., for Sidecar, Car, Boat, or Home. Everlasting wear, at a moderate price. Sent on approbation against deposit. 24in. cushion **50/-**, Round **63/-**, Hassock **47/6** Tammy **21/-**, etc.

From :—
LIBERTY'S, LONDON. FINNIGAN'S, MANCHESTER. KEAN AND SCOTT, BIRMINGHAM, and other Agents, or direct from :—

SPICERS, LEAMINGTON.

The Highways and Byways of England

—THEIR HISTORY AND ROMANCE.—
By T. W. WILKINSON.

Dealing in an interesting manner with the growth of our road system, from the time of the Romans down to the present day.

Price **6/-** *net.* *By post,* **6/6.**

Obtainable from
ILIFFE & SONS Ltd., 20, Tudor Street, LONDON, E.C.4
and all leading booksellers.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., & Co. and crossed Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, 1 %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

NEW 1920 A.B.C. 4-speed; £140; in stock.—Randall, Andover. [0367

A.B.C., perfect condition, mileage 1,000; £100.—3, Adamson Rd., Swiss Cottage. [6065

A.B.C. 1914, 2-speed, splendid condition; nearest £65.—106, Platt St., Leigh, Lancs. [6027

A.B.C 1920 (Aug.), dynamo model, accessories and spares, perfect order and conditiou; £120.—Clarke, Lynn Rd., Ely, Cambs. [1339

A.B.C. New Models from Stock, 1920; best cash offer entertained.—A. J. Young and Co., Ltd., Newmarket. [1252



Now is the time to purchase your machines. We have in stock an excellent selection of modern and first-class solo machines and combinations. Every one at bargain prices. We advise you to get into communication with us if you are desirous of purchasing one of these bargains. We may state that no reasonable offer is refused. Our stock is as follows :—

1921 8 h.p. **ENFIELD** Combination, Mag Dynamo lighting..... £182

1921 8 h.p. **ENFIELD** Combination, standard model £160

1920 3½ h.p. **SUNBEAM** Combination, complete with lamps and horn £170

1920 4½ h.p. **B.S.A.** Combination, guaranteed unused, all-chain drive £135

1920 8 h.p. countershaft **ZENITH**, kick-starter, Swan sporting Sidecar to match, with lamps, speedometer, and horn. Mileage 300. Cost £330. Accept £170

1920 4 h.p. **DOUGLAS** Combination, with lamps, semi-T.T. bars, original tyres £120

1920 4-cylinder **HENDERSON** Combination, Sidecar to match, mechanical horn, lamps, speedometer £145

1920 Powerplus **INDIAN** Combination, Best Sidecar, dynamo lighting, speedometer, electric horn, original tyres, hood, and screen; cost £228; accept £145

1920 4 h.p. **TRIUMPH** and Dinky Sidecar to match. Brand new Combination £160

1919 4 h.p. **DOUGLAS** Combination, Swan sporting Sidecar, lamps, and windscreen £85

1920 4 h.p. countershaft **TRIUMPH**, unused £120

1920 3 h.p. twin **LEA-FRANCIS**, shop-soiled only, complete with lamps; cost £140; accept £90

1911 3½ h.p. **SUNBEAM** Combination . £75

CARS.

1921 **G.N.-VITESSE**, dynamo lighting, aluminium body; just driven from works, unused. Makers' price, £309. Our price £275

11.9 h.p. **MORRIS-COWLEY**, 4-seater, dynamo lighting, disc wheels, exceptionally good condition £310

1920 10 h.p. **SINGER** Coupé, mileage 1,000; cost £625; accept £395

SIDECARS.

Dinky and **Henderson Elite Sidecars** in Stock, for immediate delivery.

First-class Combinations and Solos Wanted for Spot Cash.

J. SMITH & CO.,

52 & 54, Hampstead Rd., London, N.W.1.

(Bottom end of Tottenham Court Rd.)

'Phone: Museum 5938.

IMPORTANT NOTICE.

Owing to the Easter Holidays, the issue of "The Motor Cycle" for March 31st must be closed for press earlier than usual. Insertion of Miscellaneous Advertisements in that issue can only be guaranteed if in our hands by Wednesday, March 23rd.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, Lucas electric, speedometer, perfect; sacrifice £95, cost £170.—Moore, 3, Avonmore Rd., Kensington, W.14. [5906

A.B.C.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5735

1920 A.B.C., equipped regardless, mileage 500, unscratched; cost £160; accept £90; exchanges. 60, Wallingford Av., N. Kensington. [6394

A.B.C. 1920 Combination, kick start, excellent condition; £145; by appointment.—Grosvenor, 25, Peel Grove, Cambridge Heath, London, E.2. [6890

A.B.C., August, 1920, perfect order, lighting set; £98, or would exchange heavier machine.—Sylvadale, Bramhall Lane, Bramhall, Stockport. [X9136

A.B.C., latest kick start model, fully equipped, guaranteed as new; £110, or accept lightweight (Douglas preferred) and £60 cash.—73, Victoria Rd., Stroud Green, N.4. [5993

1920 A.B.C. Combination, dynamo lighting, small mileage, beautiful condition throughout, Cameo wind screen, etc.; owner buying car; £140.—H., Kenwood, Banstead, Surrey. [4399

A.B.C., £120; the finest value in motor cycles.—Agents, Frank Whitworth, Ltd., 139, New St., Birmingham. Spares always obtainable at Service Depot, 105, Bristol St., Birmingham. [X9295

1920 (August) A.B.C. Combination, as new, perfect order, mileage 1,200, complete with Lucas dynamo lighting, speedometer, and luggage grid; cost £220; any trial; what offers?—Osbaldstone, Chalvey Rd., Slough. [6626

ALLEN-BENNETT Motor Co., Ltd.—A.B.C., 1920, and A.B.C. touring sidecar, dynamo lighting; £155, cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6280

A.B.C. 3h.p., new mid-January last, dynamo lighting, horn, speedometer, negligible mileage, beautiful condition, carefully run in, many spares; any trial; genuine reason; would consider part exchange new bicar or Rover; £120.—Elveyen, 53, Willows Rd., Cannon Hill, Birmingham. [X9381

Classified Advertisements.

Special Notice.

Owing to the increased size of this issue, it became necessary to close for press somewhat earlier than usual. Advertisers who have sent copy for classified advertisements, and do not find them in this issue, should note that, unless instructions are received to the contrary, the advertisements will duly appear in the next issue.

MOTOR CYCLES FOR SALE.

Abingdon.

ABINGDON 5h.p. Combination, 2-speed, splendid condition; bargain, £75.—451, High Rd., Leyton, Essex. [6421

ABINGDON King Dick, 3½h.p., countershaft 2-speed and clutch, about 1914, dropped frame, C.A.V. mag.; £24.—Stocker, 49, Riverside, Kingston-on-Thames. [6392

1920 Abingdon King Dick Combination, 6-7h.p., 3 speeds, all accessories, low mileage; £130; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6113

ABINGDON King Dick 4h.p., nearly new Dunlops, clutch, lamps, new Amac, in excellent condition; price £40, or offer.—East Grinstead Motor Garage, London Rd., East Grinstead. [3238

Acme.

1920 Acme Combination, wind screen, spare wheel, Tan-Sad, spares, tax paid, as new; £175, or nearest offer.—54, Clarendon Rd., Luton. [6784

1920 8h.p. Acme Combination, mileage 2,000, spare wheel, gas and electric lighting sets, Tan-Sad, speedometer, spare tube and belt; £170.—Costin, 19, Bute St., Luton. [6916

1920 (August) 8h.p. Acme-Jap Combination, spare wheel, Lucas lamps, horn, Easting screen, Bonniksen speedometer, pillion seat, mileage 754, fully insured, as new; £195.—Watson, Woodroyd, Motherwell. [6091

BRAND New 1920 8h.p. Acme Combination, J.A.P. engine, detachable wheels, spare wheel, luxurious sidecar with cantilever springing; list price £213, reduced to £180 spot cash; only one at this price.—The Premier Motor Co., Aston Rd., Birmingham. [5284

A.J.S.

ARE You Requiring a new combination for Easter?

JULIAN'S, of Reading, have 1921 A.J.S. in stock.

SECURE One Early, otherwise you may be disappointed. [0477

JULIANS of Reading have 1921 A.J.S. in stock. [0532

DAN GUY, Weymouth.—1921 A.J.S. in stock; £215. [2173

1921 A.J.S. 7h.p. in stock; £215.—Taylor's Garage, Wednesbury. [5387

A.J.S. Brand New 6h.p. Combination, spare wheel, screen, unused; £180.—Moss, Wem. [X9129

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [4557

BRIGHTON, Hove, and District A.J.S. Agents. Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. Late 1919 6h.p. Combination, complete, first-class condition; £155.—Bousfield, Westbury, Wilts. [4543

1916 4h.p. A.J.S. Combination, spare wheel, lamps, and horn; snip, £110.—Wilderspin, Chatteris. [5806

DAN GUY, Weymouth.—A.J.S. agent for Dorset; earliest deliveries new 2¾h.p., provisional price £100. [6318

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

A.J.S. 1921 Models for spring delivery; send your order to me.—H. J. Marston, 50, Argyle St., Birkenhead. [6696

DAN GUY, Weymouth.—A.J.S. 6h.p. combination, 1917, recently re-enamelled, splendid condition throughout; £120. [6319

A.J.S.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5736

A.J.S.—1921 models for early delivery.—Authorised District Agents: J. V. Madgwick and Co., Bolton, Lancashire [4121

1920 A.J.S. Combination, 6h.p., Nov., perfect condition, bought car; nearest offer £200.—Coish, Emmer Green, Reading. [6910

GET an A.J.S. from A.S.J. Any model, any distance. Good deliveries, good service.—Allen S. Jones. Pool Hill Garage, Carnarvon. [X7589

A.J.S., late 1914 2¾h.p., 3-speed, K.S., clutch, tax paid, in splendid order; what offers?—Thorp, 20, Abinger Rd., Bedford Park, W.4. [6632

A.J.S. 1920 (November) Combination, Lucas lamps and horn, Watford speedometer, tax paid, mileage 600; £195.—199, High St., Watford. [6461

A.J.S. Combination, spare wheel, grid, wind screen, tax and insurance paid; £100.—Atkin, 13, Bramwith Rd., Nethergreen, Sheffield. [6939

A.J.S. Combination, fully equipped, spare wheel, not done 1,000 miles, £170; also 1916, £120.—Phillips, 20, Wightman Rd., Harringay. [5974

A.J.S. Combination, 1919, spare wheel, Lucas horn, Lucas and P.H. lamps, registered, insured; any trial; £130.—14, Morton St., Royston, Herts. [6951



'Phone: Mid. 2910. 'Grams: "Lytcar, B'ham.'

THE BIRMINGHAM HOUSE FOR MOTORISTS.

P. J. EVANS

CAN DELIVER BEFORE EASTER

THE FOLLOWING 1921 MOTOR CYCLES:

COMBINATIONS.

7 h.p.	A.J.S.	£215
6 h.p.	A.J.S.	£195
7 h.p.	INDIAN	£226
5-6 h.p.	ROVER	£195
4 h.p.	NORTON	£177
8 h.p.	NEW IMPERIAL	£187
4 h.p.	TRIUMPH from	£153
7 h.p.	JAMES	£195

SOLO MACHINES.

4 h.p.	INDIAN SCOUT	£157	0
4 h.p.	TRIUMPH	£127	10
4 h.p.	BLACKBURNE	£135	0
3½ h.p.	NORTON	£132	0
3½ h.p.	ROVER	£135	0
4½ h.p.	HUMBER	£140	0
2¾ h.p.	NEW IMPERIAL	£89	5
2¾ h.p.	EDMUND-JAP	£95	0
2¾ h.p.	MASSEY-ARRAN	£90	0
2½ h.p.	ENFIELD	£65	0
2½ h.p.	TRIUMPH	£75	0
2½ h.p.	JAMES	£75	0

CASH. EXCHANGES.
DEFERRED PAYMENTS.



8 h.p. ROYAL ENFIELD, £160.

SPECIAL BARGAINS:

1920 Shop-soiled Models.

3½ h.p.	ROVER, 3-speed	£125
4½ h.p.	HUMBER, Flat Twin	£125
4 h.p.	BLACKBURNE, 3-speed	£115
3½ h.p.	ROVER, T.T.	£95
2½ h.p.	ENFIELD, 2-speed	£62
2¾ h.p.	CALTHORPE-JAP, 2 speed	£63
2¾ h.p.	CALTHORPE, 2-stroke, 2-speed	£58
2¾ h.p.	METRO-TYLER, 2-speed	£70
2½ h.p.	CONNAUGHT, 2-speed	£58
2½ h.p	CONNAUGHT, single-speed	£50

Also a few shop-soiled

SIDECARS

AT REDUCED PRICES.

81-91, JOHN BRIGHT ST.

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. 1921 Models, delivery guaranteed when required; deferred payments arranged.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4009

A.J.S. 6h.p. Combination, 1914, well cared for, splendid running order, lamps, screen, horn, Tan-Sad, tax paid; £100.—64, Piedmont Rd., Plumstead, S.E.18. [6537

1919 (November) A.J.S. Combination, thoroughly overhauled, well equipped; a bargain worth seeing; £170.—79, Knowsley St., Bolton, Lancashire. [4123

A.J.S. 1916 6h.p. Combination, sound condition, fully equipped, spare wheel, tools, accessories, hood, £125.—Hannen, 1, Birches Barn Rd., Wolverhampton. [6953

A.J.S. Combinations for Early Delivery; liberal allowance on your old machine.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6237

A.J.S. 1920 Combination, spare wheel, screen, luggage grid, lamps, horn, spring seat-pillar, ridden 2,700 miles, tax paid; £179.—Write 50, Grove Park Gardens, Chiswick. [6477

A.J.S. 1921 6h.p. Combination, brand new, not shop soiled, complete with interchangeable wheels and spare; £195.—P. J. Evans, 81-91, John Bright St., Birmingham. [6541

A.J.S. Combination, complete, 6h.p., late 1919 model, excellent condition; any examination or test; price £195.—Apply, Bartlett, Ledwyche Orchard, Tenbury, Herefordshire. [5883

A.J.S. 1920 Combination, lamps, hood, cover, side curtains, spare wheel unused, child's seat, licensed, insured, mileage 1,000; £190.—Morley, Lowgates, Stanley, Chesterfield. [6381

A.J.S., 1919 (September), fully equipped, Lucas accessories, Tan-Sad, excellent condition, just overhauled by makers, tax paid; £175.—Miller, 14, Lawford Rd., Rugby. [X9134

A.J.S. Combination, 1920, complete as delivered October, electric light, horn, excellent condition, mileage 1,200, well run in; £195.—Marsh, 44a, Clifton Park Rd., Bristol. [6195

1920 A.J.S., Lucas Magdyno, special draughtproof hood, exceptionally powerful engine, fully licenced, in spotless condition; 190 gns.; Midlands.—Box 302, c/o *The Motor Cycle*. [X8741

A.J.S. 1920 6h.p. Combination, Lucas dynamo lighting, hood, screen, spare wheel, speedometer, spares, perfect, tax paid; £195.—R. Woods, 10, New St., Covent Garden, W.C.2. [6345

A.J.S. Combination, late 1920, trip speedometer, hood, screen, Lucas horn, pillion seat, tyres unpunctured, condition as new; £178, no offer.—5, Hillshott, Letchworth, Herts. [6705

1920 A.J.S. Combination, dynamo lighting, luxuriously equipped, all accessories, perfect condition, cost £260; bought car; tax paid; accept £195.—Salmon, Yeoveney, Alexandra Rd., Watford. [6626

1914 A.J.S., 3-speed, Dunlops, 700×80, 2-seater sidecar, electric lighting, Easting wind screen, tax paid; £80.—Neale, 19, Werrington St., St. Pancras, London. 'Phone: Museum 1980. [6758

1921 A.J.S., 2¾h.p.—We are now booking for early delivery of this super machine; approx. price £100.—Official agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6114

1920 A.J.S. Standard Combination, new May, Lucas lamps, Watford trip speedometer, horn, all tools, fully insured, in excellent condition, privately owned, £180.—McNeill, 10, Monument St., E.C.3. [4895

A.J.S. 1916 Combination, electric lighting; also Bradbury combination; both just overhauled, excellent condition; £245 the two; owner buying car; appointment.—H.J., 14, Replingham Rd., S.W.18. [6638

A.J.S., 1920 (July), carefully run in, unpunctured, spare wheel, speedometer, lamps, hood, horn, screen, condition perfect, tax and insurance paid; £185.—W., 83, Revelstoke Rd., Wimbledon Park. [6333

A.J.S. 1919 6h.p. Combination, spare wheel, Lucas accessories, hood, side curtain, splendid running order guaranteed; any trial; £148 and tax; left for sale.—Sanders' Garage, New Rd., Kidderminster. [6827

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

SPECIAL Design 1914 6h.p. A.J.S. Combination, No. 4085, completely overhauled makers Dec. 1919, electric light, accessories, owner getting car, must sell; best over £80.—Sankey, Finchfield, Wolverhampton. [6665

A.J.S. 1914 2¾h.p. T.T., 2-speed, large valves, detachable heads, like new, re-enamelled and plated, polished crank case, very fast; price £65.—B.P. Garage, 40, Murray Mews, Murray St., Camden Town, N.W. [6482

1919 A.J.S. Combination, 6h.p., 3-speed, hand clutch, speedometer, lamps, electric from sidecar, screen, spare wheel, tools, mileage 2,000, excellent condition, £160, nearest.—Salsbury, Birchwood, Sydney Rd., Guildford. [6417

MOTOR CYCLES FOR SALE.

Brough Superior.

ROUGH Superior, 8h.p., overhead valves, built to an ideal for the rider who will have the best; 75; enquire of sole agents for Cambridgeshire, Huntdonshire, and district, G. and J. Dawson, Regent , Cambridge. Phone: 993. [0463

B.S.A.

.S.A.—All models now in stock; delivered anywhere.

.S.A. Sidecars, hoods, grids, screens, etc., in stock.

.S.A. Replacements, every part and pattern, by return.

.S.A. Specialists: County Cycle and Motor Co., Broad St., Birmingham. [6575

.S.A., 1921, 3-speed, Model K2; £107.—Bacon, Wellington, Salop. [6732

.S.A., brand new Model K, £100; 6-7h.p. twin outfit, £175.—Moss, Wem. [X9132

.S.A. 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2439

AN GUY, Weymouth.—B.S.A. 3½h.p., 2-speed and clutch, overhauled at works; £40. [6320

.S.A. Combination, 4¼h.p., 1915, all-chain, 3 speed; £75.—404, High Rd., Willesden, N.W. [5943

.S.A. 6-7h.p. Twin, Montgomery sidecar, mileage 800; £150.—35, Coten End, Warwick. [6828

.S.A., all models in stock; spare parts definitely by return, against cash. Pitts, of Redditch. l.: 91. [X9324

920 B.S.A. All-chain Combination, new, £138; 1921 models, prompt delivery.—Taylor's Garage, ednesbury. [5388

.S.A. 4¼h.p., £107; twin, 6-7h.p., £133; and sidecars extra; in stock.—Jenkins, Kettering Rd., orthampton. [X9267

.S.A. 1921 Twin 6-7h.p. Combination, in stock, £175; spare wheel, tyre, and luggage grid extra 3/19.—Below.

.S.A. 1921 Model H., 4¼h.p., chain drive; £110; No. 2 sidecar £35, in stock.—Below.

.S.A. Model K., 4¼h.p., 1920, chain-cum-belt, £100; No. 2 sidecar, £35; in stock.—A. Rivett, 236, igh Rd., Leytonstone. [3586

OLTON.—All B.S.A. models in stock, solo and combinations, complete.—Grosvenor Garage, Bradrd St., Bolton. [X2019

.S.A. 1921 Models; orders now accepted for early delivery.—Ratcliffe Bros., 200, Gt. Portland St., . Mayfair 5042. [0429

917 B.S.A. 4¼h.p. and Coachbuilt Sidecar, lamp and horn, everything tip-top order; £85.—ilderspin, Chatteris. [5807

.S.A., 1915, C.B. sidecar, chain-cum-belt, very little used, splendid condition; £95.—Davis, 52, averstock Hill, N.W. [6937

.S.A. Combination, 1918, new condition, lamps, horn, and speedometer; £95.—R. Rhynehart, Tughon, Wexford, Ireland. [5918

.S.A., 1921, Model K2, chain-cum-belt; immediate delivery; £107.—Turner Brothers, 134, Upper ames St., London, E.C. [6752

.S.A.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from pril 2nd. (See Wanted.) [5741

.S.A., 1914, 2-speed, sidecar, kick start, lamps, horn, accessories; £85, near offer.—Hammond, , Holland Park Av., W.11. [6792

.S.A. 1915 Countershaft Coachbuilt Combination, perfect condition, accessories; £79; tax paid.—, South Lambeth Rd., S.W.8. [6077

1h.p. B.S.A., 1919, with 1920 B.S.A. sidecar, all-t4 chain, fully equipped, licensed, little used; £125. Wilson, Parkside Rd., Kendal. [5834

.S.A. 3½h.p. Combination, 2 speeds, lamps, tools, tax paid, splendid condition; £85; appointment. Moss, 25, Belmont Park, Lewisham. [6646

½h.p. B.S.A., clutch model, perfect order; sell, or exchange twin combination.—Dewhurst, Craven eiler, Chaigley, Clitheroe, Lancashire. [5936

.S.A. 1914 3½h.p., 2-speed, sidecar, not used 1915-1920, splendid condition, ready for use; £65.—ewin, 24, Dyershall Rd., Leytonstone. [6213

.S.A., few only, 1920 combinations; reduced price, £135.—A. Watkins, 150-2, Stoney Lane, and 566, ratford Rd., Sparkhill, Birmingham. [X8626

.S.A. 1917 4¼h.p., electric lights, Canoelet sidecar, Easting screen, new tyres; £100, no offers.—Seen Garage, 12, Kentish Town Rd., N.W. [6649

.S.A. Magdyno Combination, new; £160; Model H2 in stock.—Agents, R. B. Clark and Co., 7, xhibition Rd., S.W.7. Kensington 4096. [6141

.S.A., 1919, all-chain, Montgomery sidecar, speedometer, lamps, etc.; £120; after 7 o'clock.—arnes, 388, Flat 2, Finchley Rd., N.W.2. [5039

.S.A., 2-speed, clutch, new gears, fine running order, etc., Bosch waterproof, Triumph carbutter; £38.—591, Foleshill Rd., Coventry. [X9326

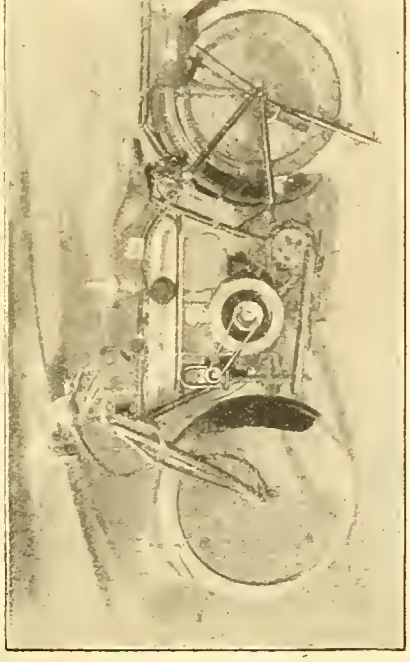
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B.S.A. 3½h.p., 1913, 2-speed clutch, recently overhauled, enamelled, new tyres, all accessories; £55.—31, Hampton Rd., Forest Gate, E.7. [6822

GENUINE 1919 B.S.A. 4¼h.p. Combination, luxuriously fitted, perfect throughout, unscratched; any reasonable offer.—153, Knollys Rd., Streatham, S.W.16. [4362

B.S.A. 1921 4¼h.p. Models, immediate delivery; also 6-7h.p. twin combination; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [6268

B.S.A. 1920 Combination, Magdyno lighting set, slightly used; £150.—A. Watkins, 150-2, Stoney Lane, and 565, Stratford Rd., Sparkhill, Birmingham. [X8627

B.S.A. 4¼h.p., 1915, chain-cum-belt, just completely overhauled, lamps, accessories, roomy 1919 coachbuilt sidecar; £90, or offer.—Lees, 73a, Ashburnham Rd., Luton. [6736

B.S.A. 1920 4½h.p., Sandum sidecar, hand and foot clutch, fully equipped, indistinguishable from new; £130.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9128

B.S.A. Models for Immediate Delivery; also a few 1920 models at reduced prices; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6235

B.S.A. 4¼h.p., 3-speed, with sidecar to match, splendid order, tax paid; any trial; £85.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6231

B.S.A.—Second-hand 4¼h.p., 3-speed, countershaft, kick start, footboards, exceptional value, owner-driven, £75; with enue 2-seater sidecar, £85.—H. Rose, Cycle Works, March. [X9184

1920 4¼h.p. B.S.A. and No. 2 Sidecar, Magdyno, horn, spares, tax paid, condition perfect; £134.—Edwards 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [6156

B.S.A. Coachbuilt Combination (1915), electric lighting, all accessories, splendid condition throughout; any trial; tax and insurance paid; £90.—Brooke, Ashbocking Manor, Ipswich. [6497

B.S.A.—All models now in stock; the lowest price machine, but highest quality.—A. Watkins, the B.S.A. Agent, 150-2, Stoney Lane, and 565, Stratford Rd., Sparkhill, Birmingham. [X8625

B.S.A. 6h.p. and 4¼h.p. Solo in stock for immediate delivery; price list and catalogue post free; deferred payments arranged. Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4010

B.S.A. 1921 6-7h.p. Twin Combination, complete with spare wheel, luggage grid, and screen; cash, or extended payments.—Taylors, Ltd., 52 and 53, Sussex Place, S.W. 'Phone: Kensington 7260. [0492

B.S.A. Late 1919 4¼h.p. Model K and No. 1 Montgomery Sidecar, with hood, wind screen, lamps, and horn, splendid condition; £120.—Apply, Lye Crescent, 20, Holyhead Rd., Coventry. [X9201

B.S.A. 1917 4¼h.p. Combination, ready tour, all on, small mileage, beautiful condition, full spares, sound tyres, tax paid, motor suit; £110, or offer; after 8 p.m.—109, Cumberwell New Rd., S.E. [6500

B.S.A. Combination, 1919, Grindlay de luxe sidecar, with hood and screen, fitted complete with lamps, Klaxon, etc., and licence paid; £120. Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6432

B.S.A. 4¼h.p., 3-speed, done 425 miles, speedometer, lighting set, spare tube and belt, Klaxon, new sidecar, hood wind screen, insured £180, paid to January, 1922.—Harrisson, 25, Hugh St., Sandwich, Kent. [6373

ALLEN-BENNETT Motor Co., Ltd.—B.S.A., several reconstructed models from £75; cash, exchange, extended payments.—9, 10, 11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6296

B.S.A. Combination, 1917 (late), 3-speed, clutch, lamps, horn, speedometer, tax paid, insured to October, 1921, recently overhauled, excellent condition; bargain, £100; trial appointment.—Day, Ash, Wrotham, Kent. [6746

IMMEDIATE Delivery of any B.S.A. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0501

B.S.A. 4¼h.p., late 1920, chain drive, with B.S.A. No. 2 sidecar, dynomo lighting, brand new but slightly soiled; usual price £158/15, sacrifice £139/15, a real bargain.—Wilkins, Simpson, opposite Olympia, London. [6272

B.S.A., 4¼h.p., Nov., 1920, brand new, chain drive, special gear box, property of demonstrator, exceptional machine; genuine reason for selling; £107.—Blake, Austey Cottage, Alton, Hants, or Ranmoor College, Sheffield. [6506

B.S.A.—A motor cycle worthy of its name is the B.S.A. We have always in stock at least three models, Model K, Model H, and 6-7h.p. twin, immediate delivery; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0379

MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A. Bargain.—Combination, 1915, chain driven, everything tip-top condition, screen, apron, lamps, tools, etc., £85, must sell; also set Clyno spares in box, W.D. type, cheap.—Write, Chauffeur, Holmwood, Kingston Hill, Surrey. [5967

19 14 3½h.p. B.S.A., countershaft 3-speed, K.S., new piston, cylinder, bearings, mechanically perfect, accumulator lighting; £75.—'Phone, or call evenings, Mondays, Wednesdays, Fridays, Pollard, Shanklin Avenue, Chingford. [5796

B.S.A.—The price of the B.S.A. 6-7h.p. twin combination is now only £175; it is worth your investigation; write or call for full particulars.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6236

B.S.A. Model K. Combination, guaranteed only 12 months' use, fine condition, mechanically perfect, 3 lamps, Klaxon, insurance, tax paid; any trial; £130, or near offer.—Dickeson, Clifden, Raglan Gardens, Wembley Park, Middlesex. [6400

19 20 B.S.A. 4¼h.p. Combination, chain drive, Magdyno lighting, Easting wind screen, luggage grid, mechanical horn, Bonniksen trip speedometer, licence; cost £190; price £154; appointment.—Waddell, 3, Exchange Buildings, Birmingham. [X9389

19 20 4¼h.p. B.S.A., Henderson Elite sidecar, car generator, large lamps, also electric set, Cowey horn, Cowey speedometer, wide bars, discs, legshields, hand clutch, many spares, perfect condition, tax paid; £140, or near offer.—Whitaker, Southfield, Kingsland, Shrewsbury. [X9246

B.S.A. 1921 6-7h.p. Twin, Model A, with B.S.A. No. 1 sidecar, Magdyno lighting, speedometer, spare wheel with tyre, tyre cover, luggage grid; immediate delivery from stock at makers' latest price; £217/10.—Wilkins, Simpson, opposite Olympia, London. Easy payments arranged. [6266

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—New 1921 B.S.A. motor cycles, chain and chain cum-belt, delivered from stock, price £110 and £107 respectively; also 6-7h.p. B.S.A. combination, new 1921, twin, £175, with dynamo £195/15; and 1919 4¼h.p. B.S.A. combination, electric lighting, all-chain drive, excellent condition; £117/10; easy terms one-fifth down and the remainder in twelve monthly payments. [6583

Calthorpe

19 21 Calthorpe.—All models from Coventry Motor Mart, London Rd., Coventry. [X9329

2¼h.p. Calthorpe-Precision, 2-speed, F.E., bargain; £23/10.—2, Austin Way, Uxbridge. [6024

CALTHORPE 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Below.

CALTHORPE 2¾h.p., 2-speed Enfield gear, as makers' specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt Portland St., W.1. 'Phone: Langham 2230. [6303

CALTHORPE Lightweight, 2-speed, licence, like new; £29.—Proud, Vicarage Lodge, Knowsley, Lancs. [5309

CALTHORPE.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5742

CALTHORPE-J.A.P. 2¾h.p., Enfield gears, good condition, equipped and licensed, reliable, economical; £45.—Davies, Rock Villa, Bisley Rd., Stroud, Glos. [6921

CALTHORPE-J.A.P. 2¾h.p., 1920 model, Enfield 2-speed gear, £65; 2-stroke model with Enfield gear, £58.—P. J. Evans, 81-91, John Bright St., Birmingham. [6544

CALTHORPE 2½h.p. 2-stroke, 2-speed countershaft, in splendid condition, enamel like new; £38, tax paid, complete with lamps, etc.—Burke, 122, New St., Andover. [5995

CALTHORPE-J.A.P., 2½h.p., 2-speed, accessories, 140 m.p.g., good condition, tax paid, £45; Cowey speedometer, £3; after 6 p.m.—Sandilands, 61, Rusthall Av., Chiswick. [6363

CALTHORPE Junior, 2¼h.p., overhauled; any trial; in sound condition throughout; bargain, £33; will exchange higher h.p.; seen any time.—28, Heaton Rd., Newcastle-on-Tyne. [6067

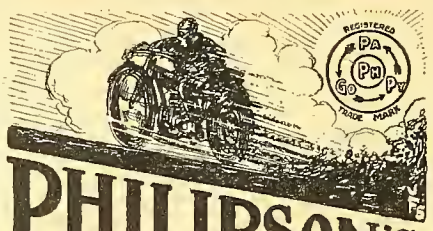
19 16 Calthorpe, 2¾h.p., 2-speed, £32/10; 1919 Calthorpe, 2¾h.p. J.A.P., Enfield 2-speed, disc wheels, copper exhaust, equipped, £43/10.—Shaw, Park St., Wellington, Salop. [X9244

CALTHORPE.—Immediate delivery 3h.p. 2-stroke solo, 65 gns.; combination, complete with lighting set, 110 gns.; and 2¾h.p. Calthorpe-Jap, 2-speed, 70 gns. Motor Co., Hereford. [4314

CALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon; all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

CALTHORPE-J.A.P. 2¾h.p., Eifield 2-speed, late 1920, brand new but slightly soiled; usual price £74/11, sacrifice £59/15, a real bargain.—Wilkins, Simpson, opposite Olympia, London. [6274

CALTHORPE 1921 Combination, actually in stock for immediate delivery; cash or deferred terms; place your orders with the Calthorpe specialists.—Burlington Motors, Ltd., Clapham Common, S.W.4. 'Phone: Brixton 2417. [0509



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CALTHORPE-J.A.P. 2½h.p. 1915, 2-speed, eng just overhauled by J.A.P. Co., not done miles since, semi-T.T. bars, long exhaust, knee gr lamps, horn, licence paid, condition excellent; £4 Russell, Kingerby, Malvern. [6

19 16 Calthorpe-Jap 2¾h.p., Enfield 2-speed g excellent condition, just thoroughly overhau new belt, tyres and gear chains as new, fast, splen hill-climber, lamps, Klaxon, and tools, licence pa £45.—Hillman, 12, Wellesley Villas, Ashford, Kent. [6

Campion.

19 14 6h.p. Campion-Jap Combination, all-ch drive, all accessories; £78.—Warwick, Hinck Rd., Leicester. [6

Cedos.

E. KICKHAM for Cedos; trade supplied.—Sto Croft, Bristol. [3

CEDOS, late 1920 2¾h.p., 2 speeds, fully equipp indistinguishable from new; £60.—Parke Bradshawgate, Bolton; and 245, Deansgate, M chester. [X9

CEDOS 2-stroke, the finest lightweight reaching public, earliest deliveries, particulars on ap cation.—Largest London Agents: Fowler and Brig 130, Euston Rd., London, N.W.1. 'Phone: Muse 4827. [0

Chater-Lea.

4h.p. Chater-Lea Wicker Combination, 2-spe horn, lamps, good running order; £35. Sat day, 74, Woodside Park Rd., N. Finchley. [67

19 20 Chater-Lea 2½h.p., 2-stroke, 2-speed, free gine, all on, licence paid, hardly used; cost £ December; accept £55.—Moore, 97, College Place, L don, N.W.1. [6

CHATER-LEA 6-7h.p., 3-speed, handle starti coachbuilt sidecar, Cameo, Tan-Sad, lam Klaxon, perfect condition; £90.—Campbell, Brook Fleet, Hants. [5

CHATER-LEA 8h.p., 1915, kick starter, Binks, sidecars, coachbuilt, single and 2-seater, scre for both, oversize tyres, speedometer, Klaxon, lam and generator; £120; tax paid; after 6 any evening week-end; trial.—Long, 40, Queen's Rd., Peckham. [6

Clyno.

CLYNO 1921 Models.—We are now accepting ord for early delivery; your enquiry esteemed.—Hel

CLYNO Lightweight, 1920, shop-soiled, at grea reduced price. Now is the time to buy.—Meb 154-6, Gt. Portland St., W.1. 'Phone: Langham 22 [6

NEARLY New 2¾h.p. Clyno, 1920, 2-speed; 60 gns A. J. Young and Co., Ltd., Newmarket. [12

DAN GUY, Weymouth.—1921 8h.p. Clyno co bination, small mileage, as new; cash offers want [21

CLYNO 2-stroke 2¼h.p., 2-speed, clutch, excell condition, as new.—10, Thrale Rd., Streatham, S. [6

£20.—Clyno 6h.p., 2-speed kick start, power unit saddle removed.—Wells, Ditton Park, Langl Bucks. [6

19 21 8h.p. Clyno Combination, new, £215; 19 Clyno lightweight, £59.—Taylor's Gara Wednesbury. [53

CLYNO 2¾h.p., 2-speed, clutch, lamps, horn, n May, 1920, new condition; £50.—Hill, New S pertou, Heathfield, Sussex. [59

CLYNO.—All models will be on sale at the secon hand Automobile Show, Crystal Palace, fr April 2nd. (See Wanted.) [57

CLYNO 1917 3-speed Combination, repainted, co plete with lamps; £100, close offer.—Hayne, Spri Bottom, Osmington, Weymouth. [35

19 14 6h.p. Clyno Combination, lamps, speedomet Klaxon, not a war lot; £75.—Tel.: Museum 66 —A.S.C., 60, Mortimer St., W.1. [58

19 17 6h.p. Clyno Combination, 3-speed, clutch, spa wheel, Easting, spares; £120, perfect condition Breed, Toddington, Dunstable, Beds. [68

19 20 2½h.p. Clyno, 2-speed, clutch, mileage und 200, as new, licence paid, equipped; £59.— Richmond House, Shepperton-on-Thames. [69

CLYNO Lightweight, 1920, very little used, lam mechanical horn; 50 gns.—Vivian Hardie and La Ltd., 24, Woodstock St., New Bond St., W.1. [05

CLYNO 8h.p. Latest Combination, as new, all full insurance, tax paid, mileage 200; cost £2 bargain, £200.—Tucker, 56, Sutton Rd., Watford. [61

2½h.p. Clyno, 2-speed, clutch, July, 1920, electric s acetylene lighting, pump, horn, tools, etc., p fect condition; £60.—63, Granville Park, Lewisham [61

CLYNO 1921 Models, immediate delivery; 1920 lig weights, shop-soiled, £63; list price, £75.—R cliffe Bros., 200, Gt. Portland St., W. Mayfair 50 [0

CLYNO Lightweight, 2-speed, clutch, recently rebu by makers (£20), lamps, horn, tools, good tyr nearest £45.—Monks Cottage, York Rd., Byfleet, Surr [69

MOTOR CYCLES FOR SALE.

Douglas.

3h.p. Douglas, 2-speed, Lucas lamps, tool bags, d splendid condition; 48 gns.—Graham, 27, Wandle l., Wandsworth Common, S.W. [6643

ATE 1920 2¾h.p. Douglas, perfect condition, clutch, 3 speeds, lamps, etc.; seen by appointment.—llance, 4, Chester Place, N.W.1. [6182

921 Douglas 4h.p. Combination, equipped, registered, licensed, done 50 miles; £159; appointent.—14, Ferubank Av., Harrow. [X9249

OUGLAS 1920 2¾h.p., 3-speed, new, complete, mileage 1,000; offers; exchange Norton, cash lance.—Tolfield, Henley-on-Thames. [6386

OUGLAS, 2¾h.p., late 1919, exceptionally good, hardly used, only wants seeing; snip.—129, Beechoft Rd., Upper Tooting, S.W.17. [6782

OUGLAS, 1914, 2¾h.p., Tan-Sad, Bosch mag., good condition, ready ride off; cash £52.—Write, Birt, 06, Moselle Av., Wood Green, N.22. [6424

OUGLAS 2¾h.p., 1915 lamps, horn, excellent condition, not had much use; 50 gns.—72, Coleman l., Camberwell Rd., Camberwell, S.E.5. [6624

OUGLAS 2¾h.p., late 1915, 2-speed, lamps, speedometer, Klaxon, etc., tax paid; 50 gns.; any evening ter 6.—30, Mornington Rd., Wanstead. [5988

3h.p. Douglas, 2-speed, clutch, kick start, good tyres, 4 excellent condition, guaranteed perfect; 32 gns.—angton, 13, Liverpool Rd., Thornton Heath. [5879

OUGLAS 4h.p. Late 1919 Combination, lamps, speedometer, horn, exceptionally good condition, any spares.—Nicholson, Woodlands, Havant. [5984

920 4h.p. Douglas Combination, in good condition, all accessories, Easting wind screen, tax paid; 135.—Bounds, 223, High Rd., Kilburn, N.W.6. [6225

OUGLAS 1915 2¾h.p., 2-speed, in new condition special bargain, £50, tax paid.—Smith, 86, Chalk arm Rd opposite Chalk Farm Tube Station. [0491

OUGLAS Combination, 4h.p., 1920 model, equal new, complete with accessories, owner no use; hat offers —Cox, Lynwood, Uffoxeter, Staffs. [5797

OUGLAS 2¾h.p., clutch and kick start, 1920 model, tax paid, only done 250 miles; going in for comantion.—Deerlands, Wadsley Bridge, Sheffield. [5799

919 4h.p. Douglas Combination, hardly used, guaranteed perfect, complete with accessories; £130. Jaques, 49, High St., Keynsham, near Bristol. [5824

OUGLAS, 1915 (late), 2¾h.p. T.T. model, complete with lamps and horn, fully licensed till December rgain, £50.—R. D. Varty, Thundersley, Essex. [990

h.p. 1918 Douglas, Canoelet sidecar, 3-speed, kick-starter, good condition; £95, tax paid.—Seen any me Victoria Garage, Ford St., Roman Rd., Bow. [6380

916 2¾h.p. Douglas, 2-speed, very small mileage lamps, Klaxon, pump, tool kit, licence paid; 55; worth seeing.—1, Melrose Rd., Merton Park, S.W. [4373

915 2¾h.p. T.T. Douglas, very fast, new oversize engine, whole machine in perfect condition, ust sell; £65, or near offer.—L., 11, Highbury Park. [6682

h.p. Douglas Combination, not done 200 miles, all accessories, tax paid; what offers.—F. Heavens, , Crisp Rd., Hammersmith. 'Phone: Kensington 87. [6790

OUGLAS 1920 2¾h.p., clutch model, small mileage, and in perfect condition, complete with lamps, laxon, speedometer; £87.—The Crest, Dormans Park, urrey. [5792

916 2¾h.p. Douglas, perfect condition, 1921 carburetter, new tyres, belt, saddle, etc., plating and amel as new; bargain, £58.—62, New St., Woodbridge, ffolk. [6717

50.—2¾h.p. 2-speed Douglas, in excellent condition, electric light, Clandel-Hobson, Bosch mag., ly wants seeing.—20, Church Walk, Hampstead, .W.3. [6705

916 Douglas 2¾h.p., perfect condition, lamp, horn, bought new 1918, little used; £55; can be seen appointment.—38, Emperor's Gate, Kensington. hone. [6925

h.p. Douglas and Sidecar, July, 1919, not W.D. lamps, horn, speedometer, discs, mudshields, in od condition throughout; £140.—44, Howard Rd., S orwood. [5250

OUGLAS, late 1914 2¾h.p., kick-starter, clutch, lamp, horn, speedometer, etc., tax paid, good condition; £40.—Gannon, 212, Showell Green Lane, Birmingham. [X8928

919½ Douglas 4h.p. Combination, Watford speed ometer, horn, lamps, all tools, only done 2,000, ood as new, tax paid; £125.—9, Princeton St., Red ion Sq., W.C.1. [4853

OUGLAS 4h.p. Combination, 1917-18, splendid condition, lamps, horn, good tyres, very smart ppearance, fully licensed; £85.—59, Aytonn Rd., ixton, S.W.9. [6469

OUGLAS, late 1920, brand new 2¾h.p., slightly soiled, 3-speed only; usual price £100, sacrifice 37, a real bargain.—Wilkins, Simpson, opposite ympia, London. [6271

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MOTOR CYCLES FOR SALE.

Douglas.

1920 Douglas 2¾h.p., 3-speed, clutch model, as new, Lucas lamps, horn, insurance, registration; £90, or offer.—Apply, Newton, 56, St. Charle's Sq., North Kensington, W.10. [6110

4h.p. Douglas Combination, 1920 (August), tax paid, F.R.S. lamps, Easting, spares, Cowey horn, new condition; £135, bargain.—W. Milner, 24, Lime Tree Av., Peterborough. [6026

DOUGLAS 2¾h.p. 1914, 2-speed, Binks, Cowey horn and speedometer, lamps, tax paid; good running order; £55.—Jackson, c/o Palmer's Green Garage, 115, Green Lanes, N.13. [5989

DOUGLAS 1920 2¾h.p., 3-speed, clutch model, Lucas lamps, speedometer, licence paid, top-hole condition; £85.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6433

DOUGLAS, 2¾h.p., 2-speed, 1916, just overhauled (£13), mechanical horn, Miller lamps, long exhaust, good tyres, tax paid; £46.—68, Lichfield Grove, Church End, Finchley. [6070

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

DOUGLAS 2¾h.p., 1913-14, 2-speed, all on, including lamps, speedometer, good condition; £35.—Can be seen South Eastern Engineering Works, Solomon's Passage, Peckham Rye. [6419

DOUGLAS, 2¾h.p., 1915, stove enamelled and plated, lamps, mechanical horn, pillion, new tyres, licence, makers' colours; £49.—18, Marlborough Rd., Old Kent Rd., S.E.1. [6369

1920 Douglas 2¾h.p., 3-speed, lamps, Cowey speedometer, footboards, knee-grips, licence, insurance, carefully ridden, good condition; £80.—Mannering, St. Aldan's College, Birkenhead. [5887

DOUGLAS 1920 2¾h.p., 3-speed, K.S. and clutch, lamps, horn, and tax paid, under 2,000; £87/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6232

1916 2¾h.p. 2-speed T.T. Douglas, uncrated 1919, excellent condition and running order, equipped lamps, etc.; first reasonable cash offer.—Roseberry, Sutton Rd., Biggleswade. (D) [5769

1920 (October) 4h.p. Douglas Combination, complete, lamps, speedometer, horn, mirror mileage under 1,400, tax paid, any trial; £145, or nearest.—Woodford, Electric Parade, Clacton-on-Sea. [6721

DOUGLAS 4h.p. Combination, as new, lamps, speedometer, wind screen, undershield, bulbous back sidecar polished aluminium beading, spare tyre, tax paid; £140.—17, Vicarage Rd., Leyton. [6968

DOUGLAS 1918 Combination, 4h.p., 3-speed, kick start, clutch, horn, etc., tyres as new, in splendid condition throughout; £90, or offer.—Walker, 769, Romford Rd., Manor Park, London, E. [4534

THE Effra Motor Works.—When you have purchased a 2¾h.p. Douglas from us you have the satisfaction of knowing that our machines are entirely overhauled and worn parts renewed.—Below.

£50.—2¾h.p. Douglases, 1915-16, restored and replated, tank in makers' colours, fitted with oew magnetos and 1920 Amac carburetter, new tyres, etc.; a real genuine bargain.—Below.

WHY? As we purchased the remaining cotire dump of 2¾h.p. Douglases, W.D., this is the reason we are able to offer these machines at this price.—Below.

PLEASE Note that we cannot supply unreconvated 2¾h.p. Douglases.—Below.

£65.—We are now in a position to supply 4h.p. Douglas solo ex W.D. machines, tanks in makers colours, miscellaneous fittings plated, new tyres and footboards, all fitted with clutch and kick start, new mags., and 1920 Amac carburetters. These machines have had very little wear, and so confident are we that you will have satisfaction, we agree to send same on approval against cash.—Below.

TO the Trade.—We are prepared to sell 4h.p. Douglases, solo and combination (in the rough), at very attractive prices. Make a point of calling upon us.—Below.

WE are in a Position to supply spares for 2¾h.p. and 4h.p. Douglases, new and second-hand stock.—Below.

CHEQUES and Money Orders should be made payable to the Effra Motor Works, 14, Effra Parade, Brixton, London, S.W. [5647

1920 Douglas 2¾h.p., latest model, 3-speed, clutch and kick start, condition guaranteed new; accept £87/10.—Boon and Porter, Ltd., 161, Castlenau, S.W.13 (close Hammersmith Broadway). [5868

DOUGLAS 1915 2¾h.p., Lucas lamp, speedometer, Klaxon, mirror, pump, tools, spare chains, Dunlop ex-heavy, fast machine, in excellent condition; £55.—Garner, Five Weats, Swanley, Kent. [6771

4h.p. Douglas Combination, 1919. Zenith carburetter, 28×3 rear tyre, spare rings, bearings, valves, chain, belt, etc., tax paid, perfect; £110.—St. Denys, Wembley Park Drive. 'Phone: 246 Wembley. [6663

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 1915 2¾h.p., K.S., clutch, Amac carburetter, T.B. mag., footboards, leg shields, P. and H. lamps, long exhaust, tax, insurance, excellent condition; £53, or offer.—Chestnuts, Byfleet, Surrey. [6061

DOUGLAS Combination, 1920 model, mileage 2,800, completely equipped, hood, screen, speedometer, lamps, horn, tools, in perfect condition; £120; tax pair.—B. Taylor, Lynn Rd., Grimston, Lynn,. Norfolk. [X9179

F.O.C.H. have a 1920 Douglas combination, almost new, completely equipped; £135.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5949

FREE.—Every new 1921 Douglas purchased from us before March 9th, 1921, fitted lamps, horn, wind screen, and licence holder, free of charge; write for particulars.—Moffat, Douglas Agent, Yeovil. 'Phone: 50. [5043

IMMEDIATE Delivery of any Douglas Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0505

ALLEN-BENNETT Motor Co., Ltd.—Douglas. Dozens in stock, 2¾h.p. and 4h.p., from £45; lady's model, 2-speed, £38; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: 2450. 'Grams: Track, Croydon. [6286

SPECIAL 1916 2¾h.p. Douglas, tuned for speed from 5 to 60 m.p.h., 95 m.p.g., special cams, single-lever carburetter, long exhaust, lamps, Klaxon, tools, spares, tax paid; £57/10.—436, Whitehorse Rd., Thornton Heath, S.E. [6216

1919 3¾ Douglas 4h.p. Combination, mileage 1,200, dry plate clutch, unpunctured, guaranteed perfect order, Klaxon, Bonniksen speedometer, Blnemel wind screen, many spares; any trial; owner bought car; £120.—Write Fuller, 3, Stanhope Av., Finchley, N.3. [5920

DOUGLAS 1920 Model 4h.p. Combination, and accessories, Lucas horn and head lamp, Cowey speedometer, wind screen, spare belt, chain, tube, exhanst valve, etc., mileage under 3,000, slightly soiled; £135, or near offer.—Rodwell, Brewery, Tring.. [7092

4h.p. 1919¾ Douglas Combination, specially built sidecar, Jones, Klaxon, Sensplay, scraper pistons, electric lighting, all new oversize tyres, all tools and spares, unused since £15 overhaul (makers), perfect condition throughout; £130.—Spoor, The Hydro, Bristol. [6187

REAL Bargain.—Douglas 4h.p. combination, Oct., 1920, mileage 1,400, Easting screen, lamps, horn, speedometer, coachwork and enamel good, guaranteed in thoroughly good mechanical condition; £140.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., W.1. 'Phone: Mayfair 6559. [4456

DOUGLAS 4h.p. Combination, 3-speed, renovated as new, fitted with new C.A.V. mag., new carburetter and inlet pipes, new tank complete with fittings, new clutch and kick start, new sidecar chassis and renovated body; £85.—Virgo, 156, High St., Hounslow, W. [6749

2¾h.p. Douglas 1918, engine practically new, fitted new rings and valves with Flexicas attachment, new C.A.V. mag., new racing Claudel single-lever carburetter, new sprockets, engine, and gear box, new pulley, improved brakes and footboards, new Palmer cord oversize tyres and tubes (cost £8), electric lamps (battery) front and rear, tax paid; trial run arranged any time; £67, or near offer.—Dowell, Byfleet, Surrey. [6036

WAUCHOPE'S, 9, Shoe Lane, London.—New 1921 2¾h.p. Douglas, 3-speed, clutch and kick start model, £105; new 1921 4h.p. combination, £170; solo 4h.p., £130; new 1921 improved W.D. pattern, 2 speeds, £85; all the above models are fully equipped with lamps, horn, generator, and licence holder; easy payment or exchanges arranged; also 4h.p. Douglas, 1915, £60; and 1920 2¾h.p. Douglas, clutch, and kick start, £90.—'Phone: 5777 Holborn. [6580

Edmund.

1920 Edmund, special 2¾h.p. Union engine, Enfield gear, valuable spares; fully equipped; £68.—Massey, Rugeley, Staffs. [X9090

£60, or nearest.—1920 2¾h.p. Edmund-Jap, as new, 2-speed clutch, K.S., tax paid, only wants seeing.—Lear, 33, Cheverton Rd., N.19. [6945

EDMUND-BLACKBURN spring frame 2¾h.p., 2-speed, kick-starter, from stock; 100 gns.—H. J. Marston, 50, Argyle St., Birkenhead. [6694

1920 2¾h.p. Edmund-Jap, 2-speed, clutch, electric lighting, new condition; bargain, £77.—31, Claremont Rd., Alexandra Park, Manchester. [X9215

2¾h.p. Edmnnd-Union, spring frame, Enfield 2-speed gear, 1920 model, shop-soiled; list price £86, my price £68.—Davies, 229, Deansgate, Manchester. [0527

1920 Edmnnd, spring frame, Union 2-stroke, Enfield 2-speed, clutch, 2¾h.p., tax paid, perfect condition; bargain, £68.—Owner, 57, Bridge Rd., East Molesey. (D) [6420

NEW Edmund 2¾h.p., Enfield 2-speed, spring frame, shop-soiled, £80; also another model with Brinman 2-speed, shop-soiled, £84.—Smith's, 18, Hardman St., Liverpool. [6193

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LEVIS, 2½ h.p., Popular Model, single-speed	£60 0	£57 0
ROVER, 3½ h.p., 3-speed, clutch, and kick-starter	£149 16	£115 0
TRIUMPH, 4 h.p., Model H, 3-speed, clutch, and kick-starter	£127 10	£115 0
TRIUMPH, 4 h.p., Model S.D., 3-speed, clutch, K.S., all-chain drive	£140 0	£125 0

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A.B.C., 1920, 3 h.p., dynamo lighting, accessories	£120 0
ARIEL 1916 5-6 h.p. Combination, and accessories	£110 0
BRADBURY 1920 4 h.p. Combination, accessories	£125 0
BROUGH, 1920, 5 h.p., 3-speed, kick-starter, Henderson Elite Sidecar, accessories	£140 0
B.S.A. 1919 4½ h.p. Combination, and accessories	£120 0
DOUGLAS, 1915, 2¾ h.p., 3-speed, clutch, and kick-starter, accessories	£55 0
EXCELSIOR - J.A.P., 1920, 2¾ h.p., 2-speed, accessories	£65 0
JAMES 1919 4½ h.p. Combination de luxe	£110 0
MATCHLESS 1920 8 h.p. Combination, Lucas accessories	£175 0
NEW IMPERIAL W.D 8 h.p. Combination, and accessories	£120 0
NEW IMPERIAL W.D. 8 h.p. Combination, and accessories	£120 0
ROYAL ENFIELD 1916 6 h.p. Combination, and accessories	£100 0
SCOTT 1920 3¾ h.p. Combination, and accessories	£150 0
SUNBEAM 1914 6 h.p. Combination, and accessories	£120 0
B.S.A. 1920 4½ h.p. Combination, and accessories, tax paid	£135 0
ZENITH, 1920, 8 h.p., Henderson Elite Sidecar, all accessories, tax paid	£170 0
INDIAN 1915 7-9 h.p. Combination, accessories, tax paid	£95 0
ROVER, 1920, 5-6 h.p., Milford de luxe Sidecar, all accessories, tax paid	£160 0
RUDGE, 1920, 3½ h.p., I.O.M. Model, accessories	£85 0
SUN-VILLIERS, 1919, 2½ h.p., all accessories	£40 0
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EDMUND-J.A.P., 2¾h.p., 1916, spring frame, field 2-speed, just been re-enamelled and ov hauled by makers, new tyres, lamps, and horn; £60 Hutton, Ruxidie, Hartopp Rd., Sutton Coldfield. [67

Enfield.

1921 Enfields.

ALL Models in stock for immediate delivery; 8h combination £160, with dynamo lighting set £18 Enfield lightweight, £65; easy payments arranged; yo old machine taken in part payment. To enable inte ing purchasers to inspect after our business hours, are prepared to show these models at any time by pointment.—Broom and Whitehead, Ltd., Authori Agents, 88, Gt. Portland St., London, W.1. Mayf 6638. [98

JULIANS of Reading have 1921 Enfields in sto [04

NEW 1920 Enfield, 2-stroke, 2-speed; £65; in stock Randal, Andover. [03

ENFIELD Lightweight, 2-speed; £30.—Apply, New Park St., Devizes. [48

ENFIELD 8h.p., brand new; £150.—178, Sam St., Woolwich. 'Phone: 324. [68

ENFIELD, 1921, immediate delivery, 8h.p. combi tion and 2-stroke.—Moss, Wem. [X91

ENFIELD.—New 1921 2-stroke, lightweight, 2-spe £65.—H. Rose, Cycle Works, March. [X91

ENFIELD C.B. Combination, 6h.p. twin J.A. £75.—C., 21, Westbury Rd., Penge, S.E.20. [62

ENFIELD, 1914, 2¾h.p. M.A.G., overhauled, perf order; £30.—40, Whitworth Rd., South Norwo [65

ENFIELD 8h.p. Combination, 1918, 700×80, accessories; £125.—37, Bonfield Rd., Lewisha [64

ENFIELD Brand New Lightweight; £60.—Cliff Wilson, 177, Westminster Bridge Rd., S.E.1. [71

ENFIELD 8h.p. Model, 1921 Magdyno, in stock Windsor Castle Garage, Brighton Rd., Croydo [66

LIGHTWEIGHT Royal Enfield; bargain, £48; spa and lamps; ride away.—62, Wydeburst Rd., C don. [59

ENFIELD 1921, all models for immediate delive —Ratcliffe Bros., 200, Gt. Portland St., W. M fair 5042. [04

ENFIELD 1915 Twin, 3h.p., 2-speed, clutch, T bars, excellent condition; 48 gns.—90,, Welles Rd., Ilford. [48

1916 Enfield Twin, 3h.p., 2-speed, kick start, g condition; £50; ride away.—Lansley, 31, Gre Rd., Reading. [58

1920 8h.p. Enfield Combination, new; £152/10 Shepherd, Enfield Highway, Enfield. T Waltham X31. [03

ENFIELD Combination, 1916, 6h.p., Lucas dyna lighting, as new; £120.—Apply, 40, Hertf Place, Coventry. [X93

ENFIELDS, any model, any distance; good deliver good service.—Allen S. Jones, The Motor Cy Specialist, Carnarvon. [X78

ENFIELD Combination, 6h.p., excellent conditi all accessories, tax paid; £90, near offer.—Kem Garage, Louth, Lincs. [X91

1920 Enfield Lightweight, 2-speed, lamps, ho mirror, licence; £60.—Woodward, Churchfie Halfway, nr. Sheffield. [62

ENFIELD Combination, 1916, Lucas dynamo lighti Easting, licensed, perfect order; £115.—Clark, Exhibition Rd., S.W.7. [61

NEW 1921 8h.p. Enfield Combinations; dynam £182; less dynamo, £160.—Bounds Garage, 2 High Rd., Kilburn, N.W.6. [62

ENFIELD.—All models will be on sale at the seco hand Automobile Show, Crystal Palace, fr April 2nd. (See Wanted.) [57

ENFIELD 2-stroke, 2-speed, 1918, condition p fect, fully equipped; reasonable offer.—W Webb's Rd., Clapham Junction. [67

ROYAL Enfield Combination, as new, speedomet lighting, screen, luggage grid; £110.—Olliv Bridge Inn, New England Rd., Brighton. [64

2¾h.p. Enfield, 1920, 2-speed, lamps, Klaxon, extr licence paid, first-class condition; £60.—W T. Carpenter, 2, Sanctuary, Westminster. [65

1920 8h.p. Enfield Combination, standard, brand ne unused; £145.—Edwards, 50, Harrington R South Kensington. 'Phone: Ken. 3709 [61

ENFIELD Combination, 6h.p., 1917, complete w all lamps, sidecar screen, several spares; £1 offers.—Lt. Richardson, c/o Dan Guy, Weymouth. [63

1920 8h.p. Enfield Combination, Magdyno, perf condition, licence paid, insurance to May 26 £160.—B., 136, High Rd., East Finchley, N.2. [63

NEW 1919 6h.p. Enfield Combination, electric lig Klaxon and Lucas horns, pillion, 4 spare cov and tubes; £135.—327, Upper Richmond Rd., Putn [66

MOTOR CYCLES FOR SALE.

Henderson.

NEW 1921 Model Henderson, the most highly developed motor cycle ever built; now in stock for immediate delivery; liberal exchanges.—The Premier Mo Co., Aston Rd., Birmingham. [1879

10 h.p. Henderson and Swan de Luxe Sidecar, Easting screen, lamps, horn, etc., new September, 1920, low mileage, licence paid, excellent condition; £175.—Woolard, 54, Walkern Rd., Stevenage, Herts. [6787

£89.—Henderson 1916 10h.p., 2-speed, H. and F. clutch, appearance A1, licensed, lamps, horn, Bosch, original tyres, date and condition guaranteed; any trial and examination; after 5.—53, Patshull Rd., Kentish Town. [6913

1920 Henderson (Sept.), £45 Millford bulbous back sidecar, Easting and de luxe accessories, licence paid, guaranteed in perfect order and equal to new, triel with pleasure; £210.—Write, I, Guildford Rd., Peadleton, Manchester. [X9165

HENDERSON 4-cyl. 1920 Sporting Combination, with Volta sidecar, unique opportunity to secure the most magnificent sporting outfit in England, used demonstration purposes only, fitted regardless of expense, many spares and extras, electric lamps and horn, enclosed chain case, dashboard with instruments, plated discs, Speed Nymph. engine specially tuned and just overhauled, very fast, condition throughout as new, tyres unpunctured, licensed, insured, recently illustrated "The Motor Cycle"; nearest £230.—Write or wire, 12, Grange Rd., Gunnersbury, W. [6893

Hill.

2¾h.p. Hill-Blackburne, 1920½, 2-speed, clutch and kick start, real good machine, little used, perfect throughout; £88; any trial, deposit.—11, Lyndhurst St., Burslem, Staffs. [5899

Hobart

HOBART.—All models from Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X9333

HOBART-VILLIERS 2½h.p., 2-speed, tax paid lamps, horn, mileage 300; £60, or offer.—29, Alexandra St., Stone, Staffs. [6715

1921 Hobart, 2-speed, latest model, new, makers' price, £78 10.—Shepherd, Enfield Highway, Enfield. Tel.: Waltham X31. [0496

HOBART 4h.p. with Coachbuilt Sidecar, 3-speed gear, all accessories, Tan-Sad seat, tax paid; £50, or near offer.—St. Margaret's, Devon Rd., Cheam, Surrey. [6903

Hoskison.

HOSKISON, new 2¾h.p., slightly shop-soiled, 2-speed kick start, hand clutch; £65, or near offer.—Beal, Sidler, Bexhill. [5885

TWO New Hoskisons, 2-stroke, 2-speed, shop-soiled, will be cleared at less than cost; £60 each.—Smith's, 18, Hardman St., Liverpool. [6194

Humber

HUMBER 1921.—All models Coventry Motor Mart, London Rd., Coventry. [X9334

HUMBER 2¼h.p. Lightweight, splendid condition, ride away; £28.—196, Ramsay Rd., Forest Gate. [6671

HUMBER 3½h.p., footboards, 3-speed hub, good running order; £48.—H. Rose, Cycle Works, March. [X9185

HUMBER Lightweight, Bosch, B. and B., good tyres, good running order; only £12.—4, Yewtree Rd., Beckenham, Kent. [6745

2¼h.p. Lightweight Humber, 1914, B. and B., Bosch, Druids, stored during war; ride away; £30.—134 Brownlow Rd., New Southgate. [6538

HUMBER 3½h.p., 1914-15, 3-speed, clutch, 1920, Watson C.B. sidecar, all on, tax paid; offers.—141, Lewisham High Rd., S.E.14. [6680

2¾h.p. Twin Humber, 1914, 3-speed, clutch, nearly new tyres and belt, lamps, overhauled, tax paid; £38.—Marriott, Basset, Ouudle. [6518

HUMBER 3½h.p. Coachbuilt Combination, 2-speed, clutch, fine condition; £48; appointment by post.—49, Graham Rd., Dalston, E.8. [6163

HUMBER.—All models will be on sale at the second-hand Automobile Show, Crystal Palace from April 2nd. (See Wanted.) [5747

3½h.p. Humber, Bosch, B.B., good tyres, just overhauled, lamps, tools, etc.; £25, or close offer.—106, Fircroft Rd., Upper Tooting. [6356

HUMBER 2¾h.p. T.T. V Twin, believed 1916, good condition, new tyres, sporty mount, licenced; £39.—16, Woodville Rd., S. Woodford, E.18. [6768

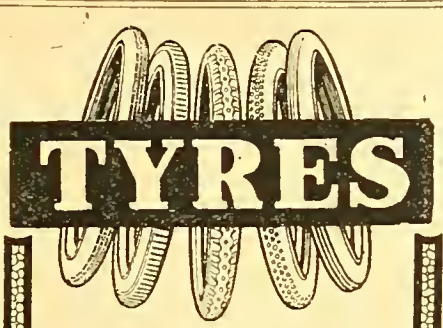
1911 3½h.p. Humber, 2 speeds, just overhauled, tank re-enamelled, perfect running order; £23/5.—Russell, Wymondham, Norfolk. [6804

1920 Humber, 4½h.p. flat twin, shop-soiled, electric head and tail lamps, horn; bargain, £119.—Garland, 134, Bridge St., Warrington. [X8704

3½h.p. Humber, S.A. 3-speed, lamps, tyres good, just overhauled, Bosch mag., fine condition; £44.—Ford, Sotwell, near Wallingford, Berks. [X9258

HUMBER 4½h.p. Flat Twin, 1920 model, unused, shop-soiled only; bargain, £125.—P. J. Evans, 31-91, John Bright St., Birmingham. [6542

1918 3½h.p. Twin Humber, all black, perfect, not used last year, owner bought car; £68.—Seen, 11, Hammersmith Rd., W. (opposite Olympia). [X9271



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,,	Palmer Cord Heavy	39/6	62/-
,,	Clincher de luxe Ex. Hy.	39/-	68/6
,,	Kempshall Anti-skid	37/6	75/-
,,	Wood-Milne Extra Heavy	37/-	63/9
,,	Hutchinson T.T. R Stud	35/-	59/9
,,	Beldam Extra Heavy	35/-	60/-
,,	Wood-Milne Special	32/6	56/9
26 × 2½ × 2½	Wood-Milne Extra Heavy	44/-	86/-
,,	Hutchinson T.T. R. Stud	37/6	67/-
26 × 2½	Wood Milne Combination	57/6	102/-
,,	Rom Combination	52/6	86/3
,,	Bates Special Heavy	45/-	76/-
,,	Avon Tricar Rubber Stud	45/-	78/-
,,	Wood-Milne Extra Heavy	44/-	87/6
,,	Palmer 2-ply Ribbed	37/6	40/-
,,	Hutchinson T.T. R. Stud	35 -	65/-
,,	Englebert Wired-on R.S	35/-	72/6
,,	Englebert Wired-on Rib	30/-	70/-
26 × 3	Wood-Milne Combination	65/-	105/
,,	Rom Combination	55/-	83/3
,,	Wood-Milne Extra Heavy	52/6	86/-
28 × 2½	Goodyear A.W. Tread	45/-	84/-
28 × 3	Bates Special Heavy	55/-	92/-
,,	Dunlop W.D. Heavy	48/6	84/-
,,	Avon 3-rib	45 -	90/-
,,	Wood-Milne Extra Heavy	35/-	87/
,,	Kempshall Anti-skid	35/-	63/
650 × 65	Bates Special Heavy	50/-	80/-
,,	Wood-Milne Extra Heavy	50/-	83/4
,,	Bergougnan 3-rib Heavy	35/-	83/3
700 × 80	Wood-Milne Steel Stud	97/8	103/6
,,	Partridge R. Non-skid	95/	110/-
,,	Wood-Milne Extra Heavy	60/-	93/-
,,	Clincher Ribbed	45/-	88/9

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MOTOR CYCLES FOR SALE.

Humber.

HUMBER 4½h.p. Flat Twin, in stock for immediate delivery; exchanges.—Newnham Motor Co., 2-3, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6279

HUMBER (1919, July) 3½h.p. Flat Twin, 3-speed, sidecar, new July, 1920, Cameo wind screen, lamps, horn, perfect order, tax paid; £120.—Hall, Wilford Grove, Skegness. [X9132

HUMBER 3½h.p. Combination, 1914, 3-speed, clutch, kick start, lamps, horn, recently overhauled, licence paid; £65, or nearest.—Stokes, 58, Oakfield Rd., London, N.4. [6674

HUMBER 3½h.p., complete minus mag., broad tank, B.B. carburetter, good tyres, engine splendid condition; first cheque £8 secures.—Dawson, 34, Ampthill Rd., Bedford. [6559

3½h.p. Humber Coachbuilt Combination, good condition, 3-speed S.A. hub, clutch, kick starter, lamps, horn, spares, licence; £65.—20, Harborough Rd., Southampton. [6068

HUMBER 3½h.p., with wicker torpedo sidecar, late 1913, 3-speed hub, clutch, K.S., mechanically perfect; £40.—Seen and tried 62, Cottage Grove, Clapham Rd. Station, S.W.9. [X9250

£65.—3½h.p. Humber combination, C.B., 3-speed clutch, P. and H. lamps, Lucas horn, wind screen, excellent condition; trial.—51, Etchingham Park Rd., Church End, Finchley. [6952

HUMBER Combination, 4h.p. flat 1920, electric lamps all round, Lucas horn, sidecar screen, speedometer, condition as new; £155, close offer.—Lt. Burton, c/o Dan Guy, Weymouth. [6325

HUMBER 1918 4½h.p. Flat Twin, 2-speed, clutch and hand start, Millford sidecar, thoroughly overhauled and complete with all accessories; price £120, or near offer.—158, Norwood Rd., West Norwood, S.E.27. [6914

1914 3½h.p. Humber, 2-speed, free engine, Bosch, B. and B., everything excellent condition; quick sale, £36, or will consider exchange for combination, 6h.p. or 8h.p.—93, Brudenell Rd., Tooting, London. [6940

Indian.

E. KICKHAM for Indian; trade supplied.—Stokes Croft, Bristol. [3353

HORSMAN for Indians.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0470

INDIANS 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 535 Central. [2437

1914 Indian, 4h.p., clutch, spring frame, long flexible exhaust; bargain, £38.—26, York Rd., Woking. [6744

1920 Indian 7-9h.p. Combination, new condition, side brake; £160, bargain.—137, Cumbridge Rd., Raynes Park, S.W. [5921

INDIAN 7-9h.p. 1918-19 Powerplus, perfect as new; super bargain, £63.—Cleaver, 11, Station Parade, Muswell Hill, N.10. [6343

INDIAN.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5743

1919 Indian, bulbous back sidecar, electric lights, Easting screen, extra good condition; £125.—19, Silverlands, Buxton. [X9382

1920 7-9h.p. Indian Combination, under 2,000, good condition; £130 to realise.—Pearson, Hinton St. George, Crewkerne. [6505

7-9h.p. Indian, 1914-15, complete with sidecar, good running order; owner gone away; £85.—Apply, Wright, Plimmer, Nuneaton. [X9250

1919 7-9h.p. Indian and 1920 bulbous back sidecar, almost new; any trial; £120.—Conner, 86, Victoria Rd., Stroud Green, N.4. [6448

1915 Indian Combination, spring frame, 3 speeds, kick start, electric lamps, etc.; £98.—252, Western Rd., Crookes, Sheffield. [6371

1918 Indian Powerplus Special Racing Combination, Swan torpedo, electric lighting, very attractive; £115.—20 Canterbury Rd., Croydon. [4703

1921 Indians, all models; special inducements to buyers of these machines.—Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X9335

INDIAN 7-9h.p. T.T., 2 speeds and clutch, just renovated by makers (£30); any fair trial; licenced; £70.—10, Clilton Rd., Luton. [6047

1919 Indian Powerplus, overhauled, plated and enamelled, as new; £65, no offers.—24, Silchester Rd., North Kensington, W.10. [6755

£125.—7-9h.p. Powerplus Indian, bulbous sidecar, dynamo, Easting, speedometer, spares, as new.—Goulden, 31 Nunnery Fields, Canterbury. [6072

1920 7-9h.p. Indian and Grindlay Sidecar, dynamo lighting, wind screen, speedometer, etc.; £180, 137, Chatsworth Rd., Lower Clapton, E.5. [5854

1920 Indian Combination, NE20, 7-9h.p., large valves, electrically equipped, mileage 2,300; £180.—Waverley, Old Shoreham Rd., Hove. [6702

INDIAN 1919, thoroughly overhauled, just received from platers and enamellers, guaranteed perfect; £75.—Hicks, 32, Lena Gardens, Hammersmith. [5972

MOTOR CYCLES FOR SALE.

Indian.

1916 Indian Combination, 3-speed, clutch, K.S., speedometer, lamps, smart outfit, perfect condition; £88.—47, Cowley Rd., Mortlake, S.W.14. [6712

INDIAN 1915 7-9h.p., spring frame, 3 speeds, clutch, kick start, good condition; £65.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9125

INDIAN 7-9h.p., 2-speed, with large Millford sidecar; £67/10, or exchange.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6230

1919-20 Indian 7-9h.p. Powerplus Combination, dynamo lighting, discs, luxurious turnout; seen any time; £160.—Box 2,761, c/o *The Motor Cycle*. [6557

SPORTING Type 1918-19 Indian 7-9h.p., T.T. bars, practically new machine, tax paid, ready for road; £90; after 5.30.—291, Green Lanes, Finsbury Park. [6918

INDIAN Powerplus 1916 7-9h.p., spring frame, canoelet sidecar, smart lot, little used, several spares; £110.—95, Paulet Rd., Camberwell, S.E. [6525

INDIANS, Powerplus, 1919, overhauled, enamelled, and plated, as new; a genuine offer, £65.—Bramble, Cambridge Works, Bedford Rd., E. Finchley. [X9229

1914 7-9h.p. Clutch Model Road Racer Indian, in good running order, licence paid; nearest to £46.—G. George, Louvain, Duncombe Rd., Godalming, Surrey. [5900

1918 Indian Powerplus Models, thoroughly overhauled and renovated, as new; £68 to £72 each.—Holliday Bros., 20, Queen St., Hammersmith Broadway. [6032

INDIAN 5-6h.p., 1915, 3 speeds, lamps, generator, horn, good tyres, in perfect running order throughout; good Easter snip, £70.—2, Tbirsk Rd., Mitcham. [6964

1918 7-9h.p. Powerplus Indians, 3-speed, K.S., newly overhauled; £75 each; special quotations for quantities.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [6080

INDIAN 7-9h.p. Powerplus, 3-speed, kick start, horn, lamps, etc., tax and insurance paid; £90; seen after 6 p.m. or 2 p.m. Saturdays.—3, Nightingale Rd., Wood Green, N.22. [6651

INDIAN 1920 4h.p. Scout, with Grosvenor sporting sidecar, fully equipped, speedometer, etc., as new; £155.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9124

1915 5-6h.p. Indian, 3-speed, clutch and kick starter, fitted with new twist grip Binks, spare valves, chain wheel, etc.; £75.—Adland, 25, Musgrave St., West Hartlepool. [6810

1920 (Easter) 7-9h.p. Indian Combination, electric light and horn, Cameo wind screen, legshields, Monies puncture preventer, tax paid; £150.—19, Monument Park, Wigan. [X9252

JUST arrived, 1921 7h.p. Indian Powerplus Combination, electrically equipped, speedometer, licence paid; £226.—Lewin, Indian Motor Agent, Grange Rd., Kettering. [6486

INDIAN 1920 7h.p. Model Combination, complete with Easting screen, speedometer, a magnificent mount, not done 1,800 miles; £175.—Pembridge Lodge, St. Owen St., Hereford. [6011

7-9h.p. Indian, 1918, W.D. model (but not used), re-enamelled, plated, toolkit, D.A. lighting, speedometer, condition perfect; £85.—Kingston, 7, Roseholme Rd., Northampton. [6487

1920 Big Valve Electric Indian Powerplus Combination, luggage grid, Easting, triple sidecar springs, overhauled, insured, licenced; £175.—Hogg, 3, Prospect Row, Old Brompton, Chatham. [6204

1913 Indian Combination, 7-9h.p., 2 speeds, clutch, and kick starter, electric lighting, leg guards; accept £50; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6119

1916 Indian 5-6h.p., 3 speeds, clutch and kick starter, all lamps, Bonniksen speedometer, guaranteed; £80; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [6120

READY for Easter.—1919 Powerplus Indian, condition and appearance as new, guaranteed; £80; new sidecar supplied to suit, also accessories.—Langford's, 37, Cricklewood Broadway, N.W.2. [6209

INDIAN Powerplus Combination, spring frame, 3-speed, electric lights, speedometer, legshields, perfect condition throughout; any trial; £115.—Todd, Daleview, Bedonwell Hill, Belvedere, Kent. [6936

1914-15 7-9h.p. Indian Combination, 2-speed, accumulator, electric light, wind screen, sound tyres, tools, accessories, excellent condition £65 lowest.—Hale Motor Co., Kilburn Lane, W.10. Willesden 1341. [4495

INDIAN Powerplus 7-9h.p. 1919 Models, 3-speed, K.S., mechanical condition also enamelling and plating as new; £70; approval against cash and carriage.—Owen, 59, Scholefield Rd., Upper Holloway. [X9274

LOOK! £60!—Guaranteed 1918 Indian Powerplus, 7-9h.p., 3-speed, reconditioned, re-enamelled, replated, choice of several; 1919, £65.—7, Batoum Gardens, Hammersmith, London. 'Phone: Ham. 1762. [6711

CRABTREE & SON, Ltd.,

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MOTOR CYCLES FOR SALE.

Indian.

£90.—Excellent 7-9h.p. 3-speed Indian combination 1915, electric lighting and horn, clutch, K.S comfortable Millford sidecar, wind screen, luggage gri tyres practically new, tax paid.—7, Brackley Rd., Becke ham. [578

7-9h.p. Indian, 1915, spring frame, 3-speed, kic start, 1917 Millford sidecar, electric lights an horn, tax paid, condition A1; no reasonable offe refused, must sell.—27, Norman's Buildings, Old St E.C.1. [694

1920 Indian Powerplus Combination, electric equi ment, aluminium discs all round, foot shield special exhaust lifter, Cameo wind screen, perfect co dition; private owner; £195, lowest.—Barker, Cromfo Mills, Matlock. [X926

SENSATIONAL Offer.—A few 1919 Powerpl Indians, practically indistinguishable from ne spring frames, 3 speeds; at £62/10 each.—Smith's, 8 Chalk Farm Rd. (opposite Chalk Farm Tube Station Hampstead 2767. [614

INDIAN 7h.p. 1920 de Luxe Combination, comple with dynamo lighting and all accessories an spares, the outfit in new condition, only ridden a fe miles, the property of R. H. Head, Esq.—Apply, Pon 349, West End Lane, N.W. [596

1918 Indian 7-9h.p. Combination, bulbous Hend sidecar, 3 speeds, K.S., spring frame, dissolv acetylene lighting, etc., very attractive outfit, perfe condition, ride 50 miles; £115, including tax.—8 Little Ealing Lane, South Ealing. [691

1920 Indian Combination, 7-9h.p., Swan torpe sidecar, Ralli discs all round, legshields, wi screen, electric light, speedometer with electric ligh all in very good condition, licence paid; £180.—Ca Leigh, Southhill Barracks, Chatham. [520

1920 Powerplus Indian De Luxe Combination, on run few miles, dynamo lighting, electric bor aeroplane mascot, Easting screen, unscratched, speed meter; cost £245; accept £150, tax paid; exchange —60, Wallingford Av., N. Kensington. [639

1920 7-9h.p. Indian, latest model, large valves, et tandem sidecar, large number of spares and extr £180, or near offer; or exchange with cash for 192 Henderson or Ace combination; can be seen by appoin ment.—Morris, 395, Oxford Rd., Reading. [43

1920 Powerplus Indian Combination, dynamo lightin electric and Klaxon horns, wind screen, spee ometer, bulbous sidecar, tools; this machine is in fir class order, and ready for the road; tax paid; £175. 2, Cromwell Mews, opposite South Kensington Statio [582

1920 7-9h.p. Indian Combination, electric, spee ometer, puncture preventer, legshields, muf spare chain and tube, Millford bulbous sidecar, Eastin luggage grid, very complete outfit, in splendid ord tax paid; £180.—Ivies, 30, Preston Rd., Tonbridge.

INDIAN Road Racer, clutch, T.T. bars, just ov hauled, enamelled and plated, ready for road, co plete with speedometer, new lamp set, horn, etc., ve smart; £48, no offer.—29, Brigstock Rd., Thornt Heath. [64

1919 (late) 7-9h.p. Indian Powerplus Combinatio electric model, speedometer, mileage under 5,00 new front and back tyres and spare, new chain a spare, other spares, tools, special mudshields, perfe condition.—Banister, Heathbank, Vine St., Kersal, Ma chester. [47

1920 7-9h.p. Powerplus Indian, with specially bu 2-seater Sandum sidecar, with hood, electric lig horn, and speedometer, licence paid, in perfect ord engine just overhauled, tyres never punctured; pri £200, or near offer.—Write F.H.C.C., 32, Dingw Rd., Croydon. [58

1920 Indian 7-9h.p. Powerplus Combination, electr cally equipped, large valves, Easting screen, spee ometer, mudshields, all complete, perfect conditio been well looked after, all lights controlled rider's po tion; £200.—Apply, Clark, Manley Old Hall, Helsb near Warrington. [X91

SPORTING 5-6-h.p. Indian Combination, 1915, speeds, hand and foot clutch, special 2in. fra exhaust pipes, red and gold discs, new cigar-shap sidecar, enamel excellent; what offers for this sma and fast turnout? would separate.—Barrett, The Recto Cockayne Hatley, Potton, Beds. [69

1920 7-9.p. Powerplus Indian, mileage 3,000, N 70R115, electrically equipped, Orto hood, side c tains, wind screen, Tan-Sad, dynamo shield, spare bul valves, licensed, carefully used, decarbonised, cylinde painted silver, whole in perfect condition; £210, offers.—Uridge, Small Dole, Sussex. [59

1920 Indian Combination, 7-9h.p., bulbous ba sidecar, indistinguishable from new, unpun tured, dynamo lighting, electric horn, speedomet Easting, watch, just overhauled, spares worth £2 including new Goodyear tyre and waterproof covera £165.—Teulon, 34, Huddleston Rd., Tufnell Park. [67

HAVE you weighed up the prices of other hig powered combinations, and studied their equ ment? in most cases, less speedometer and no spri frame and higher price. If not, do so. Indian NE combination de luxe, £226; Scout model, solo, £1 less equipment; combination £188; sporting ty sidecar.—Horswill, 42, Bridge St., Chester. 'Phon 943. [42

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Mayfair 5042. [0424

MATCHLESS Combination, 1914, M.A.G., 6-8h.p., in perfect condition, complete lamps, wind screen, etc., £140.—43, Green Lane, Penge. [4573

MATCHLESS.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5752

MATCHLESS 8h.p. Combination, 2-speed, K.S., thoroughly overhauled, enamelled and plated; £70. The Laurels, Gayton, Northants. [5764

MATCHLESS Model H, Magdyno lighting, spare wheel, hood and screen, tax paid; price £180:—Ikson, Hockenden, Swanley, Kent. [6354

1920 Matchless Combination, Model H, complete makers' specification, shop-soiled; £175.—Wright's Garage, Saffron Walden. Tel.: 16. [6261

5 GNS.—8h.p. Matchless, overhead valve, 1914, multi-speed, streamline exhausts, Binks, sporting sidecar, discs, tax £3.—Burton's Farm, Ledbury. [6214

BRAND New Matchless H, 1920-21, Magdyno; cost £ with extras £235; accept £215, or near; must realise.—Seen at 365, King St., Hammersmith. [4009

1913 Matchless and Sidecar, 6h.p., equipped, licence, lamps, horn, speedometer, etc.; £75, or exchange Lyno; cash adjustment.—102, East Hill, Dartford, Kent. [6451

MATCHLESS 1920, Magdyno, spare wheel unused, speedometer, small mileage, indistinguishable from new; £185, offer.—3, Kildowan Rd., Goodmayes. [5045

MATCHLESS, M/A.G., special 1920, fully equipped, little used, over 50 m.p.g.; nearest offer to £100.—53, Thurlestone Rd., West Norwood, S.E.27. [6677

MATCHLESS Combination, Model H., M.A.G. engine, dynamo lighting, fully equipped, new April, 1920; £185.—Brooks, 141, New Kent Rd., S.E.1. City 2222. [5948

1920 Matchless H, J.A.P., Lucas lamps, horn, hood, speedometer, mudshields, step, Cox Atmos, mileage 1,600, splendid condition; £180.—57, Argyle Rd., Ilford. [4734

MATCHLESS Combinations for immediate delivery; exchanges. Let us quote you.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6238

MATCHLESS Model H Combination, excellent order, well equipped; £150, £162; new models; immediate delivery.—Agents, R. B. Clark and Co., 7, Exhibition Rd., S.W.7. [6136

1920 Model H Matchless Combination, only run few miles, beautifully equipped, tax paid; cost £230; accept £155; exchange.—60, Wallingford Av., North Kensington. [6393

MATCHLESS Model H Combination, nearly new, 60 m.p.g., 45 m.p.h., with spares and extras, cost £230; bargain, £165; any examination.—Banister, Midhurst. [6778

MATCHLESS Combination, 8h.p. J.A.P., Sturmey 3-speed, F.E. clutch, tyres good, mechanically perfect, light body, lamps, 2 generators; £110.—734, Holloway Rd., N.19. [6470

MATCHLESS Combination, 1915 model, M.A.G. engine, 8h.p., new tyres, lamps, and accessories, splendid condition; £150, or near offer.—McDougald, Hamerslie, Wallington. [6328

1920 8h.p. Matchless, Magdyno, screen, hood, leg shields, sidecar step, speedometer, pillion seat, tyres, low mileage, new condition; £200.—175, New Barnet Rd., Isliugton. [6661

MATCHLESS 6h.p. Coachbuilt Combination, 2-speed, clutch, K.S., full set of lamps and tools, winner of many competitions, just overhauled; £95.—4, Stanley Rd., West Croydon. [4474

1921 Matchless Combination, £205; 2-seated sidecar, £212/10; immediate delivery; exchanges or easy payments arranged.—Homac's, 243, Lower Clapton Rd., E. 'Phone: Dalston 2408. [6122

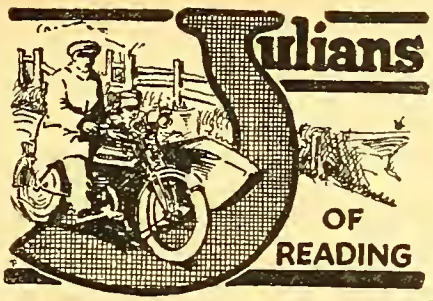
MATCHLESS, M.A.G., August 1920, electric horn and lighting, discs, hood, screen, every accessory, perfect touring outfit, tax paid, trial 6.30 p.m.; £188.—252, St. Ann's Rd., Tottenham. [6049

MATCHLESS Service Depot. 'Phone: Greenwich 751.—All 1921 new models. Secure one now. Demonstration ride with pleasure at S. E. Clapham (Motors), Rockwell St., Greenwich, S.E.10. [1030

MATCHLESS 8h.p. Combination, 1920, dynamo lighting, practically as new, guaranteed perfect; £185, genuine bargain.—Vivian Hardie and Lane, Ltd., 9, Woodstock St., Bond St., W.1. [0418

MATCHLESS Combination, 1914, 2-speed, everything on, pan seat, long exhaust, numerous spares, excellent condition, little used, tyres new, smart turnout; offer.—63, Crookham Rd., Fulham. [6368

MATCHLESS Combination, slightly shop-soiled, never used, dynamo electric lighting, screen, detachable wheel, spare wheel, etc., most marvellous bargain; 195 gns.—Julians, 84, Broad St., Reading. 'Phone: 1024. [5875



THIS WEEK'S BARGAINS

1921 **MATCHLESS** Combination, dynamo lighting, horn, spare wheel, windscreen, as new ..... **195 Gns.**

1921 **MARTINSYDE** Combination, Bluemel windscreen, lamps, horn, mileage 1000. Tax paid. .. **138 Gns.**

1920 **MARTINSYDE** Combination, electric lighting, hood, screen, Klaxon horn, etc., mileage under 2,000. Price ..... **129 Gns.**

1921 **NEW IMPERIAL** Combination, 8 h.p., as new, ... **150 Gns.**

1921 **NEW IMPERIAL-JAP,** $2\frac{3}{4}$ h.p., 2-speed, as new ..... **65 Gns.**

1920 **NEW IMPERIAL** Combination. 8h.p. Accumulator lighting set. Stewart speedometer, Klaxon horn, Cameo windscreen, luggage carrier, Tax paid. Mileage 2,000. **132 Gns.** Very great bargain.

JULIANS,
84, Broad Street,
READING.
'PHONE: 1024.

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS-J.A.P. Combination, 7-9h.p., Victory model, 1919, lamps, speedometer, spare wheel, new tyres, licensed, appearance as new, mechanically perfect; £140.—Dillin, Handcroft Rd., Croydon. [6425

LATEST 8h.p. Victory Matchless; special chassis, 1920 family sidecar, take 4 up anywhere, most fully equipped, tax and insurance paid; £150; lower power machine considered part.—39, Wigston Rd., Plaistow, E. [6603

MATCHLESS 1920 Combination, Magdyno, horn, hood, screen, spare wheel, Tan-Sad, sidecar step, tax paid, insured all risks July, perfect order; owner going abroad; £200, or near offer.—Ball, 9, Burnbury Rd., Balham. [6905

MATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [5668

MATCHLESS 1921 Models from £205; demonstrations daily.—Agent (wholesale and retail), for S.W. London: George Smith, 268, Lavender Hill (opp. Arding and Hobbs), Clapham Junction. 'Phone: Battersea 1271. [9423

MATCHLESS 1921 Models, immediate delivery, with Magdyno lighting, £230; without Magdyno lighting, £205; no waiting; in stock ready to drive away; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [6264

MATCHLESS Combination, late 1919, detachable wheels, spare, complete with tyre (original), very little used; bargain, £140, or best offer; bought car; seen after 6, or Saturday after 1.—1, Bonner Hill Rd., Kingston-on-Thames. [5933

MATCHLESS, late 1920, M.A.G., automatic lubrication, Magdyno, electric horn, speedometer, hood, Triplex screen, mahogany dash, legshields, small mileage, spares; cost £260, accept £215, or nearest; Leicestershire.—Box 343, c/o *The Motor Cycle.* (X9317

MATCHLESS Combination, late 1920, M.A.G. engine, Magdyno lighting, hood, screen, spare wheel, speedometer, horn, leg shields, sidecar step, spares outfit, perfect condition, done 1,500 miles; £200; licence paid.—25, Ashburton Av., Addiscombe, Croydon. [6472

MANCHESTER.—1914 Lincoln-Elk, 3½h.p., Bosch, B.B., good tyres, long exhaust, T.T. bars, Lucas horn, just been overhauled and re-enamelled at cost of £5; £45 or exchange for good 2-stroke, Levis preferred.—H. Hughes, The Hollies, Nursery Av., Hale, Cheshire. [6729

6-8h.p. Matchless, o.h.v. racing model, single gear, new Thomson-Bennett mag., Amac carburetter, good tyres and appearance, would make fine competition machine; £40; owner buying a dog; can be seen Wauchope's, 9, Shoe Lane.—Vincent, R.A.F. College, Cranwell, Lincolnshire. [5907

MATCHLESS 8-10h.p. J.A.P. Combination, 1917, 3-speed, clutch, kick starter, all-chain enclosed drive, spare wheel, electric light and horn, mechanical horn, trip speedometer, hood, screen, side curtains, luggage grid, condition perfect, mileage 3,000, tax paid; £135.—Riches, Harlow, Essex. [6391

ALLEN-BENNETT Motor Co., Ltd.—Matchless 1920 Model H. combination, Lucas Magdyno, hood, speedometer, etc., £195; 1919 Victory Model, lamps, horn, speedometer, £140; cash, exchange, extended payments.—S.10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6232

MATCHLESS Combination, 1914, 8h.p. J.A.P., 2-speed countershaft gear, all-chain drive, kick start, Lucas lamps, horn, Easting wind screen, ample luggage grid, 2 new tyres, splendid mechanical condition and appearance, licence paid; £90, or near offer.—Morgan, Dunkeld, Buckhurst Hill, Essex. [6166

MATCHLESS-J.A.P., late 1920, dynamo lighting, spare wheel, speedometer, horn, tools, spares, hood with side windows, triple wind screen, sidecar step, back to driver's seat; cost £240 last August, with licence, ready to drive away; £195.—Lancaster Motor Co., 158b, Norwood Rd., S.E. [5945

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock, for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0387

Maxim

MAXIM-DALM 1921 3h.p. 2-stroke, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, absolutely new; £52.—224, Pentonville Rd., London. [4012

Metro.

METRO-TYLER 2½h.p., 1919-20, single-speed, just overhauled, tax paid; £38.—106, Elmore St., Islington. [6922

METRO-TYLER, 1919, 2-speed, in good condition, lamps, horn, etc.; £42.—49, Brooke Rd., Walthamstow. [6455

METRO-TYLER, all-red model, disc wheels, first-rate order; £45.—14, Prebent Mansions, Chiswick, W.4. [6793

METRO-TYLER, 2-speed, 1920 A. Model, new machine, slightly soiled, guaranteed; £50.—Apply, Manufacturers, Tyler Apparatus Co., Ltd., Banister Rd., Kensal Rise, W.10. [6799

MOTOR CYCLES FOR SALE.

Metro.

METRO-TYLER, shop-soiled 1920 model, new and unused, 2-speed model with enclosed gear box and magneto drive; bargain £70; reduced from £95.—P. J. Evans, 81-91, John Bright St., Birmingham. [6546

Minerva.

3½h.p. Minerva, Enfield frame, lamps, and horo, complete, good running condition; £30, or near offer.—Fernhurst Villa, Guildford Rd., Ash, Surrey. [6540

MINERVA 3½h.p. Combination, machine perfect, 2-speed, new N.S.U. gears, 1919 sidecar, C.B., all new Headly tyres; £35; snip.—141, Lewisham High ltd., S.E.14. [6678

6h.p. Minerva Combination, m.o.i.v., Bosch, B. and B., 2-speed, F.E., good tyres, new belt, the whole machine in splendid condition; £30.—20, Church Walk, Hampstead, N.W.3. [6704

Moto-Reve.

MOTO REVE, twin, Bosch, good order, ride away; £15.—15, Ashvale Rd., Tooting, London. [6887

Motosacoche.

2½h.p. Motosacoche, mag., footboards, new belt, back rim and tyre; £14, or nearest offer.—H. McHadyen, North Esk Rd., Montrose. [6348

MOTOSACOCHE, Ltd., 839, Harrow Rd., Willesden Junction, have for sale: One new 3½-h.p. twin Motosacoche, M.A.G. engine, with 2-speed gear, chain drive, semi-T.T. type, price £95; also one 6h.p. demonstration machine, but with new M.A.G. engine, 2-speed gear, chain drive, footboards, and sidecar chassis, price £140. [5877

New Hudson.

JULIANS of Reading have 1921 New Hudsons in stock. [0534

NEW HUDSON 1914 3½h.p., good condition, perfect running order; £25.—98, Beauval Rd., S.E.22. [5982

1920 2¼h.p. New Hudson, brand new, unused; £55.—Edwards, 50, Harrington Rd., South Kensington. [6150

NEW HUDSON 1915 4h.p., 3-speed, K.S., C.S. coachbuilt sidecar; £60.—George Hotel, South Woodford. [6445

NEW HUDSON 1916 2¼h.p., 2-speed, just overhauled, lamps, tools; £35.—1, Abingdon Rd., Kensington. [6211

NEW HUDSON 2¾h.p., J.A.P., 3-speed, clutch; £35, or near; will exchange.—119, Charlotte St., W. [6057

NEW HUDSON 2¼h.p., just purchased new licence, lamps and accessories, complete; £62, bargain.—R. Watts, 3, Prince Regent Rd., Hounslow. [6060

NEW HUDSON Combination, 4h.p., 1919, accessories, little used; a bargain, £95.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [6411

NEW HUDSON 1920½ 2-speed, cost £75, splendid condition, licence paid; £65, or nearest offer.—Thomas, Wesleyan Minister, Llanfaircaereinion, Welshpool. [5903

1919 New Hudson 6h.p. Combination, 3-speed, mileage 2,000, unpunctured, Easting, spare tyre, belt, lamps, tax paid; offers.—7, Tyrrell Rd., East Dulwich, London. [5777

1921 New Hudson De Luxe Model, run 250 miles, tax paid, oversize tyre fitted to back wheel, also spare tyre; bargain, £58.—N. Shires, Quarmby Lodge, Huddersfield. [4976

NEW HUDSON 4h.p. Countershaft 1917 Combination, 1920 C.B. sidecar, bulbous back, electric light, tax paid, as new; 100 gns.—141, Lewisham High ltd., S.E.14. [6679

2¼h.p. New Hudson de Luxe, 2-speed, complete with head lamp, rear lamp, and Cowey horo, tax paid, cost over £80 four months ago, receipt shown, ridden 200 miles; £60.—Laurel House, Newchurch, near Warrington. [7149

1920 Big Six New Hudson, solo, licence paid, excellent condition, Lucas lamps and horn; £110; exchange 1921 Sunbeam and cash; 1920 de luxe 2¼h.p. (soiled), £70; exchange late Sunbeam, Triumph, Blackburne.—Share, Penryn, Cornwall. [6479

NEW HUDSON 3½h.p., 3-speed and clutch hub, recently overhauled, engine rebushed, new pulley, re-enamelled makers' colours, Dunlops, lamps; any trial; £37/10. Also new B.B. carburetter for sale.—Wingfield, King St., Wokingham, Berks. [6824

NEW HUDSON 1917 6-8h.p. Combination, with Lucas dynamo lighting set, perfect order, Bosch mag., speedometer, roomy sidecar, hood, wind screen, grid, clock, etc., lighting set worth nearly £40; the lot for £125, or nearest offer.—Lillie, Broad Oak, Heathfield, Sussex. [6892

New Imperial.

JULIANS of Reading, have 1921 New Imperial in stock. [0485

NEW IMPERIAL, 1921 models; liberal exchanges.—Motories, 25, Horton St., Halifax. [6586

NEW IMPERIAL Agents.—Lightweights and spare parts in stock.—Crow Bros., Guildford. [4709

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MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL 8h.p. 1916 Combination; £100 near offer.—Main, 36, Parade, Leamington. [6

NEW IMPERIALS.—All models from the Coven Motor Mart, London Rd., Coventry. 'Pho 200. [X9

LATEST Model New Imperial, slightly shop-soil 67 gns.—Julians, 84, Broad St., Reading. 'Pho 1024. [6

NEW IMPERIAL 8h.p. Solo, late 1920, mileage 4 £125, or offer; licence paid.—Rowe, 20, P Av., Cricklewood. [6

NEW IMPERIAL 1919 8h.p. Combination, c plete with lamps, Easting wind screen; £13 Motor Co., Hereford. [4

NEW IMPERIAL.—County agents for Herefordsh delivery from stock 2¾h.p. and 8h.p. combinat Motor Co., Hereford. [4

1918 2¾h.p. Imperial-Jap, 2-speed gear, in splen condition; £50, or nearest.—Wm. Kean, Bla bridge, W. Lothian. [6

1919 New Imperial, No. 2 model, accessories, Sad, tax paid; £58.—11, Sandford Av., El Rd., Wood Green, N.22. [6

NEW IMPERIAL, 1918, clutch, 2-speed, kick star overhauled, all on, spares; £55; registered.— High St., Marlborough. (D) [5

1919 New Imperial, 2-speed, clutch, K. start, w £20 accessories, like new; any reasonable o accepted.—18, Salisbury Rd., Watford. [6

NEW IMPERIAL.—All models will be on sale the second-hand Automobile Show, Crys Palace, from April 2nd. (See Wanted.) [5

8h.p. New Imperial, as new, large sidecar, smart outfit on the road, tax paid; £150, bargain Mosedale, 30, Canterbury Rd., Kilburn, N.W.6. [6

NEW IMPERIAL 2¾h.p., 2-speed, lamps, horn, e just overhauled by makers, and new 1920 eng fitted, tax paid; £40/10.—83, Ulverston Rd., Walth stow. [6

1919 New Imperial 8h.p. Combination, he screen, side curtains, lamps, etc.; £140; paid.—Tompkins, Edgerley, Frogmoor, High Wycom Bucks. [6

1920 New Imperial Combination, 6h.p., lam horn, speedometer, etc., tax paid, ready for road; £172.—Burdett, 15, Waldemar Av., Eali W.13. [6

NEW IMPERIAL-J.A.P. 2½h.p., 1915, 2-spe lamp, horn, spare belt, tax paid; £39, or c offer.—11, Bramley Hill, Croydon; week days a Friday. [6

1919 New Imperial-Jap, 2¾h.p., 2-speed, clutch, k start, licence, lamps, etc., long copper exha new Dec., 1919, first-class condition; £65.—Lightf High St., Shefford, Beds. [6

NEW IMPERIAL-J.A.P. 8h.p. W.D. Model Combi tion, new September, 1920, mileage 600, guar teed perfect condition, new P.H. lamps, horn, to spares, licence; £140.—Drew, 59, Lambeth Palace R S.E.1. [6

NEW IMPERIAL, twin J.A.P., 3-speed, Henders Elite sidecar, Eastiog, Lucas head lamp a horn, Watford speedometer, delivered February, 19 small mileage; £150.—36, West Side, Wandswo Common. [6

IMMEDIATE Delivery of any New Imperial Mod cash or deferred payments; book your order n and avoid disappointment later.—Burlington, Mot Ltd., South Side, Clapham Common, S.W.4. 'Phon Brixton 2417. [0

NEW IMPERIAL 2¾h.p. 1919, 2-speed, clutch, k starter, fully equipped, lamps, pump, speedomet equal to new; £70.—Bowyer, Newlands Farm, Arb field Berks. [6

1920 New Imperial-Jap Combination, 8h.p., accum lator lighting, Stewart speedometer, Klaxon ho Cameo wind screen, luggage carrier, tax paid, mile 2,000; 132 gns., very great snip.—Julians, 84, Br St., Reading. 'Phone: 1024. [5

NEW IMPERIAL, 2¾h.p. J.A.P., 2-speed, w clutch and kick starter, lamps, horn, insuran tax paid, not done 200 miles, splendid outfit; any tri bought combination; bargain, 85 gns.; cost over £1 —Laming, Owston Ferry, Doncaster. [6

F.O.C.H. have a brand new New Imperial, 2¾h kick starter, shop-soiled; £78 cash; exchanges, easy payments arranged.—5, Heath St., Hampste (near Hampstead Tube Station). 'Phone: Hampste 3752. Hours 9-7, including Saturdays. [5

WE have every model of New Imperials in stock immediate delivery; combination £186/ lightweight model £80/17, Model 2 £89/5; exchan or easy payments arranged.—Official Agents, Homa 243, Lower Clapton Rd., N.E. 'Phone: Dalston 24 [6

ALLEN-BENNETT Motor Co., Ltd.—New Imper brand new, but slightly shop-soiled, list price the 8h.p. combination £186, our price £165; also 1 8h.p. combination, £110; cash, exchange, extended p ments.—9-10-11, Royal Parade, West Croydon. 'Pho Croydon 2450. 'Grams: Track, Croydon. [6

MOTOR CYCLES FOR SALE.

Scott.

SCOTT.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5758

SCOTT, 1920 sports model, purple discs, long exhaust, Binks, fully equipped, mileage 600; £110.—207, Norwood Rd., S.E.24. [6802

SCOTT 1915 Combination, wind screen, Klaxon, electric light, good condition; £75; tax paid; seen Saturdays.—20, Denison Rd., Ealing. [5817

SCOTT 1915 Combination, new cylinders, bearings, hood; first reasonable offer; any time by appointment.—19, Victoria Parade, Muswell Hill. [6738

SCOTT, 1920 sports model, horn, tools, very small mileage, enamel as new, plating fair, perfect order; £110.—D. Lavin, Old House, Sonning, Berks. [2097

SCOTT, 1920, T.T. bars, Lucas headlight, electric tail, speedometer, mechanical horn, tax paid, excellent condition; £100.—Knox, The Chase, Nuneaton. [X9235

1920 Scott and Canoelet sidecar combination, all lamps, horn, and tools, all new tyres, no licence taken this year; accept £130.—Orton, Fair View, Earl Shilton. [3120

SCOTT 3½h.p., 1912 (September), 2-speed, Binks, lamps, horn, engine just overhauled by makers, all worn parts replaced; £50.—5, Park Av., Endcliffe, Sheffield. [6929

SCOTT, 1913, with couch sidecar, nearly new chain, sprockets, and spares, Capac carburetter, with hot air pipe, new set lamps, complete; £75.—Phillips, Cowbridge, Dunster. [6489

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0510

SCOTT Combination, June, 1920, 3½h.p., 3in. Palmer cord, 3 lamps, Cameo wind screen, speedometer, not run 400 miles, magnificent condition; £150.—Dunn, 101, Gatley Rd., Cheadle, Cheshire. [6183

OFFERS Wanted.—Scott combination, late 1920, perfect condition, cost £198, 6 volt electric lighting, large spring luggage grid, horn, etc., mileage under 1,200.—James, Roseneath, Ilkeston, Derbyshire. [6807

SCOTT, 1914, Rinks, Lucas outfit, Dean electric horn and batteries, new Renold chains, engine thoroughly overhauled, new heavy tyres; a snip, 55 gns.; seen near Kingsway.—Box 2,725, c/o *The Motor Cycle*. [5922

BRAND New (Unpacked February) 1921 Scott Combination; advertiser having paid £30 deposit will sacrifice £20, and sell for £150, fully guaranteed, or will separate.—Box 335, c/o *The Motor Cycle*. [X9199

ISLE of Man Genuine Scott Racer, 500 c.c., 2 plugs per cylinder, rotary valves, just completely overhauled by makers, not unpacked; £98, first wire secures.—William Groves, Shelfield House, Belle Vue, Shrewsbury. [X9247

SCOTT, November, 1919, stored 10 months, mileage under 4,000, in perfect condition, runs magnificently, new Lucas lamps and horn, Binks, spare chains, tubes, etc., licence paid; £96.—Hunt, Llanwenarth, Abergavenny. [6957

SCOTT 1920 Combination, electric lamps and horn, speedometer, run under 2,000, Cox Atmos carburetter, splendid condition; £155; accept lightweight part.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6227

SCOTT, 1920, and Henderson Elite sidecar with disc wheel, Aero wind screen, semi-T.T. bars, Binks carburetter, complete with many accessories, in exceptional condition; sacrifice £145; seen any time; property of naval officer.—Moltby, R.N.C., Greenwich, S.E.10. [5896

SCOTT, 1920, just overhauled, new touring bars and Lucas horn, also original T.T. bars, Gowey speedometer, lamps, new chains, all spares and tools, Dunlop studded, perfect internally and externally, requires no expenditure; £105, no offers, or lightweight and cash adjustment.—Batten Killin, Perthshire. [X8260

Singer.

1914 Singer Special, 2¾h.p., T.T., 2-speed, new tyres, fast; £30.—Shaw, Park St., Wellington, Salop. [X9245

SINGER 4¼h.p. Combination, 3-speed hub, Millford, £55; solo £48; exchange 7-9h.p. combination.—78, Maury Rd., N.16. [5831

1914 4¼h.p. Singer Combination, C.S. 2-speed, pedal start, new cylinder, piston, long exhaust, licence; £60.—Hayes, Parkgate Vicarage, Rotherham. [5776

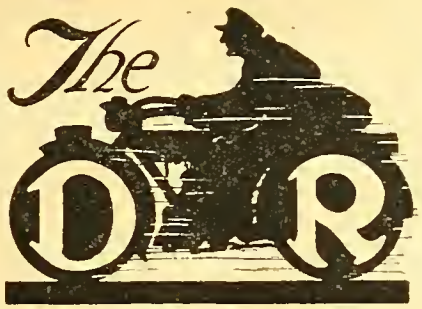
3½h.p. Singer, splendid condition, just re-enamelled, 4-speed countershaft, kick start and clutch; accept lightweight part exchange.—Carters, Ilkstock. [X9219

Sparkbrook.

1920 Sparkbrook-Villiers, 2 speeds, 2¾h.p., new; £62.—Garland, 134, Bridge St., Warrington. [X9706

1920 2-speed 2¾h.p. Sparkbrook, lamp and horn, done 700 miles, like new; £55. Wilderspin, Chatteris [5809

SPARKBROOK, 1920, 2¾h.p., lamps, horn, very little used, perfect condition; £60. — Herbert Robinson, Ltd. 32-35 Green St., Cambridge Tel 995 T.A.: Bicycles. [6253



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£50 8 0	**O.K.-UNION**	£15
£75 0 0	**CHATER LEA**, 2-speed	£64
£75 0 0	**SPARKBROOK**, 2-speed	£64
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£90 6 0	**DIAMOND - J.A.P.**, Sturmey-Archer	£80
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Sparkbrook.

SPARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra finish, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt Portland St., W.1. Phone: Langham 2230. [6311

1921 Show Model Sparkbrook (new), 2½h.p. 2-stroke Villiers engine, countershaft drive, beautifully finished, and the ideal lightweight at an ideal price; £64.—The Motorists Advisory Agency, Ltd., 89, Wigmore St., W. [6439

SPARKBROOK 6h.p. J.A.P. Combination, 1916 model, with screen, mechanical horn and tools, dynamo lighting, just overhauled gears and engine, condition as new, runs and climbs beautifully; £125.—Munn, 11, Roose Rd., Barrow-in-Furness. [6854

Sun.

1921 Sun.—All models from Coventry Motor Mart, London Rd., Coventry. [X9346

Sunbeam

E. KICKHAM for Sunbeam; trade supplied.—Stokes Croft, Bristol. [3352

NEW 1920 Sunbeam 3½h.p. Solo; £155/8; in stock. —Randall, Andover. [0368

SUNBEAM, 1921 model, 3-speed and clutch; 148 gns.—Bacon, Wellington, Salop. [6731

NEW 1921 3½h.p. Sunbeam; £155.—Bounds Garage, 223, High Rd., Kilburn, N.W.6. [6220

1920 Sunbeam, 3½h.p., as new, mileage 500; £135.—Percy Mount, Cadley, Preston. [6898

SUNBEAM and Sunbeam Sidecar, not done 100 miles, brand new tax paid; £160.—Below.

1919 Sunbeam and Sunbeam Sidecar, speedometer, lamps, horn, excellent condition; £128.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [6155

SUNBEAM 3½h.p., June, 1920, fully equipped, stored 5 months; £133.—Payne, Eccleston, Chester. [X9089

1920 (June) 3½h.p. Sports Sunbeam, lamps, horn, tax paid; £142.—67, Queen's Park Rd., Brighton. [5939

1914 Sunbeam, with 1920 Millford sidecar, faultless condition; £95.—Jones, Bishop Middleham, Durham. [6212

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. Sunbeam, new 1921 model, just delivered; £155/8. [6578

1921 Sunbeam 8h.p., spare wheel, screen, perfect; £245.—J. B. Cormack, Moorlands, Corstorphine, Midlothian. [6935

SUNBEAM 1921 3½h.p., unable to take delivery; will accept first cheque £145.—Box 2,698, c/o *The Motor Cycle*. [5852

SUNBEAM 3½h.p., 1920 spring frame model, in use only three months; price £120.—Mullin, 35, Friar St., Reading. [6817

SUNBEAM 2¾h.p., 2-speed, hand clutch, kick start, lamps, speedometer, splendid condition; £70.—45, Fulwell Rd., Teddington. [5823

£85.—Sunbeam 3½h.p., late 1915, stored during war, Lucas accessories; only wants seeing; snip.—30, Rayland Rd., Loughborough. [X9059

SUNBEAM.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5759

1920 (August) 3½h.p. Sunbeam Combination, semi-T.T., No. 1 sidecar, Lucas, perfect; what offers? —42, Lichfield St., Burton-on-Trent. [6014

SUNBEAM Late 1915 3½h.p. Combination, splendid running order, all accessories, 3 lamps, tax paid; £95.—Nicholes, Mill Rd., Cambridge. [5791

1920 3½h.p. Brand New Sunbeam and Sidecar, interchangeable wheels, at list price, from stock.—A. J. Young and Co., Ltd., Newmarket. [1254

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

SUNBEAM 3½h.p., late 1920, little used, perfect condition, Lucas accessories; cost £161; reasonable offers.—Butler, 51, Poplar Rd., Edgbaston. [5941

JUNE, 1920, 3½h.p. Sports Sunbeam, splendid condition, mileage 1,200, Lucas lamps and horn, Boniksen, knee-grips; £140.—217, Park St., Luton. [5774

SUNBEAM 1918 3½h.p. Combination, sports model, like new, just cost £36 for overhaul; £140, no offers.—Roe, 4, Riverdale Rd., Richmond Bridge. [6796

SUNBEAM 3½h.p., delivery 1918, sidecar, complete equipment, licence, spares, small mileage, condition excellent; £95.—Tewson, Glenholme, Rickmansworth. [6627

8h.p. 1920 Sunbeam Combination, hood, screen, 4 interchangeable wheels, accumulator lighting, speedometer, Klaxon; £225.—C. V. Goddard, Avenue Rd., Leicester. [X9253

SUNBEAM 1915 3½h.p. Model with Sidecar, complete with all necessaries, excellent condition; £110.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9121

MOTOR CYCLES FOR SALE.

Sunbeam.

SUNBEAM Combination, late 1915, tyres and condition excellent, Easting, speedometer, all accessories, must sell; best offer over £100.—Hagues, Cromford Rd., Wandsworth. [6522

SUNBEAM 3½h.p., 3-speed, 1914, stored 4 years, re-enamelled; £88, with sporting Canoelet £98, near offer. Evenings.—120, Marlborough Flats, Walton St., Chelsea, S.W.3. [X9263

SUNBEAM 3½h.p., 1919, Lucas acetylene lamp, horn tools, etc., complete, carefully used, excellent condition throughout.—H.T.S., 26, New Rd., Shoreham, Sussex. [6962

SUNBEAM (November, 1919) 8h.p. de luxe Combination, fully equipped, condition as new throughout, tax paid; £175; write appointment.—145, Ledbury Rd., Bayswater. [6075

1916 Sunbeam 3½h.p., coachbuilt sidecar, speedometer, lamps, Klaxon, new tyres, completely overhauled, perfect; £100, hargain; appointment—Collings, Ardmay, Surbiton. [6609

SUNBEAM, 1916, 3½h.p., Royal Leicester sidecar, electric lamps, Easting, Duplops, 1921 cylinder, piston, chains, licensed, spares; £115, or offer.—29, Dalberg Rd., Brixton, S.W.2. [6780

1920 Sunbeam, 3½h.p., brand new, for immediate delivery, shop-soiled; £147/10; exchanges or easy payments. — Homac's. 243, Lower Clapton Rd. N.E. 'Phone: Dalston 2408. [6127

3½h.p. Sunbeam Combination, October, 1919, black and gold, lamps, horn, trip speedometer, knee grips, leg shields, new condition, tax paid; £140.—5, Ivy St., Runcorn, Cheshire. [6087

1920 Sunbeam 3½h.p. sports, electric lighting, 8in. head lamp, fully equipped, beautiful condition, new comfortable sporting sidecar; £165.—Seen at Robertson's, Gt. Portland St., London. [5775

3½h.p. Sunbeam (Sept., 1919), semi-T.T., 3-speed, enclosed chain, picked engine, carefully used; £115, or near offer for quick sale; N.E. Herts.—Box 2,759, c/o *The Motor Cycle*. (D) [6555

1920 8h.p. Sunbeam Combination, Lucas Magdyno, horn, speedometer (Cowey), spare wheel (unused), hood, screen, excellent condition; trial, appointment; £255; tax paid.—Daneside, St. George's Av., Ealing. [4870

SUNBEAM, 6h.p. J.A.P. engine, 3-speed, kick start, Gloria sidecar, black and gold finish, all lamps, engine recently overhauled; £99.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6229

SUNBEAM.—We are Wolverhampton agents. Spare parts in stock. Repairs aod overhauls. Estimates upon request for re-enamelling and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

2¾h.p. Sunbeam, 1914, 2 speeds, clutch, kick start, all-chain, T.T. bars, tyres excellent, all accessories, recently overhauled; £65 each; appointment evenings or week-ends.—Wilson, 14, Parliement Hill Mansions, N.W.5. [6441

1914 6h.p. J.A.P. Sunbeam Combination, £120; new sidecar, Lucas lamps, horn, etc., overhauled by Eastern Garage, 418, Romford Rd., E.7, where seen and tried.—H. H. Crow, Wilburton, Hermitage Walk, South Woodford, Essex. [6316

HONESTLY Recommended.—Practically new Sunbeam semi-sports, Lucas (acetylene) lamps, Cowey speedometer, £11 worth other extras, mileage absolutely negligible; £155 the lot, including tax.—Capt. Brittain, Orient Lodge, Buxton. [X9108

SUNBEAM 3½h.p., 1920, engine 145/9773, speedometer, Klaxoo, leg shields, tools, mileage 1,600, Gloria sidecar, Easting screen, guaranteed quite sound; price £210, or offer.—East Grinstead Motor Garage, London Rd., East Grinstead. [3234

1919 8h.p. Sunbeam Combination, new Oct., 1919, mileage 6,000, as new, spare wheel, hood, screen, 4 spare new Duplop covers, set of spare new chains, lamps, speedometer; any trial; best offer over £200.—77, High St., St. John's Wood. [6551

SUNBEAM 1920 Sports Model, 3½h.p., 3 speeds and clutch, Lucas lamps, Klaxon horn, Watford speedometer, etc., oversize tyres; this machine gained award in London-Edinburgh Trial, 1921 tax paid, perfect, and as new throughout; offers wanted.—Body, 80, Basingstoke Rd., Reading. [6257

SUNBEAM 8h.p. Motor Cycle Combination for sale, late 1919 model, dynamo lighting set, interchangeable wheels, spare wheel, horn, speedometer, apron, wind screen, luggage grid, leg shields, perfect running order and excellent state of preservation.—Watkins, Overton Rd., Johnstone, Glasgow. [6656

1920 8h.p. Sunbeam Combination, Lucas Magdyno lighting, hood, screen, spare wheel, Lucas electric and bulb horn, speedometer, Tan-Sad, mechanically perfect, condition as new, very small mileage; accept £225 for quick sale; cost over £300.—Devey, 50, Darlington St., Wolverhampton. [X9303

SUNBEAM 3½h.p., solo, October, 1919, 1920 engine, large new head lamp, 2 generators, Klaxon, leg shields, enclosed valve gear, extra heavy Dunlops, only used few times summer 1920, had little wear, practically new machine, tax paid; £125.—2, Hortus Maisonettes, Hortus Rd., Southall, W. [6772

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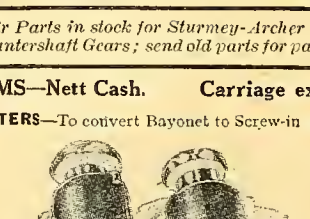
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JULIANS, of Reading, have 1921 Triumph in sto [04

TRIUMPH, 1921 Models.—George Smith, Clarha Junction, S.W. [94

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NEW 1921 Triumph S.D. Solo; £140; in stock Randall, Andover. [03

NEW 1921 Triumph S.D. Combination; £195; stock.—Randall, Andover. [03

BABY Triumph, late 1920, only shop-soiled; £67/5 —Knight, High St., Reigate. [69

£25, lowest.—3½h.p. Triumph, tyres good, 100 m.p. bargain.—Coxon, Huntingdon. [61

TRIUMPH, 1914, with smart coachbuilt sidecar; £ —270, Croxted Rd., Herne Hill. [64

TRIUMPH 1914 4h.p., first-class condition; £48 Cotton, 15, Vale Rd, Surbiton. [66

TRIUMPH 1920 Gloria Combination, perfect; £132 Clark, 7, Exhibition Rd., S.W.7. [61

1918 Countershaft Triumph; £75.—59, Palfrey Pla Dorset Rd., Clapham Rd., S.W.8. [64

1913-14 Triumph, 3-speed, clutch, excellent conditio £48/10.—42, Perran Rd., Tulse Hill. [69

£26.—3½h.p. Triumph, fixed engine, splendid runni order.—King, Egrove Farm, Oxford. [X92

TRIUMPH C.B. Combination; £45.—59, Palf Place, Dorset Rd., Clapham Rd., S.W.8. [64

BABY Triumph, splendid condition, just overhaul licence paid; £46/10.—Carters, Ibstock. [X91

TRIUMPH Combination, 1914, 3-speed, reliab £72.—Dace, 143, Walworth Rd., S.E.17. [55

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1920 2-stroke Triumph, perfect, like new; £55 Lindfield, Post Office Rd., Crawley, Sussex. [58

1921 Triumph and Gloria, list price; also Jun Triumph.—Kemp's Garage, Louth, Lincs. [X91

TRIUMPHS, full range of 1921 models from sto —H. J. Marston, 50, Argyle St., Birkenhead. [66

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TRIUMPH 3½h.p., free engine clutch; £38; any t by appointment.—Chas. Amos, Redhill, Surrey [59

TRIUMPH, W.D., renovated, 1919, accessories, T bars; £65.—167, Camberwell Grove, S.E.5. [69

1913 3-speed Triumph just overhauled and enamell in tip-top order; £50.—Wilderspin, Chatteris. [58

TRIUMPH Combination, 1918 wind screen, acc sories; £95.—13, St. James's Rd., Kingston, Surr [58

1918 4h.p. Countershaft Triumph Combinati perfect; £100.—34, Heathfield Rd., Bromle Kent. [67

TRIUMPH, 1920, brand new, unridden, unregister offers; private owner.—Box 2,696, c/o *The Mo Cycle*. [58

1913 Triumph, 3-speed, nearest £50; wicker sidec £5.—Holt, 1, Church Circle, Farnborou Hants. [69

TRIUMPH 1918 4h.p., Sturmey, sporting sidecar, cellent condition; £95.—2b, Denmark Rd., C berwell. [63

3½h.p. Triumph, clutch, Bosch, lamp set, mecha cal horn; £40 lowest.—65, Albion Rd., I ston, E.8. [67

4h.p. Countershaft Triumph, tyres new, in splen condition; £78.—William Soutar, Daisy Ba Caldercruise. [66

1914 Triumph, 3-speed, clutch, Gloria No. 5 s car, fully equipped; £75, or offer.—8, Ma Rd., Coventry. X9

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918 Countershaft Triumph, plating and enamel as new, mechanically perfect; any trial; £85.—6, ay St., Woodbridge, Suffolk. [4716

RIUMPH 1920 4h.p., Gloria sidecar, hood, screen, etc., electric lighting, 700 miles; £170; tax paid. 9, Waverley Rd., Kenilworth. [X9105

RIUMPH, 1914, 3 speeds, 4h.p., sidecar combination, good condition, used very little; £70.—Garland, Curtain Rd., London, E.C.2. [X9113

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RIUMPH, all models in stock, W.D., fully guaranteed by makers; £105.—Ratcliffe Bros., 200, Gt. tland St., W. Maylair 5042. [0436

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1915 3-speed Triumph, with all accessories, horn, lamps and Ton-Sad seat, belt and tube spare; £60, or best offers. Tel.: 60.—A. W. Merrett, Corsham. [5894

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BABY Triumph, 2-speed, re-enamelled, plated, overhauled, everything new, appearance exactly as new, tax paid; £52.—2, Barfield Rd., Leytonstone, E.11. [6894

TRIUMPH Gloria Combination, new July, 1920, latest spring wheel, all accessories, lamps, etc., in splendid condition; £150.—36, Grafton Rd., West Croydon. [6832

1920 4h.p. Triumph Combination, 3-speed, little used, perfect, as new; private owner; £125 quick sale.—Dr. W., 2, Holford Rd., Hampstead, N.W.3. [6825

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TRIUMPH W.D. B., delivered from makers last spring, electric lights, accessories, shop-soiled condition; offers. Between 12-4 Saturday.—154, Effra Rd., Wimbledon. [6385

1917 Countershaft Triumph Combination, fully equipped, re-enamelled and plated, new coachbuilt sidecar; £95, or would separate.—15, Red Post Hill, S.E.24. [8743

1920 Triumph Model H., with special Gloria sidecar, electric light, Lucas horn, Dunlops, very little used, tax paid, unscratched; £160.—40, Park Avenue South, Hornsey. [6625

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Triumph.

TRIUMPH 4h.p. 1920, fitted with Gloria side patent adjustable screen, black hood and apr P. and H. lamps, Bonniksen speedometer, luggage c rier, petrol tin carrier, back rest, leg guards, ho etc., a magnificent combination in perfect conditi £145.—Pembridge Lodge, St. Owen St., Hereford. [6

1919 Triumph Combination, engine No. 622 Canoelet, Easting, practically new Dunl (heavy), aluminium footboards, acetylene and elec lighting, mechanical horn, extra sprocket for s spare new belt, chain, valve complete, all te licensed; £116.—Payne, 102, Buldock Rd., Letchwo [6

NEW 1921 Triumph Models in stock for immed delivery: 2¼h.p. lightweight, £75; W.D.B. r vated, £95; Type H 4h.p., 3-speed, £127/10; Type chain drive, £140; sidecars to match from £25 £55; Lucas dyno-mag. extra on any model, £20.— your machine direct from the Triumph Special The Premier Motor Co., Aston Rd., Birmingham. [5

1920 (Aug.) 4h.p. Triumph Model H 3-speed Sp ing Combination, T.T. bars, polished alumin discs, Canoelet hammock sidecar, scuttle apron, screen, back rest, acetylene head, rear, and sid lamps, Miller generator, Klaxon, licence paid. looked after, and condition perfect; trial London appointment; £120, or close offer.—Arnold, Mi Hall, Gravesend. [4

Trump.

4h.p. Trump-Jap, Bosch mag., B.B., long exha good tyres, belt; trial; £31.—Ford, Sotwell, Wallingford, Berks. [X9

Velocette

JULIANS, of Reading, have 1921 Velocette in st [0

HORSMAN for Velocettes.—Victor Horsman, 7, Mount Pleasant, Liverpool. [0

VELOCETTE, only small mileage, lamps, good or £55; bargain.—Bacon, Wellington, Salop. [6

VELOCETTE.—All models from Coventry Mo Mart, London Rd., Coventry. 'Phone: 200. [X9

1916 Velocette, 2-speed, chain drive, licenced; of or exchange 3½h.p.—Riches, Wollaston, St bridge. [X9

O'DONOVAN Motors are sole London and dist agents for the wonderful Velocette; immed delivery.—O'Donovan Motors, 76a, Gt. Portland W.1. [

IMMEDIATE Delivery can be given of the fam Velocette, 1921 model, 2¼h.p., 2-speed, all-ch drive; £75.—Agents: W. Sparrow, Ltd., Osb Garage, Yeovil. [1

1921 Velocette, Model D3, 3-speed, £85; Model 2-speed, £75; Model DL2, lady's open fra £78; all in stock for immediate delivery.—The Pres Motor Co., Aston Rd., Birmingham. [5

Verus.

VERUS £85 Model, 2-speed, K.S., clutch, new; £68.—159, Lansdown Rd., Tottenham. [6

1920 (June) 2¾h.p. Verus-Blackburne, tools, lamps; £95.—49, St. Chad's Rd., Derby. [6

VERUS-BLACKBURNE, 2-speed, K.S., new; £8 Clark,—7, Exhibition Rd., South Kensington [6

VERUS Late 1920 2-stroke, 2-speed, clutch, start, tyres as new, not done 500 miles; gain, £60 lowest.—Write, Hodgskin, Letchmore He Watford. [6

IMMEDIATE Delivery of any Verus Model; cash deferred payments book your order now, avoid disappointment later.—Burlington Motors, L South Side, Clapham Common, S.W.4. 'Phone: B ton 2417. [0

Webb.

WEBB-VICTOR Combination, 1921, 5-7h.p. entry Victor engine, Sturmey-Archer 3-sp gear box, Watsonian Monarch sidecar; trial run appointment only.—Webb, 2, Sylvan Rd., Forest G E.7. [6

Werner.

2¾h.p. Werner, in good condition, needs little at 4 tion; £10.—K., 55, Abbott's Rd., Southall. [6

W.F.W.

4h.p. W.F.W., 3-speed countershaft, kick star chain-cum-belt, like new; best offers to secures; after 5.30.—41, Lambton Rd., Hornsey R London, N.19. [6

Wilkin.

WILKIN, Models B and B4, shop-soiled; at gre reduced prices; now is the time to buy.—Me 154-156, Gt. Portland St., W.1. 'Phone: Langh 2230. [6

Williamson.

WATER-COOLED Williamson and Nearly A.J.S. Sidecar, good running order; £80.— Chatsworth Rd., Lower Clapton, E.5. [5

1920 Williamson Combination, 6h.p. J.A.P. eng Sturmey-Archer 3-speed, chain drive, brand urridden; bargain, £145.—Box 331, c/o *The Motor Cy* [X9

LATE Model Williamson Combination, Dou water-cooled engine, spare wheel, unscratch luxurious outfit; £115; exchanges.—60, Wallingf Av., N. Kensington. [6

MOTOR CYCLES FOR SALE.

Williamson.

WILLIAMSON; Easter bargain; 8h.p. water-cooled, coach sidecar, speedometer, pillion, lamps, and accessories; best offer over £65.—Conlydon, King arles Rd., Surbiton. [6783

FFERS Wanted for New Williamson, 1921 model sidecar. B.S.A. coachbuilt body, detachable seat back, 4-point couplings, carrier, Dunlop 26in. fit machine.—Holt, Albany Rd., Coventry. [X9203

ATE Model 8h.p. water-cooled Williamson Combination, just completely overhauled, all accesses, 98 gns.; will take countershaft Triumph, glas, or other good solo part payment.—Seen at rpe's, Whitehorse Garage, Thornton Heath. [6492

Wolf.

WOLF, ex-stock, 4h.p. machine, Blackburne engine; £110.—Motor Co., Hereford. [4316

9 14 Wolf-Jap, perfect condition; bargain, £30.—177, Earlsfield Rd., Wandsworth, S.W.18. [5946

WOLF-J.A.P. 2¾h.p., 50 to 70 m.p.h., T.T., tax paid, re-enamelled; no rubbish; £38; trial.—42, Naylor , Peckham, S.E.15. [6926

9 16-17 2¾h.p. Wolf, 2-speed clutch, kick start, good tyres, excellent condition, guaranteed perfect; 37 .—Bangton, 13, Liverpool Rd., Thornton Heath. [5880

1h.p. Wolf-Jap, 3-speed, clutch, handle start, low 2 mileage, take 2 anywhere, frame needs slight re-rs; a bargain, £28, near offer, or in parts.—Seymour, g's Pyon, Herefordshire. [6108

WOLF 2¾h.p. 2-stroke, 2-speed, hand control clutch, kick starter, as new, only done few miles, runs ntifully, fully equipped; bargain, £45.—29, Brig-k Rd., Thornton Heath. [6447

WOLF.—Sole agents for London, South of Thames and district. We are now fixing sub-agencies, invite enquiries.—Burlington Motors, Ltd., South e, Clapham Common, S.W.4 'Phone: Brixton 2417 [0508

Wooler.

WOOLER (1920) condition as new, under 400 miles; £75.—Williamson, Pulverbatch, Salop. [6351

WOOLER, 1920, lamps, horn, complete, tax paid, brand new; £95.—Dodgson, Gargrave. [6819

WOOLER 1920, fully equipped, tax paid, excellent condition; 80 gns.—61, Jephson Rd., Forest Gate. [6888

9 20 Wooler, practically new, complete with lamp; £85.—Halson, Lynton, Northfields, Bridgwater. [6012

WOOLER, run 300, unscratched; best offer, or exchange, with cash, combination.—Mellersh, Clar-e Rd., St. Albans. [6757

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—bes, 154-156, Gt. Portland St., W.1. 'Phone: Lang-n 2230. [6313

LLEN-BENNETT Motor Co., Ltd.—Wooler, 1920 models, run under 700, all accessories, £90; another £78; cash, exchange, extended payments.—9-10-Royal Parade, West Croydon. 'Phone: Croydon 50. 'Grams: Track, Croydon. [6283

Zenith.

ULIANS of Reading have 1921 Zenith in stock [0482

AN GUY, Weymouth.—Zenith agent, early delivery all models. [2183

9 21 Zenith.—All models from Coventry Motor Mart, London Rd., Coventry. [X9348

ENITH C.B. Combination; £70.—59, Palfrey Place, Horset Rd., Clapham Rd., S.W.8. [6403

ENITHS, 5 and 8h.p., 1921, for immediate delivery. Evans, Garage, Newport, Salop. [X8649

ENIT.. 1921 Models.—We are accepting orders for early delivery; your enquiry esteemed.—Below.

ENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—bes, 154-156, Gt. Portland St., W.1. 'Phone: Lang-n 2230. [6314

ENITH 4h.p., single, excellent tyres; go anywhere. —93, Clonmore St., Southfields, S.W.18. [6950

ENITH 4h.p. Combination, Gradua gears, lamps, licence; £57.—Proud, Vicarage Lodge, Knowsley. [5310

ENITH 4-5h.p. Sports Model, all on, fast; bargain, £70.—Bryant, Langley, Bursell, Chippenham. [6534

1h.p. Zenith-Gradua, good condition; best offer 4 secures.—Ericholme, Newhaw Rd., Addlestone. [6429

ENITH Combination, 8h.p., 1914, electric lighting; £75; solo part.—103, Moor Park Rd., Fulham. [6760

VAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—5h.p. Zenith, 1920, sporting model; £97/10. [6582

h.p. Zenith Combination; £60; Saturday afternoon and Sundays.—Ashmount, Loring Rd., Whetstone, 20. [4409

ENITH Combination (new) 8h.p., clutch, kick starter all accessories; £175.—Maitland, Cobham, rrey. [6006

h.p. 1920 Zenith Sporting, lamps, Klaxon, speedometer, torpedo sidecar; £125.—Boscombe, Bedford ., Barnet [5977

THE MOTOR CYCLE

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Dear Sirs,

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STOLEN.

A reward of £20 is offered by the Autocar Fire and Accident Insurance Company, Ltd., of 77, Cheapside, London, E.C.2, to the first person giving information leading to the recovery of the motor cycle and sidecar as under, and the apprehension of the thief or thieves:

DOUGLAS 2¾ h.p. (1917) *Registered Letter and No. XD. 1580. Engine Number 2058835. Full Douglas Colours, Aluminium disc wheels, Aluminium footboards, long copper exhaust pipe, knee grips on tank, Klaxon horn, Waterford speedometer, Lucas "King of the Road" head and tail lamps, new licence holder and licence, usual tools, including new tool roll.*

MOTOR CYCLES FOR SALE.

Zenith.

2¾h.p. Flat Twin Zenith, slightly shop-soiled; accept £100 cash, a bargain.—A. J. Young and Co., Ltd., Newmarket. [1255

8h.p. Zenith Combination (1921); unable to take delivery; offers wanted.—Write A.M., 122, Clapton Common, E.5. [6332

19 16 3½h.p. Zenith, equal to new, lamps, speedometer; £55.—Hammond, Prince of Wales, East Barnet, Herts. [6735

ZENITH-GRADUA 3½h.p. 1914, coachbuilt sidecar fitted, screen, perfect condition; nearest £75.—46, First Av., Acton. [6766

ZENITH, twin J.A.P. 3½h.p., Gradua gear, excellent condition; £55.—Kemmis, Ballinacor, Rathdrum, Co. Wicklow. [5794

ZENITH 2¾h.p. H.O. Twin, countershaft, Gradua gear, new; offers.—S. A. Sole, Sawkings Farm, Stodmarsh, nr. Canterbury. [6379

ZENITH.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [6761

4h.p. Zenith, 1914, re-enamelled, Bosch, Amac, good tyres, perfect condition; trial; £49.—Ford, Sotwell, near Wallingford, Berks. [X9257

NEW Zenith 8h.p Sporting, shop-soiled, £120; also 5h.p. countershaft, shop-soiled, £130.—Smith's, 18, Hardman St., Liverpool. [6192

19 21 8h.p. Countershaft Zenith, special red and gold model, completely equipped; cost £194, offers.—34, Preston Park Av., Brighton. [4403

19 20 8h.p. Sporting Zenith, magnificent condition, hardly used; £115; exchange A.B.C., N.U.T.—Parsons, 1, Acton Lane, Chiswick. [5837

19 21 Zenith Sports Model or Combination; immediate delivery.—Taylors, 52 and 53, Sussex Place, S.W. 'Phone: Kensington 7260. [0497

ZENITH 8h.p. Sports, November, 1920, winner of hill-climb Brighton last month; £115.—Olliver, Bridge Inn, New England Rd., Brighton. [6465

19 20 Zenith, 8h.p., clutch, kick starter, as new in every way, done 2,000 miles, tax paid; £120, or offer.—Howard, Cole St., Scunthorpe. [X9240

ZENITH, 6h.p., countershaft, 1917, lamps, speedometer, coachbuilt sidecar, perfect condition; £85.—2, Macclesfield Rd., South Norwood. [6790

ZENITH, 1920, shop-soiled models, a few still in stock at greatly reduced prices.—Zenith Motors, Ltd., Hampton Court, adjoining Hampton Court Station. [6383

19 16 5h.p. Clutch Model Zenith, complete, lamps, horn, speedometer, spares, just overhauled, licence paid; what offers?—Newman, Radly College, Berks. [6924

ZENITH 8h.p. Countershaft, Mills-Fulford sidecar, speedometer, lamps, Easting, 1920, mileage 1,500, perfect; £150.—Phillips, Clive Lodge, Bedfont, Middlesex. [6687

ZENITH, June, 1919, 6h.p., lamps, horn, discs, knee-grips, tyres good for an average season, spares, laid up half of last year; £88.—Morton, 60, Warwick Rd., Carlisle. [5835

ZENITH 4h.p., speedometer, lamps, semi-sporting sidecar, in excellent condition; price £90, or offer.—East Grinstead Motor Garage, London Rd., East Grinstead. [3235

ZENITH 1921 Models, orders now accepted for early delivery; 1920 models at greatly reduced prices; write or call.—Ratcliffe Bros., 200 Gt. Portland St., W. Mayfair 5042. [0437

ZENITH Combination, just overhauled and run in, perfect, licenced and insured, very reliable; price £90; seen by appointment.—Apply, Mason, 9, Leamington Park, Acton, W. [6527

THE Zenith Service Depot in London has a full stock of spares for all machines from 1911 to 1921, and can give immediate delivery of new 1921 and 1920 models.

EASTER is upon us, and if you have not bought your new Zenith, come at once to the Depot at 89, Wigmore St.

MACHINES are waiting for you.

THE 5h.p. Model at £123 is the machine for the solo rider. It is an excellent job. You cannot beat the 8h.p. countershaft model for sidecar work, and the price is right; combination, £204.

COME In and Hear About the new Bradshaw-engined model. It's the goods. The Zenith sign hangs outside the showroom, and you cannot make a mistake. The address is the Motorists Advisory Agency, Ltd., 89, Wigmore St., W. Mayfair 5598. [6437

5h.p. Zenith 1916, kick start, just overhauled and enamelled, perfect condition, lamps, horn, speedometer, horn, new tyres and belt; £65, or offers.—Ingleside, Coseley, Bilston. [5937

ZENITH Combination, 8h.p., overhauled June, 1920, sidecar built 1920, hood, screen, electric lighting, tax paid; sacrifice 100 gns.—Foucar, Coldfall Lodge, Fortis Green Rd., Muswell Hill. [6798

MOTOR CYCLES FOR SALE.

Zenith.

ZENITH-GRADUA Combination, 1915, 6h.p. twin M.A.G. engine, o.h. valves, speedometer, etc., very fast; for quick sale will accept £55.—Seen and tried 62, Cottage Grove, Clapham Rd. Station, S.W.9. [X9261

1920 Zenith 8h.p. Countershaft, Rover sidecar, guaranteed perfect order, completely equipped, tyres perfect, electric and acetylene lighting, spares; £155.—Apply full particulars, 114, Woodstock Rd., Oxford. [5934

ZENITH 1920 8h.p., clutch, kick-starter, Henderson Elite sidecar, disc wheels, as new, magnificent outfit, cost £220; sacrifice, £175, or offers; licence paid.—Apply, after 6, 127, Longhborough Rd., Brixton, S.W. [6673

ZENITH 1920 6h.p. Sporting Combination, Lucas head, rear, and sidecar lamps, Cowey speedometer, knee-grips, Ace disc wheels, luggage grid, equal to new; £160.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9116

F.O.G.H. are Zenith agents. New and second-hand machines in stock. Exchanges or easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5959

1919 8h.p. Zenith Countershaft Model, clutch, kick starter, Henderson Elite sidecar, all accessories, spare tube and belt, full kit tools, original tyres, mileage under 2,000, excellent condition throughout; £135.—Clifford Wilson Manufacturing Co., 177, Westminster Bridge Rd., S.E.1. [7135

3½h.p. Zenith, coachbuilt sidecar, 4-point connection, wind screen, storm apron, nearly new tyres, pan seat saddle, Brown and Barlow pilot jet, Cowey, Bosch, 2 horns, 4 lamps, Terry's springs to forks, strong turnout, grand condition; £80.—Cook, 11, Stratford Rd., Kensington, W. [5312

ALLEN-BENNETT Motor Co., Ltd.—Zenith 1920 8h.p. and Henderson Elite sidecar, electrically equipped, as new, £170; 1916 5-6h.p. and Swan sports sidecar, £115; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6289

ZENITH 1919 8h.p. Sporting Model, drip feed to front cyl., and Cnaoelet sporting sidecar with back rest and Enoting; equipment includes Degory carburetter, T.T. bars, 2 belts and case, Bonniksen trip speedometer, aluminium leg shields, Klaxon, F.R.S. 1,000ft. head lamp, electric side and rear, engine recently rebushed at Zeniths, tax paid; £120, or offer.—Hoxenden, 99, Church Rd., Barnes, S.W.13. [6724

Ladies' Motor Cycles.

DOUGLAS, lady's model, 2¾h.p., late 1914, kick-starter, clutch, excellent condition, lamp, horn, speedometer, etc., tax paid; £50.—Gannon, 212, Showell Green Lane, Birmingham. [X8927

Miscellaneous.

ONE 3½h.p. Singer motor cycle, 3-speed, coachbuilt sidecar; £50.

THREE 4h.p. Triumph 3-speed motor cycles, new, but shop-soiled, not renovated models; £110 each.

ONE 4h.p. Triumph 3-speed motor cycle, just delivered; £127/10.

ONE Triumph Lightweight Motor Cycle, 2-stroke, 2-speed; £75.

ONE 3½h.p. Sunbeam Combination, Model de Luxe, delivery 2 weeks; first cheque £202/13.—J. Mather and Co., Southwell. 'Phone: 7. [4779

SALE, small auto-bike, in perfect condition.—Particulars, Monfort, 1, Fulford, York. [6480

8-10h.p. Combination, 3-speed, K.S., wants adjustment; £55.—Limby, 2, Kynance Place, S.W.7. [6616

NEW Machines, cash, easy payments, or exchanges. See Gray and Raynes advert. Miscellaneous items columns. [6098

BARGAINS.—1920 Powerplus Indian, dynamo lighting, speedometer, Millford bulbous hack sidecar; £165/10.—Booth's Motories, Halifax.

BARGAINS.—1920 Wooler, lamps, speedometer, like new, £89/10; 1914 P. and M., £45/10; 3½h.p. Triumph, £25/10.—Booth's Motories, Halifax.

BARGAINS.—1919 P. and M. and new sidecar, £120; 3-speed Indian and sidecar, £59/10; 2-speed Indian and sidecar, £49/10.—Booth's Motories, Halifax.

BARGAINS.—6h.p. 2-speed Rex combination, £49/10; 3¾h.p. Sun-Precision, 3-speed, £35/10.—Booths' Motories, Halifax.

BARGAINS.—Six 1915 Douglases from £42/10; 4 h.p. Douglases, £75/10; 4h.p. Douglas with new sidecar, £97/10.—Booths' Motories, Halifax.

BARGAINS.—Lightweights: 2¾h.p. New Imperial J.A.P. £38/10; 1919 Enfield 2-speed, £49/10; 1920 Scott and sidecar, £135/10; 1919 6h.p. 3-speed Royal Ruby, £89/10.—Booths' Motories, Halifax.

BARGAINS.—Shop-soiled 1920 models: 2¾h.p. O.K., £43/10; ditto 2-speed, £54/10; 2¾h.p. Omega-Jap, 2-speed, £67/10; Harley-Davidson and sidecar, £189/10; 6h.p. Ariel combination, £149/10; exchanges entertained. Pay us a visit.—Booths' Motories, Portland Place, Halifax. Tel.: 1062. [2401

EVANS, Garage, Newport, Salop, agent for Sunbeam, Triumph, Rover, Raleigh, New Imperial, Diamond, and other leading makes of motor cycles for immediate delivery. [X8651

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Another 100,000 LEATHER JERKINS

When we first announced the purchase from the Government of these most serviceable garments, we were inundated with thousands of orders—indeed, the demand was so colossal that we, unfortunately, had to disappoint thousands. Now, after lengthy negotiations, we have succeeded in securing the

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MOTOR CYCLES FOR SALE.

Miscellaneous.

JONES' Garage for square deals; practically machines have their tax paid. Our motto: and square dealing, which cannot be found e where.

JONES' Garage.—Any new machine supplied deferred payment.

JONES' Garage.—Machines of late makes take part exchange, no crocks offered, none wanted

JONES' Garage.—1920 2¼h.p. Villiers, 2-speed new, perfect; £52.

JONES' Garage.—1914 Indian 7-9h.p., 2-speed, handled, as new; £65.

JONES' Garage.—1920 2¼h.p. Enfield 2-stroke, accessories, and as new, 2-speed; £57/10.

JONES' Garage.—1920 Hobart, 2¼h.p. Villiers, h new; £52; £10 under list price.

JONES' Garage.—1920 electric model Match combination, complete with spare wheel, screen, hood, speedometer, rear drive, all absolutel new, not done 2,000; a genuine bargain, £185.

JONES' Garage.—1919 7-9h.p. Harley combinat not W.D., electric model, all accessories; a snip, £160.

JONES' Garage.—1919 James 6-7h.p. twin comb tion, all accessories, perfect; £130.

JONES' Garage.—Norton combination, 3-speed, chain drive, all accessories; a real good £100.

JONES' Garage.—1920 O.K. Union, brand new have several to dispose of, dirt cheap; £45 £6/8 under list price.

JONES' Garage.—1919 2¼h.p. James 2-stroke, speed, all accessories; bargain, £52/10.

JONES' Garage.—1919 Baby Triumph, tax paid, equipped; £55.

JONES' Garage.—3½h.p. Triumph, 1913, Philli pulley, all in perfect order; dirt cheap, £40.

JONES' Garage.—1917 8h.p. Sunbeam combinat M.A.G. engine, Lucas dynamo, electric throughout, hood, screen, spare wheel, etc., a real outfit; a gift, £155.

JONES' Garage.—1920 4h.p. Douglas combination, solutely as new; a snip, £145.

JONES' Garage.—1920 2¾h.p. Wooler, brand list price £103, accept £87/10.

JONES' Garage.—1920 4-cyl. Henderson combinat absolutely like new, 3 brand new tyres, all ac sories, including speedometer; £175.

JONES' Garage.—1920 brand new A.B.C., elec model, registered but unused; offers.

JONES' Garage.—1914-15 6h.p. twin Ariel comb tions, all fully equipped, in perfect condition;

JONES' Garage.—1915 4¼h.p. B.S.A. and coachb sidecar, all accessories, perfect; £90.

JONES' Garage.—1917 2¾h.p. 2-speed Douglas, a lutely like new; £57/10.

JONES' Garage.—1914 2¾h.p. 2-speed Douglas, perfect condition; £46/10.

JONES' Garage.—1920 2-speed Radco, brand list price £65, our price £57/10.

JONES' Garage.—New renovated (by makers) 4 Triumph, with almost brand new Triumph s car; a £160 lot for £132/10.

JONES' Garage.—Brand new 1920 8h.p. Bat s shop-soiled; list price £165, to clear £135. S car to match, £32

JONES' Garage.—Brand new 1920 6-7h.p. Ariel. c bination, shop-soiled; list price £177/10, to c £155.

JONES' Garage.—1921 Matchless combinations f stock, standard models, £205; electric mod £230.

JONES' Garage.—Remember where possible machines will have their 1921 tax fully p with licence card and holder fitted.

JONES' Garage.—Send for our big list, it conta about 100 motor cycles to choose from, and guaranteed.—Jones' Garage, Broadway, Mnswell H and Woodside Parade, Finchley. 'Phone: Horn 2562. [3

1915 3¾h.p. Ivy-Precision, 3-speed hub, kick st sporting sidecar, 60 gns.; Scott, splendid dition, 48 gns.; taxes paid.—Wood, 79, Fernhead Paddington. [6

YOU can get exactly the motor cycle you w through the Kwiksale Private Motor Regis 35, Long Acre, W.C. Gerrard 2392. Send for list privately owned motor cycles. [0

SECOND-HANDS.—Triumph, Sunbeam, Douglas, Martinsyde combinations; Ivy, Campion, thorpe, and Baby Triumph lightweights.—Frank W worth, Ltd., 139, New St., Birmingham. [X9

BAT-J.AP. Combination, 8h.p., lamps, etc., per condition, £65; Royal Ruby 2-stroke, lamps, £35; 3h.p. King Dick, Grade gear, going order, any exchange entertained.—George A. Sax, 619, Gar Lane, Earlsfield, S.W.18. [5

MOTOR CYCLES FOR SALE.

Miscellaneous.

HATER, 4h.p., 2-speed, new Dixie, B. and B., lamps, sound, slight adjustment, £12/10; N.S.U., h.p., sound, complete, wants timing, £6/10; offers, change light sidecar, N.S.U. gear, or hub gear.—334, lburn Lane, London, W.9. [6085

OTOR Cycles (new models), sidecars, and bodies actually in stock: B.S.A., Allon, New Scale, dco (3 models), Triumph, Douglas, Sun Vitesse (for ich we are the sole agents for the City of London), d others at lowest manufacturers' prices; carriage id.—Bancroftian Co., 64 and 78, Bishopsgate, Lon n, E.C.2. [035r

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MOTOR ATTACHMENTS.

UTO-WHEEL de Luxe, as new, never ridden; offers.—308, King's Rd., Chelsea. [4928

UTO-WHEEL and Cycle for sale, in thorough running order; cheap.—Apply, Southside, Clydesdale , Romford. [5971

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ALIDS' Tricycles and Motor Tricycles; catalogue free.—Rayner, 10-12, George St., Blackpool. [X7038

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RIEL Tricycle, 3h.p., water-cooled head, mag., B.B. carburetter, 2 speeds, free engine, easy starter, nsed.—Letters, A., 133, South Norwood Hill, South rwood. [6689

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UTOPED Scooter, late 1920, not done 30 miles; £25.—H. Hall, Gamlingay. [X9357

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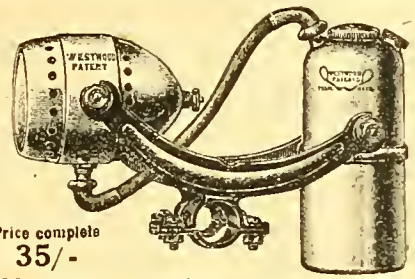
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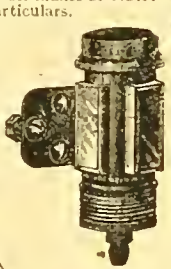
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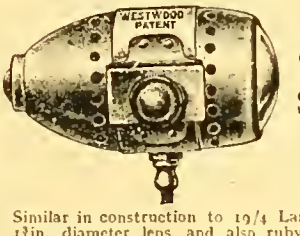
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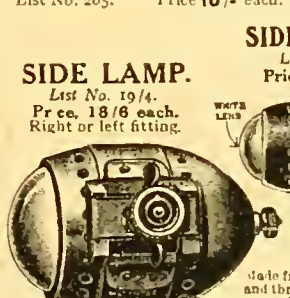
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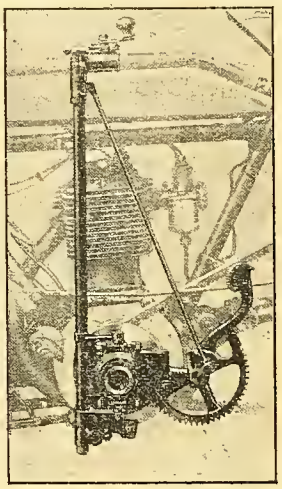
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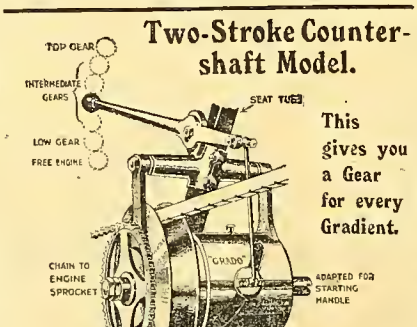
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GIBB, 100, Northgate, Gloucester, can deliver 1921 Morgans from stock.—'Phone: 852. [0446

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1921 G.N. Car; £241/17/6, with dynamo lighting £270.—Taylor's Garage, Wednesbury. [5391

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1921 Rover Light Cars, 250 gns., from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X9344

MORGAN, a.c., M.A.G., sporting model, new June 1917, perfect order; any trial.—E. Bland, Eye Northants. [457

COVENTRY Premier 1921 3-wheeler; 275 gns.; cash exchange, or easy payments.—Motories, 25, Horton St., Halifax. [6590

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MORGAN de Luxe, 1921, M.A.G., for immediate delivery.—Rey, 378-384, Euston Rd., N.W.1. 'Phone: Museum 6436. [4667

MORGAN.—New special sporting model in stock; reduced price, £230.—Clark, 7, Exhibition Rd., S.W.7. Kensington 4096. [6143

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G.N. Cycle Cars; latest models always in stock.—Re deliveries from Drake and Mount, Ltd., Motor Agents, Bracknell. [393

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PYRAMID Cycle Car, 1914, 8h.p. J.A.P., 2-seater, 4 speeds, reverse, accessories; £60; drive away.—62, Courtland Av., Ilford. [6342

ROVER Light Car, 1921 model, 8h.p., in stock for immediate delivery; £300.—Godfrey's, Ltd., 208 St. Portland St. London, W.1 [0350

DAN GUY, Weymouth.—Morgan agents. Early delivery all models. New de luxe model, M.A.G., finished red, delivery from stock. [6321

CYCLECAR, 1920, 8h.p. Tamplin tandem, fully equipped, good as new; £120, or nearest.—Lucania, Scott's Lane, Bromley, Kent. [6511

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Size	Description.	Price each £	s.	d.
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,,	Avon Stonehenge	1	8	0
,,	Palmer Cord	1	11	0
,,	Wood-Milne Keygrip	1	12	0
24×2	Avon Lightweight		18	0
26×2¼	Avon Tricar	2	0	0
,,	Mermetic	2	1	0
,,	Wood-Milne Keygrip	1	13	6
,,	Palmer Cord	2	5	0
26×2½	Avon Tricar	2	6	0
,,	Hermetic	2	2	0
26×2½	Hermetic, Hutchinson	2	2	0
,,	Avon Tricar	2	3	0
,,	Wood-Milne	2	9	8
26×2½×2½	Hermetic	2	19	8
,,	Wood-Milne Keygrip	1	17	6
650×65	Hermetic	3	5	0
,,	Wood-Milne Keygrip	2	14	6
550×65	Henley Grooved	2	9	6

TUBES.

24×2	Avon	6	0	
,,	Clincher	7	3	
26×2	Avon, Wood-Milne	6	6	
,,	Capon Heaton	5	6	
26×2¼	Hermetic	7	9	
,,	Avon	7	0	
,,	Clincher	8	0	
,,	Palmer	7	6	
,,	Capon Heaton, Akerine	6	3	
26×2⅜	Palmer	8	0	
,,	Capon Heaton	6	0	
26×2½	Hermetic	8	9	
,,	Clincher	9	0	
,,	Palmer	8	6	
,,	Capon Heaton, Redfern	7	6	
,,	Wood-Milne	8	0	
26×2½×2½	Hermetic	9	0	
,,	Redfern	8	0	
650×65	Redfern, Capon Heaton	8	3	
,,	Palmer	9	6	
28×3	Avon	10	6	

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3½h.p. Minerva Engine, with Bosch DA2, enclo 3/2 transmission, good condition; £10, nearest Cyril Williams, 94, Dock St., Newport, Mon. [58

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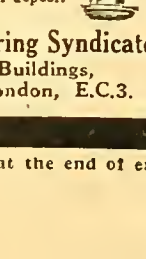
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BURSTS, cuts, broken beads, etc., made sound and reliable from 2/6; tubes rejoined, valves reseated, 1/-.—Phoenix Tyre Repairing Co., 224, Sherlock St., Birmingham. [X9270

H. EMANUEL'S for your motor cycle tyres.—Below.

28×3 Dunlop Extra Heavy (4-ply) 50/-, Palmer cord heavy 50/-, Palmer cord 45/-, Wood-Milne extra strong 39/6, Moseley ribbed 35/-, Kempshall anti-skid 35/-.—Below.

700×80, for voiturette rims, will fit 650×65; Dunlop grooved 75/-, Wood-Milne Cruvrib 70/-, Spencer-Moulton 70/-, Beldam Bulldog 70/-, Avon Sunstone 70/-.—Below.

700×80 Brand New Wood-Milne Keygrip 51/-, extra strong 55/-, combination 61/-; new tubes, 10/6. For motor cycle rims: 700×80, to fit 650×65 rims, Wood-Milne Keygrip, 48/6, extra strong 52/6, combination 57/6.

28×3 Second-hand Covers, also 28×3 to fit 2½ rims, sound casings, and never been repaired; 20/-; carriage paid.

650×65 Palmer Cord Heavy 57/6, Palmer cord 60/-, Dunlop heavy 50/-. As follows for voiturette rims: Michelin steel-studded 70/-, Wood Milne non-skid 57/6 each; heavy 4-ply extra strong rubber studded, 35/-.—Below.

26×2½ Dunlop Heavy Rubber-studded 45/-, Avon Sunstone 41/6, Dunlop combination rubber and steel-studed 57/6, Rom ditto 65/-, Avon combination 47/6, new endless tubes 6/6, heavy pattern rubber studs, 40/-.—Below.

26×2¾ Dunlop Heavy 39/-, Wood-Milne extra strong 39/-, Moseley ribbed 34/-, Dunlop combination 55/-, Palmer Cord 38/6, Bates heavy special 38/-.—Below.

26×2¼ Dunlop Heavy 39/6, Dunlop combination 55/-, Rom ditto 55/-, Beldam ditto 55/-, Bates special heavy 37/6, Macintosh chain pattern 35/-.—Below.

26×2½ to Fit 2¼ Rims.—Clincher de luxe rubber studs, 45/- Hutchinson rubber studded 38/-, Englebert heavy rubber stud 42/, Wood-Milne 3-ply special) 36/-, 4-ply extra strong 45/-, ditto combination 57/6.—Below.

THE Above Tyres are Government surplus, not in any way perished or soiled. All orders 7 days' approval against remittance. If not satisfactory money refunded. Country orders despatched passenger train same day as order received; see our full page displayed advertisement in this issue.—Below.

H. EMANUEL, Tyre Factor, 27, Belgrade Rd., N.16. Stores: 37a, Balls Pond Rd. 'Phone: Dalston 3161. [0235

26×2¼ Dunlop Heavy Motor Cycle Covers; 35/-.—Below.

26×2¾ Dunlop Heavy Motor Cycle Covers; 50/-.—Below.

26×2¾×2¼ Palmer Heavy Motor Cycle Covers; 50/-.—Below.

650×65 Dunlop Extra Heavy Covers 59/-.—Below.

650×65 Beldam Extra Heavy Covers; 60/-.—Below.

26×2½ Beldam Heavy Motor Cycle Covers. The above tyres are not ex-Government stock, but genuine shop-soiled or clearance lines; all carriage paid, and on approval.—Lythalls Lane Garages, Foleshill, Coventry. [4455

25% off best make of Tyres, new stock.—Pitts, of Redditch. Tel.: 91. [X9325

NEW Palmer Tyre, 24×2, only done 50 miles; £1.—Fuge, Wayfield, Stratford-on-Avon. [X9115

TYRES and Tubes Vulcanised, also covers retreaded.—11L, Kramer Mews, West Brompton, S.W.6 [9990

DUNLOP Combination, 26×2½, new, 45/-; 28×3 rubber studded, 37/-.—1, Townley Rd., E. Dulwich, S.E.22. [6195

26×3 Avon Sunstone, never used; £2/15, carriage paid.—Lawson, 19, Hindmans Rd., East Dulwich. [6659

TYRES.

BASTONE'S for new clearance covers and tubes (no better or cheaper house).

BASTONE'S.—26×2¼ Gaulois ribbed, 28/-; Hutchinson T.T. 34/-, Passenger 39/-; Goodrich Safety tread, 39/-; Englebert (wired edge only), ribbed, 26×2¼ or 26×2½, 25/-; rubber-studded, 30/-.

BASTONE'S.—26×2⅜ Hutchinson T.T., 35/-; ditto Passenger, 40/-.

BASTONE'S.—26×2½ Michelin, 21/-; Wood-Milne, 30/-; Hutchinson Passenger, 39/-; Avon Sunstone, 39/-.

BASTONE'S.—650×65 Hutchinson ribbed, 45/-; Goodrich Safety tread, £3/10; Hutchinson ribbed, 700×75 for 650×65, 50/-; Goodrich Safety tread, 700×80, £3/15.

BASTONE'S.—28×3 Palmer Cord heavy, 45/-; Hutchinson ribbed, 50/-; Goodyear all-weather tread, 49/-.

BASTONE'S.—Michelin tubes, 26×2¼ or 26×2½, 8/6; Goodyear butted, 28×3, 10/-.—228, Pentonville Rd., King's Cross, London, N.1. Tel.: 2481 North. [2004

DOOLEY.—26×2½ new Macintosh and Spencer-Moulton tyres; 30/- each.

DOOLEY.—Dunlop retread tyres, sizes 2¼, 2⅜, 2½, 17/6 each, as new; approval against cash; special quotations to the trade for minimum of 50.

DOOLEY.—Inner tubes, new Dunlop, 26×3, 28×3, 7/- each, plus carriage.

DOOLEY.—New heavy Dunlop tyres, sizes 700×65, 650×65, 26×2⅜; prices £2/5, £2, and £1/10 respectively.

PLEASE Apply for the above to J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [6082

MORE Bargains. Every transaction brings a testimonial per return.—Homerton.

NEW Beldam Clearance Covers: 26×2, 25/- each; 26×2¼, 26×2⅜, 26×2½, 26×3, 30/- each; 28×3, 40/- each; 650×65, 50/- each; 700×80, 60/- each.—Homerton.

700×80 New Guaranteed Unwrapped Wood-Milne square tread covers; 65/- each.—Homerton.

GOVERNMENT Surplus: Dunlop heavy second-hand covers, 26×2⅜, 12/6 each; new Dunlop and Bates tubes, 26×2¼ 2⅜, and 2½, 6/6 each. All goods cash approval, money refunded if returned within seven days in the same condition as received.—Homerton Rubber Works, Brooksby's Walk, Homerton, E.9. 'Phone: Dalston 3483. T.A.: Emanrubwor, Hack., London. [0331

DUNLOP Rubber-studded Covers (6), 26×2⅜, good as new; 19/6 each.—Cooper, 102-103, Park St., Birmingham. [X9278

BRAND New Clincher Tyres, 26×2¼ 33/6, 26×2½ 39/-.—Wandsworth Motor Exchange, Ebner St., Wandsworth. [6171

TYRES Great Sale.—Don't buy any until you have seen our list. It is a revelation.—Bancroftian Co., 64, and 78, Bishopsgate, E.C. [0054

GUARANTEED Wood-Milne Keygrip Covers, not perished W.D. stock, at bargain prices; your money refunded if not as advertised.

CROYDON.—26×2¼ heavy 33/-, listed 53/9; extra heavy 40/-, listed 68/-; 26×2⅜, to fit 2¼ rims, heavy 33/6, listed 56/9; extra heavy 39/-, listed 68/6; 26×2½ heavy 37/-, listed 63/9.

CROYDON.—26×2½ extra heavy 42/-, listed 72/3; 26×3, fit 2½ rims, heavy 38/-, listed 66/9; extra heavy 48/-, listed 86/-; 28×2½ heavy 38/-, listed 64/9; extra heavy 44/-, listed 80/9.

CROYDON.—28×3 heavy 42/-, listed 72/3; extra heavy 53/-, listed 87/6; 700×80 heavy 52/-, listed 87/-; extra heavy 55/-, listed 93/-.

CROYDON Motor Tyres, Ltd., 53a, London Rd., Croydon, Surrey. [6675

BURST Motor Cycle Tyres, chafed beads remoulded, made perfect, tube vulcanising, butt-ends fitted, retreading; send for list.—Melton Rubber Works, Melton Mowbray. [0347

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ECONOMIC Tyre Co.—Special offer of Wood-M Keygrip covers, new and unwrapped, and ca ing our usual warranty; sent on 7 days appr against remittance.

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ECONOMIC.—Wood-Milnes 26×2⅜ heavy 3 listed £2/16/8; extra heavy 37/-, listed £3/

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CENTRAL Garage, Thornton Heath. Central age.—Brand new heavy safety tread Good covers at less than half price: 26×2¼, 32/-; 26× 34/-; 26×2½×2¼, 34/6; 650×65, 37/6; 700× 42/6; carriage 1/6; approval against cash.

FREE Tubes.—To every customer purchasing of the following covers, we will include a free of charge. The covers are guaranteed brand not perished ex-W.D. stock. Money refunded if more than satisfied.—Herbert Robinson, Ltd., 32 Green St., Cambridge. Tel.: 995. T.A.: Bicycl

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HERBERT ROBINSON, Ltd., 32-35, Green Cambridge.—Wood-Milne 26×2⅜ special, 3 listed 56/8; extra strong, 42/11, listed 68/6; bination studded, 52/6, listed 96/6.

HERBERT ROBINSON, Ltd., 32-35, Green Cambridge.—Wood-Milne 26×2½ special, 39 listed 63/8; extra strong, 45/-, listed 7 combination studded, 63/11, listed 102/-; 26×3 fit 26×2½, special, 39/11, listed 64/-; extra str 51/6, listed 82/-; combination studded, 64/6, li 103/-.

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HERBERT ROBINSON, Ltd., 32-35, Green Cambridge.—Motor cycle tubes, guaranteed in fect condition, 26×2¼ Palmer, Bates, Capon Hea Clincher, Moseley, Avon, Turco, Macintosh, Spen Moulton, and Hutchinson, 6/6; 26×3×2½ B Moseley, and best make, 6/11; 26×3 Bates, Macint and best makes, 7/11; 26×3 best makes, 6/11. trade supplied.

BARGAINS, 7 days approval, limited number o Englebert 26×2¼ heavy rubber-studded senger 30/-, list 46/3; touring 35/6, list 53/-; 34/6, list 49/-. Various others. Repairs all k to tyres and tubes.—Armstrong, 17, Goldhawk Shepherd's Bush, London.

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TYRES.

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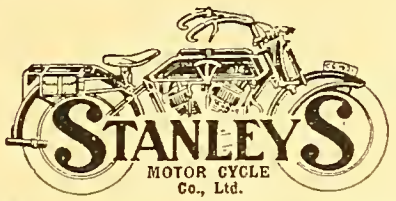
BRYSON, B.Sc., Assoc.M.Inst.C.E., A.F.R. Ae.S., Chartered Patent Agent, 29, Southampton Buildings, London, W.C.2. 'Phone: Museum 3651. [9622

PATENTS.

CTOR Cycle Manufacturers.—The owner of British Patent 122112, for "Improvements in Motor s," British Patent No. 123901, for "Improvements r relating to Handle-bar Control Devices for Motor es and the like Vehicles," British Patent No. 94, for "Improvements in and relating to Rear ng Suspension for the Frames of Motor Cycles," is ous of entering into negotiations with one or more s in Great Britain for the purpose of exploiting bove inventions, either by sale of the patent rights y granting licences to manufacture under royalty. quiries should be addressed to Messrs. Abel and y, Chartered Patent Agents, 30, Southampton dings, W.C.2. [5867

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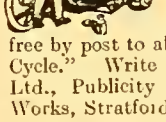
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SCOOTER wanted, low price essential.—Rev. Rees, 27, Falmouth Av., Highams Park. [6495

WANTED, lightweight, immediately, for cash.—15, The Mansions, Mill Lane, N.W.6. [5632

3½ to 6h.p. w.c. Engines, cheap, but undamaged.—17, Wilcox Rd., Wandsworth Rd., S.W.8. [3179

WANTED, 2-seater sidecar, cash, or exchange Connelet.—Dyer, Chase Rd., Southgate, N. [5940

SIDECAR for 8h.p. Zenith; price, particulars.—Durnford, 4, Albert Grove, Southsea. [7076

N.S.U. Gears, whole or parts; also Philipson pulley; cheap.—Box 2,692, c/o *The Motor Cycle.* [5846

WANTED, cylinder for about 1914 2½h.p. Premier, cheap.—Woods, Pulham Mary, Norfolk. [5932

WANTED, good combination or solo.—Lowest price to G.S., 94a, Swaby Rd., Earlsfield, S.W. [5801

SPEEDOMETER wanted for 2¾h.p. Douglas, 26in. wheels.—Griffiths, 51, Romilly Rd., Cardiff. [6202

MOTOSACOCHE Wanted, 1914-15, 2½h.p., variable gear essential.—24, Glen Terrace, Halifax. [7083

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WANTED, Pistons and forked connecting rod, 3h.p. Enfield.—19, Amberley Mews, Paddington. [5924

VARIABLE Gear wanted, in good condition, for lightweight.—Davis, 6, Buller Rd., N.W.10. [5883

TORPEDO Tank, about 2ft. 4in.×4½in., 3-speed hub. —Boyd, 37, Ashdale Rd., Terenure, Dublin. [X9092

LIGHTWEIGHT Wanted, modern; cheap; also recent combination.—Gunn, King's Ride, Camberley. [6426

PAIR 1919 Harley-Davidson Tanks, sound, complete; cheap.—Waire, Coventry Rd., Birmingham. [X9058

WANTED, P. and M. incomplete machine or parts immediately; cheap.—1, Othello St., Liverpool. [5871

WANTED, reliable combination, moderate price; Rugby district.—Box 2,699, c/o *The Motor Cycle*. [5859

WANTED, 3½h.p. Singer cylinder, complete with piston and valves.—3, London Rd., Coalville. [6059

WANTED, late model Triumph countershaft; immediate cash.—Raine, 1, High Green, Great Ayton. [6474

WANTED, new lightweight (Levis preferred), perfect condition, cheap, cash.—Wilson, Poulterer, Welshpool. [6101

WANTED, lightweight 2-stroke, spot cash; particulars and year.—Smith, 50, Englefield Rd., Dalston, N.E. [6200

WANTED, Douglas sidecar complete, any condition; cheap; description.—36, Carlisle Terrace, Bradford. [7075

£25 offered for combination, condition immaterial so long as complete.—G.H., 7, Trafalgar Sq., Chelsea. [6186

WANTED, modern combination, also lightweight; must be cheap.—F.F., 73, First Av., Walthamstow. [6600

WANTED, new or second-hand cylinder for 1913 Triumph.—Laurel House, Newchurch, near Warrington. [7150

WANTED, combination, not earlier 1919, about 4½ h.p., equipped; cheap for cash.—157, Crewe Rd., Sandbach. [6367

LIGHTWEIGHT Motor Cycle, suited for lady or gentleman, cheap for cash.—47, Abbey Rd., Grimsby. [7078

WANTED, late Triumph combination, good condition essential; after 6.30.—35, Lithos Rd., South Hampstead. [6630

WANTED, Triumph countershaft engine, also Sturmey-Archer gear box case.—Hole, 129, Park Lane, Carshalton. [3536

SELL your motor cycle through the Kwiksale Private Motor Registry, 35, Long Acre, W.C. Gerrard 2392. [0475

WANTED, Triumph or equal motor cycle, late model. —Lowest price to Hunt, Limefield, Middleton, Manchester. [7167

SPOT Cash for second-hand machines. Write or 'phone, with particulars.—Wanchope's, 9, Shoe Lane, London. [3099

MOTOR Cycles and Combinations, any date, any condition, for cash.—Letters, Hall, Motors, Whetstone, London. [5890

FRAME for 3½h.p. Brown wanted, sound, cheap.—Details to J. Mellor, Westover, Moorside Rd., Flixton, Lancs. [7077

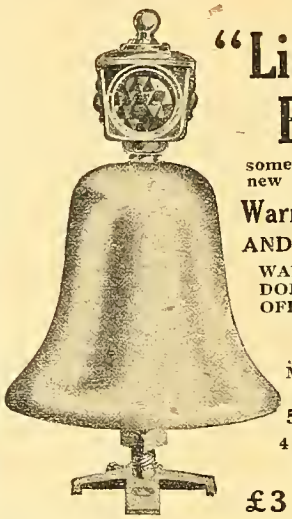
WANTED, handle-bars for 1915 Indian T.T. or semi-racing, complete.—Lamb, Gosforth Park, Newcastle-on-Tyne. [6205

A.C. Sociable Wanted for cash, fairly modern and cheap.—Particulars to 24, Riffel Rd., Willesden Green, London, N.W. [4370

MODERN Lightweight, kick starter, also countershaft combination; private buyer; Warwickshire.—Box 336, c/o *The Motor Cycle*. [X9242

WANTED, 6h.p. twin, with mag., m.v. J.A.P. preferred; lowest price.—Letters only, 29, Russell Rd., Tottenham, N.17. [5773

WANTED, single-cyl. magneto for heavy engine, clockwise, impulse starter preferred.—Hartley, Snowshill, Broadway, Worcs. [X9177



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BABY Triumph for higher power or combinati adjustment.—12, Faversham Rd., Catford. [71

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SPEEDOMETER by North, nearly new, for first-cl wind screen or cash.—151, Wilberforce Rd., Fi bury Park. [59

TAXICAB, good order; exchange motor cycle, or £60; room wanted.—Normand, 43, Bridge Maidenhead. [64

CLYNO Countershaft 5-6h.p. Solo, cush drive; lo power.—Thompson, 32, Clarence Rd., Kent Town, N.W. [66

RUDGE 3½h.p. 1914, clutch, all on, for 6h Zenith, any condition, or parts.—5, Stalbri Rd., Crewe. [60

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PREMIER Lightweight, 3-speed, splendid order, for combination, cash adjustment.—57, Kenbury St., Camberwell, London. [6146

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T.T. Rover, H.B.C., Philipson, lamps, licensed; £50; exchange offers considered.—Scaley, Prince's Av., Watford. [7126

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BRAZING.—Repairs to frames and chassis, any quantity.—T. Skeat, 37, St. George's St., Tyldesley. [5908

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ARMSTRONG, Sturmey-Archer, and N.S.U. Gears Repaired while you wait, satisfaction guaranteed.—Tavistock (below).

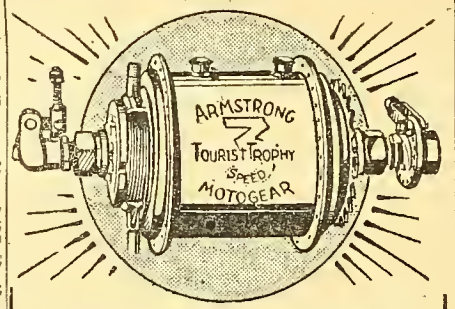
ARMSTRONG Parts, large sun, 7/6; medium suns, 10/-; small suns 5/-; pinions, 2/6; spindles from £1/10 to £1/15.—Tavistock: below.

B.S.A.—Hub gears repaired promptly and efficiently; enquiries solicited.—Tavistock (below).

GEARS.—Any make of gear repaired; parts made to pattern or drawings, quotations free.—Tavistock (below).

GEARS.—Send all gears to Tavistock Engineering Co., 254a, Portobello Rd., Kensington, London. 'Phone: Park 643. [4204

OVERHAULS, repairs, and alterations, gears fitted.—Bright and Hayles, 78, Church St., Camberwell, London. [3798



STURMEY-ARCHER and ARMSTRONG

Gears Repaired Immediately.

In view of the approaching Easter Holidays, we will undertake repair any of the above gears, either Hub or Countershaft, while the messenger waits, and GUARANTEE that when the Gear leaves our works it is in perfect order.

Every part for every type of Armstrong and Sturmey-Archer Motor Cycle Gears actually instock.

Send wheels to Hounslow, L. & S.W. Rly., clearly labelled with sender's name.

Station for callers—HESTON-HOUNSLOW, District Rly.

COUNTY ENGINEERING CO.
64, STAINES ROAD, HOUNSLOW, LONDON, W.

Wires: "Threespeed, Hounslow." 'Phone: Hounslow 822

Delivery for Easter

Any of these undermentioned models can open the joy of the road to you this Easter. I can deliver in full time for the holidays.

My Price Guarantee

assures you the best terms obtainable between now and Whitsuntide. Given with every machine I sell it has already proved itself to early buyers, and holds good for all immediate purchasers. Read the letter reproduced—and then the guarantee.

5, Leopold St, Sheffield.

Many thanks for your letter of yesterday, enclosing cheque for £10, pursuant to your guarantee to me re "Lagonda" car and drop in price. I fully realise that this guarantee was a personal matter between you and me, and I much appreciate the spirit in which you have acted upon it. My car is giving the greatest satisfaction, and is much admired, and I shall certainly do all I can by recommending both car and local agent.

Yours faithfully, T. A. G.

I hereby undertake to refund in hard cash the amount of any drop in retail price of the undermentioned Motor Cycles and Light Cars from to-day's date until Whit-Monday, May 16, 1921, on production of receipt showing price paid to me for same.

A.J.S., Indian, Scott, Wilkin, Bradbury, and Bat-Jap Motor Cycles, also Lagonda Cars.

F. B. ROPER,

166-168, London Rd., SHEFFIELD

Wires: Roper, 2802, Sheffield. *'Phone: 2802.*

REPAIRERS.

CYLINDERS Reground, new pistons fitted c plete; £2/12/6.—Bright and Hayles, 78, Chu St., Camberwell. [3

FRAME, chassis, and tank repairs, enamelling plating, by experts; prompt deliveries.—Langh Co., Fitzroy St., Leicester. [6

PISTONS for all engines up to 60 mm. 20/-, 70 m 22/6, 80 mm. 25/-, 90 mm. 27/6; complete w rings and pin.—Below.

WELDING, scored or broken cylinders, crank ca etc.; nothing too large or small.—Below.

CYLINDER Grinding on latest machinery, up to mm. 45/-, to 85 mm. 52/6; complete with pist 3-5 days delivery.—Below.

VALVES in finest nickel steel, 7/6 each; piston ri or any other parts made.—Kellett and Collin Ltd., Havelock St., Gt. Horton, Bradford. [5

ENGINES Rebushed, overhauled, rings fitted, c pression guaranteed, 40/-, twins 50/-; val chrome nickel, unbreakable, 12/6 pair.—Below.

PISTON Rings, high grade, standard or overs any pattern; return post. 2/- each.—Pat Rings, Wigan Rd., Atherton. [5

ARMSTRONG and Sturmey Gears Repaired, or p supplied promptly.—The Rotary Jointing Cherry Lane Garage, Lymm, Cheshire. [6

TANKS Re-enamelled and Transferred, makers' des 12/6; send your repairs.—Whitworth Motor R vating Co., 90a, Pershore St., Birmingham. [5

PLATING, Enamelling.—Tanks enamelled orig colours; handle-bars, pipes, etc., plated.—Nor and Co., School Av., Moseley Rd., Birmingham. [4

CYLINDERS Reground, fitted with new pist complete from 30/-; 85 mm. 32/-; engines bushed.—Elson, 264, Stoney Stanton Rd., Coventr [X8

CYLINDER Regrinding, oversize pistons, accu work, prompt delivery and keen prices.—Edw Eng. Co., 225, Acton Lane, Chiswick, W.4. 'Pho 1383. [0

SPARE Parts.—Valves, bushes, pistons, and rings, parts made to pattern, complete engine overha —White Bros., 112a, High St., Harlesden, Lond N.W.10. [2

WELDING.—Broken cylinders, cran cases, e made like new; work guaranteed; quick retu —Tonge Welding Co., Morton St., Middleton, M chester. [X5

PISTONS.—We are the firm. All sorts, all conditi We also carry a big stock of all Triumph Douglas parts. Quotations or goods by return.—Wa see below.

PISTONS Made and Cylinders Rebored from £2 We specialise in quick delivery, and can ret your work in 3 days. We overhaul engines, make wheels, cups, spindles, etc., and do welding and braz —Wards, see below.

PISTONS.—All sorts in stock or made to requireme from 35/-; delivery one day.—Wards, 51, Up Richmond Rd., Putney, S.W. [6

CYLINDER Grinding, new pistons, etc.; accurate highly-finished work; prompt delivery; price on application.—W. and F. Wills, Ltd., Engine Bridgwater. [5

FRAMES.—Repairs and alterations; special fra and tanks built, any design; enamelling plating.—A. Pilkington and Co., 390, Lichfield Birmingham. [1

REPAIRS, complete overhauls, machining, g cutting, cylinders rebored and ground, pist piston rings, welding.—11L, Kramer Mews, W Brompton, S.W.6. [9

ENAMELLING, Plating.—Tanks enamelled as befo handle-bars, etc., plated.—Send to Murr Plating Works, Union St., Coventry. Platers enamellers to the trade. [0

CYLINDERS Rebored, ground, fitted with over pistons, rings, and gudgeon pins; Triumph Rudge, Rover, Singer, Bradbury, Humber, etc., 6 complete.—C.M.D. (below).

SINGLE Cylinders under 71 mm., 45/- compl all covered by the C.M.D. guarantee.—Below.

2¾h.p. Douglas Twins Rebored, ground, fitted 24 oversize pistons, 75/- complete; other tw Rex, J.A.P., and Indian, 75/- to 98/-, complete; livery 3 days.—C.M.D. Engineering Co., Leamingto [4

WELDING.—Broken flanges, aluminium crank ca cracked water jackets, valve seatings, wel and machined complete; scored bores filled in ground to existing pistons.—Below.

CYLINDERS Reground, new pistons fitted compl in cast iron or aluminium.—West London Weld Co., Essex Place, Chiswick. 'Phone: Chiswick 536 [0

SEND Your Engine to me for a thorough overh Compression restored; piston slots re-turned; rings and gudgeon pins fitted and rebushed throu out, singles 40/-, twins 60/-.—Below.

TRIUMPHS, Enfields, and Douglas a special Repairs to frames, new tubes, etc., at mode charges.—Terry, 16, Grove Parade, East Finchley, 'Phone: Finchley 2261. [8

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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Cycle Car Prices.

RECENT reductions in the prices of certain well-known cycle cars—both of the four and three-wheeled varieties—have rendered such vehicles in direct price competition with the highest priced sidecar outfits. It has always been said that the motor cyclist prefers to be at the top of one class rather than at the bottom of another; but in the cases we have in mind, the vehicles are of a quality and specification that preclude the manufacturer of the *de luxe* sidecar from sheltering himself behind the enthusiasm of the sidecar owner.

It was the realisation that such a condition of affairs was not far distant that led *The Motor Cycle* to advocate the inclusion of light three and four-wheeled vehicles, whether sidecar or cycle car, in A.C.U. competitions. That policy, as is generally known, was adopted, and this year's trials, commencing with the Spring Trial on April 27th, will see economical motoring vehicles competing together on level terms.

We do not infer that the position of the average sidecar is assailed, but three and four-wheeled runabouts must score to a certain extent over sidecars of the same price, and having the same general specification and equipment. As to whether this will eventually bring about a reduction in price of the *de luxe* sidecars or the introduction of runabouts to take their place is a moot point. At the present time manufacturing conditions and the stocks held by the majority of firms make both price reductions and new ventures very difficult, and it must also be remembered that many present-day prices are not based on actual costs. Even before the war with stabilised costs of materials, all attempts to produce efficient runabouts at prices near to those of the best sidecars ended in financial loss. At the present time, however, the fully equipped sidecar has been so developed that its cost has gone up in greater proportion, while the runabout proposition has been simplified from a manufacturing standpoint.

An Anomalous Position.

WHEN the new taxation regulations came into force motor cyclists consoled themselves with the thought that, at any rate, the vexed question as to what is or is not a "car" within the meaning of the law was finally decided. That this is not so will be seen on reference to the recently issued "Orders," of which a brief review is given on page 376.

Evidently the Ministry of Transport decided that the weight of 8 cwt. should provide the marking line between motor cycles and three-wheelers as such and cars, but under the existing Motor Car Act of 1903, the three-wheeled machines (presumably including sidecar outfits) over 3 cwt. must be registered as cars, must carry car size number plates, and must have the rear number plate illuminated. Was ever so Gilbertian a situation conceived, wherein a machine licensed as a motor cycle under one set of laws should be infringing another set?

Surely our legislators, in conference with representatives of the motor cycle trade and public, can arrive at a decision to amend the obsolete Act, and agree that all machines taxed as motor cycles, *i.e.*, under 8 cwt., shall be uniformly registered, numbered, and lighted.

The Call of the Road.

BY the time these lines are printed competitors in the many Easter events will be busy adding final touches to their mounts. Hundreds of other motor cyclists will be on the point of starting for their holiday jaunts, either on new machines or on faithful friends revived for the occasion. A touch of sunshine and a hint of spring in the air will be sufficient to produce even the army of hardy old crocks the activities of which are generally curtailed in winter time. May we add our best wishes for fine weather and good roads, and may these blessings particularly attend "long-distance" competitors?

An Index to the advertisements in this issue will be found on page Supplement liv.

OCCASIONAL COMMENTS

BY "IXION"

Back to Belts.

AS I am riding a belt-driver, and am temporarily divorced from all my cans of patent grease remover, the inside of both my hands is now coloured that rich, subfusc slatey-black colour which only belt users know How it brought back ancient days! The 'bus, like the prophet's axe, was borrowed. When the belt mistook its pulley for a ball bearing on a steep hill in the rain, I was quite ignorant what tools I had aboard. Joy! There *was* a belt punch! Then came the old thrill of removing a rusty $\frac{3}{16}$in. nut with an 8in. King Dick, slightly gapey at the jaws. Next the hard slogging of driving the belt drill through canvas tougher than steel tape, and seeing that the hole kept central, since the punches (as of yore) didn't fit. Presently the handle came adrift from the drill—handles always do, light riveting being the popular method of attachment. History once more repeated itself, and the drill was coaxed home with gas pliers. Then the belt was slowly sawn through with an ancient knife, blunted by much decarbonisation of tobacco pipes. Finally the new hole in the belt had to be sought with a microscope, as the compressible rubber had expanded and refilled it. At last, with the aid of two large stones, the fastener bolt is painfully beaten through the hole, not without parlous damage to its thread. A fresh struggle between the 8in. wrench and the $\frac{3}{16}$in. nut—and "Ixion" takes the road again, filthy, blasphemous, but withal, inwardly rejoicing.

And Presently.

YOU cannot all follow the mechanics of the sequel, but a fellow-feeling makes you wondrous kind with the general layout of the incident. A 2½ h.p. engine, steep hills, and a sidecar soon stretched the above mentioned belt another inch or so. I then recalled that the inventor of the patent gear fitted to this particular 'bus had told me I need not bother to cut the belt when it stretched. It was only necessary to unscrew the lock nut outside the pulley, and rotate a sleeve, when, hey presto! the belt would take itself up *ad lib.* (*Ad lib.* = 3in. in this case, to be precise.) Let it be premised that I had completely forgotten his instructions, that I had no book of the words, no notion of how the entrails of the gadget were constructed, and that Jupiter Pluvius was trying to dump rain at the rate of 2in. per hour. Blessing my memory, I unscrewed the lock nut—I was *sure* that was the first step. As the nut came off, I enjoyed a brief fleeting glimpse of the tip of a threaded spindle, which was in the act of retreating into the cavernous bowels of the patent pulley. "Aghast" is, I think, the correct term for my expression at this appalling *contretemps*. Unless I could persuade this spindle to reappear from inside the pulley, I must wait for a cart. On the other hand, if I dared greatly and dismantled the pulley further, should I ever get it together again? I tried to coax the spindle out with a gold toothpick. Nothing doing. I put the gear up and down, took the belt off, put it on again, screwed everything in reach both ways, and, rapture! the spindle popped its tip out again for a fraction of a second. I collared it relentlessly, and as I did so, I realised that the nut had rolled off the footboard, and lay out of my reach. So if any reader was in the car that presently passed, and marvelled to see a distinguished-looking man kneeling beside a motor cycle and gripping part of it with a mute appealing expression on his face, he will now be able to explain the incident.

When I got home, I studied blue prints, and I am now complete master of the actions of that infernal spindle.

"Chuck it in the Hedge."

BY the way, my wife has just handed her weekly grocery order to a youth who calls for it every Thursday on a Douglas, and delivers it every Friday with a Ford. Straws show. These men want to-day—and the whole world will want to-morrow—a machine which can be "chucked in the hedge" during a short business call. At present we pay upwards of £100 for the nuttiest outfit we can discover at Olympia. We keep it on an altar in a temple (stand in a garage), and do poojah to it when it is too dark, or wet, or cold to ride. When the machine gets wet or dirty, we spend up to three hours polishing it, though the ride which caused the threat of permanent injury may not have exceeded ten miles, or even two miles. These devotions are necessary. First, because the machine is so vulnerable to rust; secondly, because we are bound to lose £30 in any case when we sell it, because we sell it after one season, and because we shall lose £50 if we don't take meticulous care of it. At present there are two pet machines for prolonged utility work. One is the "simple single-cylinder" of the most reliable makes; the other is the baby two-stroke of the ditto.

But can we yet say that any machine has been specifically designed for such "chuck it in the hedge" purposes?

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices 20, Tudor Street, E.C.4.

Porlock.

THE "worst hill" controversy is necessarily flavoured by the particular juryman's personal experiences on any given hill. Had I been editorially consulted, I should have plumped for a hill just outside a house where I spent many heavy years. Its surface might be worsened, and I don't suppose the grade was stiffer than 1 in 10. but what with press trial mounts and coming back to my neglected personal 'buses after some journalistic stunt, that hill has taken years off my life. Still, reviewing the various votes, I think I have most sympathy with the men who chose Porlock. I used to live near it, and it still remains my master when it pleases, as it will remain the potential conquerer of any other rider on earth. On a dry day it is the pottiest of climbs for any machine with a low gear. On a wet day it can be the chanciest imaginable climb for a super-expert. No spectator will ever forget the last occasion on which a Six Day travelled that way. Porlock was at its porlockiest—ankle deep in rich, ruddy porridge. We all laughed ourselves into such a state of physical exhaustion that we became powerless to push our dearest pals. The cream of the spectacle was provided by one or two Scotts—machines with ample power and a pluperfect steering. They commenced by ambling up the centre of the road in a beeline, casting surprised, amused, and pitying glances at the machines of lesser design which littered the roadside in every attitude of ridicule and despair. Suddenly the front wheel of the leading Scott ran off the hard stuff, and since no 'bus can steer with a front wheel which for all practical purposes has ceased to exist, the rider waltzed gracefully up a 1 in 2 bank at the edge of the road, and fell back on himself. The following Scott immediately got the wind up; and "wind up" on Porlock in bad weather spells doom. I fancy that over 200 machines essayed the climb during those twenty-four hours; and I am not sure that I dare call any of the few saddled ascents which were made absolutely "clean."

Portable Hand Cleansers.

MY recent comment on this topic has brought letters which show that readers are interested. My one criticism of the product sold as "303" was that it is put up in collapsible tubes. Its makers say they have tried tins, canisters, and boxes, and that a tube is the only feasible outcome. This may be true of "303," which is of a porridgey consistency. But there are cleansers of a more liquid character, which, to my thinking, would meet the case if sold in unsquashable containers. As one who in his time has sat upon a tube of rubber solution when clad in tennis flannels, I hold strong prejudices on the point. A Salop rider recommends a "waterless" cleanser sold in cake form, packed in strong tins, and made by the Boston Blacking Co. He complains that few garages stock it. Most of the other suggestions to hand are vitiated by the fact that water is needed. But I should rather like to hear more of a commodity known as "soap leaves," suitable for carrying in a pocket book.



On the Galibier, in the French Alps. The scenery recompenses one for the trouble of reaching this fine touring ground. (See page 354.)

An 8,600 ft. Climb



Near the foot of the Galibier Pass, south side, looking down the Guisane Valley towards Briancon.

Crossing the Galibier, the Highest Pass in the French Alps, on two Pre-war Machines.

GREAT was our curiosity when my friend and I set out from London last summer with the intention of climbing the biggest hill in France—second only to the Austrian "Stelvio," the highest pass in Europe.

First, however, a word as to the machines. My friend's mount was a 1913 3½ h.p. Lea-Francis, well seasoned in Cumberland, with 15,000 miles to its credit; my own, an old single-geared Matchless, with a 6 h.p. J.A.P. engine, which I had overhauled, adding one or two special "fakes." I knew it to be good for any main road hill in England on a 3½ to 1 gear, and—what was more important—to be docile to a degree, enabling it to be "paddled off."

We crossed to Dieppe and made for Orleans. Coming from a northern port, the great "route nationale" stretches itself across the country and is an invitation to speed. We will pass rapidly over this part of our journey—as our machines in fact did—and will not attempt to describe the charms of our route through Gien, Autun, Mâcon, and Cremieux to Grenoble.

Shortly before reaching this town—at the gateway of the Alps—we had our first view of the snow-capped mountains. We both thought that they did not seem so impressive as our imagination had led us to expect: this is no doubt due to the clearness of the atmosphere and the difficulty of judging distances.



The "Table d'Orientation" on the summit of the Galibier.

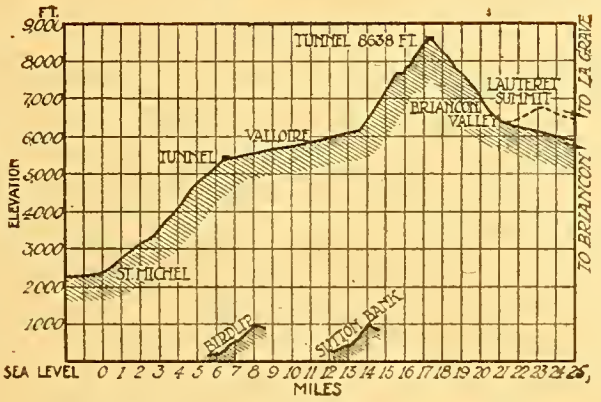
At Grenoble we had an opportunity of examining the motor cycles which were taking part in the Alpine Six Days Trial. Several English machines had been entered, and the Triumph, Scott, and A.B.C. machines looked in good fettle.

We bumped out of Grenoble over a very bad road *en route* to the Col du Lauteret. This pass leads to the Briançon Valley and to the Col de Mt. Genèvre,

An 8,600ft. Climb.—

which is one of the great passes leading to Italy, and is thought to be that which Hannibal used when he first crossed the Alps to march on Rome. It is the chief pass in the Southern Alps, the neighbouring pass to the north being the Col du Mt. Cenis.

The Col du Galibier, which we were to explore, lies wholly in France and joins the Lauteret-Mt. Genèvre route with the Mt. Cenis route.



The contours of the Galibier and well-known English hills compared.

From 600ft. to 6,000ft.

Grenoble lies at an elevation of 689ft., and the summit of the Lauteret, at 6,740ft., is fifty-three miles distant. Remembering this, and looking also at the contours of the Galibier and our own famous hills (here reproduced), the reader will be able to form some idea of the nature of the country.

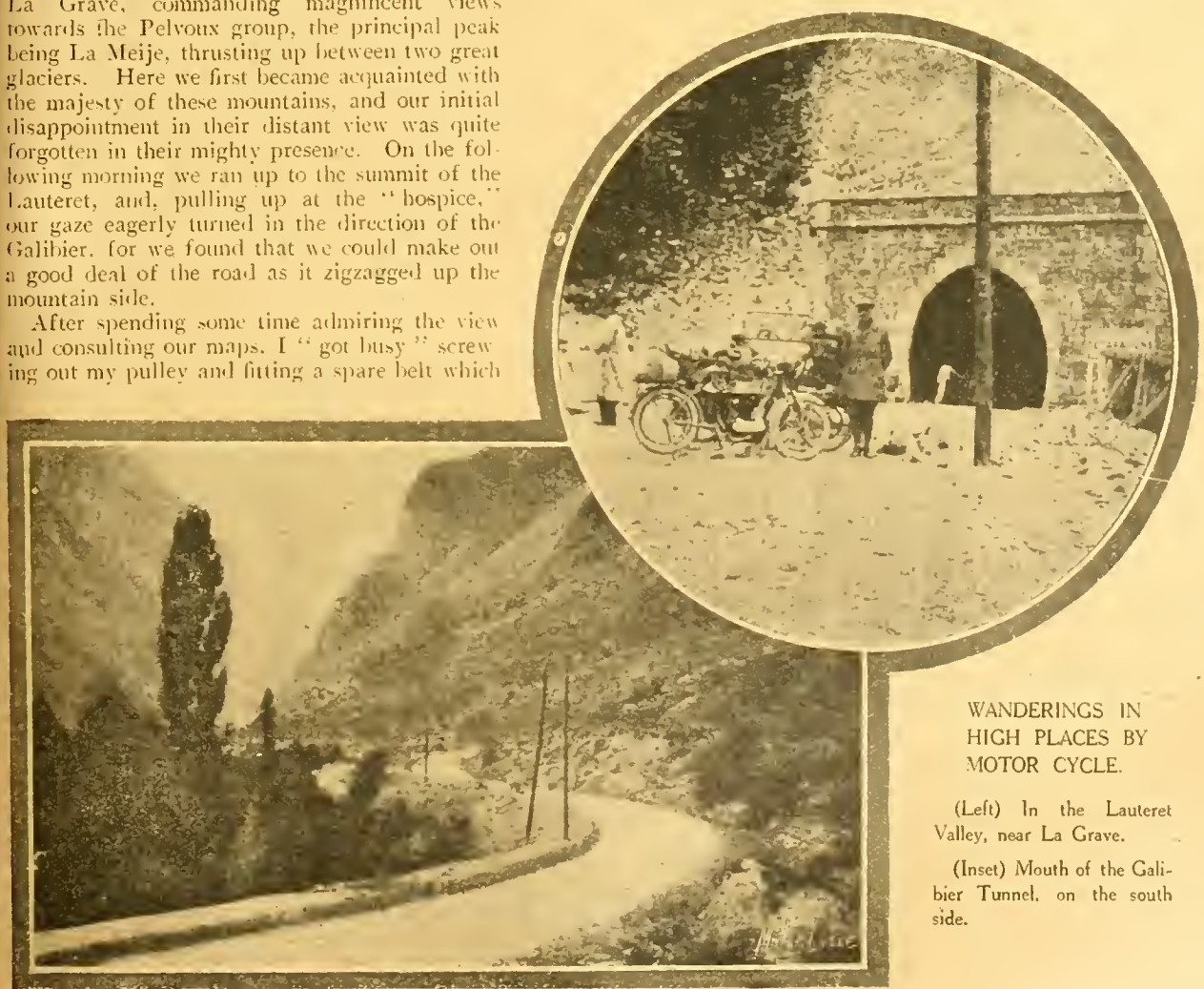
We stayed a night at a charming little place named La Grave, commanding magnificent views towards the Pelvoux group, the principal peak being La Meije, thrusting up between two great glaciers. Here we first became acquainted with the majesty of these mountains, and our initial disappointment in their distant view was quite forgotten in their mighty presence. On the following morning we ran up to the summit of the Lauteret, and, pulling up at the "hospice," our gaze eagerly turned in the direction of the Galibier, for we found that we could make out a good deal of the road as it zigzagged up the mountain side.

After spending some time admiring the view and consulting our maps, I "got busy" screwing out my pulley and fitting a spare belt which lowered the gear to $5\frac{1}{4}$ to 1. This was the first occasion I had done so since leaving Dieppe, and my machine, with its gear at $3\frac{3}{4}$ to 1, had never been in difficulties—surely a testimony to the magnificent grading of these mountain roads.

1 in 8 for Four Miles.

The turning on to the Galibier is about two kilometres below the summit of the Lauteret and at an elevation of 6,260ft.: the Galibier summit is 8,638ft., so that we were faced with a rise of 2,378ft. in a distance of just under four miles, the average gradient being 1 in $8\frac{1}{4}$.

It is a zigzag ascent, including sixteen hairpin turns, many of them being extremely acute. I am, however, recounting what I learnt in that climb; for, knowing none of these things and full of confidence in my



WANDERINGS IN HIGH PLACES BY MOTOR CYCLE.

(Left) In the Lauteret Valley, near La Grave.

(Inset) Mouth of the Galibier Tunnel, on the south side.



A fast piece of road in the Loire Valley. Although it is a national route the surface is partially grass grown.

machine, I swung off the main road and began the climb. I failed to round the first hairpin! My friend on his little two-speeder was soon alongside, and his first remark was, "You'll never do it." I certainly wished my baggage weighed ten and not forty pounds, and that my engine was "clean" instead of carbonised by 1,000 miles of touring, but I knew that I had still some cards to play, so down I went again on to the main road and lowered my gear a shade more: out came the old oil and in went four fresh charges. A fair run was taken at the gradient this time, and I felt that my engine "had the situation in hand." We went nicely round the first corner, a steady pull to the second, round again, the same at the third, but with a strong feeling that there was not much margin!



The Galibier Pass, looking into the Guisane Valley. Observe the sinuous nature of the climb

Conquest!

At the fourth bend I think we were just about on the "limit," but the fifth was easy. Then came several very acute corners in rapid succession, and each one I thought would be the last as the road was narrow and loose and the unguarded edge to a sheer drop took the ginger out of my driving: but we scrambled round, and it was a joy to feel the engine plugging away at about 800 r.p.m. without another sign of faltering.

Higher up was a considerable straight stretch, the spark was forced forward, the air opened up, and away we went—but straight for that precipice again, and, at an acute hairpin, getting into some loose metal, I soon found myself in difficulties and the engine unable to pick up.

The cheery buzzing of the Lea-Francis away below was good to hear, and presently my friend hove in sight. Looking up, we could see the shelter at the summit. After a few minutes' rest, spent in admiring our surroundings, my friend gave me a helping push off. The engine responded at once, the remaining half-dozen hairpins were taken quite comfortably, and we found ourselves on the little plateau in front of the tunnel which carries the road over the pass.

Summer Snow.

Patches of snow lay around us even at this season (end of July). A magnificent view down the Guisane Valley to the south-east and towards the Pelvoux group to the south kept us gazing in admiration for some time before we turned our attention to the passage of the tunnel. This was under repair and a narrow gauge railway track for carrying the material was in use. The far end of the tunnel was boarded up, making the interior very dark, so that we were obliged to push our

An 8,600ft. Climb.—

machines through. The workmen had departed for the mid-day meal, and we had to unfasten the doors at the far end, being greeted on doing so by a Frenchman on a big Renault, who was waiting to enter in the opposite direction. He showed us his maps (French army ones), and he pointed out the principal heights on the chain to the east, on the Italian frontier.

Leaving our machines, we climbed on foot to the saddle above the tunnel. Here a magnificent view in every direction was obtained, and a *table d'orientation* enabled the various mountains to be picked out. We could see Mont Blanc fifty-five miles away to the north and the Cottian Alps thirty-five miles to the south. Below us lay the Valloire Valley, and we could trace our road, as it zigzagged down, until it disappeared around a rocky promontory. It was now past mid-day, and hunger at last drove us to descend to our machines and make tracks for civilisation once more.

Down Again!

The descent to Valloire begins over a wilder piece of country than that on the southern face of the pass. The road winds down with great masses of rock and shale on either hand. Several mountain streams are crossed by wooden bridges which are smashed to pieces each year by the raging torrents which follow the melting of the snows. After passing eight hairpins, the first cottages are met about two miles from the summit; they are little more than huts with low overhanging roofs. Some little boys greeted us with edelweiss, which we accepted as a *porte-bonheur*.

There is a short piece of level ground here, and then a descent of about two miles with seven more hairpin corners carries one down alongside the bed of the river Valloire. Here we saw some snow bridges spanning the torrent. They did not look as if they would carry the weight of a man, and we did not venture ourselves on them.

Little mountain trees now began to appear on either side of our route, and the lower slopes of the hills were again clothed in fir trees, when, after a charming run of seven miles, we entered the village. Seeking bread and cheese, we found a large lunch of soup, meat, and fruit, to which we did justice.

Through the Tunnel.

The road crosses here to the right bank of the stream, and is carried along the hillside at a considerable height above the valley, which becomes narrower where the river plunges into a gorge guarded by a fort. At this point there is a sudden turn in the road and a second tunnel is entered. We had come down from the bare rocky heights into this valley, and were under the impression that the larger part of the descent was already behind us. The view, however, from the further side of the tunnel very soon swept away any such ideas, for, to our amazement, we found ourselves upon a high saddle with steep hillsides covered in trees going down into the valley below, much larger than the one we had left.

Our maps soon enlightened us. We were above the main valley of the Arc, which carries the great main road over the Col Mont Cenis and the railway to the Mont Cenis Tunnel. Our road plunged into the forest and did not emerge until the main valley was reached at St. Michel. The windings of this descent surpassed anything we have previously experienced; turns and hairpin corners followed one another in bewildering succession, until one lost all sense of direction and became intent only on following the windings of the route. The road is narrow and the surface in many places indifferent: there had evidently been "wash-outs" following the melting of the snows, for at one point there was a newly made embankment carrying the road over a now almost dried up torrent bed.

This portion of the descent measures 6½ miles, and there is scarcely a hundred yards stretch of straight road.

Having completed the descent, we were under the impression that it was worse than the southern side, which we had ascended. It seems, however, from a consideration of the gradients, that they are no more severe. I have gone over these very carefully with a map measurer on a large scale ordnance map, and the ascent of the Galibier from the north, although longer than from the south, is probably not much more difficult.

Starting at St. Michel at an elevation of 2,310ft., there is a rise of 3,083ft., extending over 6½ miles, with an average gradient of 1 in 11. The final ascent from the Valloire Valley to the summit, at an elevation of 8,638ft., has an average gradient of almost exactly 1 in 8. It will be seen that the total rise is 6,328ft., a direct lift of more than a mile.

Two Passes.

The Col du Galibier route is not usually opened until the end of June, and each year an immense amount of work is involved, for the road for a great part of its course is cut in very steep hillsides, and the melting of the snows brings down great masses of rock, which, in some places, sweep the road away, and, in others, block it.

Such a pass as this is a very different thing from a great main pass such as the Col de Lauteret, which follows a valley up to its head and so comes naturally and easily to a depression in the watershed. The one follows the line of least resistance—the nature of the country assisting the building of the road—but here, on this pass, the road forces its way across the main direction of the valleys.

The crossing of this pass is an experience which both of us look forward to repeating, and which we can heartily recommend to every reader of *The Motor Cycle* who is fortunate enough to have the opportunity of visiting the Alps. W.A.D.

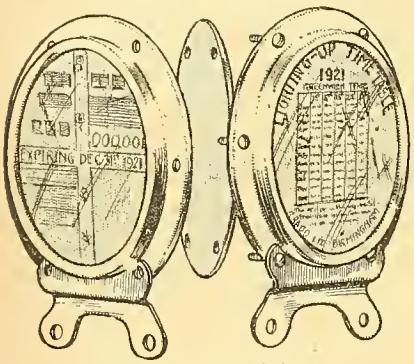


A PROMISING DESIGN OF TWENTY YEARS AGO.
The French lightweight Viratelle which had combined engine and gear unit and chain drive in 1902.



Double-sided Licence Holder.

MOTOR cyclists have now become accustomed to the display of licences in holders of various types, and a little thing which is very noticeable with holders fitted on the front number plate is the blank side presented when viewed from the off side of the machine.

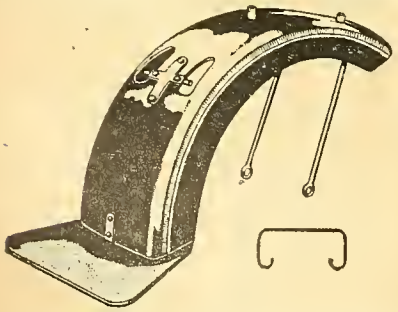


The Grado licence holder.

Messrs. Grado, Ltd., Pershore Street, Birmingham, are offering a holder which is intended to accommodate the licence card on one side and a lighting up time table on the other. The article is quite well made, and sells at 7s. 6d.

A Special Front Guard.

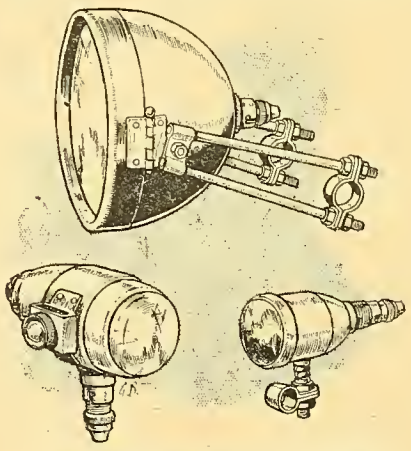
IT is a sign of popularity of a particular machine when firms other than its makers introduce specialities for it. The number of gadgets on the market for the Ford car is an excellent example of this, while in the motor cycle field the fitments now made for Triumph motor cycles are increasing every week. The latest is the special front mudguard introduced by the Bayley Motor Accessories Co., Ltd., Hooper Street, Birmingham, which concern is offering the guard illustrated, complete with all fittings, for 35s. As will be seen, it has water channels, flap, and side valances, in addition to being exceptionally wide.



The Bayley front guard for Triumph motor cycles. Inset shows the channelled section of the guard.

New Electric Lamps.

ELECTRIC lighting for motor cycles is becoming more popular every day, and it is not surprising therefore to find that accessory manufacturers are keeping pace with the times. The lamps illustrated are three of a range of new designs recently introduced by Westwood Rim and Patents Ltd., Lawden Road Foundry, Bordesley, Birmingham. The head lamp, known as the Daybeam, is of 5in. diameter, finished in ebony black, with plated fittings, and is sold for 40s. The sidecar lamp has a 1¾in. convex lens, and sells at 15s., while the tail light is priced at 12s. 6d.

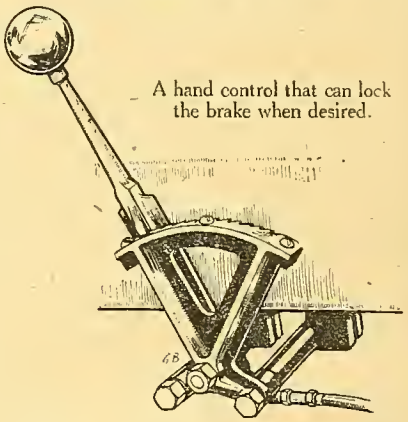


A neat electric lamp set—the "Daybeam."

A Ratchet Brake for Motor Cycles.

VERY few firms have realised that a ratchet control for one of the brakes is just as necessary on a sidecar outfit as on a car. Several times have we been placed in an awkward position through the lack of such a fitment. Almost every motor cyclist at some time or another has had a chain or belt break while ascending a steep hill, or has brought his engine to a standstill and had to restart. On the average machine the rider finds that he dare not leave the saddle until he has backed the machine into a convenient bank, for the reason that it has not been safe to take the foot off the brake pedal.

Now the Engineering Service Co., of Union Street, Ryde, has introduced a ratchet brake which may be fitted to any

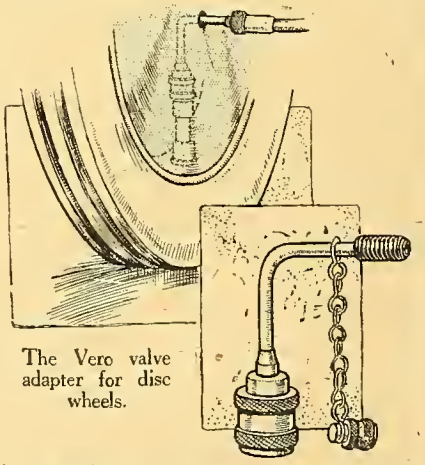


A hand control that can lock the brake when desired.

machine, and, of substantial construction, is made to clip on to the tank tube. The price, with 2ft. 6in. of Bowden cable, is 50s.

A Valve Adapter for Disc Wheels.

UNDER the present circumstances it is not an easy matter to inflate the tyre on a wheel fitted with discs, as the pump connection is difficult to screw into position. The adapter illustrated overcomes this difficulty and, having a swivel end, when once screwed on to the valve it can be retained as a permanent fixture, and only a very small hole will be required in the disc. It is made by Arthur R. Price, Ltd., Park Lane, Aston, Birmingham.



The Vero valve adapter for disc wheels.



A Brief Review of the Classic Easter Trial. Timed Section over the Worst Hills of Somerset and Devon—a Searching Test for Low-powered Machines.

AMONG the many Easter events organised by the clubs all over the country, probably the M.C.C. run from London to Land's End is the most important, for the Motor Cycling Club is a national, rather than a local, institution, and its members are scattered all over the country. In such trials as the London-Land's End—and similar events organised by this old club—its members fill up with petrol and turn the three wheel for London, where, at Cranford Bridge, to-morrow evening, the cream of the motor cycle world will congregate to start or to see the start of the long trip to Land's End.

This year no fewer than 216 members will vie with one another for the honour of winning the Jarrott Cup.

An Historic Event.

First held in 1908, the competition has been run annually except for those unfortunate blank years when more serious matters demanded the attention of the nation. As the years passed by, the conditions have been stiffened in order to keep pace with the extraordinary progress made in the power, reliability, and general efficiency of motor cycles, and this year the course has been stiffened by the inclusion of a time limit on the dreaded Porlock Hill, which must be climbed at an average speed of 18 m.p.h. Further, after this three miles timed section, the competitors are required to average 20 m.p.h. until Lynton Hill has been scaled, which means that over the twelve miles taking in Porlock, moorland roads, the descent of Countisbury, and the ascent of Lynton, an average speed of 19.4 m.p.h. has to be maintained. A difficult task, truly, and one which we have criticised on the grounds of safety, and for the reason that it favours the high-powered machines in the competition almost to the exclusion of those with smaller engines.

LONDON-LAND'S END TIME TABLE.

First C'tors Time.	Place.	Inter. Distance	Total Distance.
10.0	Cranford Bridge	—	—
10.10	Maidenhead	13½	13½
11.19	Reading	13	26½
12.10	Newbury	17	43½
12.35	Hungerford	8½	52
1.5	Marlborough	10	62
1.18	Devizes	14½	76½
2.18	Trowbridge	10	86½
2.45	Frome	9	95½
3.19	Shepton Mallet	11½	106½
3.16	Gladstonbury	9	115½
4.30	Bridgwater	14½	130½
6.23	Williton	17½	148
7.5	Porlock	14	162
7.10	Lynmouth	11½	173½
7.42	Lynton Hill Top	½	174
8.33	Barnstaple	17	191
9.1	Bideford	9½	200½
9.56	Holsworthy	18½	218½
10.38	Launceston	14	232½
1.5	Bodmin	21½	254½
2.19	Truro	24½	278½
3.35	Penzance	25½	304
4.5	Land's End	10	314

The following is a list of the previous winners of the coveted trophy:

1908.—F. G. Smith (3½ Triumph).
1910.—The late Admiral Sir R. K. Arbuthnot, Bart., R.N. (3½ Triumph).
1911.—A. J. Moorhouse (7 Indian).
1912.—H. Karslake (3½ Rover).
1913.—P. W. Moffatt (2¾ Douglas).
1919.—E. A. Colliver (7-9 Indian).
1919.—W. H. Elce (10 Morgan).
1920.—T. S. Sharratt (4 Triumph).

Awards to be Gained.

In addition to the premier award, the prizes include the Captain's Cup for the best performance by a sidecar, Elce Cup for three-wheeled cycle cars, Lester Cup for light cars, and gold medals for all who are

1. Not more than 16 mins. early at any point;
2. Not more than 5 mins. late at the bottom of Porlock;
3. Not slower than 18 m.p.h. for the three miles commencing at the Ship Inn at Porlock;
4. Not more than 5 mins. late at the top of Lynton Hill;
5. Not more than 15 mins. late at any other part of the journey.

Silver medals will also be awarded to competitors who are not more than fifteen minutes early or thirty minutes late at any point of the journey.

Below we give a list of the motor cycle and cycle car competitors, who will start at minute intervals. In addition there are sixty-three cars, a list of which is given in to-morrow's *Autocar*.

A Complete List of Solo, Sidecar, and Three-wheeler Entrants.

SOLO MACHINES.

1. T. S. Sharratt (4 Indian Scout).
2. F. A. Longman (3½ Ariel).
3. P. W. Moffat (3½ Douglas).
4. E. A. Wright (2¾ Diamond).
5. H. Karslake (8 Brough Sup.).
6. H. J. Scale (4 Scale).
7. V. Olsson (3½ Sunbeam).
8. H. F. Edwards (2¾ Coulson-B.).
9. R. B. Clark (2¾ Coulson-B.).
10. G. E. Stacey (2¾ Verus).
11. S. Dunford (2¾ Verus).
12. C. A. McKeand (4 H.-Davidson).
13. H. R. Milling (8 Zenith).
14. R. M. Knowles (3½ Norton).
15. J. G. Goodenough (3½ Norton).
16. E. Pond (4 Triumph).
17. N. S. Brooker (3½ Sunbeam).
18. S. J. Marks (4 Triumph).
19. C. Wilson (4½ Quadrant).
20. P. Street (3½ Sunbeam).
22. C. F. Plowman (4 Triumph).
23. P. Notari (4 Triumph).
24. E. J. Anderson (3¾ Scott).
25. E. Atkins (3½ Ariel).
26. J. A. Hoult (3¾ Scott).
27. B. J. Sims (4 Trimph).
28. J. Harrison (2¾ Connaught).
29. S. T. Ashby (2¾ Connaught).
30. S. G. Wooldridge (4 Omega).
31. R. T. Leather (3½ N.U.T.).
32. J. Wallis (8 Reading Standard).
33. A. C. Rhodes (3½ N.U.T.).
34. H. K. Knight (3½ Norton).
35. A. S. Guthrie (2¾ Dalton).
36. J. S. Benoett (2½ Metro-Tyler).
37. G. F. Ammon (2½ Metro-Tyler).
38. G. E. Cuffe (2½ Metro-Tyler).
39. C. C. Labin (4 Indian Scout).
40. H. V. Bateman (2¾ Diamond).
21. A. Ellison (6 Zenith).
41. F. G. Price (2¾ Diamond).
42. C. F. Alcock (2¾ Coulson-B.).
43. A. A. Prestwich (2¾ New Imperial).
44. T. A. Slann (4 Triumph).
45. F. W. Applebee (2¾ Levis).
46. T. Morgan (4 Triumph).
47. T. Francis (4 Triumph).
48. A. H. S. Love (2¾ Douglas).
49. C. Bourlet (3½ Ariel).
50. G. W. Shepherd (2¾ Baumoel).
51. A. G. Wall (2¾ Cedos).
52. A. G. Battley (4 Triumph).
53. E. Kickham (3½ Douglas).
54. G. H. Morgan (4 H.-Davidson).
55. R. G. Spikins (7 H.-Davidson).
56. W. Bray (3½ N.U.T.).
57. A. M. Knill (4 Indian Scout).
58. L. Keevil (3½ Sunbeam).
59. H. F. Fellowes (4 Coulson-B.).
60. P. Cunningham (3½ P. and M.).
61. J. R. H. Knight (3½ Brough).
62. B. G. Bays (2¾ Levis).
63. W. G. Churchill (2¾ Verus).
64. A. W. Graham-Martin (3½ Alecto).
65. H. Reyre (6 James).
66. J. A. O'Sullivan (4 H.-Davidson).
67. R. B. Roberts (4 Triumph).
68. H. S. Eaton (3½ N.U.T.).
69. S. W. Ratcliffe (8 Brough Sup.).
70. D. J. Stone (2½ Olympic).
71. D. Crawford (5 Zenith).
72. J. Richardson (3½ Lea-Francis).
73. S. Warne (2¼ M.B.).
74. H. R. Harveyson (4 Indian Scout).
75.
76. J. A. Watson-Bourne (4 Rex).
77. Eli Clark, Jun. (2¾ Douglas).
78. B. H. Brayne (——).
79. W. G. Sykes (7 H.-Davidson).

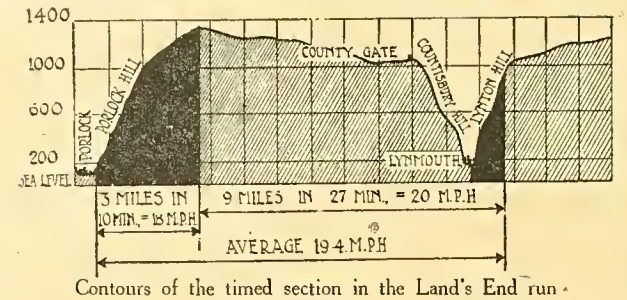
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SIDECAR MACHINES.

80. W. A. Fell-Smith (8 Rex).
81. H. W. Glendinning (8 Rex).
82. H. Le Vack (7 Indian).
83. W. J. Simpson (7 Indian).
84. Eli Clark (4 Douglas).
85. J. C. Sandford (6 Rover).
86. R. Rayner (6 A.J.S.).
87. W. P. Brandon (4 Triumph).
88. R. A. Lucking (8 New Imperial).
89. P. W. White (8 Sunbeam).
90. F. Begley (4 Dalton).
91. C. D. Michaelis (7 H.-Davidson).
92. J. D. Marvin (8 Rex).
93. C. F. Edwards (4 Triumph).
94. W. E. Brough, Sen. (5 Brough).
95. T. J. Ross (7 Matchless).
96. E. J. Ellis (7 Matchless).
97. G. D. Hardee (7 Matchless).
98. G. Nott (7 Matchless).
99. D. S. Parsons (7 Matchless).
100. G. Packman (8 Matchless).
101. Hugh Gibson (8 Royal Ruby).
102. H. Dale (8 Royal Ruby).
103. L. A. Apsey (8 Royal Ruby).
104. F. J. Watson (6 Ariel).
105. J. T. Bashall (6 Martinsyde).
106. W. H. Bashall (6 Martinsyde).
107. S. T. Tessier (8 Bat sc.).
108. E. C. Lunniss (8 Sunbeam).
109. S. Julian (4½ Humber).
110. W. Julian (7 H.-Davidson).
111. J. Caslake (7 H.-Davidson).
112. A. P. H. Pehrson (4½ Dunelt).
113. E. Hillary (4 Triumph).
114. G. Brough (8 Brough Superior).
115. J. S. Morgan (7 H.-Davidson).
116. J. A. Masters (7 H.-Davidson).
117. R. J. Andrews (4¼ B.S.A.).
118. A. G. Gripper (7 Indian).
119. R. Charlesworth (8 Zenith).
120. K. Don (6 Zenith).
121. J. L. R. Jensen (7 H.-Davidson).
122. J. C. Watson (7 H.-Davidson).
123. M. A. Newnham (4¼ B.S.A.).
124. R. H. Attwood (4 Norton).
125. W. F. Guiver (8 Matchless).
126. E. J. L. Strong (7 H.-Davidson).
127. G. B. Bettridge (4 Douglas).
128. J. F. Perrin (6 Zenith).
129. R. F. Overbury (8 Zenith).
130. G. R. Claridge (4 Triumph).
131. W. T. Dobbs (6 A.J.S.).
132. R. Newitt (7 H.-Davidson).
133. G. K. Gibbs (8 Reading Standard).
134. B. S. Allen (7 H.-Davidson).
135. F. W. Giles (7 A.J.S.).
136.
137. S. C. Tait (7 H.-Davidson).
138. A. P. McGowran (4 Triumph).
139. W. C. Hemy (7 A.J.S.).
140. G. E. Toombs (7 H.-Davidson).
141. V. Pentlow (4¼ B.S.A.).
142. R. Carey (8 Blackburne).
143. H. H. Saddington (6 James).

THREE-WHEELED CYCLE CARS.

144. W. H. Elce (10 Morgan).
145. A. E. Hartiall (10 Morgan).
146. F. S. Spouse (10 T.B.).
147. H. E. K. Sawtell (10 Morgan).
148. R. Croucher (7 Cov. Premier).
149. C. E. Bennett (10 Morgan).
150. W. E. Cornwall (9 Castle-Three).
151. S. A. McCarthy (10 Morgan).
152. H. W. Holmes (10 Morgan).



Contours of the timed section in the Land's End run.

EASTER WITH THE CLUBS.

A Very Full Week-end: Fixtures North, South, East, and West.

EASTER is a holiday season. Great, therefore, must be the fascination that competitive riding exercises on its devotees to attract so many hundreds of motor cyclists at this season to the most arduous branch of their sport. Granted, that even the London-Land's End Trial possesses much of a holiday nature if the weather gods be favourable; with even slightly adverse conditions the three hundred mile ride between 10 p.m. and 4 p.m. next day will little resemble a holiday as understood by the general public or the dictionary. Difficulties such as Porlock and Lynton (at 18 m.p.h.!) were obviously made to be overcome; and perhaps this is why the classic M.C.C. run has attracted its brave two hundred.

Not Counting the Spectators.

Not the two hundred only are interested in the conquest of Somerset and Devon hills. Several clubs are organising parties to witness the tit-bits of the course, notably the Bournemouth and the Public Schools M.C.C.'s, and lone riders and impromptu parties this year will wend their way westward in increasing numbers to be "in at the death."

The London-Land's End, despite the huge entry list, has not by any means drawn *all* the competition riders in the country. In the North there is another classic of a different nature, the Richmond Meet, where over thirty Northern clubs will vie for supremacy in the matter of "distances covered multiplied by percentage of paid-up members present." Very simple really; and, given reasonable weather on Good Friday, the old market place at Richmond should be overflowing with enthusiastic riders. Here, again, unattached riders should considerably swell the ranks of those interested.

Also in the North, two days later, there is an inter-club rally at Ribchester, organised by the North-Western Centre A.C.U., on similar lines to the Yorkshire affair. Many important clubs have announced their intention of supporting this meeting, and a big and enthusiastic attendance is expected.

Easter Monday will truly be a busy day, with its one almost "classic" and two open events. Again the Northern rider is lavishly catered for; Westmorland M.C.C. will hold its open hill-climb on Orton Scar (near Kendal), and the Scarborough club is once more organising a climb on Staxton Brow. The latter event is technically "closed," but old associations (this is the eighth year of the Staxton climb) should ensure a heavy entry list nevertheless. Orton Scar, on the other hand, is a genuine open event, and, knowing the excellent organisation that is likely to prevail, we predict a record attendance, and a most enjoyable day's sport with the Westmorland M.C.C. Easter Monday is also the date of the East Midland Centre A.C.U. Open Speed Trials, to be held near Bourne, Lincs. The Lincolnshire M.C.C. has charge of this event, and time and locality should combine to draw a large number of the best known Midland speed men.

Across the Border, the Scottish competition season is opened this year by an important week-end trial, to be promoted by the Glasgow Western M.C.C., March 26th to 28th. The competitors will leave Glasgow shortly after mid-day on Saturday, and journey *via* Crossford, Lanark, and Abbington to Carlisle. On Sunday they will have free access to their machines, this being rather an innovation in competition rules, and the Cumberland County M.C.C. has consented to provide guides to competitors wishing to view their locality. No doubt some of the famous Cumberland hills will be visited. On Monday the route will lie in the Lake District, and will include Kirkstone Pass.

Closed Club Events.

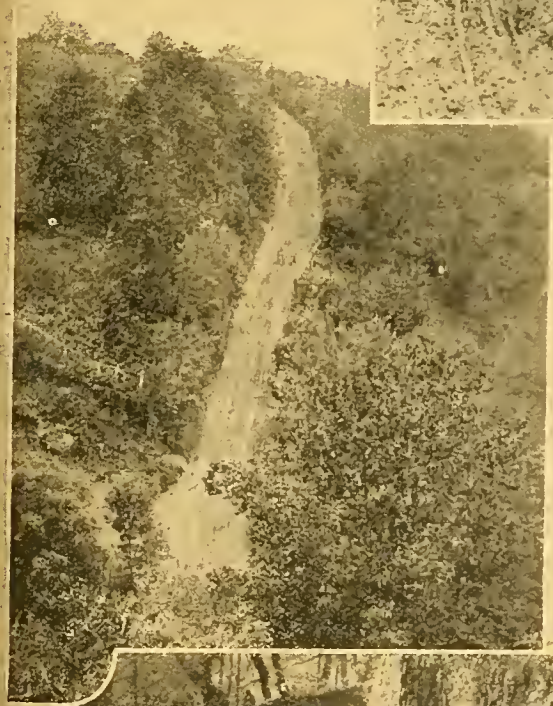
Closed club events there are, innumerable. Some are merely social runs, often with one of the big events as a destination, while others will assume more important proportions. For example, the Carmarthen M.C. and L.C.C. is holding a hill-climb on Good Friday, which is bound to appeal to other Welsh clubs and motor cyclists outside the club's own membership roll. The same thing may be said of the Neath Club's reliability trial. Amongst the other competitive club fixtures for Easter week are hill-climbs at Brighton and at Dewsbury, an acceleration test with the West Kent M.C.C., the Birmingham M.C.C.'s "closed" Sangster Cup Trial, and the North London M.C.C.'s Staley Cup Trial.

M.C.C. LONDON-LAND'S END.

Devonshire Hills that will test Competitors' Riding Ability as well as their Machines.

The upper photograph, which depicts the second bend on Porlock, conveys some idea of what competitors will have to face in the way of road surface at this awkward bend should the weather be wet.









Centre (left): This appalling-looking gradient confronts one immediately after rounding the first bend of Porlock.

Centre (right): On Countisbury. Lynton can be seen in the distance well above the sea level. Lynmouth is situated in the little cove observable in the photograph.

Bottom: Lynton, a much shorter hill than Porlock, has a very bad hairpin bend and poor surface, with a maximum gradient of 1 in 4.

ROAD TESTS of NEW MODELS



The 1¼ h.p. KENILWORTH MINIATURE.

ALMOST every sober-minded person who thinks of investing in a mechanically-propelled vehicle makes a statement to the effect that ten to fifteen miles per hour represent his maximum requirements. 20 m.p.h. appears to be a high speed to this class of possible buyer, and with knowledge of what can be done with a bicycle, he has in mind similar speeds, but without the necessity for pedalling.

No doubt there is a large available market for a machine to fulfil these requirements; the great interest displayed in the scooter, in its "newspaper" stage, proves this. *The Motor Cycle* prophesied that the scooter would die, and that from its ashes would arise the miniature motor cycle, following the scooter in general dimensions, but provided with a seat.

We tried them all—and most of them we found wanting. Two or three, however, proved quite roadworthy for the purpose for which they were designed. Unfortunately, the scooter earned for itself a bad reputation just as the early cycle cars prejudiced the public against the propositions which were worthy of consideration, and, at the present time, any motor cycle of the size of a scooter is looked upon with a certain amount of suspicion.

Knowing that this type of vehicle has a place in the world of wheels, we recently took over a Kenilworth miniature for a couple of weeks' test, and found that it had certain advantages of its own which should appeal to everyone who prefers to travel in ease on his journeys between home and office, or, in the case of a lady, to the shops or on social calls.

Changing as we did straight from an exceptionally fast single and, earlier, a big twin, we confess to a feeling that, at first, the Kenilworth seemed a toy. Its weight was lower than any motor cycle we had tried for many years. With the 18in. wheels, its seventy

SPECIFICATION.

ENGINE: 1¼ *h.p. Norman,* 55 × 60 *mm.* (142.5 *c.c.*) *four-stroke single overhead valves.*
LUBRICATION: Hand pump. *MAGNETO: Runbaken.*
CARBURETTER: Vici single lever, with pilot jet.
TRANSMISSION: Whittle belt to countershaft; ½*in. chain to rear wheel.*
BRAKES: Toe-operated rear band brake. Hand-operated stirrup on front wheel. *WHEELS:* 18 × 2*in.*
WEIGHT: 75 *lb.* *PRICE: £52 10s.*



In the case of a puncture and aversion to mending it on the road, it is possible to walk alongside the Kenilworth and allow it to propel itself

Road Tests of New Models.—

odd pounds is placed so low that we were not reminded of the days when diminutive engines were placed high in the frame. The weight is well distributed also, and the machine wheels easily. We have tried lighter scooters which could not be wheeled comfortably and which, when the engine refused to fire, had a disconcerting way of "kicking up their heels," swinging round and striking one on the calf. There is not the slightest tendency for the little Kenilworth to perform such antics: quite soberly it wheels along until, with the throttle lever about ¼in. open, one drops the exhaust lifter. Then at walking speed the miniature four-stroke engine fires, but there is no rapid acceleration as with a motor cycle. In fact, its docility permits one to walk alongside, holding one of the handle-bars and allowing the engine to propel the machine.

Remarkable Controllability.

We discovered this characteristic of the Kenilworth one morning when, half a mile from the office, the rear tyre suddenly went flat. With the flywheel just turning over we allowed it to take the machine to our destination, while we walked alongside on the pavement, guiding it by one of the bars, just as one would a pedal cycle.

As regards its speed, apparently about 15 m.p.h. can be maintained indefinitely, but the engine is capable of considerably exceeding this rate of speed—in fact, we have driven it as fast as 25 m.p.h., but our mechanical susceptibilities were reproached by the high revving engine, although, even at its highest speeds, there is even less vibration than with many larger engines. This, of course, is due to its small size, coupled with good balance and light moving parts. Of mechanical sounds there are few at ordinary speeds, and the burble of the exhaust is not unpleasant even to those unaccustomed to motor cycles.

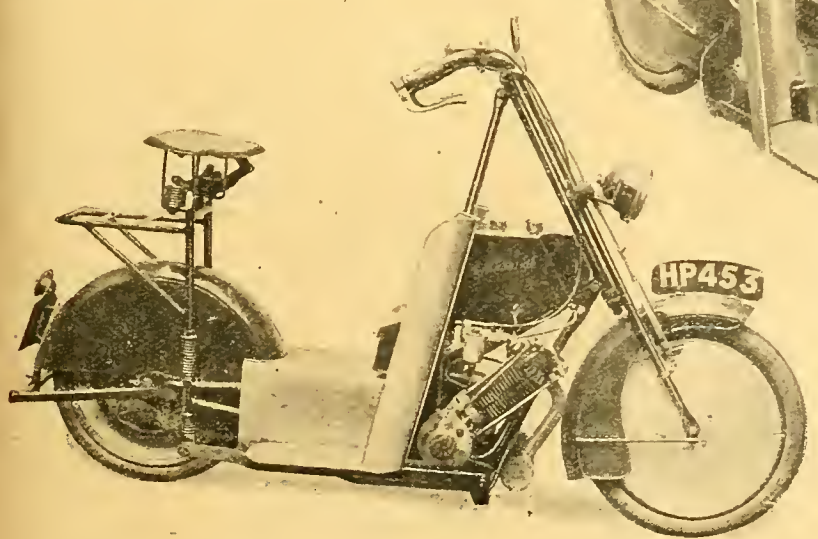
With such small wheels, the motor cyclist immediately questions its comfort on the road. Whether it is due to its short wheelbase or to its excellent springing arrangement by which the saddle pillar and footboards are made to move together, it would surprise the average rider in this respect. We frequently covered a pot-holey section which, with either solo or sidecar, compels one to "go easy," on the Kenilworth, no discomfort being experienced, for there was little tendency for the machine to bounce.

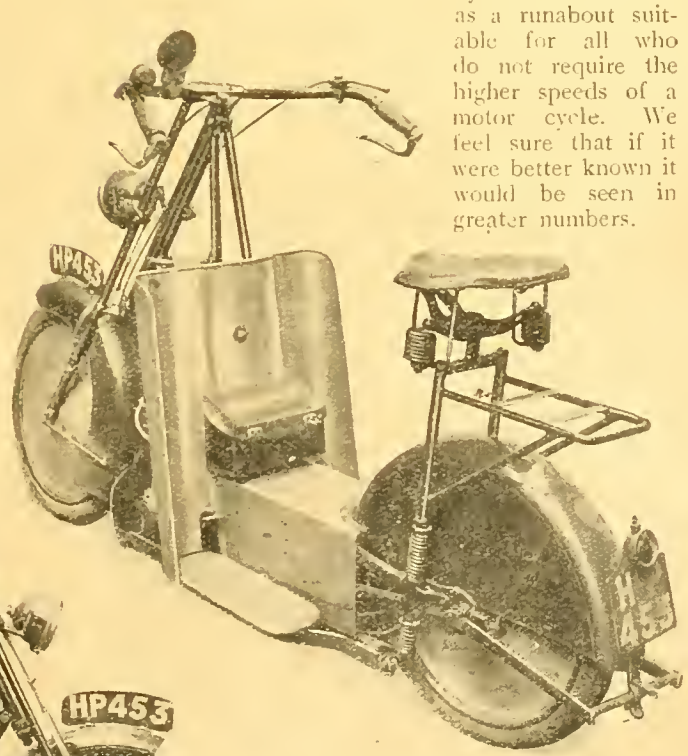
Simplicity of Control.

The simplicity of its control (exhaust lifter and single lever Vici carburetter for the engine; hand and toe operated brakes for the wheels) renders it an excellent little mount for those who hesitate on the score of complication. In this respect we have been amused by the manner in which elderly people and ladies have mounted the Kenilworth after two minutes' explanation regarding the functions of the three controls. No doubt its small size and *concealed mechanism* inspires confidence to the uninitiated.

Although single-geared its hill-climbing capabilities are quite good. Stoneleigh Hill (a short rise with a maximum gradient of 1 in 9, which the average 2¼-2½ h.p. lightweight just breasts on top gear) was climbed without assistance; naturally a 6 to 1 ratio with 18in. wheels is actually equivalent to a 9 to 1 gear on 28in. wheels.

Altogether we have been very favourably impressed by the Kenilworth as a runabout suitable for all who do not require the higher speeds of a motor cycle. We feel sure that if it were better known it would be seen in greater numbers.





SIDE AND REAR VIEWS OF THE KENILWORTH MINIATURE.

In this machine, mudguarding and concealment of the mechanical elements of the machine have been closely studied and well executed.

COMBINED LIGHTING & IGNITION

Some Experiences with the M-L Maglita Outfit on a Two-cylinder Two-stroke.



A FEW months ago a member of *The Motor Cycle* staff, who had hitherto relied upon acetylene lighting, decided that the time was ripe for the adoption of complete electrification for his machine.

The decision was arrived at largely as a result of test runs on other machines so equipped; for undoubtedly the strong point of electric lighting is the confident and slightly self-satisfied feeling which arises from the knowledge that, as the shades of evening draw in, the touch of a switch will flood the road with light, without the necessity of stopping and struggling with matches, lamp doors, water valves, and smells.

As the machine to be fitted was a Scott, which, being chiefly used with sidecar, has little reserve of power when climbing freak gradients, some fear was entertained of the absorption of b.h.p. in driving a dynamo; in consequence, the claims of the M-L Maglita outfit were considered.

The generator itself consists of an H section armature running between the poles of a pair of permanent magnets; low and high-tension windings are wound upon the upper pole shoe, and the H armature acts as the rotor of a polar inductor magneto. A winding, however, is carried by the rotor, and this generates the charging current, which is rectified through a commutator, and so passes to the battery.

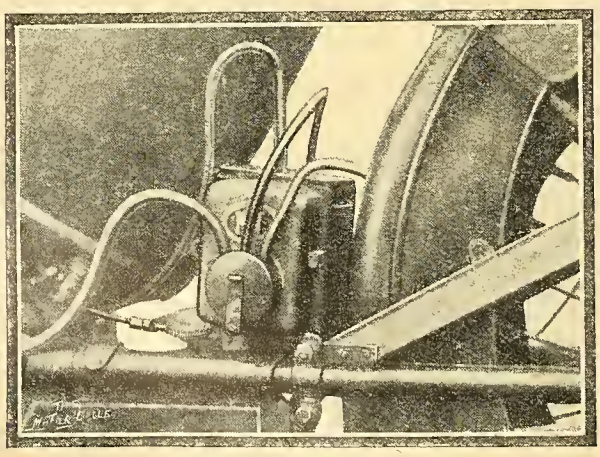
It will be seen that the one rotating armature will require no more power to drive than that absorbed by a magneto, and in consequence it made a strong appeal; moreover, to a mind not brought up on ohms and watts, it seemed less distinctly "electrical" than the average thorough-going dynamo.

No particular difficulty was found in fitting the generator to the machine, but as it was delayed until the eve of the London-Exeter run, hurried work resulted in the driving chain line being incorrect. In consequence, a thirty-mile run on Christmas Eve resulted in the chain jumping off several times, and Christmas Day was spent in a hectic refitting of the whole equipment.

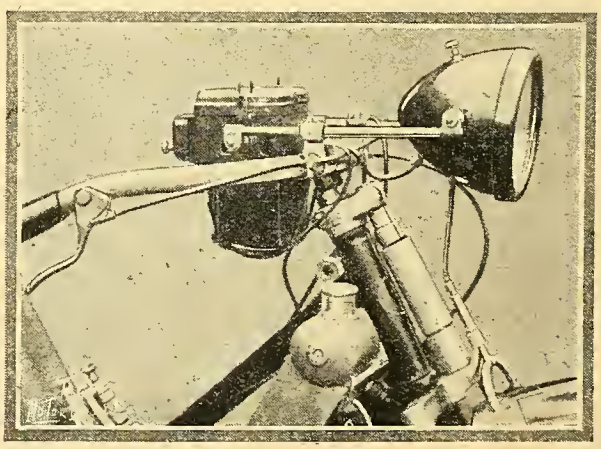
A Severe All-night Test.

The first day's run with the Maglita equipment was from Coventry to Andover, the battery being on charge all the time; then the London-Exeter competitors were picked up, and the lights were in continuous use all the night until daybreak came. For an initial test, through pouring rain, the lights functioned perfectly, although it was noticed that the battery showed a slight tendency to run down; this was no doubt due to the abnormal conditions, for owing to stops while making observations, the battery was not being charged of course.

On the ignition side the machine gave no trouble, despite the fact that special double pole plugs were



Distributer end of the M-L Maglita ignition and lighting generator; it is very little larger than most magnetos



The handsome head lamp has a minimum of projecting nuts and screws. The battery occupies the position usually held by the generator.

Combined Lighting and Ignition—

being used, which place a greater demand upon the magneto.

These results have been confirmed in subsequent usage. Although the light is not so great as that obtained with separate dynamo equipments, it is quite sufficient for all ordinary purposes.

When a sidecar is fitted a 4 volt 2 ampère bulb is used in the head lamp, and the side and tail lamps carry 4 volt 0.5 ampère bulbs; the battery when fully charged will supply these for about five hours.

Only a minimum amount of attention is called for; the generator requires no lubrication, and appears to be entirely reliable. The lamps are staunchly made, and have not needed to be touched—incidentally, the bulb holders of the side and tail lamps are a push fit, so that they may be used as inspection lamps. Shortly after taking over the set we drilled a ¼in. hole in the body of the rear lamp, so that a spot of white light was directed on to the ground about three feet to the off side of the machine and level with the back hub. This acts as a tell-tale, and saves looking right round, or perhaps stopping, to see if the rear lamp is in operation.

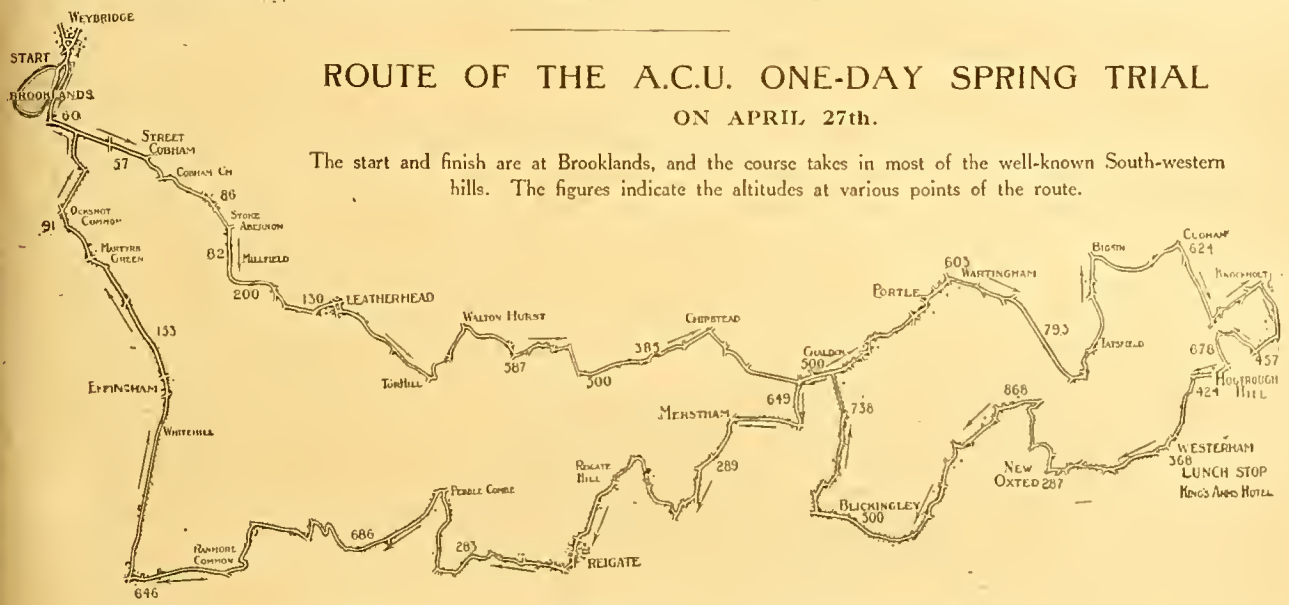
Up to the present the battery has needed no more attention than an occasional inspection and filling up of the acid with distilled water.

In every way the set has justified the hopes which led to its selection, and has made still another convert to electric lighting.

ROUTE OF THE A.C.U. ONE-DAY SPRING TRIAL

ON APRIL 27th.

The start and finish are at Brooklands, and the course takes in most of the well-known South-western hills. The figures indicate the altitudes at various points of the route.



1921 T.T. REGULATIONS.

Abridged Particulars of the Rules governing both Races. No Important Changes.

NO important change whatsoever is discernible in this year's T.T. regulations. At the same time the salient features are worthy of recapitulation.

One lap of the course is thirty-seven miles four furlongs; the Senior Race (six laps) is, therefore, 225 miles, the Junior Race (five laps) being 187 miles four furlongs.

Every competitor must be on the Competitors' Register either of the A.C.U., of the Scottish Auto-Cycle Union, of the Motor Cycle Union of Ireland, of any colonial club recognised by the Union, or of any club in the F.I.C.M.

Motor cycles entered for either race must be touring motor cycles without pedalling gear, and complying with the international definitions on this matter. Silencers are not compulsory during the race, but must be fitted for practising, and at all other times during which the motor cycle is on the Island.

As announced already, the Junior Race, *i.e.*, for motor cycles not exceeding 350 c.c. engine capacity, will take place on Tuesday, June 14th, and the Senior Race, *i.e.*, for motor cycles not exceeding 500 c.c. engine capacity, on Thursday, June 16th. There is a special 250 c.c. class in the Junior Race.

In addition to the Junior and Senior Trophies and cash prizes for places, there will be team prizes for nominated teams finishing within thirty minutes of the winner's time; and in the case of an exceptionally plucky performance the Nisbet award will be made.

Regarding number plates and distinquishing colours, the same rules as last year also apply; and both during the racing and practising, helmets of an approved type must be worn.

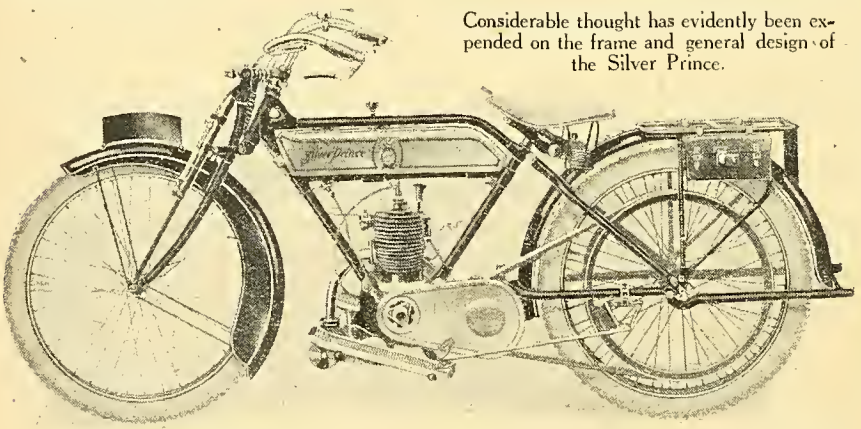
Entrants must complete at least six laps in practice, one of which must be made at the following minimum times: Senior Race, sixty minutes; Junior Race, seventy minutes; and 250 c.c. Class in Junior Race, ninety minutes.

While the remainder of the rules are not of very general interest we advise intending entrants to study them very carefully. Copies may be obtained from the Secretary of the A.C.U., 83, Pall Mall, London, S.W.1. Entries at ordinary fees (£21 per machine) close at noon, Monday, May 2nd, and at double fees at noon, Monday, May 16th. As entries in both races are limited, there seems every possibility that some intending competitors may be disappointed if they do not make very early application.

NEW MODELS AND NAMES.

Many Newcomers to the Motor Cycle Industry. Low Priced Two Strokes receiving Attention. A Lightweight for £46 and a Sidecar Outfit at £80.

DESPITE the present temporary slackness of trade, there is no dearth of new comers to the motor cycle industry, which continues to attract those who desire to enter the manufacturing field. Apparently it is considered an easy trade to enter, since it is possible to obtain the chief units from manufacturers who specialise in them and, to a certain extent, purchasers are thus guaranteed satisfaction. In addition, there are several firms with older reputations re-entering the market.



Considerable thought has evidently been expended on the frame and general design of the Silver Prince.

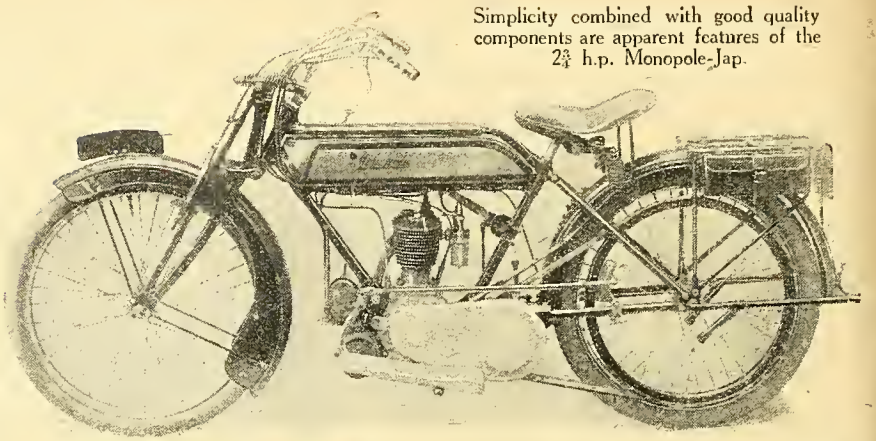
The Monopole Range.

For example, the Monopole name is one which has long been associated with the cycle industry, and the firm's recently reintroduced motor cycles are in every way up to their previous standard, both in quality and appearance.

A very complete range of machines is being offered, starting from a Villiers-engined two-stroke single-speed model at 66 guineas to a 5-6 h.p. J.A.P. twin at 136 guineas. In addition to these two extremes there are a two-speed 2¾ h.p. four-stroke with J.A.P. engine and clutch and kick-starter at 85 guineas, a similar model with two-stroke engine at 78 guineas, and a 3½ h.p. Abingdon-engined model with Sturmey-Archer three-speed gear box at 110 guineas.

The machines are exceptionally well made and finished, and although following conventional lines, possess a distinctive appearance with their green enamel. The illustration of the 2¾ h.p. J.A.P. model conveys a good impression of each of the range. It will be seen that a belt guard is extended over the gear box pulley. The Monopole Cycle Co., Ltd., is located at St. Mary's Street, Coventry.

Simplicity combined with good quality components are apparent features of the 2¾ h.p. Monopole-Jap.



A Well-thought-out Lightweight.

Recently we inspected one of the Silver Prince lightweights, which are produced by the Tryus Cycle Co., of Johnstone Street, Birchfields, Birmingham, and were much taken by the general appearance of this new machine and the methods employed to produce it. Usually the smaller makers do not pay a great deal of attention to the question of designing in order to facilitate production—and this applies also to larger firms—but the Tryus company carefully thought out the design before attempting to market the Silver Prince machine. For example, all the tubes used in the back portion of the frame, *i.e.*, the four stays, are identical in their bends. Then the guards are better carried out than on the average low priced motor cycle, the front guard being of 4in., and the rear 5¼in. section.

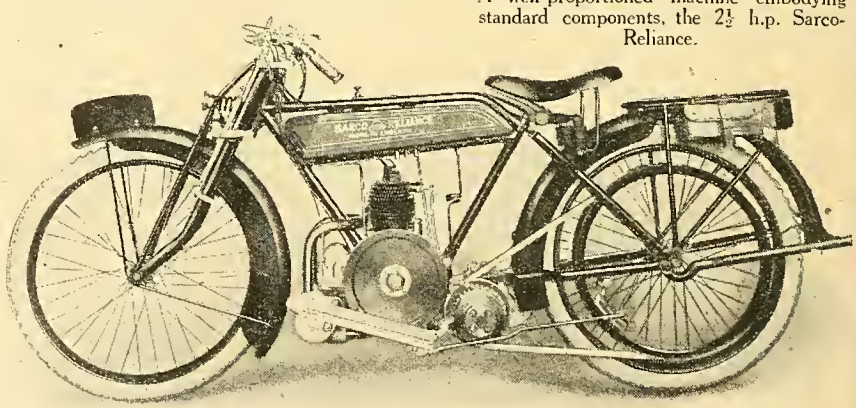
The tyres are 26×2¼in., while the belt line is the same in both single-speed and two-speed models, which not only facilitates production, but, should the owner of a single-speed model desire a two-speed gear, this can be fitted without structural alteration to the frame.

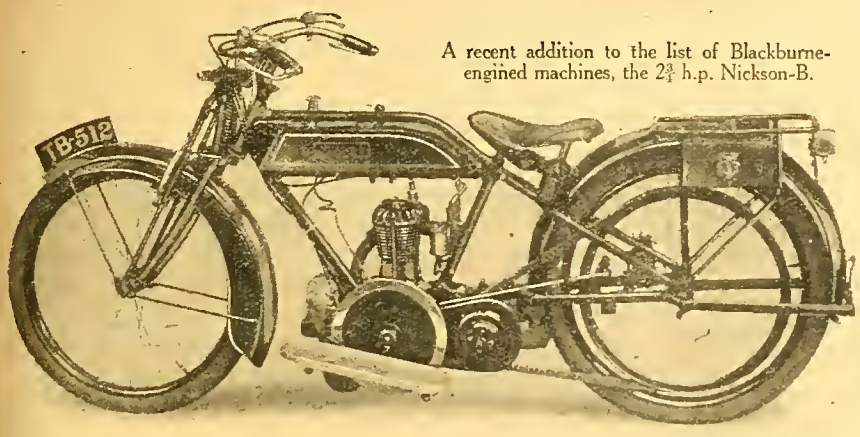
A Villiers engine is fitted, and the two-speed models have Sturmey-Archer or Albion gears. Brampton forks, Dunlop tyres, and belt rim and inverted lever brakes are included in the equipment. The prices are 46 guineas, single gear; 57 guineas with plain two-speed gear; and 63 guineas with two-speed, clutch, and kick-starter—the weights being 147 lb., 163 lb., and 168 lb. respectively.

Built for Overseas.

Embodying the large experience of extensive Overseas trade, the Sarco-Reliance has been designed by Messrs. Sanders, Rehders, and Co., Ltd., of 108, Fenchurch Street, London, E.C.3. A 68×72 mm. two-stroke engine having double exhaust pipes, a Burman two-speed gear box with hand-controlled clutch, and a kick-starter are fitted to one model, which retails at £85; a similar machine, but without clutch and starting pedal, is sold for £77 10s. C.A.V. magneto and Saxon forks form part of its good-class equipment: while, in order to render it in every way suitable for hard usage Overseas, the frame is constructed of slightly heavier gauge tubing.

A well-proportioned machine embodying standard components, the 2½ h.p. Sarco-Reliance.





A recent addition to the list of Blackburne-engined machines, the 2¾ h.p. Nickson-B.

A New 4 h.p. Blackburne-engined Mount.

One of the features of the last Olympia Show was the number of machines fitted with 4 h.p. Blackburne engines. Yet another mount has been introduced with this popular power plant—the Nickson, made by John Nickson, 230, Station Road, Bamber Bridge, Lancashire. A Burman three-speed gear box, Brampton forks, and aluminium footplates are included in the equipment, and the saddle height is 29in. The price is £128. Several other models are also made including the J.N.U. 2¾ h.p. two-stroke with a Dalm engine and two-speed gear, with and without clutch and kick starters, at £68 10s. and £75 respectively. Another model has a 2¾ h.p. Blackburne engine, and with two-speed clutch and kick starter sells at £105.

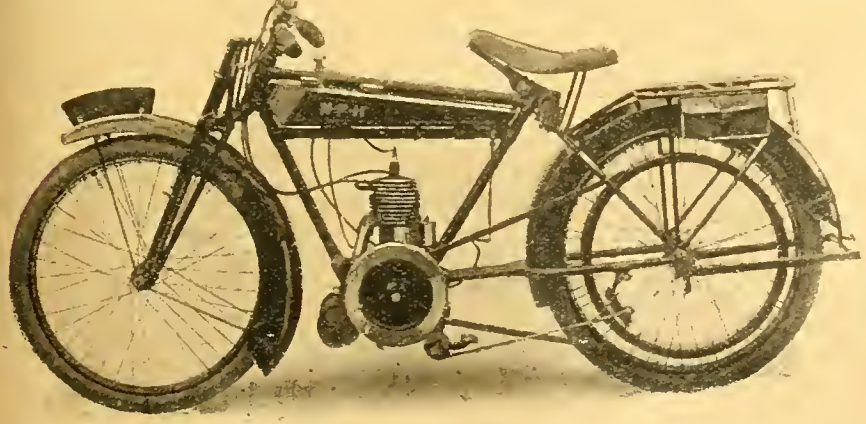
A Pero-engined Lightweight.

The Waverley is another name new to the majority of our readers. It adorns the tanks of a range of motor cycles made by Waverley Motors, of 145, Lichfield Road, Aston, Birmingham. Three models are produced, which are fitted with a Pero two-stroke engine of 269 c.c. capacity. These are single geared, two-speed, and two-speed with clutch and kick-starter, sold at £53, £60, and £65 respectively. The weights vary from 150 lb. to 165 lb. Another model has a 2¾ h.p. Blackburne engine and the equipment usually supplied with such machines. With two-speed gear, clutch, and kick-starter, it sells at £95.

It will be noted that the Pero-engined models have the engine placed high in the frame, and for this reason may be found suitable for certain Overseas markets.

An £80 Sidecar Outfit.

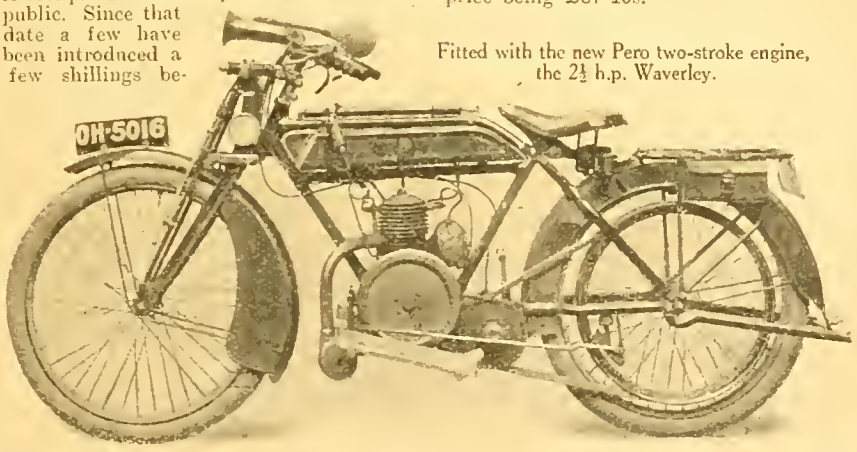
At the last show £49 10s. was the lowest-priced motor cycle offered to the public. Since that date a few have been introduced a few shillings below this amount, and now we are able to illustrate a £46 machine. This is the M.P.H. manufactured by Peter Hay, of 61, Havelock Road, Tyseley, Birmingham, and is engined with 2¾ h.p. Wall two-stroke, equipped with an Amac carburetter and Runbaken magneto. The specification also includes Flexi forks, Lycett pan seat saddle, and 26×2¼ Dunlop tyres. With a two-speed gear the price is £54, while an additional model will shortly be marketed with a 350 c.c. Broler engine, two-speed gear, with clutch and kick-starter, and a light sidecar for £80.



One of the, nowadays, comparatively small class of single-geared lightweights, the 2¼ h.p. M.P.H.

A £47 10s. Lightweight.

Another low-priced lightweight is the Norbreck, made by D. H. Valentine, 40, Gold Street, Wellingborough, who produces an Arden-engined single gear machine at £47 10s. This machine has Arden forks and X.L.-All saddle and rubber covered footrests; on the crossbar of the latter the brake pedal is mounted in a convenient position. There are three other models, of which the £47 10s. type forms the nucleus. One has a plain Burman two-speed gear at £55 10s., another with two-speed clutch and kick-starter at £60, and a third fitted with a three-speed gear of Valentine's own make, which embodies a clutch and kick-starter, and selling at £66. The final model of this range has a 2¾ h.p. Blackburne engine, and a Burman two-speed gear, with clutch and kick-starter, the price being £87 10s.

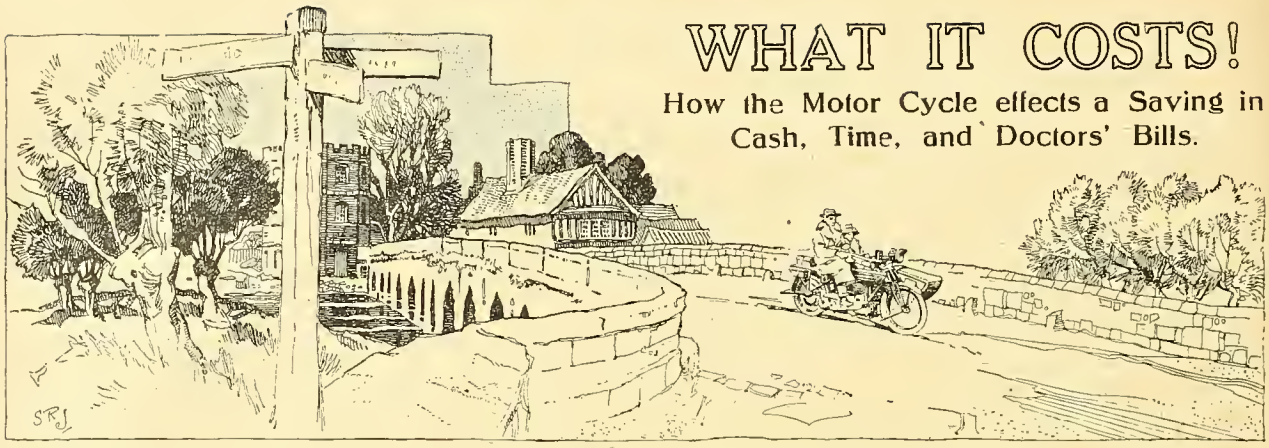


Fitted with the new Pero two-stroke engine, the 2½ h.p. Waverley.

Motor Cycle Championships in France.

THE French Motor Cycle Union has definitely decided to establish two classes of motor cycle championships in France, the Speed Championship and the Touring Championship, open only to competitors of French nationality. The Speed Championships are open to competitors riding motor cycles in the 250 c.c., 350 c.c., and 500 c.c. classes, and to drivers of two-seated cycle cars not exceeding 1,100 c.c. The speed championships this year will be decided in the Grand Prix races on the la Sarthe circuit.

The Touring Championships are open to competitors riding machines in the following classes: Motor cycles 250, 350 and 500 c.c., sidecars 600 and 1,000 c.c., and two-seated cycle cars not exceeding 1,100 c.c. At the beginning of each year the Competitions Committee to the French Motor Cycle Union will name three trials to decide the championships. For the year 1921, the Paris-Nice, the touring trial of the U.M.F., and that of the A.A.A.M.M. have been chosen.



WHAT IT COSTS!

How the Motor Cycle effects a Saving in Cash, Time, and Doctors' Bills.

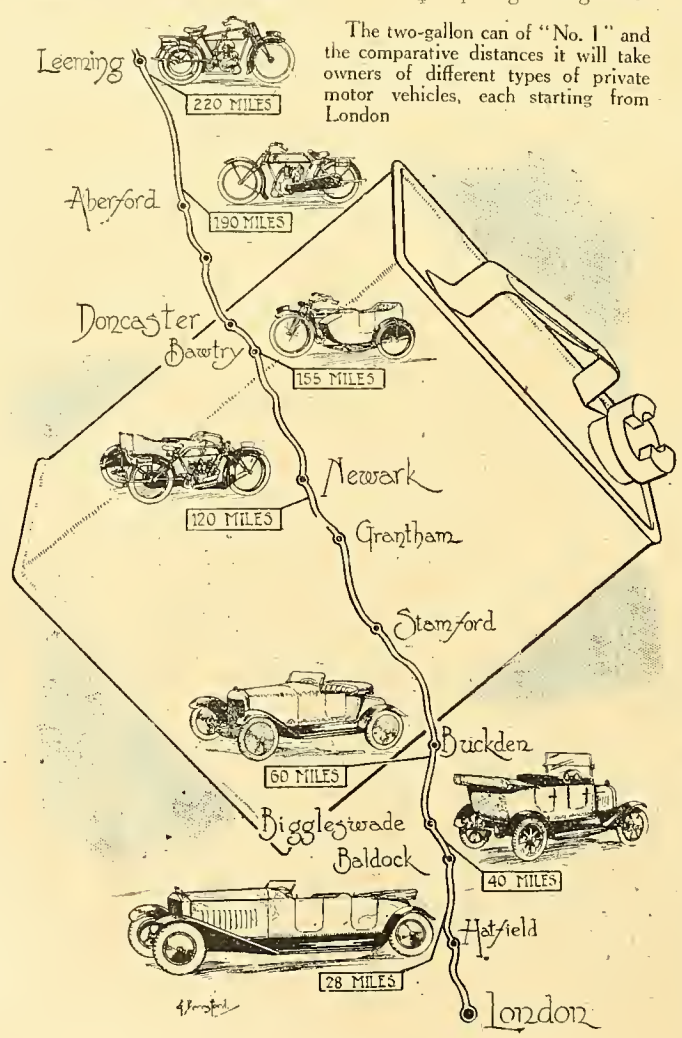
TWO gallons of petrol cost less than seven shillings, weigh about 16 lb., and can be carried in its familiar coloured tin like a handbag. The same bulk in coal would just about make a fire for toasting or gas enough to boil a kettle; yet the petrol contained in a tin 12in. × 10in. × 5in. is sufficient to transport a motor cyclist—and perhaps a friend on the carrier—a distance of over 200 miles.

If this fact were more generally appreciated there would be even more motor cycles on the road than there are at the present time. Seven and sixpence spent on the railway will take one person 50 miles, two persons 25 miles, and three persons about 17 miles. Three people on a sidecar outfit can travel about 120 miles for this amount, while whole families are regularly transported over long distances at the cost of about four shillings per 60 miles—about half the cost of railway travelling for one person.

Tabulated Costs.

Of course, petrol is not the only cost of motor cycling. Oil costs money also, but it is not enough to add sixpence to every can of petrol used.

So much ink has been spilt on detailed estimates of running costs that it might seem redundant to enlarge upon this aspect of the question. However, one or two other figures are worthy of special notice.



The two-gallon can of "No. 1" and the comparative distances it will take owners of different types of private motor vehicles, each starting from London

As distinct from total expenses (which must include such variable factors as interest on capital, depreciation, licences, and possibly repairs and garage fees), actual running costs, including tyres, should not exceed the following figures per mile (if they do, there is a leakage somewhere):

2¼ h.p. lightweight solo: .8d. per mile.
2⅝ h.p. lightweight solo: 1d. per mile.
3½ h.p. to 4 h.p. solo: 1.15d. per mile.
8 h.p. solo: 1.25d. per mile.
2¾ h.p. sidecar: 1.2d. per mile.
3½ h.p. to 4 h.p. sidecar: 1.5d. per mile.
5 h.p. to 6 h.p. sidecar: 1.75d. per mile.
8 h.p. sidecar: 1.8d. per mile.

The last three types tabulated are often used to transport three persons. Railway fares are 1.75d. per mile per person, and third class travelling at that

Variable Factors.

What we might term the overhead charges (*i.e.*, expenses omitted from the above tables) are often heavy: they are just as often light. Take depreciation. There is a class who always appear able to "buy low and sell high." (The writer positively knows that this is so, for he regularly sells his machines to such people!) Given favourable markets, there is no reason why buying and selling should not be made profitable.

What It Costs.—

Again, take repairs. While one type of rider refuses to mend a simple puncture himself, if at all avoidable, another and quite considerable class take a delight in themselves effecting mechanical repairs of a "super-messy" and finger-nail destroying character. Given a run of trifling bad luck, motor cyclists of the former category may quite justifiably complain that they find motor cycling a much more expensive hobby than they had bargained for. The mechanically inclined, on the other hand, will find themselves little more out of pocket after a month of bad luck involving a succession of trivial repairs than after a week of entirely trouble-free riding. Thus the personal factor is an important variable which cannot be neglected entirely.

There are several further points where the two-wheeler indirectly saves money. Time is money. To most of us the proverb applies with considerable force, and here some surprising economies may be effected. On any cross-country journey the motor cycle scores over the train in average speed; often the saving in time is remarkable. But even where a main-line train service connects two points, the railway's most favourable connections may not necessarily make for the speedier journey. Nor does everybody live within five minutes of a station.

Which brings us to our last point, viz., the benefits of healthy fresh air and, even, stinging rain. Whether used for pleasure or business, the motor cycle is essentially a health-giving vehicle, and, as ill-health is perhaps the most expensive thing imaginable, the motor cyclist's expenses must be credited with a considerable sum in pounds sterling under this heading. Far, far better buy a gallon of motor spirit than a gallon of medicine.

THE BRITISH MOTOR CYCLE INDUSTRY.

An Analysis of Specifications of the Motor Cycles available in this Country.

LAST week's Spring issue of *The Motor Cycle* contained an illustrated Buyers' Guide in which we gave particulars of the models of 130 makers. The particulars given were provided by the makers themselves, and a careful study revealed an abundance of interesting facts. Needless to say, to obtain reliable statistics covering so many points entailed a great deal of detail work for *The Motor Cycle* statistician, who, incidentally, disappeared for many hours behind his locked office door.

From the results of this "count," we discover that 130 manufacturers (including five foreign makers exporting to this country) offer between them no fewer than sixty models, so that the prospective buyer who cannot find a machine to fulfil his requirements must indeed be very hard to please. Without counting models embodying such options as plain two-speed gears in lieu of a gear box with kick-starter, the specifications of the following general types were tabulated in the Buyers' Guide.

V twins		52
Single-cylinder:		
Four-strokes	92	171
Two-strokes	79	
Flat twins		17
Two-cylinder two-strokes		2
Four-cylinders		3
		245

Of the 130 manufacturers, sixty-one produce their own engines—some of these also buy engines of types they do not manufacture. Thirty-eight make their own gear boxes.

The chief manufacturers of proprietary engines and gear boxes figure in the statistics as follows:

ENGINES.

30	makers specify	Villiers engines.
29	" "	Jap "
28	" "	Blackburne "

GEAR BOXES.

56	makers specify	Sturmey gears.
22	" "	Burman "
20	" "	Albion "

Since the small capacity lightweight is offered by so many firms, engines between 200 and 300 c.c. naturally head the list of engine sizes, but the popularity of the 2¾ h.p. Blackburne four-stroke and the 3½ h.p. Precision two-stroke enhances the figure referring to engines of 300-400 c.c. capacity. Here is the list in order of numbers.

200-300 c.c.	98	600-700 c.c.	19
400-500 c.c.	43	500-600 c.c.	16
300-400 c.c.	42	700-800 c.c.	14
800-1,000 c.c.	22	Under 200 c.c.	3

Since the Armistice, there has been a marked falling off of the 750 c.c. twin so popular before the war, while the 400-500 c.c. class, at one time apparently heading for extinction, has been revived by the number of makers using 4 h.p. Blackburne engines.

As was to be expected with so many lightweights offered, chain-cum-belt transmission leads with 179, all-chain being second with seventy-three. There were seven all-belt machines, but it should be pointed out that nearly every maker of a two-stroke lightweight offers a single speed model with belt drive. The F.N. is still the only example of shaft drive.

The Number of Ratios.

Most manufacturers of two-stroke lightweights offer single gear models, but undoubtedly the largest demand is for a two-speed machine. The large majority of the single-speed mounts have all belt drive, but in one case, a countershaft is fitted. Very few four-strokes are offered as single-speed machines; the majority being T.T. models of the 500 c.c. class.

Notwithstanding the large number of lightweights which generally have no more than two speeds, the three-speed mounts total very nearly the same figure, but four-speeders are confined to the A.B.C., and an Olympic lightweight with Juckes gear.

Two speeds	135	Variable	6
Three speeds	115	Four speeds	2

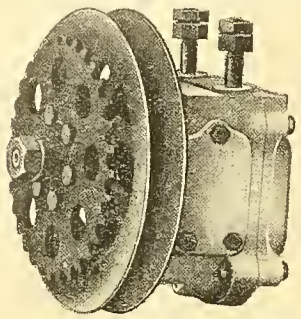
The general increase in tyre sizes is a point upon which we commented at the time of the Olympia Show. Below we give the numbers of machines given in the Buyers' Guide fitted with different sizes of tyres:

24×2in.	5	26×3in.	13
24×2¼in.	3	650×65 mm.	22
26×2in.	13	700×80 mm.	5
26×2¼in.	109	27×3½in.	3
26×2⅜in.	9	28×3in.	31
26×2½in.	54		

A NEW FOUR-SPEED GEAR BOX.

A Proprietary Unit suitable for all Types of Motor Cycles.

NEW gear boxes are by no means rare nowadays, but the advent of a new four-speed box is not at all so common. Furthermore, it requires considerably more ingenuity to design an example of the latter type of box that



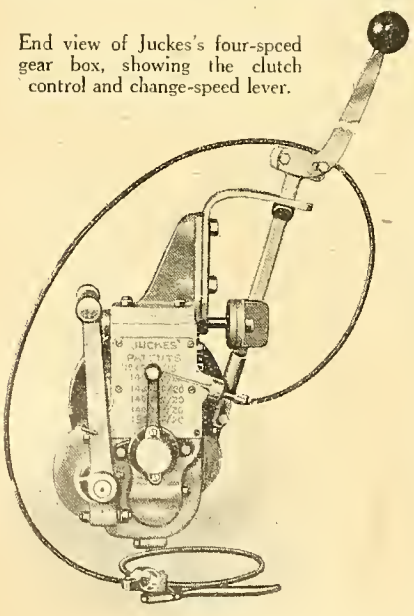
Very small, neat and light is the Juckes plain two-speed box.

will not be unduly wide and unwieldy than it does in the case where only two or three ratios are required.

Minimum Overall Width.

On the gear under review, the Juckes (manufactured by the Efficient and General Engineering Co., of East End Works, Bilston Road, Wolverhampton), several clever patents combine to keep the overall width down to a reasonable extent without sacrificing reliability or strength.

Constant mesh pinions are used throughout, all eight being arranged for ease of replacement. For the purposes of explanation, however, the layshaft may be regarded as one revolving mass; three of the main shaft pinions revolve freely on that shaft, and the fourth, following usual practice, is mounted on a sleeve which also takes the final drive pulley or sprocket. Two double dog clutches, keyed to, and revolving on, the main shaft, clutch up the various pinions for the different ratios in the conventional manner, the top gear being direct.

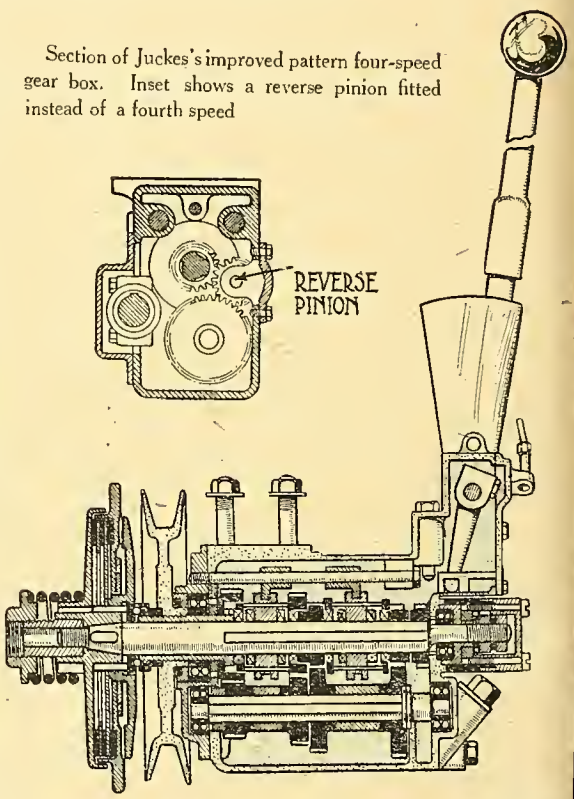


End view of Juckes's four-speed gear box, showing the clutch control and change-speed lever.

It is in the method of mounting these main shaft pinions and of forming internal dogs *inside* the pinions themselves that new ideas have been brought to bear. As will be seen from the diagram, none of the dogs on the pinions project much further than the pinion teeth. Distance washers, bridged by rods passing through the revolving dog clutches, "position" these pinions and prevent any lateral movement.

The clutch works in an entirely novel manner. A patented cam gear moves the whole mainshaft *inwardly* against a powerful coil spring from the clutch side, taking with it the inner member. The outer clutch member is prevented from following, by distance pieces bearing indirectly against a thrust ball race on the main drive sleeve.

Section of Juckes's improved pattern four-speed gear box. Inset shows a reverse pinion fitted instead of a fourth speed



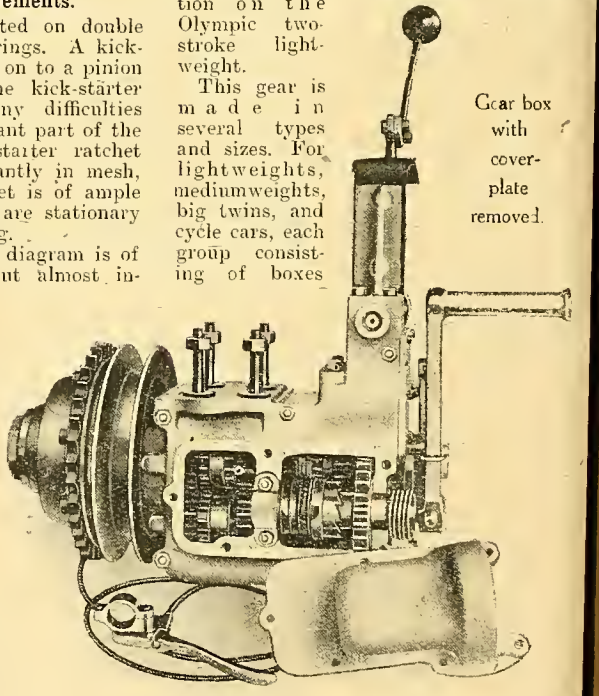
Kick-starter Improvements.

Both shafts are supported on double race self-aligning ball bearings. A kick-starter pinion acts directly on to a pinion on the main shaft. The kick-starter mechanism overcomes many difficulties connected with this important part of the modern gear box. The starter ratchet gear and pinion are constantly in mesh, while the free-wheel ratchet is of ample proportions, and all parts are stationary when the engine is running.

The clutch shown in the diagram is of the Ferodo plate type, but almost invariably a cone clutch of simple design and Ferodo lined is fitted. The ease of operation of this clutch is most pleasing, and, when out of engagement, it is quite free.

This gear box is certainly a simple and easily detachable design and should not lack in wearing capacity or easy gear changing. A final point regarding it is the fact that the addition of an extra pinion is almost all that is required to convert the low gear to a reverse, and so make it suitable for light cycle cars, in which service we have seen it many times. Visitors to Olympia last November may recall that this gear box attracted considerable attention on the Olympic two-stroke lightweight.

This gear is made in several types and sizes. For lightweights, mediumweights, big twins, and cycle cars, each group consisting of boxes



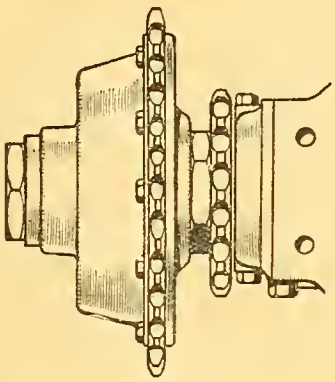
Gear box with cover-plate removed.

providing two, three, or four speeds, or, in the case of cycle cars, three speeds and reverse.

One advantage of the Juckes gear is that if a purchaser first has a two-speed box, he may convert it easily to a three or four-speed box by purchasing the necessary pinions.

Size and Weight.

At first glance the Juckes gear box appears to be rather larger and, consequently, heavier than usual, but this is quite an illusion—in fact, any of the boxes are probably lighter than the majority of similar gear boxes. The enclosing of the control mechanism, and making this integral with the box, accentuates its bulk, but is certainly a very good point. It obviates the necessity for tank brackets, which generally must vary in dimension on each different make of machine.



Exterior of the Juckes cone clutch.

In addition to this series there is also a small plain two-speed—probably the smallest gear unit we have seen.

The Efficient Co. has now opened a department for converting out-of-date machines for those who are unable to have the work done locally, and here we recently saw several interesting conversions under way. One was an old Rudge converted into a modern three-speed countershaft mount, another a two-speed hub model Reading Standard, which was having three speeds and reverse fitted, while there were several other hub gear models and also a brace of old cycle cars being brought up to date.

A Small High Efficiency Engine.

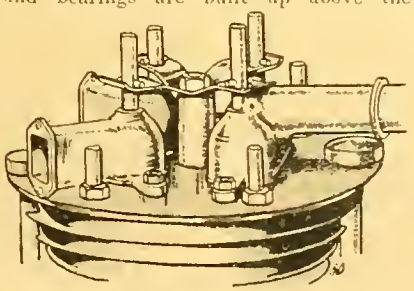
Four Overhead Valves, but only One Valve Spring embodied in a Compact 2¾ h.p. Power Unit.

DESIGNS and blue prints have come into our hands of what promises to be a remarkably efficient little engine of, nominally, the 2¾ h.p. class. The valve gear arrangement in particular shows considerable originality, but the layout as a whole is also very ingenious.

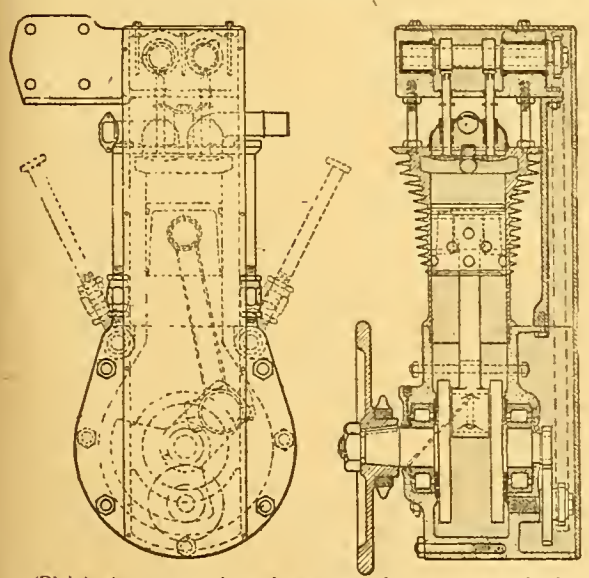
Overhead Camshafts.

Two overhead camshafts, driven by a single chain running at half engine speed, serve to operate the four overhead valves. Usually such a construction demands a great increase in overall length in order to make room for the valve springs, but in this case a single, diagonally tongued spring of flat steel does the work of four of the coil type. The action and shape of this spring is clearly shown in one of the drawings.

Two "cheese-headed" rods, extensible by means of right and left-hand threads and nuts, and pivoted on the crank case, hold the cylinder down through slots in the upper flange. The cam gear box and bearings are built up above the cylinder on studs, and the magneto platform is immediately adjacent, the magneto being driven from an extension of one of the camshafts. Separate castings are used (as shown) for each dual inlet and exhaust manifold.



Showing how a single spring operates four valves.



(Right) A cross section of the Ajax Super engine, clearly showing the general layout. (Left) A side view, showing the magneto platform, and indicating how the cylinder holding-down bolts swing outwards to permit removal of the cylinder.

With the exception of the main crankshaft roller bearings, plain bushes are fitted throughout. An outside flywheel carries the transmission sprocket on a screwed boss.

Lubrication.

Oil grooves and a drilled crankshaft web lead oil to the big end, while splash ensures that the cylinder walls do not go dry. The lower end of the timing chain cover also forms an oil trough.

Other good features particularly noticeable are the massive camshaft bearings and the great thickness of the cylinder at the head.

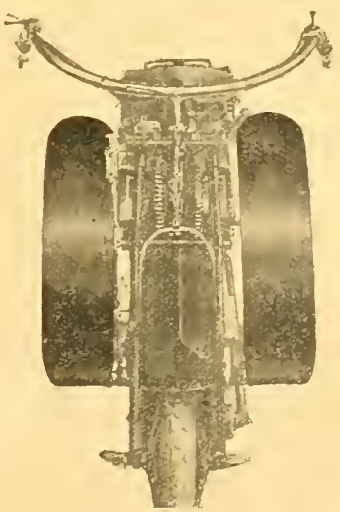
A bore of 70 mm. and a stroke of 90 mm. give the Ajax Super engine (as it will be called) a capacity of 346.4 c.c.

The designer is Mr. A. J. H. Elverson.

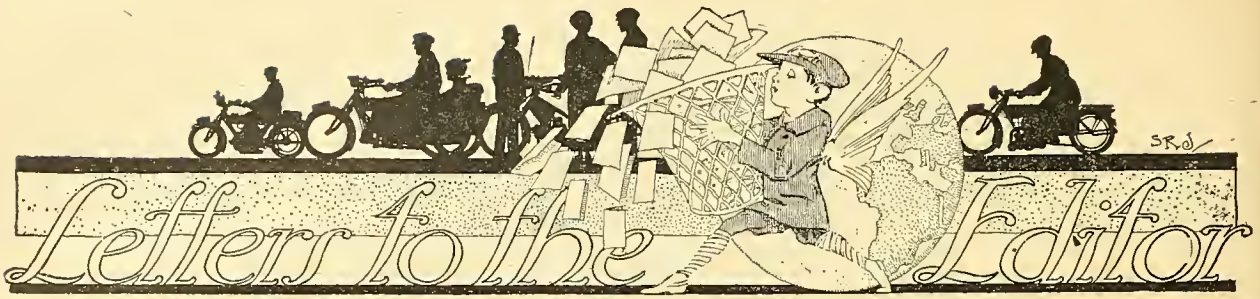
LEG GUARDS FOR ARIELS.

SPECIAL leg guards for Ariel motor cycles have recently been designed by the makers of this well-known machine, and are illustrated here. As will be seen, they present a handsome appearance, and do not interfere with the accessibility of the machine in any way. It is said that, if anything, they rather improve the cooling of the engine.

The method of fixing is very simple, the bottom portion being bolted to the foot plate and a cross member connects the top portion to the tank tube. The price is 25s. per pair, and they can be supplied by the makers either fitted to new machines, or for fitting to existing Ariel motor cycles.



The new Ariel leg guards.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

A POSER FOR "IXION"!

Sir,—Just a line about "Ixion's" recent comments on head lamp glare. Perhaps he will explain how he knew the makes of the two cars which caused him such discomfort, as he says he could not see. Both cars were going downhill, so he could not tell by their exhausts.

H. EVANS.

BLAMING E.P.D.

Sir,—With reference to the letter in your journal by Mr. A. Ball, I rather think that this gentleman has lost sight of the fact that the manufacturer who had the advantage of buying stocks cheap, and selling finished articles at a high price, had to pay 80% of this profit to the Exchequer, which percentage has been slightly reduced since.

He is now landed with a lot of high priced material and has now no chance of recovering from the Exchequer the losses he will make on his dearly bought stocks.

St. George's, E. AN INTERESTED READER.

KEEPING CLEAN—ONE WAY.

Sir,—I have been a reader of your excellent paper since 1912. Thoroughly enjoying the correspondence columns, I have read with interest of late the remarks *re* mudguarding, and have solved the difficulty which for years has ruined my "bags."

Much against the advice of several friends, who described it "dangerous," etc., I bought a Morgan, and actually went a distance of sixty odd miles on a recent Sunday over muddy roads with a new suit on.

I consider this sturdy little machine a much better proposition than all the sidecars I have had, both for protection and comfort. Has "Ixion" tried one? I have a hazy recollection of a run to Scotland several years ago, when he gave his experiences. L.F.P.

Liverpool.

FOUR-STROKING.

Sir,—I have read with interest the letters in your recent numbers concerning four-stroking of two-stroke engines.

I have for some time past been riding an S type Metro-Tyler. As is well known, this machine, presumably owing to its piston and port design, two-strokes with great regularity, and can only be persuaded to four-stroke under the greatest provocation.

I recently obtained from the makers of the machine a W.S.R. variable jet with a special long rod attachment, enabling it to be controlled from the top of the tank.

I fitted this in the hope of improving flexibility and consumption, and I find that its use enables me to stop four-stroking immediately, if it does occur at all. A very slight weakening of the mixture is all that is required.

G. E. CUFFE.

"PETREAU" POSSIBILITIES!

Sir,—As a would-be motor cyclist I am watching developments, and the "Petreau" system, foreshadowed by "Ixion," would almost persuade me if it could be developed into a commercial proposition. I read some time ago that an enterprising Yankee was able to run a car on a pail of water and dope, but it seems to have been a wash-out. "Ixion" informs us that his friend ran half a mile on a mixture of petrol and water. If this can be done on an ordinary machine fitted with the usual contraptions, there is room for a brand, not yet tapped, by the numerous carburetter manufacturers whose professions seem all alike to me. The man who can guarantee 100 miles on a gallon of "half and half" will reap his reward. This would be much cheaper and cleaner than the petrol system, and any further information on the subject will be gratefully received by

London, N.W.2. PETRO.

PILLION RIDING.

Sir,—I have read with interest, in one of your last numbers, the letter of your Belgian correspondent, M. Taymans, but do not agree with him that it is a "silly thing" to carry a fair passenger sitting sideways on the carrier.

Last year I covered about 4,500 miles on all kinds of roads on my old 1914 Douglas, with my wife as a passenger, and always the same way. She only tried once to sit astride for a few miles, but said she would never try again.

I must add that I once fitted footrests, but soon discarded them, as they were never used. As a pillion seat I use a sprung leather cushion (sold everywhere in this country), which, beside being really comfortable, does not spoil the appearance of the machine, on which it is permanently fitted.

With both up, we average about 28-32 m.p.h. on long distances, and have already made several journeys of 125 miles in one day without the slightest discomfort.

Brussels. JEAN C. WATELET.

DEFINING 'SILENCE."

Sir,—I must apologise for again writing to you on a subject which by now must be getting worn threadbare, but as I have recently figured as a witness in a police court case, the result of which, I think, may be of interest to several manufacturers, I again crave your indulgence, and trust you will allow a little space for the publication of this letter.

My friend, who has a long exhaust pipe with fish-tail muffler fitted to his machine, was summoned for a noisy engine. We both attended the court, and put up a pretty fair defence as follows: "The law states that a machine must be fitted . . . or *other contrivance* sufficient to make the machine reasonably silent."

No mention is made that a silencer must be fitted, therefore we contended that the machine in question was complying with the law, and finally managed to get several of the magistrates sitting on the bench to view the machine, in order that we might demonstrate that it was reasonably silent. In addition, we pointed out that several makers now fitted a long exhaust pipe as a standard fitting to their machine.

The case finally went against us, as the magistrates were of the opinion the machine was not reasonably silent; also (and this is where the manufacturers should take notice) the magistrate's last words were: "If the makers are turning out machines with long exhaust pipes, the sooner they stop this practice the better."

Now, it amounts to this. Either we are barred from using our machines on this particular road, which, by the way, is the main road leading to a favourite hunting ground for Manchester motor cyclists, viz., North Wales, or we are compelled to choose a machine with a silencer.

What are the manufacturers' views on this subject?

Individually, we are powerless; but, collectively, surely some definite ruling on this vexed question might be obtained.

E. E. HOWELL.

VARYING PRICES OF SPARES.

Sir,—Requiring some spare parts made of a well-known proprietary material, I wrote to the manufacturers, and also to the makers of my machine for prices. Their quotations were, respectively, 4s. and 6s. 2d., postage extra. In both cases the above prices were for the part complete and ready to fit at once. This means that the makers of my machine add over 50% to the cost of this particular spare part, purely as profit and to cover office expenses. Twenty per cent. might be considered reasonable; 50% seems unreasonable and excessive. Such dealing on the part of motor cycle manufacturers will hardly assist in restoring the good times which I believe they ardently hope for. C.V.M.-W.

Rotherham.

ALUMINIUM ALLOYS TO REDUCE TAXATION.

Sir,—In the past the question of the employment of aluminium alloys in motor and motor cycle construction has often been considered, but the invariable answer has been that the extra cost involved rules out this possibility.

Now that weight is such an important factor, manufacturers of motor cycles, which scale just over 200 lb., must consider whether the use of aluminium alloys will not pay them as a real commercial proposition. It is certainly worth while saving 30s. per annum on the tax; and, if the cost of the suggested refinement is not prohibitive in relation to the yearly saving effected, it certainly has every advantage to recommend it. Not the least of these is reduced petrol consumption, representing a further set-off to the extra initial cost. L. S. LYONS.

BRITISH V. AMERICAN SPEEDS.

Sir,—I am afraid that your correspondent "Chemist" is rather too much chemist, and too little engineer. He explains, to the complete satisfaction of himself, and, for that matter, anyone, the reason why, owing to differing atmospheric conditions, an engine develops greater power in America than it would in England. But if he thinks that this causes the difference in speed (if such variation does exist) he is wrong.

At high speeds, if the power of a motor cycle were doubled, the speed, unfortunately, would not also be multiplied by 2. The factor would be far nearer to 1.25. The reason for this is that, while the impelling force on a machine increases in the same ratio as the power, the resistance to motion, which at such speeds is chiefly due to the air, increases far more rapidly. I will not quote statistics, as that is a thankless job at best; but if "Chemist" will consult any work on this subject he will find that it is so.

To return to his figures, he gives the American engine (American by virtue of situation, of course, and not necessarily of nationality) an increase in power of 1½%. Were the actual speed increased by this amount the difference would be very slight. Actually, for such an increase in power, at, say, 70 m.p.h., the speed increase would be negligible.

Highgate, N. NY 3315.

Sir,—"Chemist's" explanation is clearly based on a fallacious reason also. He states that 31 c.c. of benzene require for combustion 1,000 c.c. of air; by calculation from these figures 156 parts by weight C_6H_6 would require 433 parts by weight of O_2. The equation, now given correctly,

$$2C_6H_6+15O_2=12CO_2+6H_2O$$

indicates that 156 parts by weight C_6H_6 require 480 parts by weight of O_2, and not 433 as calculated from first statement, or 240 as stated later in his letter.

Further statements made by "Chemist" are erroneous. One example will suffice: 0.195 gr. benzene will reqoire 2,146 c.c. of "English air at 20°C," which is considerably in excess of the hypothetical cylinder's capacity.

I fear that "Chemist's" theory built upon aqueous vapour tension hardly meets the case in point; he might, however, submit it as an explanation of the question, "Why do engines appear to run better at night?" or other less involved questions. ERIC C. PORTER.

Sir,—May I trespass on your space once more? With regard to the remarks made by "J.K.D.C." in your issue for March 3rd, I maintain that an American twin on the track is no faster than a British twin of equal capacity. I am perfectly well acquainted with the Brooklands records, and would prove my point by a reference to the last championship meeting during the autumn of 1920. If "J.K.D.C." had been there, and witnessed the 1,000 c.c. solo race, he would perhaps have moderated his opinion. I admit that Le Vack on the Indian won the race, but I think it was generally agreed that Remington on a N.U.T.-Jap was faster. Unfortunately, Remington had plug trouble, and lost a lap. He started up (after changing the plug) considerably behind Le Vack (100 yards, I should imagine), and when they came round again Remington was leading by fifty yards.

Your correspondent "J.K.D.C." may say that the Indian shut down a little, on knowing that he had the lead, but that is hardly possible on a throttle-less machine, and, moreover, in the first lap the N.U.T. proved faster.

The whole point is that there were (last year) so few trade-driven and supported twins of British manufacture, but this year, I believe, will alter matters somewhat.

L. W. G. HARTLEY.

REVERSING ON SUDELEY HAIRPIN.

Sir,—With reference to your report of the Colmore Cup trial on page 300, you state that both T.B.'s got into difficulties on the Sudeley hairpin.

In fairness to the manufacturers of this excellent little three-wheeler, I should like to say that I had no difficulties at the hairpin, but considered it quite impossible for a standard machine, and therefore I did not attempt to take it. I simply reversed once and carried on, and I think you will agree with me that no cycle car could possibly take the above-mentioned hairpin on standard steering lock.

When I received my entry form for the Colmore Cup trial, no mention was made thereon of reversing, and I did not know, until I received my route card, that reversing would not be allowed. As very few private owners have facilities for altering the steering lock of their cars to enable them to take such angles as the Sudeley hairpin, it would appear that the conditions are not mapped out to encourage private owners to enter their cycle cars, and it would therefore be interesting to know what other private owners and also the A.C.U. have to say about this matter.

JAS. WAINWRIGHT.

ILLUMINATING ROAD OBSTRUCTIONS AT NIGHT.

Sir,—It is the practice of many authorities to illuminate road obstructions at night by means of red lamps, regardless of the position of the obstruction.

A red lamp ahead when attached to a vehicle is an indication that it should be passed on the off side; but in the case of a road obstruction in the centre or off side of the road the red lamp may have to be passed on the near side.

These two cases are indistinguishable to the oncoming motorist in the dark, and it would therefore appear to the writer to be preferable to illuminate the road obstruction, when at the side of the road, by means of red lamps on one end and white lamps on the other, as though it were a stationary vehicle in the roadway. In the case of an obstruction in the middle of the road, white lamps only should be used to indicate to oncoming motorists in either direction that it should be passed on their near sides respectively.

I think perhaps the authorities concerned might be approached on this matter, preferably through one of the associations which exist to look after the interests of the motoring public. W. D. EDWARDS.



Obverse and reverse of the heavy and well-designed silver medal awarded in the Anglo-Dutch Trial last year.

WELDING COSTS.

Sir,—Kindly allow me space in your valuable paper to relate briefly my experiences with regard to "Welding Costs," a small article on which appeared in your issue of January 27th. My 2½ h.p. machine had poor compression, and on examination I discovered a minute crack in the exhaust valve seat. I wrote describing the damage to a welding concern in Scotland for an estimate, and in reply the firm stated that until they had inspected the cylinder they could not give cost of repair.

I forwarded the cylinder, and in due course it was returned accompanied by an account for £3 18s. for repair. With carriage expenses the job cost £4 5s., for which sum I could have purchased a new cylinder complete. The fins were damaged in transit, and the amount claimed for damage was to be refunded, but up to the present there is no word of anything. In conclusion, let me state that, though I considered the charge excessive, the repair was executed in a thoroughly workmanlike manner, and the engine is giving entire satisfaction. CRAIGNAIR.

Dalbeattie.

LET SLEEPING DOGS LIE!

Sir,—The dazzling head lights that have recently been the subject of much comment in your paper might, perhaps, have just as well been left in the dark. Motor cycles, with their varied assortments of Government gim-cracks, already bear sufficient resemblance to early Victorian mantlepieces without adding any further to the collection.

The 20 m.p.h. limit that still exists, and the disgraces, sometimes referred to as roads, somewhat worse now than a year ago, surely provide enough material with which to keep the official nose to the grindstone, until it gets tired of it, and does something.

The authorities (I use the word in its purely conventional sense) would no doubt delight in enforcing some coal-scuttle-like proturberance to be carried over all head lights, and various firms would be only too pleased to market such impedimenta at about three times their value. For my part, however, although I hate them as strongly as anybody when I meet them, I can forgive the offending head lights much of their brightness, in remembering that they, at least, have not yet suffered official degradation. CE 6264.

Bexley Heath.

EVERYTHING BIG PREFERRED IN AMERICA.

Sir,—I have just received the copies of *The Motor Cycle* dated January 20th and 27th.

In the former number I noticed the road test of the 8 h.p. Brough Superior. I have often wondered why such a machine was never manufactured before now.

If only a few more firms went in for a decent powerful twin for solo work, instead of manufacturing such unsightly lightweights as we sometimes see!

At the present time I am riding an Indian solo, one of the new oversize motors (seventy-two cubic inches). I have ridden all winter, and winters are no picnic in the Great Lake district either.

Quite a few numbers back one of your readers asked for experience regarding 26×3in. tyres on a Cleveland two-stroke.

What could give easier riding? Before I left England, a year and a half ago, I had an O.K. Junior fitted with a M.A.G. engine. The machine itself was fine, and I never had any trouble with it. But the tyres (26×2¼in.)—I could never take a decent run without some kind of tyre trouble.

New York. K. T. ROBINS.

THE BALANCE OF MOTOR CYCLE ENGINES.

Sir,—The great interest taken in this question of balance by your readers has stimulated me to go a little deeper into the graphic representation of the unbalanced forces as shown in the original article of *The Motor Cycle* of February 3rd.

I noticed that the author only represents the unbalanced forces acting along the crank centre line, and thus neglects the effect of the forces tangential to the crank radius, which, evidently not being zero at all crank positions, produce a reaction capable of balancing partially. Hence the diagrams cannot represent the total unbalanced forces existing in any but such crank pin position where no tangential forces exist, *i.e.*, top and bottom dead centre.

It is interesting to note that for this reason his investigation of the amount to be balanced for single cylinders is not materially affected, as the dead centre position is playing the leading *rôle* in arriving at this amount.

However, as soon as angular positions of the crank pin are being introduced, as is the case with V twins, the graphs can no longer represent the facts. He only balances, as mentioned before, the radial forces along the crank, and the result is that the weights recommended for twins work out too small.

Also I doubt if the abrupt changes in the curves shown will still exist if the tangential reactions are included in the investigations.

The author is to be congratulated on stimulating the interest of your readers by concentrating them a little on this absorbing and important question of balance, and no doubt the various correspondents are looking forward to the author's reply to the "Yeas" and "Nays" coming through with bewildering confusion.

G. FUNCK, A.M.I.A.E.

BEVEL DRIVE ON THE A.B.C.—AND OTHER MATTERS.

Sir,—My experience may be of interest to the Aberdeen reader, "M.J.R." When I first took over my machine, the bevel wheels in rotating made a high pitched shrieking noise, however much oiled. I took out the bevel-shaft and found that the bevel wheels were only just engaging. In trying to reassemble, I smashed the self-aligning ball bearing on the end of the shaft. (Very clumsy, no doubt; the spanner broke first.)

The remedy is not to try and take the shaft out, but to screw up the large gland behind the chain sprocket whilst gently knocking the sprocket end of the shaft to drive the bearing further home. Do this until the back lash in the bevel wheels is only just perceptible, taking care, of course, that the back lash of the bevel wheels is being felt and not that in the gear box.

In turn, I should like to ask readers how is it possible to take out the gudgeon pins? Mine appear to be bevelled over by hydraulic pressure or some such means.

Re the correspondence about four-stroking on two-strokes when moving comparatively fast on a light road, *i.e.*, at small throttle openings. My remedy was to fit a W.S.R. adjustable jet, and close it just a trifle as the engine started to four-stroke. This effects considerable economy and higher speeds; also frequent stops, unless the jet is opened again before opening up the throttle for a hill.

I should also like to ask Mr. J. A. Peters how he avoids the condensation of steam from the exhaust gases in his automatic lubrication system. This is a very serious defect in exhaust pressure-fed fuel systems on cars. Owing to gaseous diffusion it is difficult to keep the tank supplied with only carbon dioxide and nitrogen. N.S.D.

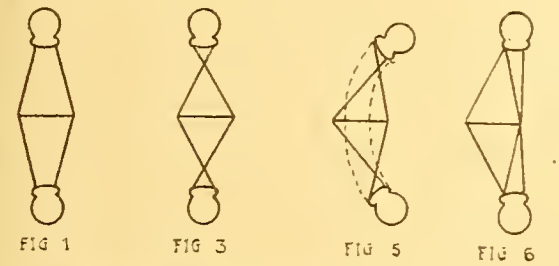


A WIN FOR GREAT BRITAIN IN THE ITALIAN ROAD RACE.

Nino Vanoni (8 New Imperial) finishes first in the "Second Italian Winter Cup" Race held at the end of last month. Another New Imperial was second, a Frera third, and a Triumph fourth.

MOTOR CYCLE WHEEL DESIGN.

Sir,—In Mr. Edwin Smith's letter on motor cycle wheel design in your issue of March 3rd, he has fallen into the old familiar error of regarding the spokes and rim in the plane of the paper as being the only essential features. He ignores altogether the spokes and those parts of the rim which are not in the plane of the paper, and he ignores the great part they play in the complicated but beautiful structure of a wire wheel. But Mr. Smith does worse than this. He assumes that the section of the rim is held in the plane of the paper with the two edges or lips always horizontal, or it is under such conditions that his fig. 3 would be as strong as his fig. 1. We have ventured to add fig. 5, which shows what would really happen to fig. 3.



Diagrams illustrating Mr. John Pugh's letter on motor cycle wheel design.

Sound theoretical investigations as well as years of road experience and laboratory tests have shown that fig. 1 is definitely superior to fig. 3, because fig. 1 prevents rim twist or buckling, and fig. 3 encourages it, and thus encourages the wheel to collapse.

Rudge-Whitworth, Ltd., were probably the first firm to realise the advantage of placing the spokes as wide apart as possible on the rim. This was in "bicycle" days, and later on in the analogous technical application of wire wheels for motor cars introduced the triple spoked wheel, which permits a great amount of dish and yet preserves the essentials, viz., great strength from the side on which the biggest forces are applied and the absolute prevention of rim twist. This is illustrated in fig. 6.

JOHN PUGH,
RUDGE-WHITWORTH, LTD.

INCREASED INSURANCE RATES—IN A NUTSHELL.

Sir,—It may be no secret that the insurance of motor cycles at the competitive rates that have been charged in the past has resulted in a loss to the companies transacting this class of business. From March 1st, however, uniform rates will be charged, and a standardised policy issued. Premiums will be revised, which means that they will be increased, in many cases to a considerable extent.

Overhead charges in the form of licence duties and insurance will henceforth amount to a large sum, and since the former cannot be reduced, it is necessary to see what economies can be effected in the latter.

There are three scales in the new insurance rates, viz.:

Scale A, insuring—
(1.) Liability to the public.

Scale B, insuring—
(1.) Liability to the public.
(2.) Fire.
(3.) Burglary.

Scale C. Risks as B, also accidental damage.

Scale A is the cheapest policy. Scale B costs 50% more than A. Scale C costs 150% more than A.

It is essential for every motorist to insure against liability to the public, or third party. With regard to the other risks, the premium demanded to cover fire and burglary works out, roughly, to 20s. per cent., and this rate, in the writer's experience, of similar risks, is by no means excessive. It should be remembered that a claim under either of these heads is invariably a total loss. It is therefore advisable to cover fire and burglary.

In regard to Scale C, the liability to accidental damage is roughly proportional to the extent the machine is used, and the fairest way would be to rate this risk according to mileage. This method is impracticable, however, and so the motorist should consider whether he rides his machine a sufficient number of miles during the year to justify the heavy additional premium. The premium for a sidecar is the same as for a solo machine, whereas, as every motorist knows, the risk of damage to the former, owing to its greater stability, is very much less than the risk of damage to the latter. It may therefore be advisable to insure a solo mount against accidental damage when it would be unnecessary to insure a sidecar outfit.

The scale of charges provide for a deduction of 15% when the insured agrees to bear the first £2 10s. of any loss, also for a bonus of 10% if no claim is made during the year. As all claims are recorded against the insured, it is seldom prudent to recover small sums. The motorist may, therefore, be advised to underwrite the first £2 10s. himself, and obtain the benefit of the reduced premium.

In the new insurance rates, an extra premium of 10s. is charged for each £50 by which the value of the machine exceeds £100, and a surcharge of 50% is made when a solo mount is used for pillion riding.

INSURANCE MAN.
Crouch End, N.8.

ORDER OF MERIT IN THE SIX DAYS TRIALS.

Sir,—Will you allow me through your columns to thank "Pegasus" for his remarks?

I should also like to say that, as a rider in the Velocette team, I should not have risked anything to spoil our chance for the coveted Trade Team Prize. I had every confidence that my machine was equal to all I could get out of it.

E. F. GOODMAN.

SUMMARY OF CORRESPONDENCE.

The naked chain still possesses a warm coterie of adherents, and several of our readers take exception to the statements of "Chain Drive" and "H.M.B." in recent articles on the subject of transmission protection.

Mr. E. H. Lambert accuses the Northern dealer of less enterprise than his London *confrère*, particularly in the matter of accepting old machines in part exchange for new. His criticism is applied especially to Liverpool.

"Rudge It," from his experience of the speed and acceleration of the Rudge-Multi twin, welcomes the 7-9 h.p. all-chain model as a formidable competitor to the big American twins, which, as he states, it more closely follows in specification than any other British twin.

In the letter of Mr. J. A. Peters, with reference to his oiling system, which we published in *The Motor Cycle* of the 10th inst., we inadvertently omitted the following paragraphs:

"It has therefore been shown that, in the event of failure from any cause, ample warning is given, and as the supply of oil is perfectly automatically controlled to suit the requirements, there is no need whatever for a sight feed. In fact, the rider can forget his lubrication system altogether.

"As the gas in contact with the oil is not circulating, there is no question of contaminating the oil with sooty exhaust gas. Incidentally, with this correct system of lubrication, there is very little free carbon in the exhaust."

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	Book post.
"HINTS AND TIPS FOR MOTOR CYCLISTS." Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Seventh Edition	2/	2/3
"TRACING MOTOR CYCLE TROUBLES." A system for tracing motor cycle faults and of remedying them when found. Fourth Edition ..	2/-	2/3
"MAGNETOS." By A. P. YOUNG. A complete treatise on magneto ignition for motor cars, motor cycles, and aeroplanes. Second Edition	4/6	4/10
"TWO-STROKE MOTOR CYCLES." A reliable treatise on Two-strokes, from the rider's point of view. Just published	3/-	3/3
"MOTOR CYCLE REMINISCENCES." By "IXION," of *The Motor Cycle*	5/-	5/4
"THE MOTOR CYCLE" ROAD MAPS, England and Wales, Scotland, London (showing roads into and out of London and avoiding London). Mounted on linen. Set of three, complete in case.	5/6	5/10
"THE MOTOR CYCLE" ROUTE BOOK. With 32 pages of Road Maps of England and Wales, Scotland, and the London District ..	5/-	5/4

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

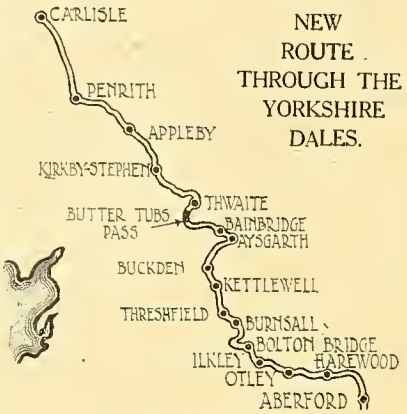
The 1921 London-Edinburgh Run.

Buttertubs Pass included in this Year's M.C.C. Whitsuntide Event.

THIS year competitors in the London to Edinburgh run will take in Buttertubs Pass. This further stiffening up of the M.C.C. Whitsuntide event has been decided before its Easter trial has been run off, which shows that the Competitions Committee of the M.C.C. has confidence in its present policy. There is no doubt that the stiffening of the London-Land's End regulations—and *The Motor Cycle's* criticism of their severity—has had the effect of making competition riders keener than ever to participate: in fact, we understand, had the rules of the club permitted, there would have been an entry of something like 400, most of whom decided to enter after *The Motor Cycle* had pointed out what lay ahead.

No Time for Delay.

Intending competitors in the sister event to Edinburgh at Whitsuntide have none too much time in which to make up their minds, for if they are not members of the M.C.C. they must make application to Mr. Southcomb May, 34, Gower Place, London, W.C., before Tuesday, April 12th.



This year's competitors branch off last year's route near Bolton Bridge, rejoining it again at Penrith. The new portion includes the ascent of Buttertubs.

Buttertubs Pass, the titbit of the run, was traversed in last year's A.C.U.'s Six Days Trials, and although it has not the bad surface nor the gradient of Park Rash, it is a hill in the same category, and a worthy substitute for Kirkstone, if not so long. Three miles, including the ascent of Buttertubs, will be a non-stop section; but this year that portion of the route over the hills near Moffat will not be "non-stop."

400 Miles in 24 Hours.

The trial will start from the Gate House, Highgate, at 7 p.m. on Friday, May 13th, and the first competitor is due to arrive in Edinburgh at the end of the 400 mile run twenty-four hours later. The trial will be divided into four sections with approximately an hour's stay at Grantham, Ilkley, and Carlisle.

Moribund Phrasing in Latest Government Order.

A Brief Review of the Road Vehicles (Registration and Licensing) Regulations.

IS it necessary for a sidecar outfit weighing more than 3 cwt. to carry car size number plates?

Have the authorities ever heard of such a vehicle as the sidecar?

Is there no one in the Government Department concerned capable of amending the phrasing of the Act of 1903 in order to bring it up to date, so as adequately to cover present-day requirements?

No Interpretation of the Law.

One is constrained to ask these questions after perusal of the Provisional Rules and Orders relating to the registration and licensing of road vehicles, dated March 9th, 1921. This Order gives full instructions with regard to the licensing and registration of all mechanically-propelled vehicles, including motor cycles. It is still most indefinite as regards the position in which licence holders can be placed on motor cycles (including motor scooters, motor cycles with trailers or sidecars, tricycles, and invalid carriages), as it is stated that in the case of these vehicles the licence must be in a conspicuous position on the near side.

The question of the granting of licences and the issuing of registration books is dealt with in great detail, but most of this information has previously appeared in *The Motor Cycle*.

So far as the registration numbers are concerned, it is still legal to have the front number plate painted on both sides and carried in the usual position. Should a forecar (of which there are none in existence at the present time) or a trailer (which form of attachment is likewise defunct) be attached to a mechanically-propelled vehicle (or, in other words, to a motor cycle), the plate is required to be fixed on the front or the back of the motor cycle, or a duplicate of such plate should be fixed on the front or on the back of the vehicle attached.

Lamps still have to be carried half an hour after sunset and half an hour before sunrise, and be kept burning; and the regulations point out that these lamps must be so contrived as to illuminate by means of reflection, transparency, or otherwise, and render easily distinguishable every letter or figure on the identification plate fixed on the back of any vehicle or of any vehicle attached to the back of the vehicle. The Order goes on to say, "In the application of this regulation to a motor tricycle or a motor bicycle of a weight unladen not exceeding 3 cwt., the plate fixed on the front of the vehicle may, if desired, be substituted for a plate fixed on the back of the vehicle." This, in ordinary English, means that, as has always been the case since there has been a Motor Car Act, a vehicle registered as a motor cycle, and weighing less than 3 cwt., may have either the front or back number plate illuminated; that is to say, if a red tail-light is carried, this need not necessarily illuminate the number plate if the front number plate is adequately rendered distinguishable by means of the front lamp of the vehicle.

Registration Details.

The regulations contain the usual illustration of the licence card and specification of licence holders, an up-to-date list of registration marks of the County and Borough Councils in England, Wales, Scotland, and Ireland, and also some sample illustrations of specimen number plates. The regulations affecting the size of index marks and numerals remain exactly the same as in the 1903 Act. These are given in detail, together with the old stipulation that in the case of the plates for a motor cycle or motor tricycle of a weight unladen not exceeding 3 cwt., each of the dimensions should be halved, and the shape of the plate need not be rectangular so long as the minimum space between any letter or figure and the top and bottom and sides of the plate, and the relative position of the letters and figures are in accordance with Clause 1 of the provisions of this Order.

Ambiguity of Requirements.

Now it will be noticed that on the first occasion on which motor cycles were mentioned in this brief review it is stated that motor cycles include motor scooters, motor cycles with trailer or sidecar, tricycles, or invalid carriages, but no mention is made of the sidecar in any other part of the regulations. Moreover, according to the Finance Act a vehicle can be licensed as a motor cycle which has not more than three wheels and does not exceed 8 cwt. in weight. It will be seen, however, that in the regulations under review wherever weight is mentioned it is the old weight limit of 3 cwt. The second reference is the one we have just made to the size of number plates, and it now seems that according to the strict interpretation of the regulations motor cycles exceeding 3 cwt., though they pay motor cycle licences, must carry car size number plates if the authorities exercise their power.

It is not fair to accuse the motoring organisations of not having tackled the Government on these subjects, as we know for a fact that the Motor Legislation Committee, on which both the A.C.U. and A.A. and M.U. are represented, strenuously fought this case with the authorities, but apparently without effect. We understand that these regulations are provisional for forty days, though they are still operative, and that a further deputation from the Motor Legislation Committee will be received by the Minister of Transport.

A 60 lb. LADY'S LIGHT-WEIGHT.

THE lightest lightweight, as a type, is bound to appeal especially to the lady rider, and it was with this in view that the Chandler machine was evolved. Pedal cycle, more than motor cycle, lines have been followed, and indeed many of the component parts are simply strengthened cycle fitments.



Spring forks will later be embodied in this 1½ h.p. Chandler lady's motor cycle, but even then it is claimed that the total weight will not exceed 60 lb.

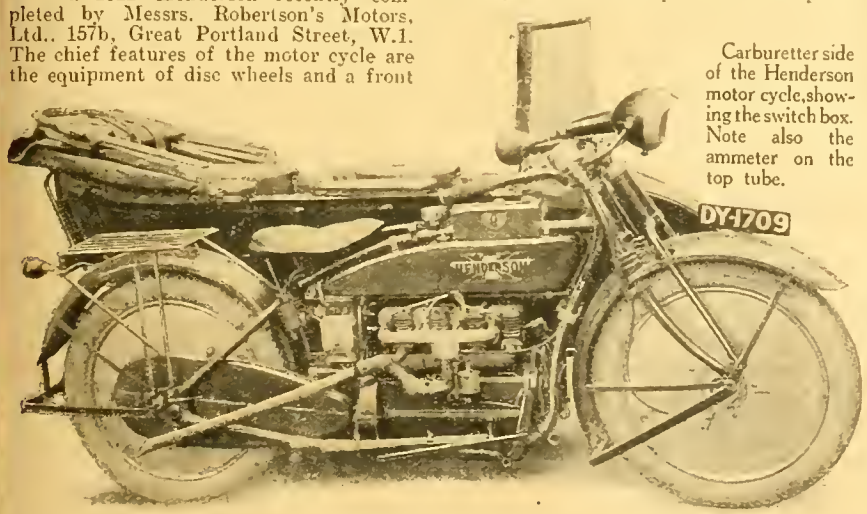
A J.E.S. 1½ h.p. four-stroke engine supplies the power, and the transmission is by a direct belt running over a jockey pulley. Closely resembling a lady's pedal cycle, the frame, however, has been modified and strengthened to withstand the additional stresses imposed on the self-propelled vehicle, and behind the steering head lies a triangular petrol tank. A large celluloid dressguard protects the rider's dress both from mud thrown up by the rear wheel and from the belt. Spring forks will be fitted to the final production model. This machine is made by J. P. Chandler, St. Botolph's Road, Shepherdswell.

A LUXURIOUS SIDECAR OUTFIT.

ONE of the most excellently fitted out sidecar outfits we have yet seen is a 1921 Henderson recently completed by Messrs. Robertson's Motors, Ltd., 157b, Great Portland Street, W.1. The chief features of the motor cycle are the equipment of disc wheels and a front stand, while quite an innovation is the inclusion of a P. and H. lighting outfit. The dynamo is neatly housed over the magneto and driven off the magneto-shaft by means of a wire belt. This electric lighting outfit is entirely self-contained, as there is a small auxiliary battery attached to the carrier of the motor cycle. There is also a larger battery in the sidecar locker, which is connected to the switchboard on the motor cycle by means of a plug. The small battery, therefore, serves to illuminate the machine when used as a solo, and it is quite adequate for supplying current for the head and tail lamps. The equipment includes an ammeter and change-over switch. The sidecar is a special Millford double-seater equipped with hood screen.

Access to the back seat is obtained by swinging round the back of the front seat and lifting up the seat itself. All three tyres are 27×3½in.

It is very noticeable from the illustration that the roomy two-seated sidecar does not look at all unwieldy when attached to the Henderson; indeed, the other extreme (a sporting single-seat body) would probably look much more of a misfit with such a massive machine.



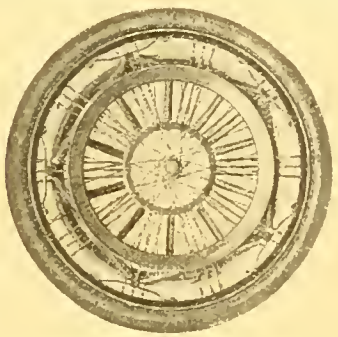
Carburetter side of the Henderson motor cycle, showing the switch box. Note also the ammeter on the top tube.

A FULLY SPRUNG WHEEL

IN designing a springing system the most important theoretical consideration is the reduction of unsprung weight to a minimum. Again theoretically, this reduction may best be carried out by making the wheel itself the springing medium, when also it should be possible to use solid tyres. Practically, there are many difficulties in the way of a spring wheel for the motor cycle, and for this reason the example we show, which has actually been tested on the road, is of some interest.

There are in reality three spoked discs, the larger annular one, which carries the tyre, floating between the other two on coil springs. Lateral rigidity, of course, depends on the fit of the annular wheel spokes in the slot formed by the two hub discs; but as these spokes are heavy and numerous, this difficulty should not be insurmountable. On the model illustrated the chordal springs provide a spring drive, while the radial springs look after the suspension.

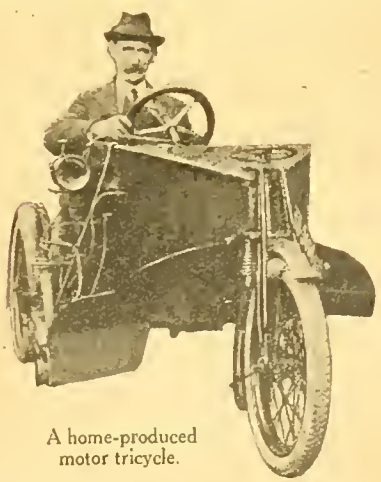
The wheel is the patent (17267/19) of Mr. G. H. Bagshaw, and is made by Bagshaw and Clowes, of 464, Ecclesall Road, Sheffield.



A fully sprung wheel, patented and manufactured by Bagshaw and Clowes, Sheffield.

SIMPLE MOTOR TRICYCLE FOR TWO.

WHY a runabout becomes a tricycle when the single wheel is placed in front is a moot point, but a machine so arranged usually is regarded by the public as a development of the tricycle. There have been many machines of this type on the market, notably the Wall tri-carriage in this country, the Duryea in America, and the Phanomobile on the Continent.

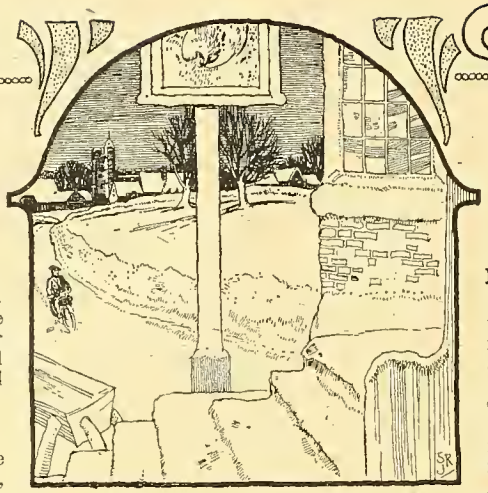


A home-produced motor tricycle.

Although the three tracks may militate against its popularity, the central steering obviates the drag which is present with a sidecar.

The machine illustrated is a home-constructed vehicle, built in spare time by Mr. W. J. Roy, of Ardrossan. As will be seen, a 3½ h.p. single cylinder engine is carried on one side of a small two-seater body, and drives through a countershaft gear box to one rear wheel, the transmission being by chain and belt. Coil springs are used at the rear, and a Druid fork at the front.

CURRENT CHAT



Special Features.

AN 8,600ft. CLIMB.
GUIDE TO LONDON-LAND'S END.
WHAT IT COSTS.

Times to Light Lamps

March 24th	... ...	6.48 p.m.
,, 26th	... ...	6.50 ,,
,, 28th	... ...	6.53 ,,
,, 30th	... ...	6.57 ,,

A New 350 c.c. Lightweight.

After a lapse of four years, the 2¾ h.p. A.J.S. has been reintroduced. The winner of two T.T. races, and the holder of several records, this 1921 three-speed model of a popular machine is catalogued at 100 guineas.

An R.A.F. Reunion.

In order to effect a reunion of the members of the 205th Squadron R.A.F., late 5th Squadron 5th Wing, R.N.A.S., it has been suggested that a dinner be held in London. Those interested should communicate with Mr. W. Jones, 43, Ranelagh Road, London, W.5.

Observers Wanted for Lynton.

Any motor cyclists in Lynton and neighbourhood who can offer their services as observers, etc., on Lynton Hill on Saturday morning, March 26th, are asked to communicate with Mr. E. L. Herring on Good Friday evening at the Valley of the Rocks Hotel, Lynton.

The International Six Days Trials.

The A.C.U. invites entries from riders of motor cycles who would care to enter for this trial and also with a view to making a selection for a team to represent Great Britain.

As has been previously announced in these pages, this year the International Six Days Trial will comprise a tour round practically the whole of Switzerland, and should prove a most attractive, as well as instructive competition.

Roadside Lighthouses.

Experiments are being conducted by the Ministry of Transport with devices for the illumination of dangerous turnings and cross roads after dark. We are informed that "flashers" of the type used on buoys and in lighthouses are being tried, and that these are of foreign manufacture. Why our own makers are not being called upon is difficult to understand, as the necessary apparatus, consisting of special valves and dissolved acetylene equipment, was made and tested for a like purpose some years ago, and is largely used in marine work.

Anti-mudsplashing Devices.

A series of tests were carried out by the Borough of Camberwell on March 14th last to ascertain the possible efficiency of anti-splashing devices for attachment to the wheels of motor cars. The competing cars were driven over a pot-holed, muddy stretch of road between white screens on which the height and extent of splashing were observed after the vehicles had passed at a predetermined speed. Full details and many illustrations of the devices used were illustrated in last Saturday's issue of *The Autocar*.

Trouble in Belgium.

As we have previously mentioned in these pages, the same unity does not reign among motor cyclists in Belgium as it does in England. The Committee of the Belgian Motor Cyclists' Federation refuse to recognise the trial run on March 6th by the Motor Cycle Club of Seraing, and the licences of competitors who took part in this event have been suspended, while those riders who have not yet taken out their licences are now debarred from doing so.

Motor Cycle Racing at Brooklands.

The first members' meeting this year of the B.M.C.R.C. will be held at Brooklands on April 16th, 1921. Event No. 1 will be time trials for one kilometre and one mile in one run. All classes will be provided for, including three and four-wheeled cycle cars.

Following this there will be eight three-lap scratch races, viz., five races for solo machines, two for motor cycles with side-cars, and one for cycle cars. The entry fee will be 5s. each event, and entries close Wednesday, April 6th.

B.M.C.R.C. race meetings will in future be run under the revised racing rules of the club now in preparation. The hon. sec. of the B.M.C.R.C. is Mr. T. W. Loughborough, the Mill House, Upper Warlingham, Surrey.

THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read

The Autocar Every Friday 4d.

the forerunner of all motoring journals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

High Stepping.

A correspondent writes: "Your contributor 'Ixion' may know a lot about motor cycles but he does not know much about fashions. In your issue for March 16th he talks about 'the dancer who has trodden his best girl's skirt off her waist'! Since when has it been necessary for a man to lift his feet more than 2ft. off the floor, even in modern dances?"

Pilots for London Tourists.

The Automobile Association has instituted arrangements whereby tourists and country members can be met in any part of London, or its outskirts, by competent pilots having an intimate knowledge of the Metropolis and London traffic conditions. The men will be available for guiding members' vehicles by the best routes, through or around London.

Piston Rings.

A recent lecture by Mr. G. Williams at the Foreman's Institute, Coventry, was not without interest. The subject of piston rings and their design was clearly expounded by the author, who is connected with the British Piston Ring Co., and therefore speaks with authority. Amongst the interesting points brought forward were the statements that the concentric internally hammered ring with scarf joint is at least the equal of any other type, and that there is no great advantage in high-ring pressures. On the subject of narrow rings, it was stated that this type was becoming increasingly popular on account of reduced friction and greater flexibility to counteract cylinder distortion. On the other hand, narrow rings were apt to wear more quickly. Interesting lantern slides descriptive of manufacturing and testing machinery were shown, and a hint of new manufacturing methods in order to produce a perfect ring was given.

High Speeds in the U.S.A.

In our issue for March 10th we referred to records put up by Otto Walker at Fresno, California, U.S.A., on a Harley-Davidson. We have now received further particulars of his performances.

The time for the mile was 33.4s. (107.78 m.p.h.); for 10 miles, 5m. 48s. (103.44 m.p.h.); 15 miles, 8m. 37⅖s. (104.37 m.p.h.); and 50 miles, 29m. 34⅘s. (101.43 m.p.h.).

The times were made on February 22nd on a circular board track. They have already been recognised by the Motor Cycle and Allied Trades Association of America as American records, and such as are eligible will come up for confirmation before the International Federation of Motor Cycle Clubs at the next meeting at Geneva. It seems, however, that only the ten miles record can qualify as a world's record

Over the Cotswolds for the Victory Cup



Rising Sun was the rendezvous of a large number of motorists to witness the ascent of competitors in the trial. B. Bladder (8 New Imperial sc.) making a steady climb.

Over 170 Starters in the A.C.U. Midland Centre's Second Trial. 144 Finishers.

THE Cotswold District—once so formidable even to high powered machines—loses its value as a testing ground for modern motor cycles. This was proved by last Saturday's Victory Cup Trial, when a little 2¼ h.p. Velocette sidecar outfit did all that was required to qualify for an award.

Although such hills as The Beacon, Old Wyche, Portway, Birdlip, Rising Sun, Sudeley, and Willersey were included in the 128 miles course, to the great majority of the 170 odd competitors it was a joy ride, and few will retain memories of incidents with which to harry the souls of next year's novices.

Because the day was fine, at least until the worst was over, every hill was in good condition. Sir Herbert Austin, K.B.E. (one of the pioneers of the motor industry), started the first dozen or so pairs of competitors. Beacon Hill, a mile or so from the start, and in the first non-stop section, did not take its usual toll, but L. A. Bees (Beardmore-Precision) was unlucky and suffered from a choked jet. The next twenty-five miles were over main roads to Malvern, where the Old Wyche was climbed with almost unfailing regularity.

H. A. Pattman (4 Norton sc.) was the first to arrive, and, for some reason, failed, as he did later on Portway. He seemed dogged by ill luck from the start, where he suffered tyre troubles, and eventually retired in disgust. The other Nortons, however, more than made up for the deficiency. T. F. Watson and C. Wilson were very sure, and F. J. Adams, J. R. Fellows, and L. Paynter ascended the hill so fast that they were compelled to cut out.



A watersplash on the Colonial section. J. L. Hardy on his 3½ Triumph makes light of this obstacle.

On this hill the performances generally were consistently good. The solo Triumphs and Sunbeams, like the Nortons, might have been practising for the T.T. Let us whisper it, it is said that the speed of de la Haye's Sunbeam was 45 m.p.h. before it became necessary to cut out. Of the sidecars, most of the 5-6 h.p. James outfits were exceptionally fast, but H. Rem Fowler—once more in the competition game after a lapse of many years—barely got up without assistance. F. Arbuckle found the hill too much for his 4½ h.p. Humber sidecar, yet Sam Wright, on a sister mount, simply played with it. Tessier's Bat sidecar behaved as all big twin outfits should, and the spectators were treated to some steady unostentatious climbs by such riders as Hugh Gibson (8 Royal Ruby sc.) and W. A. Fell-Smith (8 Rex sc.).

Portway.

After seeing some seventy competitors on the Old Wyche with only three failures, we hurried on to Portway, thirty-two miles further on, but here, again, the officials were yawning in boredom with having nothing more to do than record the successes. Lightweights and heavyweights alike were taken up the hill, fast or slow as their riders willed. Yet Portway is a hill the

The Victory Cup.—

average owner would think twice before attempting. Some of the competitors ascended with one hand in pocket and smoking a pipe, so sure were they of themselves and their machines. How different it would have been had the surface been wet. Of the hundred competitors we saw ascend the hill, we recorded only two failures. S. H. Brand (4 Indian Scout) made a very fine ascent, while E. Walker, on one of the experimental 2¼ h.p. two-stroke Excelsiors, hummed up in great style. The Triumph sidecars driven by H. Finch and R. R. Grindlay also made splendid ascents, as did the Ariels, Nortons, and Sunbeams among the heavier weights, and the New Hudsons, Levises, Hobart, Sun, New Imperials, Verus, and O.K. among the lightweights.

Again, de la Haye got in a little practice for the T.T., and some of the B.S.A. solos, too, were particularly fast. The 2¾ h.p. Coulson sidecar driven by H. Guy made a very steady climb, and the power of Denley's little Velocette outfit was one of the features of the day.

Birdlip.

Another few miles and the competitors were on Birdlip Hill, which was in excellent condition. The spot chosen for the acceleration test consisted of a stretch, approximately 120 yards long, extending over the Nap, the worst section in the middle of the hill. Each machine was stopped and restarted on the gradient, and it was very noticeable that such machines as were equipped with handlebar controlled clutches scored considerably over the few with foot controls.

G. S. Arter (5-6 James sc.), the first man to arrive, got away very well, and amongst other early arrivals, R. B. Clark (2¾ Coulson), W. Swiffen (3½ Norton), G. Baragwanath (3½ Sunbeam), R. Brown (3½ Sunbeam sc.), F. Adam (3½ Norton sc.), B. Kershaw (2¾ Verus), and H. Newey (2¼ Levis) shone in particular.

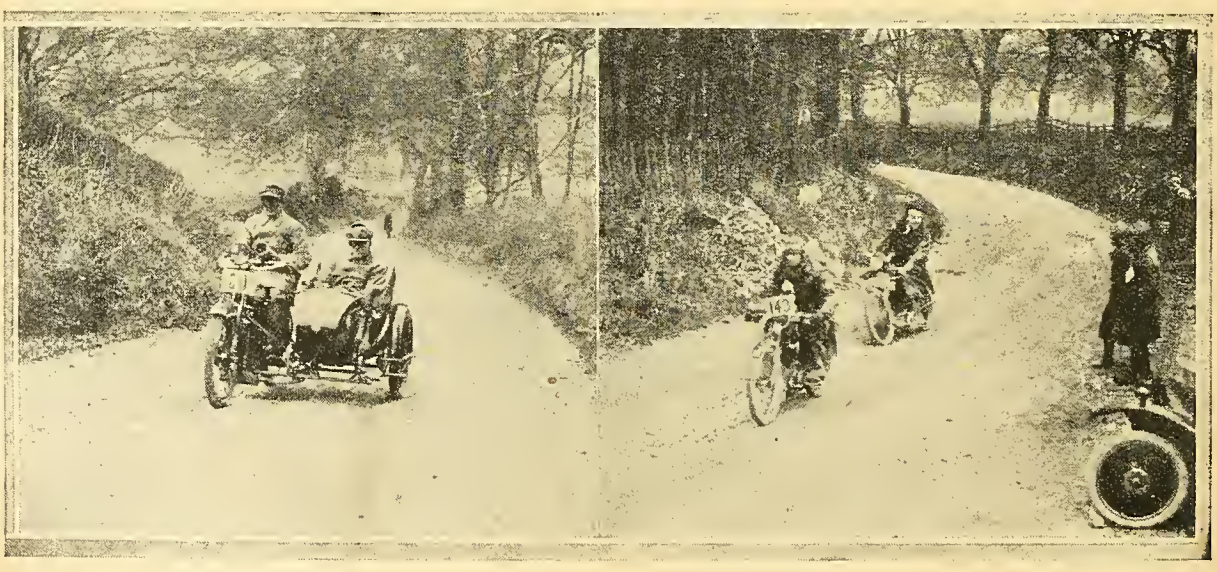


Public interest in motor cycle trials is as keen as ever this year. This scene on the Old Wyche, Malvern, shows spectators very busy checking each competitor as he arrives. The rider is K. G. Hay, on a Coulson-B.

Hugh Gibson (8 Royal Ruby sc.) had trouble with a stretched clutch control and stopped his engine. De la Haye (3½ Sunbeam) shot off the mark like a rocket, and E. Williams (T.T. Sunbeam) dry skidded, such was his acceleration. Greenwood *père et fils* both went off the mark well—in fact, the Sunbeams and Nortons were good almost without exception.

B. H. Norris (2¾ Sun), W. Handley (2½ O.K.), C. Hall (2¼ Levis), L. Clulee (2½ Allon), P. Pike (2¼ Levis), H. Greaves (3½ Beardmore-Precision), C. Hanwell (2¾ Cedos), R. G. Mundy (2¼ Cedos), G. Denley (2¼ Velocette sc.), and G. Kuhn (2¼ Verus) were all stars amongst the lightweights.

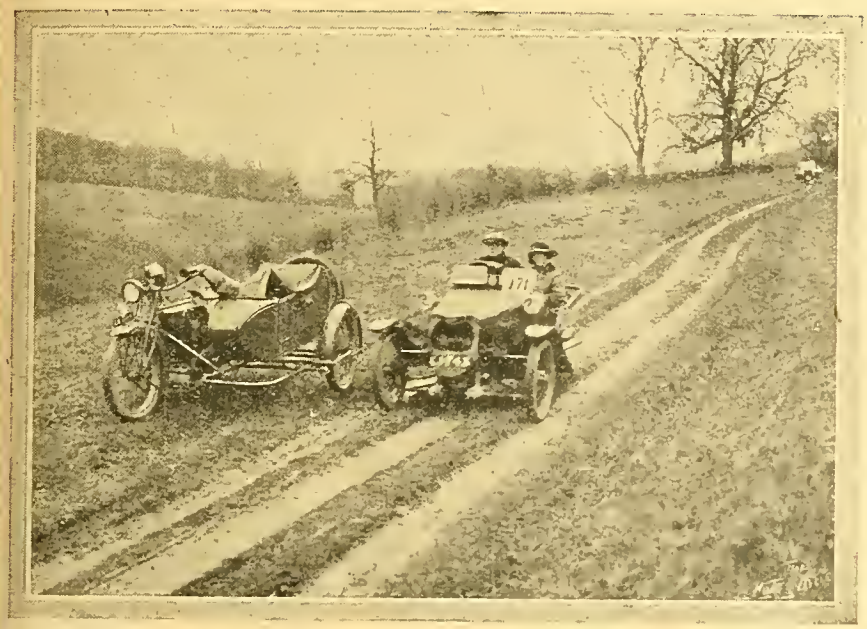
Of the heavier classes, besides those already mentioned, the following deserve special praise: F. Brown (8 Rex sc.), A. Jacobs (5-6 New Imperial), S. Brand (Indian Scout), F. Hallam (8 Excelsior



On Portway. S. T. Tessier (8 Bat sc.), who made his first appearance in a public trial after eight years' retirement.

C. N. Green (4 Triumph) and R. C. Bennett (2¾ Federation) making light of Sudeley Hill.

cC



H. F. S. Morgan (8 Morgan) negotiating the grass-grown track which formed part of the "colonial" section.

sc.), B. L. Bird (4¼ B.S.A. sc.), A. Ellison (8 Zenith), A. Elliot (5-6 Rover sc.), J. Walker (4¼ B.S.A.), W. Chapman (7 A.J.S. sc.), S. Rhodes (2¾ Wolf), W. Woodcock (3½ Ariel), D. S. Heather (6 B.S.A. sc.), J. W. Wills (3¾ Scott), and, as in the Colmore Cup Trial, all the 5-6 h.p. Rover sidecar outfits without exception.

Some Cycle Car Performances.

Of the cycle cars, but for the fact that J. Meredith (10 T.B.) had the misfortune to stop his engine, all made good performances, though H. F. S. Morgan (8 Morgan) and the two G.N.'s appeared faster than the rest. At the conclusion of the test, we were informed that the following had completed the distance in under 15s.: B. Kershaw (2¾ Verus), T. C. de la Haye (3½ Sunbeam), T. C. Greenwood (3½ Sunbeam), and W. Swiffen (3½ Norton).

Rising Sun.

As on the hills in the morning section, so was it on Rising Sun in the afternoon—an almost unbroken series of clean ascents. Once more de la Haye made the star performance. It is doubtful whether such high speeds have ever been seen on Rising Sun; one after another they came up out of the bottom of the valley on to the top of Cleeve Cloud. All who were successful made good climbs, and quite a large number were out for spectacular display, for here, as usual, a very large crowd had assembled. Neck-and-neck races were quite common, and not always confined to pairs.

The Rover sidecars toured up in a bunch. W. Brandish (5-6 Rover solo) made a fast ascent over a zigzag course, showing that the hill was not unknown to him. P. Pike (Levis) was fast, as was G. Kuhn (Verus), the O.K.'s, and 2¾ h.p. Excelsior.

Not a few demonstrated how steadily and surely they could ascend, and some of the Triumph, B.S.A., and Norton solo mounts were conspicuous in this respect. S. Hall (3½ Sunbeam) made a very good climb, but, right on the summit, his gear jumped out, and, on getting into gear, charged the hedge.

On Sudeley.

As the procession wended its way up Sudeley rain began to fall. The majority took the hill steadily, and there was little incident to recall. A mild excitement was caused by a chimney fire in an adjacent house, which was offset by the failure of G. White (5-6 Rover sc.). His machine had gone beautifully up to this moment, but for some unknown reason became tired on this very moderate climb. The silence of the Humber team was perhaps the most noticeable feature, combined with a star ascent by E. Williams and the fast climbs put up by the Sun, Verus, and Velocette two-strokes.

After Sudeley came a rough colonial section with a deep watersplash, where the all-chain drive machines had the advantage; then homeward, *via* Willersey Hill and main roads to Rose Hill, in the rain. Just before Broadway, Fell-Smith (8 Rex sc.) took a corner too fast, and turned over. This accident induced Gibbons, on a sister machine, to retire to give assistance.

Throughout the run the organisation was splendidly carried out, and reflected great credit upon the organisers, the Birmingham M.C.C. At all points of interest there was a plentiful supply of programmes containing the list of entrants, so that spectators were able to take an intelligent interest in the performances, instead of merely watching a nameless string of competitors go by.

SURVIVORS IN SATURDAY'S VICTORY CUP TRIAL.

G. S. Arter (5-6 James sc.).
W. R. Urwin (2½ Levis).
T. Silver (4½ Quadrant sc.).
R. B. Clark (2¾ Coulson B).
G. R. Morgan (4 Triumph sc.).
H. F. Edwards (2¾ Coulson-B.).
T. G. Amphlett (4¼ James sc.).
G. J. Baragwanath (3½ Sunbeam).
A. Woodfield (4¼ James sc.).
H. C. Jennens (3½ James).
Reg. Brown (3½ Sunbeam sc.).
W. Swiffin (3½ Norton).
H. R. Fowler (5-6 James sc.).
R. W. Duke (4 Triumph).
S. T. Tessier (8 Bat sc.).
R. F. Turner (2¾ New Imperial).
T. Stevens (7 James sc.).
T. F. Watson (4 Norton sc.).
B. Kershaw (2¾ Verus).
F. J. Adam (3½ Norton sc.).
J. Allday (3½ James).
F. S. Short (5-6 James sc.).
J. R. Fellows (3½ Norton).
G. Smith (4 Norton sc.).
F. Porter (2¼ Levis).
H. Newey (2¼ Levis).
J. E. B. Bramley (3½ Coventry Challenge).
E. J. Bastock (2¼ Levis).
Hugh Gibson (8 Royal Ruby sc.).
B. Burke (2¼ New Hudson).
E. Mundy (2¼ New Hudson).
W. Bell (2¼ New Hudson).
L. Paynter (3½ Norton).
J. E. Greenwood (3½ Sunbeam sc.).
T. C. de la Haye (3½ Sunbeam).
G. Nott (8 Matchless sc.).
T. C. Greenwood (3½ Sunbeam).
J. W. Parkes (2½ Sun-V.T.S.).
B. H. Tingle (2½ Autoglider).
F. A. Watson (3½ Sunbeam sc.).
J. H. Ross (3½ Sunbeam).
H. Finch (4 Triumph sc.).
B. H. Norris (2½ Sun).
T. F. Blumfield (6 Ariel sc.).
M. Bishop (2½ Sun).
S. E. Longman (7-9 H.-Davidson sc.).
R. T. Cooke (4 Triumph).
J. G. Skinner (2½ Autoglider).
H. Riley (5-6 A.J.S. sc.).
J. C. Edkins (2¾ Pax).
K. G. Hay (2¾ Coulson-B.).
F. H. Brown (8 Rex sc.).
H. J. Willis (3½ Norton).
A. J. Jacobs (5-6 New Imperial).
S. H. Brand (4 Indian Scout).
F. Hallam (8 Excelsior sc.).
H. F. Brockbank (8 Blackburne).
W. H. Carson (8 Excelsior sc.).
J. Allen (3 Neal-Dalm).
J. Lee (7-9 Indian).
B. L. Bird (4¼ B.S.A. sc.).
E. Walker (2¼ Excelsior).
A. Ellison (8 Zenith).
A. E. Rollason (3½ Ariel).
J. H. Watson (3 Beardmore-Precision).
Eric Williams (3½ Sunbeam).
B. Bladder (8 New Imperial sc.).
F. S. Barnes (3½ Sunbeam).
A. Elliot (5-6 Rover sc.).
E. Griffiths (3½ Norton).
A. W. G. Martin (4 Triumph).
A. E. Wood (6 B.S.A. sc.).
J. H. Walker (4¼ B.S.A.).
Seymour Smith (3 Ivy).
J. W. Moxon (4 Coventry Eagle).
W. Chapman (7 A.J.S. sc.).
E. C. Iles (3½ Sunbeam).
T. H. Richards (4 Triumph).
F. A. Longman (3½ Ariel).
H. Guy (2¾ Coulson B. sc.).
S. H. Rhodes (2¾ Wolf-Blackburne).
W. T. Woodcock (3½ Ariel).
W. Handley (2½ O.K. Junior).
H. F. V. Sadgrove (4¼ B.S.A. sc.).
N. Hall (2½ O.K. Junior).
E. Kibble (4 Triumph).
D. S. Heather (6 B.S.A. sc.).
S. W. Lewis (3½ Hoskison).
R. C. Cooper (2½ Allday Allon).
A. J. Wilkes (3½ Rover).
H. Poole (6 A.J.S. sc.).
C. L. Hull (2¼ Levis).
S. Hall (3½ Sunbeam).
L. E. Clulee (2½ Alldays Allon).
F. Goodman (7-9 Indian).
L. S. Hurton (2¼ New Imperial).
W. Toogue (3½ Rover sc.).
V. G. Wilkins (2¼ New Imperial).
G. Ravenhall (3½ Rover sc.).
W. Brandish (5-6 Rover).
C. W. Ramstedt (2½ Cotton).
A. D. Atkin (5 Rover sc.).
F. Morgan (2¾ Cotton).
G. White (5 Rover sc.).
W. Brooke (2½ Cotton).
E. S. Astley (5 Rover sc.).
N. Rycroft (3¾ Scott).
R. R. Grindlay (4 Triumph sc.).
P. Pike (2¼ Levis).
G. S. Smith (3½ B.S.A. sc.).
J. E. J. Whitaker (4¼ B.S.A.).
H. L. Burley (2¾ Marloe).
H. Greaves (3½ Beardmore-Precision).
L. Baker (8 Enfield sc.).
J. W. Wills (3¾ Scott).
E. J. Cope (7-9 Indian).
O. N. Green (4 Triumph).
R. C. Bennett (2¾ Federation).
L. L. Sealey (4¼ B.S.A.).
A. Milner (2¾ Diamond).
L. A. Bees (3½ Beardmore-Precision).
W. F. Smith (Hobart).
S. G. Neal (3 Neal-Dalm).
C. H. Hanwell (2¼ Cedos).
T. Peck (4½ Ariel sc.).
Rex Mundy (2¾ Cedos).
G. Mason (2¾ Pax).
J. G. Oates (2¾ Marloe).
A. W. Thrush (2¼ Levis).
H. Riddle (4¼ B.S.A. sc.).
H. Greathead (3 Ivy).
G. Denley (2¼ Velocette sc.).
E. R. Wintle (2¼ Winco).
G. Kuhn (2¼ Verus).
L. Crisp (4½ Humber).
Sam Wright (4½ Humber sc.).

CYCLE CARS.

J. W. Meredith (10 T.B.).
H. F. S. Morgan (8 Morgan).
J. Wainwright (10 T.B.).
W. A. Ridley (10 New Hudson).
P. Yates (10 New Hudson).
F. W. Benson (8 Morgan).
W. A. Carr (8 Morgan).
R. N. Hamilton (10 G.N.).
R. C. Winn (10 Morgan).
A. Frazer Nash (8.7 G.N.).

Speed Hill-climbing on "Grease."

Stockport Open Hill-climb on Axe Edge curtailed by Rain.



G. Dance (2¾ Sunbeam) streaking up Axe Edge in last Saturday's Open Hill-climb organised by the Stockport M.C. Rain curtailed the programme, which included over two hundred entries.

AXE Edge, two miles from Buxton, the venue of last Saturday's Stockport and District Motor Club's open hill-climb, permits high speeds; and with an entry of 216, and riders such as G. Dance, V. Horsman, N. C. Sclater, H. R. Davies, and many others of note, a good deal of sport was expected.

The first event was for 350 c.c. sidecars; then came 500 c.c. sidecars, with keen competition between the Norton and Sunbeam riders. G. Dance (Sunbeam), and H. W. Hassall, G. W. Walker, and Horsman (Norton) put up some fine rides.

The 750 c.c., 1,000 c.c., and unlimited sidecar classes were run off in a prompt manner without mishap.

Just as the 250 solo class started a sharp shower made the road rather tricky and nasty for the riders without mudguards. J. Prestwich (2¼ J.A.P.) made a fine ascent. The efforts of some of the other riders seemed feeble, no doubt owing to the heavy going, for it had now started to rain heavily. In the 350 c.c. solo class G. S. Boston (2¾ A.J.S.) streaked up the hill, but wobbled, ran on the grass, then back on to the crown of the road, across the road again into the grass on the other side, and finally parted company with his mount.

Rain.

The rest of the class got up without mishap, but gave the spectators many thrills on the wet limestone roads. Dance went up without a swerve, and cutting out on the bend only, he made a hair-raising performance. The pouring rain gave the officials some anxious moments when the 500 c.c. solo class was started. The men lined up and watched H. W. Hassall (3½ Norton) plough through the wet and mud; he was the last to ride, for the rest of the programme was washed out.

One of the first to vanish was the official A.C.U. timekeeper, so no times were available. The hard-working officials had the bitterest of luck. The event was splendidly organised, a large tent for refreshments had been erected, and there were field kitchens which had been brought from Stockport for the comfort of all concerned.

A SOUTHERN HILL-CLIMB.

BORE Hill, Dorking, was the scene of a speed hill-climb, organised by the Wallington and D.M.C. and L.C.C. on Saturday last. There was a large number of spectators, and a fair number of entries, but the 275 c.c. and 350 c.c. classes were weak.

In Class 1 (275 c.c.) G. H. Symonds performed by himself on an extremely speedy Levis, making the ascent at 28.39 m.p.h. Fastest time of the day was made by R. A. Green on a 3½ h.p. Norton, who made the ascent at 50.44 m.p.h. A. O. Gruzelier, who was unable to obtain his Bradshaw-Zenith in time, rode an 8 h.p. Zenith instead. The results were as follows:

CLASS 1 (275 c.c.).—1, G. H. Symonds (2¼ Levis).

CLASS 2 (350 cc.).—1, G. H. Symonds (2¼ Levis), 52⅖s., 28.39 m.p.h.

CLASS 3 (500 c.c.).—1, R. A. Green (3½ Norton), 31⅗s., 47.25 m.p.h.; 2, C. M. Bowen (3½ Norton), 33⅕s.; 3, W. H. Sheraton (3½ Norton), 34s.

CLASS 4 (750 c.c.).—1, R. A. Green (3½ Norton), 30s., 49.77 m.p.h.; 2, W. H. Sheraton (3½ Norton), 33⅕s.; 3, C. M. Bowen (3½ Norton), 33⅘s.

CLASS 5 (1,000 c.c., Solo).—1, R. A. Green (3½ Norton), 29⅗s., 50.44 m.p.h.; 2, W. H. Sheraton (3½ Norton), 32⅗s.; 3, A. O. Gruzelier (8 Zenith), 32⅘s.

CLASS 6 (1,000 c.c., Sidecars).—1, A. O. Gruzelier (8 Zenith sc.), 49s., 30.48 m.p.h.; 2, J. C. Sanford (5 Rover sc.), 54⅘s.).

FRENCH TRIAL.

OWING to Customs difficulties, the organisers of the Paris-Madrid trial find that they are unable to adhere to their original programme, and, consequently, they have altered the title of the competition to the Paris to the Pyrenees trial.

It is a great pity that the run through Spain could not be proceeded with, as this undoubtedly made the prospects of the competition exceedingly attractive. As it is, however, the new route decided upon from Paris to the Pyrenees, through Pau, Tarbes, and over the passes of the Pyrenees to Toulouse, Montauban, Agen, Bordeaux, and back to Paris by the Loire, should take the competitors over some of the most difficult country in France, while the passes of the Pyrenees should provide ample opportunities for hill-climbing.

LOWER PRICES.

ALTHOUGH price reductions are not so numerous as to lead one to suppose that all makes are coming down, every week sees some interesting announcement in this respect. This week we are able to record the following price adjustments:

Coventry Acme.—8 h.p. outfit, chain drive, with spare wheel, hood, screen, etc., from £225 15s. to £190.

P.V.—Spring frame, Villiers engine, Burman two-speed, £75; with clutch and kick-starter, £80 (lady's model, £81); with Jap engine, £84, £89, and £90.

B.S.A.—6-7 h.p. twin from £150 to £133.

Ariel.—3½ h.p. solo, £110; sidecar, £147 10s. 6-7 h.p., chain-cum-belt, £130; sidecar, £167 10s. 4½ h.p. all-chain model, £120; sidecar, £162 10s. 6-7 h.p. all-chain, £135; sidecar, £177 10s.

Rudge.—Multi models: 3½ h.p., £85; 5-6 h.p. (with sidecar), £125; 7-9 h.p. (with sidecar), £155. Three-speed models: 3½ h.p., £125; 5-6 h.p., £135 10s.; 7-9 h.p., £167; sidecar, £42.

Club News

Carmarthen M.C. and L.C.C.

On Good Friday the club will hold its annual hill-climb at Golden Grove Hill.

Brookdale M.C.C. (Catford).

Considerable success has already met the revival of this club, and it has been decided again to affiliate to the A.C.U.

Colne and District M.C.C.

Only formed last month, this club has already over fifty members. Mr. F. Mercer, Lancshawbridge, Colne, is the secretary.

Biggleswade and District M.C.

Rules permitting and encouraging lady members were passed at a meeting of this newly formed club. An opening run is to be held on Good Friday.

East Lancashire M.C.C.

At a meeting on the 10th inst. it was decided to enter one or more teams in the forthcoming reliability trial of the North-Western Centre A.C.U., and also to arrange the club's trial for the Hornby cup on Good Friday to Ingleton and back.

Norfolk M.C. and L.C.C.

At the annual general meeting it was decided to divide the new secretariat into two, *i.e.*, an honorary general secretary and an honorary competitions secretary. Mr. R. A. Lower, of Mount Pleasant, Lower Hellesdon, near Norwich, now holds the former position, and Mr. R. O. Clarke the latter.

Surbiton and District M.C.C.

Over 150 members met at Ditton Green, Thames Ditton, for the opening run, and with the captain, Mr. F. W. Barnes, leading the club, made for "Deepdene," Dorking. Tea was served in a private room, where they met several members of the M.C.C. on their return from their opening run to Brighton, bringing their numbers up to nearly 200.

North London M.C.C.

The find-your-way competition held on the 12th inst. involved finding the shortest route from place to place and proceeding by it to a schedule time. Maps were not allowed. Mr. E. K. Jeffrey (4 Triumph) passed through all the controls and arrived at the final destination exactly to time, thereby earning the medal.

Ealing and District M.C.C.

A large number of members and guests spent a most enjoyable evening on Thursday, March 10th, at the Red Lion Hotel, Acton Hill, London, W., when the Ealing and District Motor Cycle Club held its annual dinner and prize presentation. Dr. A. M. Low, the president, was in the chair.

Forthcoming Club Events.

Mar. 25.—East Lancashire M.C.C. Hornby Cup Trial.
Mar. 25.—Harley-Davidson M.C.C. Opening Run.
Mar. 25.—North West London M.C.C. Easter Tour.
Mar. 25.—Biggleswade and District M.C. Opening Run.
Mar. 25.—Carmarthen M.C. and L.C.C. Hill-climb.
Mar. 25.—Eastern Valleys M.C.C. Opening Run.
Mar. 25.—Dewsbury and District M.C.C. Picnic.
Mar. 26.—Leeds and District M.C. Social Run.
Mar. 26.—Birmingham M.C.C. Saugster Cup Trial.
Mar. 26.—West Kent M.C.C. Acceleration Test.
Mar. 26-28.—Glasgow Western M.C.C. Week-end Trial.
Mar. 27.—Neath and District M.C.C. Reliability Trial.
Mar. 27.—West Bromwich M.C.C. Reliability Trial.
Mar. 27.—North Western Centre, A.C.U. Rally at Ribchester.
Mar. 28.—Northern M.C. Social Run.
Mar. 28.—North London M.C.C. Staley Cup Trial.
Mar. 28.—Rugeley and District A.C. Speed Trials.
Mar. 28.—Brighton and Hove M.C.C. Hill-climb.
Mar. 28.—Dewsbury and District M.C.C. Hill-climb.
Mar. 28.—Berwick and District M.C.C. Opening Run.
Mar. 30.—Bournemouth and District M.C. and L.C.C. Spring Rally.

IMPORTANT club and OPEN events are tabulated on the "Questions and Replies" page.

Marloe and District M.C.C.

Although the weather was showery, a very enjoyable afternoon was spent on the occasion of the opening run on the 13th inst. The honorary secretary is Mr. A. F. H. Baldry, Marloe Common, Bucks.

North-west London M.C.C.

An Easter tour on purely social lines, and with Eastbourne as a centre, is proposed by the club. Already a small number of members have signified their willingness to join in.

Coventry (Triangle) M.C.

A very successful evening in the form of a smoking concert was held on the 10th inst.

Stalybridge and District M.C.

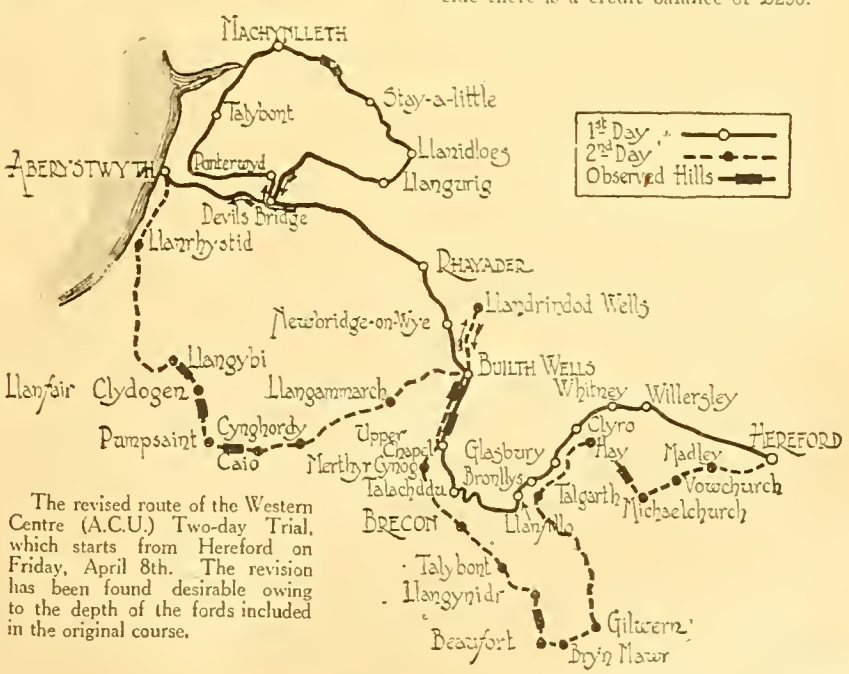
Before a large number of members at the annual general meeting the various club officials were elected, and the annual subscription was raised to 10s. 6d. for gentlemen. Lady members are still welcomed at 5s.

Barnstaple and District M.C.C.

A club bearing this title has recently been formed at Barnstaple, twenty-five members being enrolled at the opening meeting. Application for membership should be made to Mr. H. J. Hill, 10, High Street, Barnstaple, North Devon.

Bradford M.C. and L.C.C.

The annual general meeting was held on Thursday, the 10th inst., and was fairly well attended. All the present officials were unanimously re-elected. The club has over 300 members, and a very strong committee has been formed to supervise a very active season. On the financial side there is a credit balance of £290.



The revised route of the Western Centre (A.C.U.) Two-day Trial, which starts from Hereford on Friday, April 8th. The revision has been found desirable owing to the depth of the fords included in the original course.

Club News.—

Bury and District M.C.

There was a fairly good attendance at the opening meet, which was held at Hodder Bridge on the 6th inst.

Plymouth and District M.C. and L.C.C.

Over a course which included five of the worst hills on Dartmoor, eight out of twenty entrants finished the trial for the R.N.E. College Cup. Results: 1, Lieut. C. W. Jameson (3½ Sporting Sunbeam); 2, C. B. Endicott (3 A.B.C.); 3, J. Baker (3½ Sunbeam).

Another Club for Warrington.

As the existing club has decided to cater purely for the sporting rider, the late secretary, Mr. H. Aldred, is forming another club more on the social side of the pastime. Any interested should communicate with him at 58, Church Street, Warrington.

Bath and West of England M.C.

In aid of the funds of the Royal United Hospital, Bath, a dance will be held in the Pump Room on 21st April. Among the prizes are a new 4 h.p. Douglas and silver tea service. Tickets (1s.) for these awards may be obtained from Mr. J. C. Young, Somerset Boys' Home, Bath.

Bristol M.C.C.

On Saturday, 12th inst., the club carried out an interesting programme of speed events over a very fast course. Quite a crowd of Bristol enthusiasts were rewarded with some very keen tussles in the various classes. The results were as follows:

350 c.c. CLASS.—1, R. Passey (2¾ Douglas); 2, Eli Clark, junr. (2¾ Douglas).
500 c.c. CLASS.—1, H. Thorpe (3½ Douglas); 2, R. Passey (2¾ Douglas).
UNLIMITED CLASS.—1, King Smith (7-9 Harley-Davidson); 2, H. Thorpe (3½ Douglas).
500 c.c. SIDECAR CLASS.—1, B. Tucker (3½ Norton sc.); 2, A. Dyer (3 A.B.C. sc.).
UNLIMITED SIDECAR CLASS.—1, B. Tucker (3½ Norton sc.); 2, A. Mann (7-9 Harley-Davidson sc.).

MOTOR CYCLE EVENTS AT BROOKLANDS.

Sat., April 16.—B.M.C.R.C. (Members).
Sat., May 7.—B.M.C.R.C. (Open).
Sat., May 21.—B.M.C.R.C. (Members).
Sat., July 2.—B.M.C.R.C. (Members).
Sat., July 29.—B.M.C.R.C. (Members).
Sat., Aug. 6.—B.M.C.R.C. (Open).
Sat., Aug. 27.—B.M.C.R.C. (Members).
Sat., Sept. 17.—B.M.C.R.C. (Members).
Sat., Oct. 8.—B.M.C.R.C. (Members).

Nottingham M.C. and L.C.C.

Varying subscription rates, ranging from 7s. 6d. to £1 1s., for social or sporting membership, were adopted at the recent general meeting, held at the Walbeck Hotel.

South-Eastern Centre A.C.U.

On Thursday, the 31st inst., a meeting of representatives from clubs in Kent, Surrey, and Sussex will be held at the Royal Automobile Club in order to proceed with the formation of a South-Eastern centre. It is urged that all clubs in these counties should attend, whether at present affiliated to the A.C.U. or not.

Portsmouth and District L.C. and M.C.C.

The Portsmouth branch of the N.M.C.F.U. has now been formed into a local club under the title of the Portsmouth and District L.C. and M.C.C., and an opening run will be held on March 25th. The hon. secretary is Mr. F. G. Roach, 1, Empshott Road, Southsea.

Lincolnshire A.C.

Open speed trials of the Lincolnshire A.C., to be held at Grimsthorpe Park, near Bourne, on Easter Monday, promise to outrival the last held at Chatsworth Park. All the clubs from the adjoining counties are arranging club runs to witness the event, while several clubs from far afield have given notice of their intention of attending. The track is in splendid condition, and the lowering of all local times is predicted, as a number of well-known riders have entered.

Helensburgh M.C.C.

This Northern club has just drawn up a most attractive programme for 1921, particulars of which may be obtained from the secretary, Mr. J. F. Fulton, Findhorn, Helensburgh.

Northern M.C.

On Wednesday, the 9th inst., the closing lecture of the winter session of the Northern Motor Club was given by Mr. G. Dixon, a club member, on "Wireless Telegraphy," in the Crow's Nest Hotel, Newcastle-on-Tyne.

West Bromwich M.C.C.

Formed only a month ago this club already possesses a membership of fifty. Particulars may be obtained from the hon. sec., Mr. J. C. Holdship, Clifton House, Hope Street, West Bromwich.

Dunheved and District M.C.

The annual meeting of the Dunheved (Launceston) and District M.C. was a great success. The president (Mr. F. A. Bate) was in the chair. The treasurer (Mr. A. H. Grigg) reported a balance in hand of £8.

West Fife M.C.

An excellent attendance and the enthusiasm displayed by the members at the second annual meeting on the 14th inst. indicate the promise of a very successful year. Handsome silver cups were presented by Mr. P. T. Bonner and Capt. W. F. How.

Yorkshire Centre A.C.U.

A meeting of the Centre was held at the Hotel Metropole, Leeds, on Monday, March 7th, and twenty of the twenty-two clubs were represented, altogether forty-three (including officials) being present. The Centre speed event, allotted to Middlesbrough, will take place on Saltburn Sands on July 9th, and not, as provisionally fixed, on August 6th.

PRICES OF SECOND-HAND MOTOR CYCLES.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

MAKE, H.P., AND DATE.	CLASSIFIED PRICES.	AVERAGE PRICE.
A.B.C., 3 h.p., 1920	£95, £98, †£120, †£120	£108
Abingdon, 5-7 h.p., sc., 1920	£130	—
A.J.S., 6 h.p., sc., 1920	£179, £180, †£185, †£195, †£195, †£195, †£210, †£215	£193
Allon, 2¾ h.p., 1920	£65, £70	£68
American X., 7-9 h.p., sc., 1920	£155	—
Ariel, 6 h.p., sc., 1920	£140	—
Ariel, 3½ h.p., 1920	*£105	—
Bat, 6 h.p., 1920	£130, *£130	£130
Blackburne, 4 h.p., 1920	£95, *£115, *£120	£110
Blackburne, 8 h.p., sc., 1920	£210	—
Bradbury, 6 h.p., sc., 1920	*£175, £185	£180
B.S.A., 4¼ h.p., sc., 1920	£130, †£135, *£138, £140, †£151	£139
Clyno, 2¼ h.p., 1920	£53, £59, £60	£57
Connaught, 2¼ h.p., 1920	£57	—
Coulson-B., 4 h.p., 1920	£100	—
Coulson-B., 2¾ h.p., 1920	£75, £80, £85	£80
Coventry Eagle, 2¾ h.p., 1920	*£84	—
Diamond, 2¾ h.p., 1920	£55, £55	£55
Douglas, 2¾ h.p., 1920	£80, £85, £85, £87, £87, £90	£86
Douglas, 4 h.p., sc., 1920	£120, £135, £135, £135, £140, £145	£135
Enfield, 8 h.p., sc., 1920	£145, †£160, †£170	£158
Enfield, 2¼ h.p., 1920	£55, £60, £60	£58
Excelsior, 2¾ h.p., 1920	£69, £80	£75
Harley-Davidson, 7-9 h.p., sc., 1920	£160, †£168, †£170, †£170, £180, †£190, †£200, †£210	£181
Hazlewood, 5-6 h.p., sc., 1920	£155	—
Humber, 4½ h.p., 1920	£119	—
Henderson, 10 h.p., sc., 1920	£185, †£200, £210, £230	£206
Indian, 9 h.p., sc., 1920	£130, £150, †£150, £160, †£175, †£180, †£180, †£195, †£200, £215	£171

MAKE, H.P., AND DATE.	CLASSIFIED PRICES.	AVERAGE PRICE.
James, 5-6 h.p., sc., 1920	£150, £150, †£160, †£165, *£170, †£190	£164
James, 2¾ h.p., 1920	£62, £63	£63
Lea-Francis, 3½ h.p.	£100, *£110, *£115	£108
Levis, 2¾ h.p., 1920	£44, £50, £55	£55
Martinsyde, 6 h.p., sc., 1920	£150, £155	£153
Matchless, 8 h.p., sc., 1920	£155, £175, £175, £180, £185, †£185, †£185, †£188, †£195, †£200, †£200, †£215	£186
New Hudson, 2¾ h.p., 1920	£55, £65	£60
New Imperial, 8 h.p., sc., 1920	£139, £172	£156
Norton, 4 h.p., sc., 1920	£145, £155	£150
O.K., 2¾ h.p., 1920	*£43, £45, £58, £60	£51
Omega, 2¼ h.p., 1920	£55	—
P. & M., 3½ h.p., 1920	£85, £90, £96	£90
Quadrant, 4½ h.p., sc., 1920	£78, £90, £115, £125	£102
Rover, 3½ h.p., sc., 1920	£140, £150, £160	£150
Rover, 5-6 h.p., sc., 1920	£150, £150	£150
Royal Ruby, 3 h.p., 1920	*£102	—
Rudge, 3½ h.p., 1920	£75, £75, £85, £88, *£88, £90, £90, £93	£83
Scott, 3¼ h.p., sc., 1920	£130, £145, £145, £150, £155, £160	£148
Sunbeam, 3½ h.p., 1920	£120, £135, £140, £142, *£148	£137
Sunbeam, 3½ h.p., sc., 1920	£165, £210	£188
Sunbeam, 8 h.p., sc., 1920	†£200, †£225	£213
Triumph, 4 h.p., 1920	£95, £100, £105, *£105	£101
Triumph, 4 h.p., sc., 1920	£120, £131, £132, £145, £160, £160, £170	£145
Verus, 2¾ h.p., 1920	£95	—
Wooler, 2¾ h.p., 1920	£75, £85, £95	£85
Zenith, 8 h.p., sporting, 1920	£115, £120	£118
Zenith, 8 h.p., sc., 1920	£135, £150, £153, £170, £175	£157

*Unused. †Dynamo.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d. stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

OILING ENGINE AND GEAR BOX.

(1.) Can you inform me how often to give a pumpful of oil to my 1919 (early) 4 h.p. Triumph, both as solo and with sidecar? (2.) What brand and grade of oil do you recommend for the Sturmey-Archer gear box, and how often should it be replenished? (3.) What is the correct sized jet and correct level in the carburetter for the use of benzole instead of petrol? How is the level altered? A Triumph carburetter is fitted with jet No. 28.—F.

(1.) About every eight miles solo, or six with sidecar. Much depends upon average speed, road conditions, head winds, etc. Experience will be your best guide. (2.) Engine oil or that supplied by the makers should be used. If the box is empty, half a pint should be used. (3.) The same size jet will be quite suitable, but it may be necessary slightly to lower the petrol level. This is done by lowering the collar on the float needle to the required amount, about $\frac{1}{32}$in.

INTERMITTENT MISFIRING.

When travelling at a fairly high speed my engine suddenly stopped, and although I kicked for over half an hour I could not start it, so I had to push three miles home. The spark was very weak, so I took the magneto (a Bosch) off the machine and examined the points and brushes, which were quite in good order, and on replacing them I got a very healthy spark. The same thing occurred again, and the same remedy acted; then it suddenly ceased firing and started again with the first kick. After this had happened a few times, I kept the clutch engaged whenever the engine stopped, and sometimes it started firing again before the machine came to a standstill. On other occasions it would not recommence firing until I used the kick-starter.—L.L.S.

It is very doubtful if the trouble you describe is due to a defect of the magneto; indeed, we should imagine, from the symptoms you mention, that it is more likely to be a case of the jet being temporarily obstructed by a floating particle of grit. Dismantle the carburetter and thoroughly clean out the float chamber and jet. If after doing this, you still think that the cause of the trouble lies in the magneto, remove the high-tension carbon brush holder, and clean the slip ring by inserting a piece of rag soaked in petrol, rotating the magneto meanwhile. Also make quite sure that the contact breaker points do not remain temporarily open.

POOR RUNNING AFTER REBUSHING.

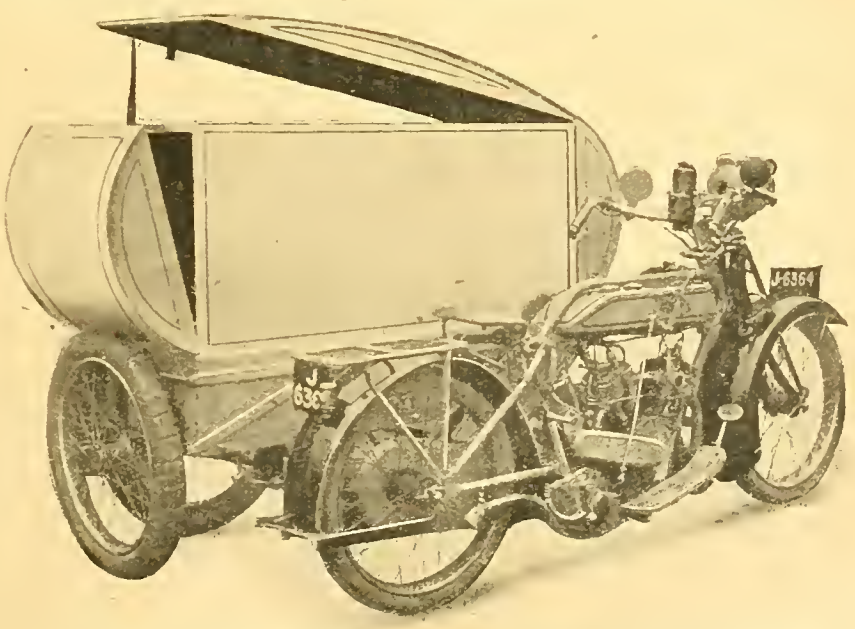
A month or so ago the makers overhauled my 2½ h.p. two-stroke engine, in which the crankshaft bushes were worn; also, the gears received attention. For a time the engine would not answer to the throttle, but now it does so on the level road. The hills which it previously climbed (two up) on half throttle on top gear it will now only just climb on top gear and full throttle with myself alone. Before being overhauled I used the drip feed for the oil, and no oil with the petrol, with a No. 24 jet (Amac). Now I am using the drip feed and also petroil feed with the same size jet. The timing, I believe, is correct, piston at dead top of its stroke, spark lever fully retarded, and points not quite breaking; but I find out that when running with the spark fully advanced and the machine begins to slow down that retarding gives an increase of speed.—A.D.

It is usual for an engine to lack liveliness immediately after overhauling, especially in the case of one fitted with plain bushes. We think that after a little "running in" you will find that the power will return—in fact, this appears to be taking place already, judging from your description of its running. The timing appears to be correct; but if you find that you get an increase of speed when you slightly retard the spark it would be perhaps advisable permanently to retard the timing very slightly. Set it as follows: Piston top dead centre, control lever fully retarded, contact breaker points just about to break.

COMPARING ACETYLENE AND ELECTRICITY.

Will a 4 c.p. electric bulb give as good a light as a 14 litre acetylene burner, using an ordinary acetylene lamp in both cases with an adapter for the bulb, assuming the light in both cases to be focussed to the best advantage?—R.H.

We cannot give you a figure which will help you to compare the lighting intensity of an acetylene burner with that of an electric bulb, as everything depends upon the efficiency of the reflector in use. The 4 c.p. electric bulb would not give nearly such a satisfactory light as the 14 litre acetylene burner used in an ordinary acetylene head lamp, but might be equally effective in a specially designed electric lamp.



The proportions of this sidecarrier, marketed by the Jarrow Motor Cycle Co., should meet with the approval of traders desirous of a vehicle capable of carrying bulky parcels economically and swiftly. The machine is a 5-6 h.p. Clyno.

AN UNINTENTIONAL MISREPRESENTATION.

Last year I bought a motor cycle as a 1918 machine; it was a good one. I kept it for a month, and then a fellow workman worried me into selling it to him. I sold it to him, believing it to be as I bought it. He has ridden it nine or ten months, and has now sold it. The man he sold the machine to has had it a month or so. He now asserts that the machine is a 1914, and also claims £5 from the seller for misrepresentation. The seller now asks what I am prepared to do in the matter. Am I liable in any way, as he did not make any effort to verify when it was in his possession, and it is now ten months since I sold it?—F.W.U.

As there was apparently unintentional misrepresentation of the date of the machine on your part, the seller would have very great difficulty in enforcing a claim for a return of any part of the purchase price. We should advise you to admit no responsibility in the matter.

GEAR ADJUSTMENT.

I am experiencing trouble with my three-speed gear box, and trust that you will kindly be able to assist me in overcoming it. It is the ordinary gear box, dogs for top and bottom gears, and toothed wheel for middle gear. The trouble is that I cannot always get free engine without having to bring the gear lever slightly back towards the low gear, showing that when free the sliding wheel is not clearing the toothed wheel which operates second gear. I have tried to adjust this by meshing dogs of low gear and tightening up control accordingly, but find that I am robbing the top gear and cannot get the dogs to mesh beyond just a touch. The same thing operates if I adjust from the top gear; I cannot get into bottom gear. What puzzles me most is that it is not always so. Sometimes I have no difficulty whatever, but perhaps before I get back home I am up against it again. I may say there is no play whatever between the gear lever and the down control rod. The outfit was only delivered last August, and I have not yet done 1,000 miles, so I hardly think it was owing to wear.—H.R.

Without actual inspection, we cannot give any definite reason for the trouble. It may, however, be due to excessive play of the various parts in the gear box, or be caused by whip of the striking fork.

TIMING A TWIN.

Having obtained some new cams, and wishing to fit these myself, I would like to know how to go about timing the valves. The machine in question is a 1913 or 1914 6 h.p. Clyno, with a Bosch magneto 55°.—E.G.

If the new cams have been supplied by the makers, the timing of the engine will be quite simple. You need not consider the opening point of the exhaust valve or the closing point of the inlet valve. All you have to do is to rotate the engine until the piston of the front cylinder is at the top of its stroke; then insert the corresponding cam wheel, so that the exhaust valve is just closing and the inlet valve just commencing to open; then rotate the engine through one full revolution less the angle between the cylinders, and time the other cylinder in the same manner. The ignition should be timed to occur on top dead centre of compression stroke, when the control is two-thirds retarded.

A VAGUE TROUBLE.

A 3½ h.p. single which I have just overhauled will run well on the stand, but on the road it seems to have no life or kick. The carburetter is a Senspray with a 36 jet, and I think that it is in order. The magneto is a Ruthardt, and on turning the pedal and holding the bare wire I get a good shock and then a smaller one alternately. I have washed the points with petrol, but it is still the same.—H.L.B.

Without actual inspection, it is very difficult to define the cause of the trouble. We take it that you have assured yourself that the compression is reasonably good, that the piston and cylinder are free from carbon deposit, and that the valve seatings are in good condition. The lack of power might also be due to excessive clearance between the exhaust valve and its tappet. Probably a 38 jet would give you slightly more power. Regarding the magneto, you have not stated whether you get a good spark at the plug points. If you do get a satisfactory spark you may assume the magneto to be in good order.

Important Dates.

Fri., March 25th—Richmond Meet.

Fri., March 25th, and Sat., March 26th—M.C.C. London-Land's End Trial.

Mon., Mar. 28th—Westmorland M.C.C. Open Hill Climb.

Mon., Mar. 28th—East Midland Centre A.C.U. Open Speed Trials at Bourne.

Sat. April 2nd—Essex M.C. Open Hill Climb.

Fri., April 8th, and Sat., April 9th—Western Centre A.C.U. Two-day Open Trial.

Sat., April 16th—Yorkshire Centre A.C.U. Open Hill-climb.

Sat., April 23rd—Midland Centre A.C.U. Open Reliability Trial.

Wed., April 27th—A.C.U. One-day Trial.

Fri., April 29th, and Sat., April 30th—Ealing and District M.C.C. London-Holyhead Open Reliability Trial.

Sat., April 30th—Newcastle and District M.C. Travers Challenge Trophy Open Reliability Trial.

Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.

Sat., May 21st—Western Centre A.C.U. Open Hill Climb.

Wed., May 25th—A.C.U. Silencer Trial at Brooklands.

Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.

Tues., June 14th—Junior T.T. Race.

Thurs. June 16th—Senior T.T. Race.

Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup

Mon., July 4th, to Sat., July 9th—Scottish Six Days' Trial.

Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.

Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

RECOMMENDED ROUTES.

EPPING TO FAVERSHAM.—G.P.

Epping, Woodford Green, Woodford Bridge, Chigwell Row, Collier Row, Romford, Hornchurch, Upminster, Corbets Tye, North Ockendon, South Ockendon, Stifford, Chadwell, Tilbury, ferry to Gravesend, Strood, Chatham, Sittingbourne, Ospringe, Faversham. Approximately 58 miles.

LEEDS TO SOUTHEND.—L.V.S.

Leeds, Killingbeck, Garforth, Ferrybridge, Doncaster, Bawtry, Barnby Moor, Retford, Tuxford, Newark, Great Gonerby, Grantham, Colsterworth, Great Casterton, Stamford, Wansford, Peterborough, Norman Cross, Stilton, Huntingdon, Godmanchester, Fenstanton, Cambridge, Trumpington, Saffron Walden, Thaxted, Dunmow, How Street, Chelmsford, Great Baddow, Southend. Approximately 217 miles.

WOLVERHAMPTON TO PAIGNTON.—N.E.

Wolverhampton, Himley, Wallheath, Stewponey Inn, Kidderminster, Crossway Green, Ombersley, Worcester, Powick, Malvern Link, Great Malvern, Wynds Point, Malvern Wells, Hanley Castle, Upton-on-Severn, Tewkesbury, Coombe Hill, Gloucester, Quedgeley, Whitminster, Cambridge, Berkeley, Stone, Falfield, Alveston, Almondsbury, Filton, Bristol, Axbridge, Cheddar, Cross, Highbridge, Pawlett, Bridgwater, North Petherton, Bathpool, Taunton, Wellington, Cullompton, Broadclyst, Exeter, Alphington, Kennford, Kingsteignton, Newton Abbot, Torquay, Paignton. Approximately 309½ miles.

BIRMINGHAM TO ABERDEEN.—D.W.M.

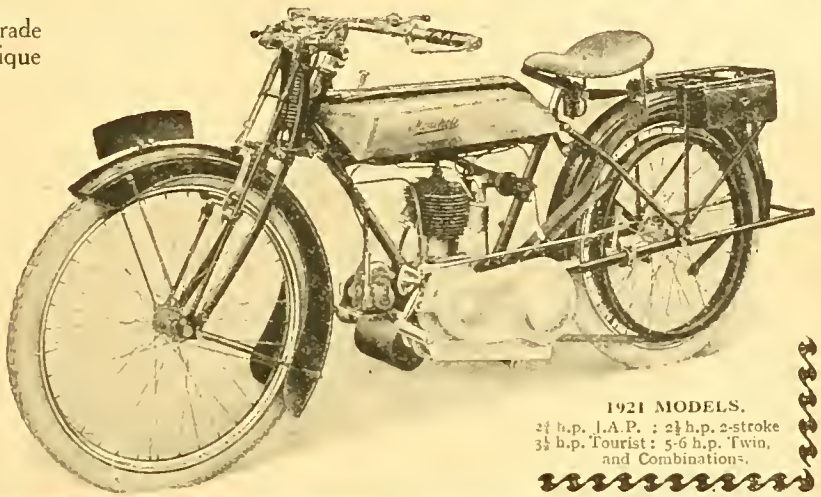
Birmingham, Sutton Coldfield, Lichfield, Rugeley, Wolseley Bridge, Stafford, Great Bridgeford, Eccleshall, Pershall, Tilloggerheads, Mucklestone, Woore, Nantwich, Acton, Tarporley, Cote Brook, Cuddington Station, Weaverham, Acton Bridge, Stretton, Warrington, Sankey Chapel, Bold, Clockface, St. Helens, Rainford, Ormskirk, Burscough Bridge, Rufford, Longton, Penwortham Bridge, Preston, Garstang, Lancaster, Slyne, Bolton-le-Sands, Carnforth, Beetham, Milnthorpe, Heversham, Levens Bridge, Kendal, Staveley, Windermere Station, Bowness, Ambleside, Rydal, Grasmere, Thirlspot, Keswick, Portinscale, Bassenthwaite Water, Bothwell, Red Dial, Thursby, Carlisle, Kingstown, Sark Bridge, Gretna Green, Ecclefechan, Lockerbie, Beattock, Crawford, Abington, Roberton, St. John's Kirk, Hyndford Bridge, Lanark, Braidwood, Carluke, Newmains, Newhouse, Chapelhall, Rawyards, Cumbernauld, Castlecary, Denny, Ioanhead, Denny, Dunipace, St. Ninians, Stirling, Bridge of Allan, Dunblane, Duthieston, Greenloaning, Blackford, Auchterarder, Aberuthven, Perth, New Scone, Balbeggie, Burrelton, Coupar Angus, Meigle, Glamis, Kirriemuir, Forfar, Brechin, Laurencekirk, Stonehaven, Aberdeen. Approximately 46 miles.

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The sound constructional details—the high-grade equipment—the exquisite finish—and the unique combination of innumerable "talking points" place MONOPOLE MOTOR CYCLES AHEAD OF ALL RIVALS.

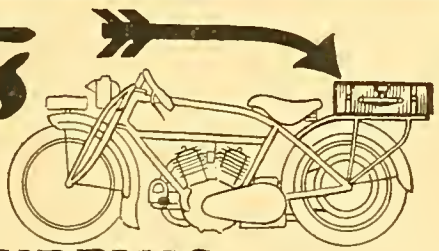


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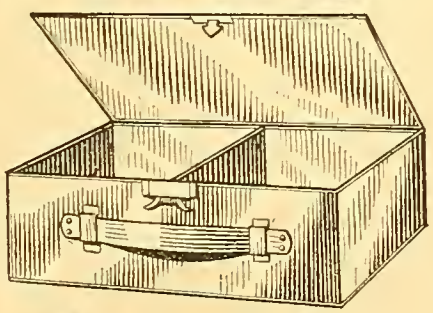
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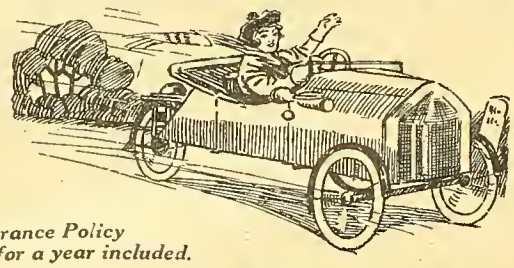
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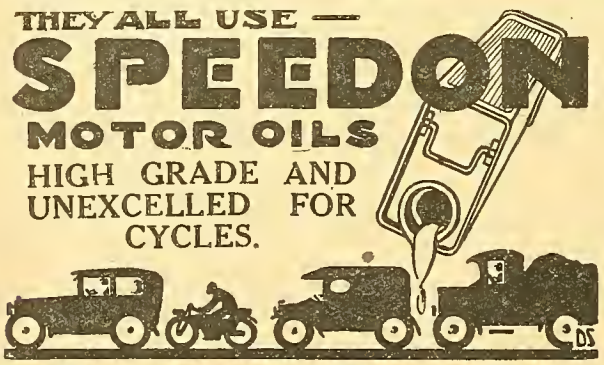
AND MANY OTHER SPLENDID PRIZES

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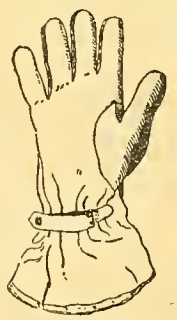
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10,000 pairs of Leather Driving Gauntlets, strap and buckle fastening, lined natural wool to finger tips, Light Buff finish, wide gauntlet, fits well over coat sleeve. Will wash with warm water. Hard wearing, and warm hands assured.

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Price £6 5s. 0d.

Model 40 corresponds in other details but is without trip mileage counter.

Price £5 15s. 0d.

Back wheel drive for "Triumph," 5s extra. Back wheel drive for "Indian or "Harley-Davidson," 10s. extra.

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—— THEIR HISTORY AND ROMANCE. ——

By T. W.-WILKINSON.

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Postal Orders and Cheques sent in payment for vertisements should be made payable ____ & Co. ILIFFE & SONS Ltd., and crossed ____ easury Notes, being untraceable if lost in ansit, should not be sent as remittances.

All advertisements in this section should be companied with remittance, and be addressed the offices of "The Motor Cycle," 20, Tudor reet, London, E.C.4, or 19, Hertford Street, ventry. To ensure insertion letters should posted in time to reach the offices of "The otor Cycle," by the first post on Friday orning previous to the day of issue.

All letters relating to advertisements should ote the number which is printed at the end of ch advertisement, and the date of the issue which it appeared.

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For the convenience of advertisers, letters may be dressed to numbers at "The Motor Cycle" Office. en this is desired, the sum of 6d. to defray the cost of istration and to cover postage on replies must be added the advertisement charge, which must include the rds Box 000, c/o "The Motor Cycle." Only the number l appear in the advertisement. All replies should be dressed No. 000, c/o "Motor Cycle," 20, Tudor Street, .C.4. *Replies to Box Number advertisements containing illances should be sent by registered post, but in all such es it is advisable to make use of the Deposit System.*

n the case of motor cycles offered for sale under a box mber, as it is unusual for these to be sold without first ng inspected by the intending purchaser, advertisers will ilitate business by embodying in their advertisements he mention of the district in which the machine ered may be seen and tried.

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MOTOR CYCLES FOR SALE.

A.B.C.

NEW 1920 A.B.C., 4-speed; £120; in stock.—Randall, Andover. [0367

1920 A.B.C., equipped tax paid; 80 gns.—Ramsden's, 8, Maybell Av., Blackpool. [7902

A.B.C. 1914, 2-speed, splendid condition; nearest £65.—108, Platt St., Leigh, Lancs. [6027

1920 A.B.C., accessories, tax; cash urgently needed, 89 gns.—32, West St., Southport. [7147

A.B.C. New Models from Stock, 1920; best cash offer entertained.—A. J. Young and Co., Ltd., Newmarket. [1252

ALEXANDER'S

ARE THIS WEEK OFFERING A FEW OF THEIR PERSONAL RACING AND COMPETITION MACHINES AT VERY INDUCING PRICES.

TWO
7 H.P. INDIANS
Eight Valve, 3-speed Gear, Mechanically Perfect, and Tuned,
£80 and £110

1919 3½ h.p. T.T. NORTON
B.R.S. Model, with 70 m.p.h. certificate,
£85

Special 3½ h.p. DOUGLAS
3-speed, Spring Frame, Clutch and K.S. A very fast machine, suitable for touring or racing.
£110

1920
8 h.p. ENFIELD Combination
Dynamo Lighting, Speedometer, Leg Shields, New Tyres. A specially powerful competition outfit.
£150

ALL THE ABOVE MACHINES CARRIAGE — PAID TO YOUR ADDRESS —

VERY SPECIAL
FROM OUR SALE LIST, THIS WEEK.
(Ex Glasgow Depot.)

Five only. £86
CLEVELANDS for .. £62

Four only. £176 4 h.p.
VERUS-BLACKBURNE £98

Ten only. £108 2¾ h.p.
VERUS-BLACKBURNE £85

Five only. £60 2¼ h.p.
VERUS 2-stroke .. £45

All above are Brand New 1920 Models, fully guaranteed. Carriage paid anywhere in United Kingdom.

Ask for our Sale List describing many other bargains.

Also get our Buyers' Guide to the leading 1921 models.

ALEXANDER'S,
113-115, LOTHIAN ROAD, EDINBURGH,
and
272-274, GREAT WESTERN ROAD GLASGOW.

MOTOR CYCLES FOR SALE.

A.B.C.

1920 A.B.C., T.T., Lucas lamps and horn, Bonniksen speedometer, perfect; £115.—Froggatt, Fairfield, Tadcaster. [7598

A.B.C., 1920, lamps, horn, tools, good condition, tax paid; £100.—Vickers, Fotheringhay, Peterborough. [8189

1920 A.B.C., mileage 700, equipped regardless, tax paid; £92; exchanges.—60, Wallingford Av., N. Kensington. [8000

A.B.C.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5735

A.B.C., Lucas dynamo lighting, speedometer, as new; bargain, £120, or offer, any trial.—Power, Castle Bromwich, Birmingham. East 45. [6000

NEW A.B.C. 4 speeds, K.S., only run in, fitted Lucas dynamo lighting, special model, tax paid; £125; reason for selling.—Fox, 102a, Church St., Chelsea. [8044

A.B.C. 1921 Standard Model, 4-speed, indistinguishable from new; £110 cash.—The Layton Garages, 90, High St., Oxford. 'Phone: 784 Oxford. T.A.: Integrity, Oxford. [7057

A.B.C., late 1920, fully equipped, D.A. lighting, speedometer, mechanical horn, very low mileage, as new, tax paid; price £130.—T. C. Budd, The Briars, Reigate, Surrey. [7640

A.B.C. 3h.p., T.T., 4-speed, clutch, low mileage, just overhauled makers, perfect, very fast, lamps, mechanical horn; £95; good lightweight part; no junk offered or wanted.—Westfield Farm, Henlow, Beds. [8060

ALLEN-BENNETT Motor Co., Ltd.—A.B.C., 1920, and A.B.C. touring sidecar, dynamo lighting; £155, cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Truck, Croydon. [6280

A.B.C. Combination, special A.B.C. Gracemill aluminium sidecar, dynamo lighting, Cowey horn, fully licensed and insured, has done only 700 miles, perfect condition, just overhauled by makers; £150.—Letters only, 40, New End Sq., N.W.3. [8075

MR. RUSSELL KING'S Special A.B.C., winner 24 medals, and lapped Brooklands 72 m.p.h. 1920, many spares, including covers and tubes, sprockets, etc., also new Swan sidecar to suit; £150 the lot, would separate, rare opportunity, consider exchange.—88, Lord St., Southport. [7146

Abingdon.

ABINGDON 3½h.p., nice order and condition; trial; £30.—Thomson, 85, Church Rd., Willesden. [7672

ABINGDON King Dick Combination, coach built, 4½h.p., 1915, 3 speeds, clutch, Bosch; £55, near offer; bargain.—Lucas, 10, Alderville Rd., Hurlingham, Fulham, S.W. [7552

1920 Abingdon King Dick Combination, 6-7h.p., 3 speeds, all accessories, low mileage; £130; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [8156

A.C.E.

ACE 10h.p., 4-cyl., specially built sidecar, 27×3½ tyres, finest outfit seen, cost £291, done 300 miles; also Harley combination, 1920, discs, done 1,500 miles; best offer for either, as overdue car has arrived.—Elwin Neame, 11, Rotherwick Rd., Golders Green, N.W.4. [8275

A.J.S

ARE You Requiring a new combination for Easter?

JULIAN'S, of Reading, have 1921 A.J.S. in stock.

SECURE One Early, otherwise you may be disappointed. [0477

JULIANS of Reading have 1921 A.J.S. in stock. [0532

DAN GUY, Weymouth.—1921 A.J.S. in stock; £215. [2173

A.J.S. New 6h.p. Combination; £195.—Jones, Garage, Droitwich. [4680

1921 A.J.S. Combination in stock; £215.—Morriss, 139, Finchley Rd., N.W.3. [7772

A.J.S. Brand New 6h.p. Combination in stock; £195; exchanges.—Moss, Wem. [X9957

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [4557

BRIGHTON, Hove, and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. 7h.p. 1921 Combinations in stock, lightweights shortly.—Clifford Motories, Eastwood, Notts. [6862

1916 4h.p. A.J.S. Combination, spare wheel, lamps, and horn; snip, £110.—Wilderspin, Chatteris. [5806

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

A.J.S.

1920 A.J.S. Combination, speedometer, lamps, horn, absolutely unscratched, tax paid; £165.—Below.

1919 A.J.S., new A.J.S. sidecar, lamps, horn, excellent condition; £145.—Edwards, 50, Harrington Rd., South Kensington. Kensington 3709. [8301

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

DAN GUY, Weymouth.—A.J.S. agent for Dorset; earliest deliveries new 2¾h.p., provisional price £100. [0557

ONE 6h.p. A.J.S. Combination, in good running order, about 12 months' use; £155.—Box 2,909, c/o *The Motor Cycle.* [7700

CYRIL WILLIAMS for immediate delivery of 1921 A.J.S. combinations.—Chapel Ash Depot, Wolverhampton. [X9609

DAN GUY, Weymouth.—A.J.S. 6h.p. combination, 1917, recently re-enamelled, splendid condition throughout; £120. [0558

A.J.S., No. 5 Gloria sidecar, complete equipment, recently overhauled, 1915; £125, or best.—86, Bromley Rd., Catford. [7741

A.J.S. 1914 5-6h.p. Combination, hood and wind screen, etc.; £120, or offers.—Berry, Branscombe, Coombe Rd., Salisbury. [7485

A.J.S.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5736

A.J.S.—1921 models for early delivery.—Authorised District Agents: J. V. Madgwick and Co., Bolton, Lancashire. [4121

GET an A.J.S. from A.S.J. Any model, any distance. Good deliveries, good service.—Allen S. Jones, Pool Hill Garage, Carnarvon. [X7889

A.J.S. 1920 (November) Combination, Lucas lamps and horn, Watford speedometer, tax paid, mileage 600; £195.—199, High St., Watford. [6461

6h.p. A.J.S. Combination, 3-speed, interchangeable wheels, fully equipped, just overhauled; £90.—37, Arlington Rd., Surbiton. [7106

A.J.S. (Nov., 1919) Combination, fully equipped, all accessories, good condition, tax paid; £160, near offer.—31, Cecil Av., Wembley. [7837

A.J.S., 1920, unused till 1921, electric light, hood, side curtains, tax paid; any trial; £195, or near.—Goodman, 18, Vilett St., Swindon. [6852

1915 A.J.S. 6h.p. C.B. Combination, screen, luggage grid, just overhauled (cost £20), excellent condition; £105 lowest.—10, Clarendon Rd., W.11. [7404

1919 (November) A.J.S. Combination, thoroughly overhauled, well equipped; a bargain worth seeing; £170.—79, Knowsley St., Bolton, Lancashire. [4122

A.J.S. 1916 6h.p. Combination, sound condition, fully equipped, spare wheel, tools, accessories, hood; £125.—Hannen, 1, Birches Barn Rd., Wolverhampton. [6953

A.J.S. Combinations for Early Delivery; liberal allowance on your old machine.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6237

1920 A.J.S., Lucas Magdyno outfit, hood, etc., fully licenced, in perfect order; can be seen and tried in the Midlands; 185 gns.—Box 363, c/o *The Motor Cycle.* [X9927

1919 A.J.S. 7h.p. Combination, excellent condition, completely overhauled, with accessories and spare wheel, tax paid; £160.—42a, Victoria Rd., Aldershot. [8014

A.J.S. 1921 6h.p. Combination, brand new, not shop-soiled, complete with interchangeable wheels and spare; £195.—P. J. Evans, 81-91, John Bright St., Birmingham. [8150

2¾h.p. A.J.S. Coachbuilt Combination, enclosed 4 chains, countershaft gears, hand clutch, kick start, accessories, perfect; 55 gns.—Fersfield, Westbury Rd., New Malden. [6879

A.J.S. 1916 6h.p. Combination, Gloria sprung wheel sidecar, complete lamps, screen; spare wheel, etc.; any reasonable trial; £125; after 7.—43, Chantrey Rd., Brixton, S.W.9. [8289

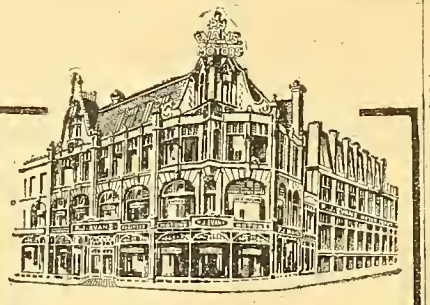
A.J.S. 1915 6h.p. Combination, overhauled recently at cost of £30; exceptional value at £110.—The Layton Garages, 90, High St., Oxford. Tel.: 784 Oxford. T.A.: Integrity, Oxford. [7058

1921 A.J.S., 2¾h.p.—We are now booking for early delivery of this superb machine; approx. price £100.—Official agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [8157

1913-14 2¾h.p. A.J.S., 2-speed, hand clutch, just been thoroughly overhauled, perfect condition, lamps, etc., fast, climb anything; bargain, £45.—54, Duck St., Rushden, Northants. [7954

£75.—1915 6h.p. A.J.S. C.B. combination, 3-speed, kick starter, good tyres, lamps, etc., excellent condition and appearance; any trial.—Hamilton, 111, Denmark Hill, S.E. 'Phone: Brixton 1529. [8012

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392



'Phone: Mid. 2910. 'Grams: "Lytcar, B'ham."

THE BIRMINGHAM HOUSE FOR MOTORISTS.

P. J. EVANS

CAN DELIVER BEFORE EASTER

THE FOLLOWING 1921 MOTOR CYCLES:

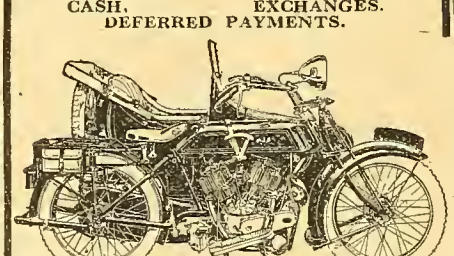
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7 h.p.	INDIAN	£226
5-6 h.p.	ROVER	£195
4 h.p.	NORTON	£177
8 h.p.	NEW IMPERIAL	£187
4 h.p.	TRIUMPH from	£153
7 h.p.	JAMES	£195

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4 h.p.	INDIAN SCOUT	£157 0
4 h.p.	TRIUMPH	£127 10
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3½ h.p.	NORTON	£132 0
3½ h.p.	ROVER	£135 0
4½ h.p.	HUMBER	£140 0
4 h.p.	TRIUMPH (Renovated)	£95 0
2¾ h.p.	NEW IMPERIAL	£89 5
2¾ h.p.	EDMUND-JAP	£95 0
2¾ h.p.	MASSEY-ARRAN	£90 0
2¼ h.p.	ENFIELD	£65 0
2¼ h.p.	TRIUMPH	£75 0
2¼ h.p.	JAMES	£75 0

CASH, EXCHANGES.
DEFERRED PAYMENTS.



7 h.p. A.J.S., £215.

SPECIAL BARGAINS:

1920 Shop-soiled Models.

3½ h.p. ROVER, 3-speed	£125
4½ h.p. HUMBER, Flat Twin	£125
4 h.p. BLACKBURNE, 3-speed	£115
3½ h.p. ROVER, T.T.	£95
2¼ h.p. ENFIELD, 2-speed	£62
2¾ h.p. CALTHORPE-JAP, 2-speed	£63
2¼ h.p. CALTHORPE, 2-stroke, 2-speed	£58
2¼ h.p. METRO-TYLER, 2-speed	£70
2¼ h.p. CONNAUGHT, 2-speed	£58
2½ h.p CONNAUGHT, single-speed	£50

Also a few Shop soiled Sidecars at Reduced Prices.

81-91, JOHN BRIGHT ST.

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. 7h.p. Brand New 1921 Combination, complete with interchangeable wheels and spare, immediate delivery from stock, easy payments arranged; cash price, £215.—Wilkins, Simpson, opposite Olympia, London. [7807

1919½ A.J.S. Combination, hood, screen, spare wheel, excellent condition, only 2,500 miles, extra screen dash for child's seat, side curtains, tube valve, locker made, etc.; £155; trial.—Williams, 7, Ronald Rd., Newport, Mon. [8033

A.J.S. 6h.p. 1920 Combination with Watford speedometer, Lucas dynamo lighting set, hood, screen, and spare wheel, excellent condition; £210, or near offer; done just over 4,000 miles.—Braanam, Pottery, Barnstaple. [0499

F.O.C.H. have a brand new A.J.S. combination, shop-soiled); £190 cash; exchanges and easy paymeats arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7782

6h.p. Late 1919 A.J.S. Combination, speedometer, accumulator lighting, electric horn, etc., just overhauled by makers, tax paid, owner buying car; can be seen at Chatham, or London by arrangement; £160.—Capt. Kirby, Brompton Barracks, Chatham. [7982

A.J.S. 1919 Combination, fully equipped, latest Lucas Magdyno lighting set, Cowey trip speedometer, Lucas horn, Ace discs fitted to all four wheels, 3 new tyres, hood and screen; £185, or nearest offer.—'Phone: 10.—Ramm, The Orchard, Godstone, Surrey. [6407

A.J.S., 1920, completely equipped with hood, screen, side curtains, spare wheel, spring seat-pillar, F.R.S. electric lighting, Klaxon electric and Cowey hand horns, Watford trip speedometer, condition perfect.—Portyerrock, Blundellsands, Liverpool. [6886

1919 (November) A.J.S. Combination, Lucas head, electric side and rear, spring pillar, hood side curtains, legshields, handle-bar muffs, spare wheel, spare unused outer cover, small mileage, first-rate condition; any trial; tax paid, insurance to end of year; £175.—Scott, Huntspill Lodge, Deepcut, Farnborough, Hants. [7539

ALLEN-BENNETT Motor Co., Ltd.—A.J.S. 1920 combination, electrically equipped, Cowey horn, speedometer, run under 4,000, snip, £185; 1920 combination, Lucas dynamo lighting, run under 1,500, £210; 1916 combination, Lucas dynamo lighting, £150; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6281

Alldays.

E. KICKHAM for Allon; trade supplied.—Stoke Croft, Bristol. [3356

2¾h.p. Allon, Nov., 1916, 2-speed; £37, or offer.—60, Windsor Rd., Palmer's Green, N.13. [7683

1921 Alldays Allon.—All models from Coventry Motor Mart, London Rd., Coventry. [X0023

1920 Allon de Luxe, fully equipped, mileage negligible; £68.—140, London Rd., Brighton. [7366

ALLDAYS Allon, 2-speed, late model, beautiful condition; £45.—144, Ladbroke Grove, W.10. [7856

ALLDAYS Allon, 2¾h.p., 1917, 2-speed, clutch, lamps, tax paid; £35.—60, Half Acre Rd., Hanwell, W.7. [8085

1920 Alldays Allon, 2¾h.p., 2-speed, clutch, kick starter, tax paid; £60, or offer.—Goodwin, Newport, Essex. (D) [7866

ALLON 2¾h.p., 1919, Nov., clutch, kick-starter, overhauled, new magneto, good condition; £57/10, offr.—A.S.C., 26, Grangeway, Grange Park, N.21. [7546

1920 Allon, hand clutch, kick start, unpuncture Dunlops, front and rear hand brakes, licence, tools, excellent condition; £57, or offer.—9, Parsifal Rd., Hampstead. [7695

ALLDAYS Allon, 1920, 2¾h.p., 2-speed, kick starter, perfect condition, fully equipped, tax paid, not ridden 500 miles; owner ordered abroad; £70, or nearest.—Major Normand, Homefield, Shoeburyness. [7826

F.O.C.H. have a brand new Allon, shop-soiled; £73 cash; exchanges and easy payments arranged. 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7726

ALLON 1920 2¾h.p., 2-speed, with kick starter and clutch, complete with lamps and speedometer, an almost new machine; £67/10.—The Layton Garages, 90, High St., Oxford. Tel.: 784 Oxford. T.A.: Integrity, Oxford. [7058

American X.

1916 American X, Swan sidecar; £145.—Stanley, 173-4, Railway Approach, Shepherd's Bush, W.1. [8327

AMERICAN X. 1920 7-9h.p. Combination, complete with lamps, Easting wind screen; £155.—Motor Co., Hereford. [4317

AMERICAN X Combination, 7-9h.p., accessories very last, as new; £178.—Taylors, Ltd., 5, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0475

AMERICAN X. 1921 Models, standard or electric, shop-soiled, at bargain prices.—Melchior, Armstrong and Dessan, 14, Gt. Marlborough St., London, W. [4585

MOTOR CYCLES FOR SALE.

B.S.A.

BRAND New 1920 4½h.p. B.S.A. Combination, all-chain model, B.S.A. No. 2 sidecar; a bargain at £137.—Bamber's, Eastbank St., Southport. Tel.: 607. [7095

1h.p. B.S.A. and C.B. Sidecar, 1919, all lamps, tools, apron, wind screen, and carrier; in very good condition; £110.—Ross Engineering Co., Hereford-shire. [7350

B.S.A. Singles and Twins, early deliveries, fitted with any model Sandum sidecars; B.S.A. twin and dual sidecar in stock.—Sandum Sidecars, 336, Gray's Inn Rd., W.C.1. [0541

B.S.A. 1916 Model K., 1917 Phœnix sidecar, child's seat, part time stored, perfect condition, acces-sories, licensed; £95.—Thorogood, Boot Repairer, Ditchin. [7216

NEW B.S.A. Combination, 4½h.p., all chain drive, run few miles, unscratched, beautifully equipped, tax paid; £115; exchanges.—60, Wallingford Av., N. Kensington. [7999

1h.p. B.S.A., 1913, stamped, 2-speed, clutch, Bosch, 4 new Dunlops, Lucas, ride away anywhere, £32; Watsonian, £10; photos.—Ewers, Newton Rd., Burton-on-Trent. [7520

B.S.A. 1920 and Sidecar, Model H, as new, done 1,000 miles, dynamo lighting, hood, screen, lug-gage carrier, speedometer; £170.—Bond, 245-247, Euston Rd., N.W.1. [7987

EARLY 1920 B.S.A. Combination throughout, 3-speed clutch, etc., all-chain driven, electric light-ing, practically as new; £120.—11, Betchworth Rd., Seven Kings. [7525

1920 Under Market Value.—1920 B.S.A., all-chain, No. 2 sidecar, Lucas Magdyno, hood, screen, luggage grid; £145, cost £190.—18, Melbourne Grove, East Dulwich. [7031

B.S.A. 1920 4½h.p., Sandum sidecar, hand and foot clutch, fully equipped, indistinguishable from new; £130.—Parker's, Bradshawgate, Bolton, nod 245, Deans-gate, Manchester. [X9985

1919 B.S.A., best sidecar, mileage 1,500, condition perfect, speedometer, Miller lamps, wind screen, luggage carrier, Klaxon, spares, Tan-Sad; £115.—Bailey, Newtown, Malvern. [7466

B.S.A. Combination, Model K, new condition, licenced, equipped, Oct., 1919; £108; new Model in stock.—Agents, R. B. Clark and Co., 7, Exhibi-tion Rd., S.W.7. [8138

B.S.A. Models for Immediate Delivery; also a few 1920 models at reduced prices; exchanges.—Newn-ham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6235

B.S.A. 4½h.p., 3-speed, with sidecar to match, splen-did order, tax paid; any trial; £85.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6231

1920 B.S.A. Model de Luxe, K model, fully equipped, child's seat fitted in sidecar, smart turnout; write for full particulars; tax paid; £140.—Box 2,806, c/o *The Motor Cycle*. [7336

1919 B.S.A. Combination, coachbuilt sidecar, acces-sories, spares, perfect running order, chain-belt; £110, or nearest; appointment; Dublin district.—Box 2935, c/o *The Motor Cycle*. [7893

B.S.A.—All models now in stock; the lowest price machine, but highest quality.—A. Watkins, the B.S.A. Agent, 150-2, Stoney Lane, and 565, Stratford Rd., Sparkhill, Birmingham. [X8625

B.S.A. 1916 Combination, 4½h.p., all chain drive, Swan sidecar, just overhauled, perfect condi-tion, all accessories; £95 or nearest offer. — 39a, Cunnington Park Rd., N.W.6. [7933

1920 B.S.A. 4½h.p. Combination, all accessories, in-cluding Cowey speedometer, excellent running order; £130, or near offer.—Write first to Parkes, 2, Valley Rd., Streatham, S.W.16. [7843

B.S.A. 1921 6-7h.p. Twin Combination, complete with spare wheel, luggage grid, and screen; cash, or extended payments.—Taylors, Ltd., 52 and 53, Sussex Place, S.W. 'Phone: Kensington 7260. [0492

IMMEDIATE Delivery of any B.S.A. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., North Side, Clapham Common, S.W.4 'Phone: Brixton 2417. [0501

B.S.A. 3½h.p., couch sidecar, 3-speed countershaft, chain and belt, 1913, stored during war, very little used, licensed March, honest condition; reasonable trial given; £70; appointment.—57, Goodmayes Lane, Good-mayes. [7476

ALLEN-BENNETT Motor Co., Ltd.—B.S.A., several reconstructed models from £75; cash, exchange, extended payments.—9, 10, 11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6296

B.S.A., 1921, the most remarkable value in single-cyl. machines ever offered; prompt delivery of models; exchanges quoted.—The Layton Garages, Chester, near Oxford. Tel.: 35 Bicester. T.A.: Integrity, Bicester. [7062

B.S.A.—The price of the B.S.A. 6-7h.p. twin combina-tion is now only £175; it is worth your investiga-tion; write or call for full particulars.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6236

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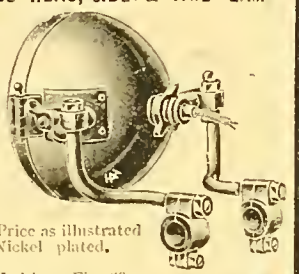
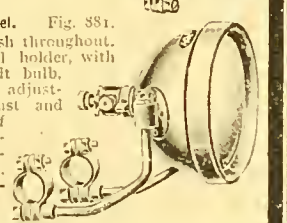


Fig. 895. Best quality finish throughout. Very massive and strong. Adjustable focus. Adjust-able brackets. Special dust and weather-proof front. Price as illustrated 72 6 each. Nickel plated.

Medium Size Model. Fig. 881. Best quality finish throughout. Totally insulated holder, with switch and 4-volt bulb, adjustable focus, adjust-able brackets, dust and weather-proof front. As illustrated. Nickel-plated, 43 - each. Black-plated, 47 - each.



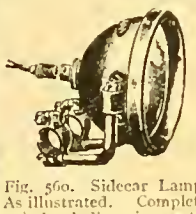


Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. Price as illustrated. 55 - each, black-plated



Fig. 560. Sidecar Lamp. As illustrated. Complete switch, bulb, wire, nuts, washers, etc. Price 8 6 each.



Fig. 573. Shows red danger signal, lights No. plate. Complete with switch, bulb, wire, clip, etc. Price 9/6 each. "Force" Hellesen Bat-tery, 9/11 386. Special metal case for "Force," 10 6. Complete rear set, 29/6.



"Speedolite" H.A.H. Patent Speedo-meter Lamp.



Fig. 428. Lighting switch, screw action. tin. or ⅝in clip, 3/6 each.

Fig. 429 ditto, dash type 3 6 each

Fig. 347. Spring clip switch wire coloured bulb, etc complete 7/6 each.

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MOTOR CYCLES FOR SALE.

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7h.p. 1920 B.S.A., with Millford de luxe bulbous back sidecar, fully equipped, including licence and insurance, only ridden about 800 miles, perfect con-dition; cost £212, now offered for £165.—Stedman, 62, Lodge Rd., Croydon. [7966

B.S.A. 4½h.p. Model K, 3-speed countershaft gear, kick starter, with coachbuilt sidecar, excellent condition, £80; also brand new B.S.A. 4½h.p. Model H, 1920, all-chain, reduced price.—Eagles and Co., 275, High St., Acton, London. [7105

B.S.A. 4½h.p., K, 1920, No. 2 sidecar, Magdyno, B.S.A. luggage grid, Stewart horn, Easting Royal screen, handle-bar muffs, spare cover, tube, valve, and full kit of spares, all in good condition; any trial; £135, no offers.—106, Monica Rd., Small Heath, Birmingham. [7651

B.S.A. 1921 6-7h.p. Twin Model A with B.S.A. No. 1 sidecar, Magdyno lighting, speedometer, spare wheel with tyre, tyre cover, luggage grid; immediate delivery from stock at makers' latest price, £217/10; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [7806

B.S.A. Combination, 1916 model, 4½h.p., Canoelet sidecar, Easting wind screen, tax paid for 1921, 2 new tyres, Lucas head light, several new spares, only done 500 miles since complete overhaul by makers, mechanically as new; £110.—Vicar, St. John's Vicar-age, Kidderminster. [X9854

B.S.A.—A motor cycle worthy of its name is the B.S.A. We have always in stock at least three models, Model K, Model H, and 6-7h.p. twin, imme-diate delivery; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0379

1920 (July) B.S.A., 4½h.p. Model K., Canoelet side-car, Easting screen, Watford speedometer, King of the Road head, electric side and tail lamps, spare belt and tube in case, spare chain, valve, and tyre, me-chanical horn, been most carefully driven, excellent condition; £138.—Wright, Morris Farm, Piltdown, Sussex. [7591

Calthorpe.

1921 Calthorpes.—All models from Coventry Motor Mart, London Rd., Coventry. [X0028

1920 New Calthorpe, accessories; £70, or exchange furniture.—25, Silverdale Rd., Highams Park. [7456

1920 2¾h.p. Calthorpe-Jap, 2-speed, 4-stroke, little used; £56.—Frank Smith, Kemerton, Tewkes-bury. [7618

1916 2¾h.p. Jap-Calthorpe, Enfield 2-speed, splen-did condition; £30.—37, Arlington Rd., Sur-biton. [7108

CALTHORPE Junior, 2-speed; £30; no rubbish; going abroad. Greenwood, 19, Cambridge St., Todmorden, Yorks. [7006

CALTHORPE-J.A.P., 2¾h.p., 2 speeds, Enfield gear, lamps, horn, sound condition; £36.—143, Ravens-bury Rd., Earlsfield, S.W. [7391

CALTHORPE 1917 2¾h.p. 2-speed 2-stroke, lamps and horn, perfect condition; £43.—Stephens, 26, South Park, Sevenoaks. [7742

CALTHORPE.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5742

£65.—1916-17 Calthorpe combination, 4-5h.p. twin J.A.P.s, Amac, Enfield 2-speed, clutch, starter, chain drive; exchange.—63, Solon Rd., Brixton. [7157

4h.p. Calthorpe Combination, light sidecar, 2-speed, chain and belt, Bosch, Amac, lamps; £35; ex-cellent lightweight.—Rayner, Claverley Rd., Ongar. [7952

CALTHORPE 2¾h.p. 1920, little used, mechanically perfect, complete outfit and spares, licence, etc.; cost £100; nearest offer to £70.—Gauthern, Ilkley, Yorks [7606

CALTHORPE-J.A.P. 2¾h.p., 1920 model, Enfield 2-speed gear, £65; 2-stroke model with Enfield gear, £58.—P. J. Evans, 81-91, John Bright St., Bir-mingham. [8147

CALTHORPE.—Immediate delivery 3h.p. 2-stroke solo, 65 gns.; combination, complete with lighting set, 110 gns.; and 2¾h.p. Calthorpe-Jap, 2-speed, 70 gns. Motor Co., Hereford. [4314

CALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon; all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

CALTHORPE 1921 Combination, actually in stock for immediate delivery; cash or deferred terms; place your orders with the Calthorpe specialists.—Burlington Motors, Ltd., Clapham Common, S.W.4. 'Phone: Brixton 2417. [0509

CALTHORPE-J.A.P., Enfield 2-speed, brand new but slightly soiled; spend your Easter on the open roads by securing this splendid offer, opportunity awaits you, cannot be repeated, usual price £74/11; sacrifice, £55.—Wilkins, Simpson, opposite Olympia, London. [7810

Cambrian.

TWO Cambrian-Villiers 2½h.p. 2-stroke Motor Cycles, special show machines, slightly shop-soiled, never been out; a bargain, 50 gns., list price 65 gns.—Pugh Bros., 101, Holloway Rd., N.7. [7712

MOTOR CYCLES FOR SALE.

Campion.

3½h.p. Campion-Jap, clutch model, Bosch; £28.—125, Canal Rd., Mile End, E. [8102

CAMPION-PRECISION, variable gear, good condition throughout, runs splendid; trial; £40, offers.—Hall, Eckington, Sheffield. [8197

1914-15 Campion-Precision Junior, 2-speed; £30; ride away, tax paid; exchange 2-stroke; what offers.—33, Wostenholm Rd., Sheffield. [7615

Cedos.

E. KICKHAM for Cedos; trade supplied.—Stokes Croft, Bristol. [3357

CEDOS, late 1920, 2¾h.p., 2 speeds, fully equipped, indistinguishable from new; £60.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9977

CEDOS 2 stroke, the finest lightweight reaching the public, earliest deliveries, particulars on application.—Largest London Agents: Fowler and Brigden, 130, Euston Rd., London, N.W.1. 'Phone: Museum 4827. [0469

CEDOS.—Two only current models, very slightly soiled; offered at £55, we hardly think you can get better value; particulars with pleasure.—The Layton Garages, 90, High St., Oxford. Tel.: 784 Oxford. T.A.: Integrity, Oxford. [7063

Centaur.

3½h.p. Centaur, C.A.V. mag., B. and B. carburetter, new tyre, in perfect running order; must sell, owner out of work; £18, offers.—32, Birmingham Rd., Stratford-on-Avon. [X9849

Chater-Lea.

CHATER-LEA 8h.p. C.B. Combination, Bosch, Amac, lamps, tools, etc., exceptionally fine condition; any trial; £87, cheap.—Write, 230, Albany Rd., S.E.17. [7436

CHATER-LEA 8h.p. Combination, 3 speeds, new tandem C.B. sidecar and hood, recently overhauled, sound running order; trial given; £90.—2, Katherine Villas, Edenbridge, Kent. [7740

CHATER-LEA 2-stroke Sidecarette, 35 m.p.h., 95 m.p.g., perfect mechanical condition, fully equipped, tax paid, 50 miles trial run; £75.—141, Brocke Rd., Stoke Newington. [7984

Chater-Lea-Jap.

CHATER-LEA Combination, 8h.p. J.A.P. engine, hood, wind screen, electric lighting, speedometer, perfect condition; £115.—12, Ilgh St., Fulham. [7180

6h.p. Chater-Jap Combination, fully equipped; any trial; £55; will accept lightweight and cash; call Thursday afternoon or Sunday.—21, Woodbury St., Tooting. [7426

Clyno.

CLYNO Lightweight, new; 65 gns., or best offer.—56, High St., Cheadle, Staffs. [7827

NEARLY New 2¾h.p. Clyno, 1920, 2-speed; 60 gns.—A. J. Young and Co., Ltd., Newmarket. [1256

1921 Clyno, tax paid, free insurance, from Coventry Motor Mart, London Rd., Coventry. [X0029

CLYNO Lightweight, lamps, horn, speedometer, tax paid; bargain, £52.—Purser, 23, Queen St., Deal. [7497

DAN GUY, Weymouth.—1921 8h.p. Clyno combination, small mileage, as new; cash offers wanted. [0551

DEC., 1919.—Clyno 2-stroke, 2-speed, condition almost as new; £50.—Morriss, 139, Finchley Rd., N.W.3. [7779

1920 Clyno Lightweight, low mileage, Miller lamps, horn, tools, tax paid; £55, offer.—Leyres, Camberton, Kidderminster. [6987

CLYNO Combination, 5-6h.p., 3-speed, kick start, beautiful order, any trial; £95.—57, Kenbury St., Camberwell, London. [7959

CLYNO.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5743

CLYNO 5-6h.p., W.D. model, reconrated, enamelled, plated, 3-speed, kick start, as new; £60.—272, Green St., Forest Gate, E.7. [7747

SPORTING 6h.p. Clyno Twin, 3-speed, kick start, painted crimson, disc wheels, special bars, fast.—Bucknall, St. Mary's, Marlborough. [7991

CLYNO Combination, 1913, 8h.p. J.A.P. engine, complete with lamps, horn, 2 spare wheels; price £130.—60, Caithness Rd., Mitcham. [7939

5-6h.p. Clyno Coachbuilt Combination, countershaft, excellent condition, just had £25 overhaul, lamps, tax paid; £55.—1, Othello St., Liverpool. [7719

DCCLEY.—1916-17-18 5-6h.p. Clyno motor cycles, unassembled, with mag. and carburetter; bargains, £42/10 each. Write or call for particulars.—Below.

DOOLEY.—1916-17 5-6h.p. Clynos, W.D. models, K.S., clutch, renovated, £65 each, with new T.B. magneto and carburetter. I have eight of these left, but plenty of machines as above. Please look to my advertisement under Miscellaneous for Clyno spares, etc., etc.—Please apply for above to J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [7798

CLYNO 1920 2-speed Lightweight, complete and in exceptional condition; a first-class investment at £50.—The Layton Garages, 90, High St., Oxford. [7064

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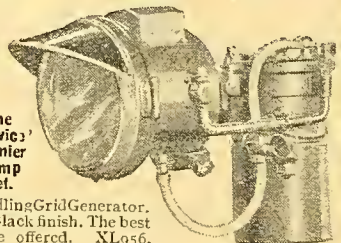
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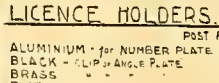
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CLYNO 1921 Models, immediate delivery; 1920 light weights, shop-soiled, £63; list price, £75.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0451

8h.p. Clyno-Jap Combination, re-enamelled, plated and completely overhauled, in perfect condition; electric light; 105 gns.—Box 368, c/o *The Motor Cycle*. [X0011

CLYNO Lightweight, 1920, very little used, lamps, mechanical horn; 50 gns.—Vivian Hardie and Lang Ltd., 23 and 24, Woodstock St., New Bond St., W. [0511

CLYNO Combination, late war model, rebuilt, hood, spare wheel, box of spares; £85.—Loog Ditton Rectory, Surbiton. (Seen, 30, Carden Rd., Peckham Rye.) [6831

CLYNO Combination, 1917, 5-6h.p., 3-speed, lamps, spare wheel, etc., overhauled, painted, upholstered; £100.—G. G. Williams, Crowland, Peterborough. [X9771

CLYNO Combination, 6h.p., 4 interchangeable wheels, just completely overhauled, replated, and enamelled, tax paid; 98 gns.—Cobbold, Clifton Mount, Summerhill Rd., Dartford. [8081

CLYNO Combination, Oct., 1918, 2,500 miles, recently overhauled, Easting, perfect, seen any time, tax paid; £110.—Central Garage, Salway Hill, Woodford. 'Phone: 14. [7841

CLYNO Combination, W.D. model, spare wheel, splendid condition, hardly been used; no reasonable offer refused.—Bradley, 35, Palmerston Rd., Forest Gate, Essex. [7941

1916 Clyno Combination, 700×80 tyres (2 new), spare wheel, dissolved acetylene lighting, mechanical horn, new bushes, pistons, and cylinder, recently fitted, licensed; £110.—Maida Vale Garage, next Maida Vale Tube Station, W. [6871

CLYNO Combination, 8h.p. J.A.P., 1918, 3-speed countershaft, all enclosed chain, privately owned as new, detachable wheels, new tyres, entirely overhauled, very fast, exceptionally comfortable sidecar, electric lighting; £165; appointment.—Ralph Pay, 1, Mount St., Grosvenor Sq., W. Tel.: 162 Mayfair. [5861

CLYNO 5-6h.p. Combinations, late W.D. models, rebuilt, re-enamelled and plated to maker's colours, 3 speeds, kick start, foot clutch, new carbretters, mags., saddles, interchangeable wheels, enclosed chain drive, sidecars coach painted, as new; £125 complete.—Hearn Bros., 117, Loughborough Park, Brixton, S.W.9. 'Phone: Brixton 2888. [6591

Connaught.

CONNAUGHT.—All models from Coventry Motor Mart, London Rd., Coventry. [X0031

CONNAUGHT 2¼h.p., 1920 model, single-speed, shop soiled only, £50; 2-speed model, £58.—P. J. Evans, 81-91, John Bright St., Birmingham. [8141

CONNAUGHT 1921 Models, immediate delivery. Note address: S.E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [4121

CONNAUGHT Combination (Aug., 1920), as new, 3-speed Sturmey-Archer countershaft; £75.—Pritchett, 30, Park St., Islington, N. [7931

1921 Connaught, T.T. Model, brand new, just arrived; at list; easy payment accepted, £23/7 down, balance 12 monthly instalments.—Homac, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2402. [8161

Coulson.

COULSON B, 2¾h.p., new, only shop-soiled; what offers.—Hopkins, Motors, Ledbury. [7071

DAW, Brixton.—1920 Coulson B, 2 speeds, sprung frame, little used; £75.—114, Brixton Hill. 'Phone: 1713 Brixton. [7211

COULSON B 1921 Models in Stock.—Sole Wiltshire Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5071

1921 4h.p. Coulson B, 3-speed, etc., spring frame, tax 30/-; list price £126.—Bambers', Eastbank St., Southport. Tel.: 607. [7031

2¾h.p. Coulson-B, 1920, 2-speed, lamps, horn, guards, perfect condition, mileage 800; £85, offers.—Capt. Oliver, 5, Mansion Row, Chatham. [4441

1921 4h.p. Coulson-B., 3-speed S.A., clutch, kick start, run less than 100 miles, speedometer, tax paid; £105.—Crauford, Hop Gardens, Eton, Windsor. [7411

COULSON B.—Sole agent for Newport, Shifnal, Ludlow, Bridgnorth, and part Staffordshire; private and trade enquiries solicited.—Evans, Garage, Newport, Salop. [X8611

COULSON B.—We are sole agents for Wolverhampton, Stourbridge, Dudley, Walsall, and district; good deliveries; private and trade enquiries invited.—The Molineux Garage Co., Ltd., Wolverhampton. Tel. 1160. [3411

F.O.C.H. are Coulson B agents. New machines in stock. Exchanges or easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7711

COULSON B, 1919, 2¾h.p., Albion 2-speed, sprung frame, accessories, tools, spares, new tyres, mileage about 3,500, attractive, reliable machine; owner being Morgan; £60, or nearest offer.—105, London Rd., Southend-on-Sea. [6811

MOTOR CYCLES FOR SALE.

Douglas.

. Douglas and Sidecar, July, 1919, not W.D., lamps, horn, speedometer, discs, mudshields, in condition throughout; £140.—44, Howard Rd., S. ood. [5250

UGLAS 4h.p. Combination, 1920 model, electric lamps, tax paid, splendid condition; cheap.—head, 91, Esmond Rd., Cheetham Hill, Man- r. [7757

UGLAS, 1920, 2¾h.p., 3 speeds, fully equipped, indistinguishable from new; any trial; £85.— r's, Bradshawgate, Bolton, and 245, Deansgate, nester. [X9981

UGLAS, 4h.p., 1918, thoroughly overhauled, per- fect condition, unlicensed; price £70; seen by ntment.—Apply, Turner, 27, Westbourne Sq., ington. [7073

. Douglas Combination, 1920 (August), tax paid, .R.S. lamps, Easting, spares, Cowey horn, new tion; £135, bargain.—W. Milner, 24, Lime Tree Peterborough. [6026

. Douglas Combination, licence fitted, with luxuri- us Sandum body, Easting screen, petrol carrier, etc., insurance policy included; £95.—336, Gray's td., W.C.1. [0540

. Douglas Combination, perfect condition; enuine bargain, £85; engine 1919, 3-speed, kick r, clutch.—Bovington, 2, Eastleigh, Milner Rd., nam, Bucks. [6980

UGLAS 1920 2¾h.p., clutch, kick start, 3-speed, very little used, perfect condition throughout, all ories; £83, bargain.—29, St. Mary's St., Whit- , Salop. [7589

UGLAS 1914 2¾h.p., Bosch mag., 2-speed, per- ect condition, fully equipped; £42; exchange d M., cash adjustment.—108, Runcorn Rd., y, Birmingham. [X9826

UGLAS, 2¾h.p., fully equipped, aluminium chain guard, 1915, £55; ditto, 1919, £70; nteed.—Vivian Hardie and Lane, Ltd., 23 and oodstock St., W.1. [0547

0 Douglas Combination, recently overhauled, good tyres, economical, Binks carburetter, meter, etc; tax paid; £130.—Write, Catling, pus St., Westminster. [7930

CLARK can give you good service both in new achines and spares; try me. I may be useful to The Pioneer Agent for Douglas Motors, 196, nham Rd., Bristol. [0016

UGLAS 1920 2¾h.p., 3-speed, K.S. and clutch, mps, horn, and tax paid, under 2,000; £87/10. nham Motor Co., 223, Hammersmith Rd., W.6 : Hammersmith 80. [6232

UGLAS 1918 4h.p. Coachbuilt Combination, fully quipped, recently overhauled, in top-hole running bargain, £85.—29, Holmwood Villas, Gander Lane, Sutton, Surrey. [7839

UGLAS Combination, late 1919, tax paid, as new, tted wind screen, electric lighting, Klaxon, pillion gage grid; £120.—Write for appointment, Winter, roxted Rd., Herne Hill. [7264

Douglas, Binks carburetter, C.A.V., speedo- meter, lamps, horn, overhauled, good condi- £45, bargain, no offers.—Apply, 7, Gartmore s, Green Lane, Seven Kings. [7499

UGLAS 2¾h.p., 1916, perfect condition, new trip eedometer, Amac, Klaxon, lamps, Tan-Sad, ac- s, every essential spare; £60.—Hampton, 10, inton Rd., Clapham, S.W. [7226

UGLAS 1918 Combination, 4h.p., 3-speed, kick art, clutch, horn, etc., tyres as new, in splendid on throughout; £90, or offer.—Walker, 769, Rom- d., Manor Park, London, E. [8071

UGLAS, 45 gns.; 2¾h.p., 1915, licenced, new . and R. lamp set, Bosch mag., new tyres, in t order.—Smiths, 86, Chalk Farm Rd., Oppo- alk Farm Tube Station, N.W. [0491

UGLAS 4h.p., 1920, 3 speeds, blue sidecar, just verhauled, decarbonised, all accessories, quantity take £145 or reasonable offer for prompt sale, Dalmeny Av., Norbury, S.W.16. [6997

4h.p. Douglas Combination, done 1,500 odd, fully equipped, just decarbonised, thoroughly led, perfect condition; best offer over £155.— ter, Rowardennon, Bovey Tracey, Devon. [7600

UGLAS Combination, 1920 model, mileage 2,800, mpletely equipped, hood, screen, speedometer, horn, tools, in perfect condition; £120; tax B. Taylor, Lyon Rd., Grimston, Lynn, Norfolk. [X9179

UGLAS late 1920, brand new, slightly soiled, 3- eed, a special Easter bargain, usual price £100; £85; secure now at the right price for spot Wilkins, Simpson, opposite Olympia, London. [7808

.H. have a 1920 Douglas combination, almost w, completely equipped; £135.—5, Heath St., ead (near Hampstead Tube Station). 'Phone: ead 3752. Hours 9-7, including Saturdays. [7781

EDIATE Delivery of any Douglas Model; cash or ferred payments; book your order now, and disappointment later.—Burlington Motors, Ltd., Side, Clapham Common, S.W.4. 'Phone: Brix 17. [0505

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ALLON, 2½ h.p., 2-speed, clutch, and kick-starter	£80	15
ARIEL 1½ h.p. Combination	£177	10
ARIEL 6-7 h.p. Combination	£197	10
B.S.A. 6-7 h.p. Combination	£175	0
B.S.A. 6-7 h.p. Combination, with dynamo lighting	£195	15
B.S.A., 4¼ h.p., all chain, and No. 3 Sidecar, dynamo lighting	£178	0
BROUGH, 2½ h.p., 3-speed, sports model	£130	0
BROUGH 8 h.p. Combination	£180	5
BRITISH EXCELSIOR, 2½ h.p. Blackburne, 2-speed, clutch, and kick-starter	£96	0
DIAMOND, 2½ h.p., 2-speed	£84	0
INDIAN 4 h.p. Scout, with electrical equipment	£172	0
LEVIS, 2½ h.p., 2-stroke	£60	0
LEVIS, 2½ h.p., 2-speed	£68	0
MATCHLESS 8 h.p. Combination	£205	0
MATCHLESS 8 h.p. Combination, with dynamo lighting	£230	0
MATCHLESS 8 h.p. family Combination	£212	10
MATCHLESS 8 h.p. family Combination, with dynamo lighting	£237	10
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MARTINSYDE 6 h.p. Combination, de luxe model	£225	0
NEW IMPERIAL, 2½ h.p., 2-speed	£89	17
NEW IMPERIAL, 2½ h.p., 2-speed, with clutch and kick-starter	£89	5
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ROYAL ENFIELD, 2½ h.p., 2-speed, with clutch and kick-starter	£70	0
ROYAL ENFIELD 8 h.p. Combination	£160	0
ROYAL ENFIELD 8 h.p. Combination, with dynamo lighting	£182	0
RUDGE-MULTI, 3½ h.p., I.O.M. Model	£110	0
SCOTT, 3½ h.p., sports model	£130	0
SCOTT 3½ h.p. Combination	£170	0
SUNBEAM, 3½ h.p., 3-speed, clutch and kick-starter	£185	8
TRIUMPH, 2½ h.p., 2-speed	£75	0
TRIUMPH, 4 h.p., Type H	£127	10
TRIUMPH, 4 h.p., chain drive	£140	0
TRIUMPH 4 h.p. Type H Combination	£172	10
TRIUMPH 4 h.p. chain-drive Combination	£195	0
ZENITH, 5 h.p., sports model	£123	0
ZENITH, 8 h.p., clutch model	£162	0

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CANOELET, Model M.M.4	£38	15
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GLORIA, de Luxe Model	£55	0
HENDERSON, Model A	£23	0
HENDERSON, Model B.1	£31	0
HENDERSON, Elite Model	£45	0
MILLFORD, Skiff Model	£25	0
MILLFORD, Corvette Model	£30	0
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MOTOR CYCLES FOR SALE.

Douglas

DOUGLAS, 2¾h.p., 1915, overhauled, new cylinders, Dunlop heavy, lamps, generator, horn, footboards, mudshield, tools, speedy, licence paid; £50; speedometer, Tan-Sad, etc., at option.—11, Ludlow Rd., Ealing. [8007

2¾h.p. Douglas, uncrated, August, 1919, original enamel, 2-speed, Amac, Thomson-Bennett, lamps, hooter, tool bags, Tan-Sad, footrests or footboards, tax paid, new condition throughout; trial; £60.—63, Solon Rd., Brixton. [8315

DOUGLAS 1920 Combination, full equipment, including wind screen, spare belt, tyres, lamps, etc., guaranteed perfect condition, licence and new insurance paid; 128 gns.; after 5.—112, Portobello Rd., North Kensington, London. [8218

1918 P. and M., Douglas C.B. 4-point sidecar, luggage carrier, 3 Lucas large generators, horn, speedometer, tyres good, back nearly new, overhauled, splendid condition not W.D., tax paid; £105.—Wormald, High St., Newmarket. [8029

ALLEN-BENNETT Motor Co., Ltd.—Douglas. Dozens in stock, 2¾h.p. and 4h.p., from £45; lady's model, 2-speed, £38; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: 2450. 'Grams: Truck, Croydon. [6286

DOUGLAS 2¾h.p., kick start and clutch, £50; and ditto with light sidecar, complete with all accessories, £70; not W.D.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, S.W.2. (Half-minute from Brixton Skating Rink.) [8325

DOUGLAS Combination, 1919, Lucas King head lamp and horn, side and tail, separate generator, Cowey speedometer, mirror, Tan-Sad set, tyres as new, run under 1,800 miles, running perfect, insurance; £120.—Warren, Chemist, Wrexham [8247

DOUGLAS 1920 2¼h.p., 3-speed, clutch, K.S., lamps, 2 generators, horn, tools, licence and insurance paid, new condition, original tyres; £85, or would exchange late medium powered combination, cash adjustment.—Parnell, 12, Porchester Rd., Bayswater, W.2. [7630

DOUGLAS 2¾h.p., 1914, splendid condition, semi-T.T., new carrier and Renolds chain, thoroughly overhauled last year, with new pistons complete, new valves, springs, and guides, and rebushed; £48. 'Phone: North 1799.—Brazier, 16, Strond Green Rd., Finsbury Park. [7694

DOUGLAS 2¾h.p., 2 speeds, new condition, both as to plating, enamelling, and engine, which has just been completely overhauled and tuned for quiet running, easy starting, take 2 anywhere, yet economical, dynamo electric lighting, new tyre; £55.—629, Holloway Rd., London. [7153

DOOLEY.—1917-18 4h.p. Douglas motor cycles. These are the biggest snip of the day. They are renovated in posh style, and look new. Come and inspect them. £55 each solo, £75 combination; usual price now £95 solo.—Please apply, J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [7799

DOUGLAS 1916 2¾h.p., 2-speed, enamel, plating like new, makers' colours, engine perfect, new tyres and belt (Dunlop), P. and H. lamps, accessories, spare 1911 engine, Brooks leggings, full licence; £67/10, real genuine bargain; owner bought new one; appointment.—Holding, 17, Barry Rd., E. Dulwich, S.E. [7682

Edmund.

EDMUND-J.A.P., Enfield gear, all-chain, brand new; snip, £68.—Clark, 7, Exhibition Rd., S.W.7. [8137

4h.p. Edmund, o.h.v. twin M.A.G., countershaft gears, clutch; £58; exchange.—McCartney, 1, Golden Cross Cottages, Church St., Woolwich. [7490

2¾h.p. Edmund-Union, spring frame, Enfield 2-speed gear, 1920 model, shop-soiled; list price £86, my price £68.—Davies, 229, Deansgate, Manchester. [0527

EDMUND-J.A.P. 1920 2¾h.p., 2-speed, spring frame model, licenced; £65; exchange or deferred payments.—Bunting's Motors, Wealdstone. (Closed Sundays.) [8174

1920 Edmund 2¾h.p., 2-speed, clutch, kick start, brand new, unused; listed £98, our price £68. —Edwards, 58, Harrington Rd., South Kensington. Kensington 3709. [8303

Elswick.

2¼h.p. Elswick 2-stroke, 2-speed, 1915, just overhauled, Precision engine; £25, or offer.—Drake, Hickling House, Sutton, Ely. [7977

1917 2¾h.p. Elswick 2-stroke, 2 speeds, lamp, horn, footboards, etc., first-class condition; £37/10; cycle taken in part exchange.—5, Addison Av., Holland Park, W.11. [8280

Enfield.

1921 Enfields.

ALL Models in stock for immediate delivery; 8h.p. combination £160, with dynamo lighting set £182; Enfield lightweight, £65; easy payments arranged; your old machine taken in part payment. To enable intending purchasers to inspect after our business hours, we are prepared to show these models at any time by appointment.—Broom and Whitehead, Ltd., Authorised Agents, 88, Gt. Portland St., London, W.1. Mayfair 6638 [9899

MOTOR CYCLES FOR SALE.

Enfield.

JULIANS of Reading have 1921 Enfields in stock. [0478

NEW 1920 Enfield, 2-stroke, 2-speed; £65; in stock.—Randal, Andover. [0369

2¾h.p. Royal Enfield, 2-speed, excellent order.—45, Temple Rd., Cricklewood, N.W.2. [6993

ENFIELD Combination, 1914, mechanically perfect; cheap, £90.—7, Melbourne Grove, S.E. [7625

1920 Royal Enfield 2-stroke, 2-speed, new; £62/10.—Morries, 139, Finchley Rd., N.W.3. [7778

1921 Royal Enfield 8h.p. Combination, in stock; £160.—Morriss, 139, Finchley Rd., N.W.3. [7773

1920 Enfield Combination, dynamo, as new; best offers.—Stretton's Garage, Ltd., Gloucester. [X9967

ENFIELD 6h.p., 1917, solo, perfect order throughout; £75.—302, London Rd., Thornton Heath. [8091

ENFIELD Brand New Lightweight; £60.—Clifford Wilson, 177, Westminster Bridge Rd., S.E.1. [7134

1920 3h.p. Enfield Twin, with sporting sidecar; £90.—Details from Kelly, Lever Bridge Mills, Bolton. [7770

ENFIELD Combination, 6h.p., 1916, engine wants attention; £90.—262, Blackborse Lane, Walthamstow. [7647

1919 Enfield Lightweight, 2-speed, tax paid, perfect; 44 gns.—Fersfield, Westbury Rd., New Malden. [8212

ENFIELD 1921, all models for immediate delivery —Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0432

ENFIELD 1915 Twin, 3h.p., 2-speed, clntcb, T.T. bars, excellent condition; 48 gns.—90, Wellesley Rd., Ilford. [4821

ENFIELD 1920 Sidecar Body and Easting wind screen, new; £15, or offer.—2, Mascotte Rd., Putney, London. [7321

1920 8h.p. Enfield Combination, new; £152/10.—Shepherd, Enfield Highway, Enfield. Tel.: Waltham X31. [0340

£22.—2¼h.p. twin Enfield, running order, enamel and plate good, new belt, etc.—Heatley, Montgomery, Wales. [7735

ENFIELD 8h.p. 1921 Combination, licence paid, ridden 150 miles; £150.—12, Wellington St., Eastwood, Notts. [6861

1916 6h.p. Enfield Combination, fully equipped; £80.—29, St. Leonard's St., Bromley-by-Bow, E.3. East 4708. [7174

1917 Enfield 6h.p. Combination, splendid condition, wind screen, speedometer lamps; £115.—12, High St., Fulham. [7181

ENFIELDS, any model, any distance; good deliveries, good service.—Allen S. Jones, The Motor Cycle Specialist, Carnarvon. [X7890

1918 3h.p. Enfield, Imperial sidecar, lamps, etc., engine just overhauled, tax paid; £65.—Body, Town Hall, Torquay. [7533

ENFIELD.—Sole agent for Wimbledon, Southfields, Earlsfield: Prior, Replingham Rd., Southfields. 'Phone: Putney 1694. [7305

ENFIELD Combination, 1916, dynamo lighting, excellent condition, licenced; £112.—Clark, 7, Exhibition Rd., South Kensington. [8135

ENFIELD.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5745

1918 Enfield Combination, hood, screen, electric lighting, mechanical horn, speedometer; bargain, £125.—7, Melbourne Grove, S.E. [7624

ENFIELD 2-stroke, new tyres, etc., in splendid condition, tax paid; £43/10 for immediate sale.—Veasey, Newport, Barnstaple. [7189

1920 Enfield Combination, Lucas dynamo lighting, unused, unregistered; £170.—Arnold, Summerland Rd., Minehead, Somerset. [6876

1918 Enfield Combination, fully equipped, in splendid condition; £120; owner buying car.—5, Harold Rd., Upper Norwood, S.E.19. [7235

3h.p. Twin M.A.G.-engined 2-speed Enfield, all-chain, Licensed, good condition; nearest 45 gns.—Garrett, 46, High St., Uxbridge. [7967

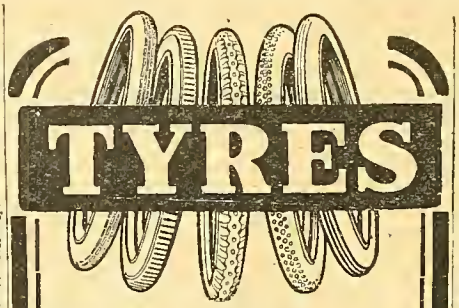
ENFIELD 3h.p., 1916, 2-speed, kick start, lamps, speedometer; bargain, £62/10; after 6.—Avoca, Monkhams Lane, Woodford, Essex. [7465

IMMEDIATE Delivery of the new 1921 Enfield combination; £160; exchanges arranged.—Eagles and Co., 275, High St., Acton, London. [7104

1920 8h.p. Enfield Combination, standard, brand new, unused; £145.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [3814

1916 Enfield Combination, 8h.p., dynamo lighting and horn, Easting; £125.—Stanleys, 173-4, Railway Approach, Shepherd's Bush, W.12. [8330

1921 Enfield Combination, Vickers engine, Lucas Magdyno and horn, new; £175.—W. T. Dunn, Ltd., 326, Enston Rd., N.W.1. Museum 5391. [8269



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These suits are finished in dull black, absolutely waterproof material, double-breasted, wind cuffs, and strap ankle fastenings.

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MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD Combination, 6h.p., 1917, complete w all lamps, sidecar screen, several spares; £1 offers.—Lt. Richardson, c/o Dan Guy, Weymouth. [0

ENFIELD 6h.p. Combination, hood, screen, spee meter, etc., in perfect running order, tax pa bargain, £100.—28, Bridport Rd., Thornton Heath [70

ENFIELD 6h.p. Combination, 1917, hood, scre electric and gas, perfect condition; any tri £120.—Malpas Motor Works, 12, Brockley Cross, S [72

1921 Enfield Combination, dynamo lighting, with without dynamo; in stock, immediate delive list price.—J. Smith and Co., 52-54, Hampstead R N.W.1. [0

1920 2¼h.p. 2-stroke Royal Enfield, lamps, ho pump, etc., in perfect order, guaranteed, lice paid; by appointment.—Chesters, 61, Linden Garde Chiswick. [7

6h.p. Enfield Combination, excellent condit throughout, acetylene and electric; £100, nearest.—34, Dender Rd., Stamford Hill. Availa Tuesday. [8

NEW 1921 Enfield Combinations, dynamo £182, dynamo £160, lightweight model £65.—Enf Agents, Bounds, Garage, 223, High Rd., Kilbu N.W.6. [7

1920 2¼h.p. Royal Enfield Motor Cycle for sale, speed, Lucas lamps, and horn, Bonniksen spe ometer; £60 for quick sale.—Snell, The Dock, Fi Lewes. [7

1921 Royal Enfield, in stock, several second-h and shop-soiled machines, various makes, clear, slump prices.—Central Works, Market St., H den Bridge. [7

ENFIELD Combination, 6h.p., equal new, w screen, hood, Klaxon; £100; trial any ti tax paid. — Pocock, 6, Randolph Mansions, Ma Vale, W.7. [7

ENFIELD Combination, 1919 (Oct.), 6h.p., E used, fully equipped, Palmer cords, perfect, paid; £135; appointment. — 68, Whitehall P Highgate. [7

ENFIELD 2¼h.p. Lightweight, new October perfect condition throughout, complete with la and horn; £55.—P. J. Evans, 81-91, John Bright Birmingham. [8

ENFIELD Combination, late 1917, disc wheels, pil carrier, oversize tyres, hood, speedometer, la mirror, licence paid; £125, near offer.—Cntwell, 63, St., Hackney. [7

1915 6h.p. Enfield Combination, all accesso enamel, mechanical condition excellent, tax p wind screen; £100, or reasonable offer. — Plaist South Rd., Southall. [7

1920 Enfield, 2½h.p., guaranteed sound, ele lighting, transferable comprehensive policy; trial; delivered anywhere immediately; £60.—No Seafield, Hoylake, Cheshire. [6

ENFIELD 8h.p. Late 1917 Combination, discs, overhauled, re-enamelled, and plated, new set, tyres, and horn, like new machine; £118.— 38, Thrale Rd., Streatham, London. [6

ENFIELD Combination, 8h.p., new August, 1 fully equipped, low mileage, numerous spa licence and insurance paid; accept £160, or nea offer.—Smith, 54, Brunswick Pl., Hove. [7

ENFIELD 1921 Lightweight, 2-speed model, age under 100, as new; a friend maker at £ The Layton Garages, 90, High St., Oxford. T 784 Oxford. T.A.: Integrity, Oxford. [7

1916 Enfield Combination, speedometer, electric acetylene lamps, hood, screen, Tan-Sad, condition; 90 gns.—Edwards, 50, Harrington South Kensington. Kensington 3709. [

ENFIELD 8h.p. Combinations, brand new models: with Magdyno lighting £182, without dyno lighting £160; immediate delivery; easy payn arranged.—Wilkins, Simpson, opposite Olympia, Lon [

ENFIELD, 2¾h.p. M.A.G. engine, 2-speed good tyres and condition, price £35; also 4h.p. N.S.U. 2-speed gear Rex, needs overhaul, tyres and belt, price £30, or £55 the two; Saturday.—Collins, The Hectorage, Tonbridge. [

ENFIELDS.—The cheapest twin on the road. are North London agents, and can supply stock standard models £160, electric £182, cash deferred payments. All spares in stock. Trade plied.—Jones' Garage, Muswell Hill, and at Woo Parade, N. Finchley. [

ENFIELD 6h.p. Twin J.A.P. Combination. Au 1919, Lucas dynamo lighting set, hood, sp meter, electric, bulb, and mechanical horns, mecnm tan seat, thoroughly overhanled, tax perfect condition; £160; buying car.—24, Lake Rd., Wanstead, E.11. [

ALLEN-BENNETT Motor Co., Ltd.—Enfield combination, re-enamelled and plated as brand new genuine Enfield sidecar body, £125; 1919 3h.p. twin, £70; 1917 3h.p. twin, £65; exchange, extended payments.—9, 10, 11, Royal Pa West Croydon. 'Phone: Croydon 2450. 'Gr Track, Croydon.

MOTOR CYCLES FOR SALE.

Indian

20 Indian 7-9h.p. Powerplus Combination, electrically equipped, mileage 3,000; £185, or nearest.—Sgt. Climie, Wargnet Camp, Wareham. [7727

IAN 7-9h.p., 2-speed, with large Millford sidecar; £67/10, or exchange.—Newnham Motor Co., 223, nersmith Rd., W.6. 'Phone: Hammersmith 80. [6230

.p. Indian Combination, electric model, hood, screen, all accessories, splendid condition throughout; £90, or near.—14, Liverpool Lawn, Ramsgate. [7477

IAN 1915 7-9h.p., spring frame, 3 speeds, clutch, kick start, good condition; £65.—Parker's, Bradgate, Bolton, and 245, Deansgate, Manchester. [X9982

IAN Combination, 7-9h.p., small mileage; bargain, £100, tax paid; tuition if purchased; owner car; seen by appointment.—98, Holyhead Rd., try. [X0022

WERPLUS Indians, 1919 models, genuine appearance and mechanical condition equal to new; 60 Bramble, Cambridge Works, Bedford Rd., East ley. [X9928

IAN 1920 Powerplus Combinations.—We have several examples in stock at bargain prices; parrs with pleasure.—The Layton Garages, 90, High Oxford. [7070

15 Indian 7-9h.p., clutch model, with Projectile sidecar, everything good condition; offers inexchanges.—Topping, Brandforth St., School Preston. [X9851

E 4h.p. Indian Scout, complete with lamps and horn, as new, in first-class condition, not run 400 ; at £.45, or nearest offer.—Box 2,910, c/o *Motor Cycle.* [7701

.A., owner leaving for, offers his 1920-21 7-9h.p. Indian combination, fully equipped and tested; any day by appointment.—2, Carmalt Gardens, ey, S.W.15. [6877

20 Powerplus Indian, dynamo lighting, electric horn, T.T. bars, stored 5 months, perfect con; ride 50 miles; £125.—Howard-Allman, The , Wye, Kent. [7087

.p. Indian Combination, 1915, splendid condition, ready for road, complete; best offer secures, owner sell; seen any evening or week-ends.—73, Killyon Clapham, S.W.8. [X9838

20 Indian Combination, dynamo lighting, speedometer, tax paid, horn, splendid condition; £155; change lower power, solo or combination.—Shaw, ar, Wakefield. [7116

20 Powerplus Indian, luxurious sidecar, electric model, speedometer, Easting, fully equipped, id machine, as new, run only 1,750.—Carn Brea, Lane, Haslemere. [7608

19 Indian Powerplus, 7-9h.p., new touring coachbuilt sidecar, Bulbous back, locker, apron, nuled, makers' colours, any trial.—Pritchett, 30, St., Islington, N. [7922

15-16 5-6h.p. Indian, 3-speed, hand and foot clutch, kick starter, Swan sidecar, lamps, very mileage, new condition; £88; 2¾h.p. Douglas —63, Solon Rd., Brixton. [8316

IAN Scout, 1920, completely equipped with speedometer lamps, and horn; a thoroughly machine, and a bargain at £115.—The Layton ges, 90, High St., Oxford. [7069

16 Indian 5-6h.p., 3 speeds, clutch and kick starter, all lamps, Bonniksen speedometer, guard; £80; exchanges.—Homac's, 243, Lower Clapton N.E. 'Phone: Dalston 2408. [8160

IAN 1915 5-6h.p., 3-speed, hand and foot clutch, splendid condition, recently fitted new Binks, , springs, and guides; £85, including lamps, tax. ance.—Collins, 84, Maldon Rd., Colchester. [7183

IAN Powerplus Combination, 1920, run 1,300 miles only, beautifully fitted up, including ng wind screen and many spares; for immediate £180, cost £250.—Seal and Ball, Southport. [8178

RKSHIRE.—Indian combination, 7-9h.p., clutch, 2-speed, 1914, mechanically perfect, smart turnd-dynamo starter and electrical equipment, recently nuled.—Totty, Grauville St., Barnsley. [X9852

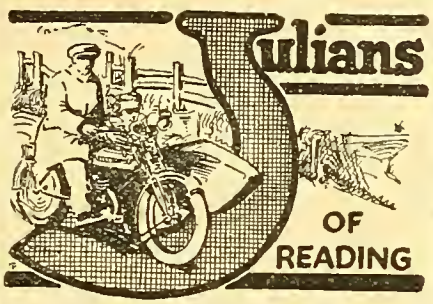
IAN Powerplus or Scout.—Delivery of new 1921 models from stock; exchanges quoted.—Special ts, The Layton Garages, 90, High St., Oxford. Integrity, Oxford. 'Phone: 784 Oxford. [7068

20 (April) 7-9h.p. Indian, electrically equipped, coach sidecar, good lockers, mileage 2,500, ex- t condition throughout; deliver road 100 miles; tax paid.—Box 2,908, c/o *The Motor Cycle.* [7699

20 Indian 7-9h.p. Powerplus Combination, big valve, electric light, horn, 3 speeds, speedometer, nally new; must sell, owner gone abroad; £190, or t.—Newton, Manor View, Ferryhill, Co. Durham. [7217

14 7-9h.p. Indian Combination, spring frame, 2- speed, K.S., clutch, speedometer, electrically ped, in good runing order; £90, or nearest offer. Cartwright, Spinney Stores, Boney Hay, near ill. [7826

20 Powerplus Indian Combination, complete with all accessories, beautiful condition, perfect runorder, mileage 3,000; owner going abroad; £160; id; or near offer.—Elton Morris, The Gaer, Here- [7461



EASTER

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1921 **MATCHLESS** Combination, dynamo lighting, horn, spare wheel, windscreen, as new ..... **195 Gns.**

1921 **MARTINSYDE** Combination, Bluemel windscreen, lamps, horn. Mileage 1,000. Tax paid... **138 Gns.**

1920 **MARTINSYDE** Combination, electric lighting, hood, screen, Klaxon horn, etc. Mileage under 2,000. **129 Gns.**

1921 **NEW IMPERIAL** Combination, 8 h.p., as new, **150 Gns.**

1921 **NEW IMPERIAL-JAP,** 2¾ h.p., 2-speed, as new ..... **65 Gns.**

1920 **NEW IMPERIAL** Combination, 8h.p., accumulator lighting set, Stewart speedometer, Klaxon horn, Cameo windscreen, luggage carrier. Tax paid. Mileage 2,000. **132 Gns.** Very great bargain.

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MOTOR CYCLES FOR SALE.

Indian.

5-6h.p. Indian, 1915-16, 3-speed, etc., nice condition, and in good running order; £55 cash, or exchange for good single-geared machine, Norton preferred, cash adjustment.—Remington, Woodland Rd., Windermere. [8058

INDIANS, Powerplus 7-9h.p., 1919 models, 3-speed, K.S., mechanical condition, also enamelling and plating as new; £70. These are genuine bargains. Approval against cash and carriage.—Owen, 59, Scholefield Rd., Upper Holloway. [X9949

1920 7-9h.p. Indian, Millford sidecar, dynamo, electric horn and lighting, speedometer, wind screen, pillion seat, mileage 1,500, excellent condition and appearance, licence paid; any trial; £165.—Collins, Coal Merchant, Bath. [7160

INDIAN 7-9h.p. Powerplus, dynamo electric light and electric horn, spring frame, 1919, bought new in 1920, and only used about 2 months, perfect condition, and appearance as new; bargain, £120.—Hitchings and Son, Evesham. [7704

SENSATIONAL Offer.—A few 1919 Powerplus Indians, practically indistinguishable from new, spring frames, 3 speeds, at £65 each; unused ditto, £85.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). Hampstead 2767. [8205

1920 7-9h.p Indian, latest model, large valves, etc., tandem sidecar, large number of spares and extras, £180, or near offer; or exchange with cash for 1921 Henderson or Ace combination; can be seen by appointment.—Morris, 395, Oxford Rd., Reading. [4388

1920 Powerplus Indian de Luxe Combination, run few miles, unscratched, dynamo lighting, electric horn, speedometer, voltmeter, Easting screen, aeroplane mascot; cost £250, accept £150; tax paid; exchanges.—60, Wallingford Av., N. Kensington. [8003

1919-20 Combination, Indian.—7-9h.p. Powerplus Indian chassis, Sandum best car, screen, hood, lamps, horn, all in Universal insurance policy to August 1st, 1921; reason, death of owner; £160, or nearest. — Miller, School House, Brereton, Rugeley, Staffs. [7870

INDIAN 1915 7-9h.p. Combination, 3-speed, clutch, kick starter, spring frame, electric lighting, tools complete, tyres as new, splendid condition, powerful, smooth running, privately owned; good trial run given; £130, offers; seen by appointment.—Burleigh, 44, Ashbourne Av., N.W.4. [7609

1918-19 7-9h.p. Powerplus Indian Motor Cycles, 3-speed, K.S., newly overhauled and renovated, they are like new, and in posh condition; these are going like hot cakes; I have only three left now; price £65.—Please apply to J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [7796

INDIAN NE 20 Combination, T.T. bars, disc wheels, large legshields, electrical equipment, Bluemel wind screen, luggage carrier, tools, spare battery, Goodyear cover and tube, no expense spared, licence paid, low mileage, cost £250; owner buying car; £200.—'Phone: Kensington 6447.—Clark, 55, Pulteney Rd., South Woodford. [8245

HAVE you weighed up the prices of other high-powered combinations, and studied their equipment? in most cases, less speedometer and no spring frame and higher price. If not, do so. Indian NE21 combination de luxe, £226; Scout model, solo, £157, less equipment; combination £188; sporting type sidecar.—Horswill, 42, Bridge St., Chester. 'Phone: 943. [4252

ALLEN-BENNETT Motor Co., Ltd.—Indian 1919 Model Powerplus, re-enamelled and plated, £105; 1915 2-speed, re-enamelled and plated, £75; 1916 T.T. Powerplus, re-enamelled and plated as new, £95; 1919 combination, dynamo lighting, £145; cash, exchange, extended payments.—9, 10, 11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6292

Ivy.

IVY.—All models from Coventry Motor Mart, London Rd., Coventry. [X0035

IVY Cycles.—1921 models in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [1798

IVY 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5006

IVY-PRECISION 2¾h.p., countershaft, appearance new, perfect; £28.—38, Balfour Rd., Bromley, Kent. [7835

1920 2¼h.p. Ivy, 2-speed, Lucas horn and lighting set, disc wheels, and all accessories, as new, engine No. 985; sacrifice, £60.—R. Morgan, Rocks Green, Ludlow. [7869

IVY, 1920 I.O.M., 800, wonderful on hills; cost £65, with accessories and licence £70; quick sale £55. —109, St. Andrew's Terrace, Kilmarnock. [X0020

IVY-PRECISION 4h.p. Twin, semi-T.T. bars, Bosch mag., Tan-Sad, various new fittings, requires new carburetter, tyres good; best offer over £25.—A. D. McDonald, Laurel Bank Cottage, Moffat. [7884

IVY 1920 Model 2¼h.p., 2-stroke, 2-speed, mileage under 1,000, beautiful condition, complete with horn, licence, and spare heavy Dunlop cover; £50.—Coverdale, West Terrace, Northallerton. [6076

ONE Ivy 2-stroke and one Sun-Villiers, both in sound order, tax paid one; exchange countershaft machine, Triumph preferred, or sell £34 and £38 respectively.—Freach, The Broadway, Bedford. [X9775

MOTOR CYCLES FOR SALE.

James

DAN GUY, Weymouth.—James agent, early delivery dates given. [0552

JAMES Combination (1916), 4¼h.p., 3-speed, K.S.—Bishop, 32, East St., Colchester. [8216

1920 James 3½h.p. Twin Solo, as new; offers.—Stretton's Garage, Ltd., Gloucester. [X9964

1919 James 4½h.p. Combination, perfect condition; offers.—Stretton's Garage, Ltd., Gloucester. [9965

1920 James 2¼h.p., P.H. lamps, horn, good condition; £63.—Godfrey, Bredy, Burton, Bridport. [7531

1919 James 5-6h.p. Combination, Montgomery, hood, Cameo; £125.—44, Dovercourt Rd., Sheffield. [8188

JAMES 4¼h.p. Combination, excellent condition, lamps, accessories, etc.; £90.—Woodville, Addlestone, Surrey. [6423

JAMES Combination, 1916, 4½h.p., good condition, fully equipped; £95.—Pearse's Garage, High St., South Benfleet. [7641

£48.—James 4¼h.p. (1913) coachbuilt combination, 3 speeds; ride away.—A., Kosi-Kot, Brambier Rd., N. Finchley, N. [7679

JAMES 2¼h.p. 1920, 2-speed, lamps, horn, tax paid, mileage 800, perfect; £59.—L. Smith, Huccleote Lodge, Gloucester. [7851

4¼h.p. James Combination, 1915, all accessories, overhauled, perfect, tax paid; best over £100.—69, Chetwynd Rd., Southsea. [6868

JAMES.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5749

JAMES 5-6h.p. Combination, 1920, used only for rural runs, fully equipped; £170.—Ratcliffe Bros., 200, Gt. Portland St., W. Longham 1704. [0423

JAMES, 5-6h.p., green model luxe sidecar, Easting wind screen, Binks carburetter, luggage grid, very little used.—J. A. McNeil, Axminster. [7084

JAMES 4¼h.p. Combination, smart, electric light, Cowey, horn, apron, legshields; trial; perfect; £120.—Smith, 14, Saltcoats Rd., Bedford Park, W.4. [7500

JAMES, 4½h.p., and sidecar, 3-speed countershaft, clutch, kick start, chain drive, accessories, ready for anywhere, nothing to buy; £85.—7, St. Albans Av., Bedford Park, Chiswick. [7040

JAMES 5-6h.p. Combination, 1919 (June), 3-speed, kick start, 28in. wheels, lamps, Klaxon, tax paid; £130.—Coulling, 1, Ravenscourt Park, Hammersmith. 'Phone: Hammersmith 1987. [7739

JAMES Combination, 1920, 5-6h.p., Lucas Magdyno lighting, Easting screen, etc., superb outfit; £160; entertain exchange or deferred payments.—Bunting's Motors, Wealdstone. (Closed Sundays.) [8176

3½h.p. Twin James, late 1915, 3-speed, K.S., P. and H. lamps, horn, etc., fast, and in excellent mechanical condition; what offers?—Write for appointment, Box 2,869, c/o *The Motor Cycle*. [7503

1920 James 5-6h.p., with De Luxe sidecar, Easting screen, all accessories, condition as new; cost £206; owner had to purchase car for health reasons; £165.—Norman Webster, Architect, Spalding. [7307

DAN GUY, Weymouth.—1920 5-6h.p. James combination, complete, Lucas head lamp, Lucas horn, Luces sidecar lamp, tail lamp, speedometer, Easting screen; mileage 1,195 only, as new; cash offers wanted. [0553

1920 5-6h.p. James de Luxe Combination, Magdyno lighting, new 1921 Brampton forks, perfect condition, legshields, and tools, etc.; £190; only done about 850 miles.—Box 2,873, c/o *The Motor Cycle*. [7510

IMMEDIATE Delivery of any James Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0503

1920 James 5-6h.p., with De Luxe sidecar, luggage grid, Easting screen, Lucas lamps and horn, new last April, and not used since July, owner deceased; cost £206; not ridden 1,000 miles; £160.—Mrs. Pannell, 188, Winsover Rd., Spalding. [7306

JAMES 5-6h.p. Combination, 1920 model, complete with lamps and horn, hood, and screen, perfect condition throughout, £135; also one 1919 model, complete with Easting screen, lamps, etc., £115.—P. J. Evans, 81-91, John Bright St., Birmingham. [8145

5-6h.p. James, 1919, De Luxe sidecar, Cameo wind screen, scuttle dash, drawer and clock, 3-speed, hand and foot clutch control, D.A. lighting, P. and H. lamps, luggage carrier, electric horn, perfect condition; £160.—Copus, 26, Halstead St., Brixton, S.W.9. [7021

ALLEN-BENNETT Motor Co., Ltd.—James, brand new, but slightly shop-soiled 6h.p. combination, list price £190, our price £165; also 1920 sports model 3½h.p. twin, T.T. bars, disc wheels, £100; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6288

J.A.P.

J.A.P., 4h.p., overhead valve, 3-speed, clutch, good condition; £35, or offer. — 1a, Northcote Av., Southall. [7023

CRABTREE & SON, Ltd.,

Motor Engineers,

WISBECH.

2,500 New Covers

(Ex Government Stock).

28 × 3 Kempshall, Macintosh, and Wood-Milne

26 × 2½ Clincher de Luxe

30/- each, plus carriage.

Brand new heavy 26 × 2⅜ Clipper Covers, to fit 2¼ rims

28/6 each, plus carriage.

Tubes 26×2⅜ and 28×3 6/6 each.

REBUILT GOVERNMENT MOTOR CYCLES

overhauled, but not re-enamelled, good tyres.

P. & M., 3½ h.p. - - £65

P. & M. and sidecar - £75

Clyno, 5-6 h.p. - - £70

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UNRENOVATED EX GOVERNMENT MOTOR CYCLES

AT THE SLOUGH DEPOT.

5-6 h.p. Clynos and 3½ h.p. P. & M.'s, also Sidecars, etc., to clear in large quantities.

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MOTOR CYCLES FOR SALE.

J.E.S.

J.E.S. 1921 Models from stock.—Gibb, Gloucester 'Phone: 852. [044

J.E.S. 1920 1½h.p., new condition, lamps, horn complete; £36.—Gilbert, Hill View, Holsworthy [7644

J.E.S. Motor Cycle, 1½h.p., good condition, tax paid offers over £20.—Sadler, 24, Broad St., Hereford. [726

Kerry.

KERRY-ABINGDON 3½h.p., bulb horn, and licence paid, running order; £25.—Herbert Robinson, Ltd. 32-35, Green St., Cambridge. Tel.: 995. T.A. Bicycles. [8256

Lea-Francis.

LEA-FRANCIS.—All models from the Coventry Motor Mart, London Rd., Coventry. [X0038

LEA-FRANCIS 1921 Models Now Ready.—Davies 229, Deansgate, Manchester. 536 Central. [2436

LEA-FRANCIS 3½h.p., late model, with or without sidecar; offers.—106, Millais Rd., Leytonstone. [6572

LEA-FRANCIS 1920, as new, mag.; 100 gns., cost £138.—Tree, 14, Courtfield Gardens, Kensington [8241

LEA-FRANCIS, December, 1920, brand new, guaranteed; £112; listed £130.—47, Hamilton Rd., Reading. [6878

LEA-FRANCIS 1920 J.A.P. Combination, hand and foot clutch, complete; £125, or solo £105.—Donovan, 19, West St., Ryde. [7225

LEA-FRANCIS 1920 (September), perfect, like new full accessories, speedometer, tax; £100.—Pearse 11, Marshall Place, Perth. [7877

1920 3½h.p. Lea-Francis Solo, mileage 100, list price £130; our price £110.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [5805

LEA-FRANCIS.—All models will be on sale at the second-hand Automobile Show, Crystal Palace from April 2nd. (See Wanted.) [5750

DAW, Brixton.—1914 3½h.p. twin Lea-Francis-Jap Canoelet sidecar, Lucas lamps, Cowey; £80 cash —114, Brixton Hill. 'Phone: 1713 Brixton. [7250

LEA-FRANCIS-J.A.P., 2-cyl., 3¾h.p., 2-speed, list 1914, Bosch, Amac, kick-starter, new tyres, fast economical.—F., 3 Studio, Falconer Rd., Bushey. [7631

LEA-FRANCIS, 1920, shop-soiled only; list price £130, our price £115; orders now accepted for 1921 models.—Ratcliffe Bros., 200, Gt. Portland St., W. Longham 1704. [0431

LEA-FRANCIS, 3 speeds, clutch, and kick starter and foot control, new Ride Easy sidecar, complete with lamps, horn, etc., in good running order £125.—Stanleys, 173-4, Railway Approach, Shepherd's Bush, W.12. [8335

LEA-FRANCIS Coachbuilt Combination, twin J.A.P. 4½h.p., 2-speed, lamps, horn, etc., in perfect order throughout, fast, economical, and smart; delivered anywhere; bargain, £100.—Mason, 42, Glenthorn Rd. Jesmond, Newcastle-on-Tyne. [6985

LEA-FRANCIS, coachbuilt sidecar, splendid condition, 2-speed, clutch, kick starter, Amac, Bosch Lucas lamp and horn, XL'All saddle, Smith's speedometer, numerous accessories, spares, tax paid; £100 seen by appointment; particulars; photo.—49, The Chine, Grange Park, N.21. Tel.: Enfield 482. [7895

Levis

JULIANS, of Reading, have 1921 Levis in stock. [048

GIBB, Gloucester.—1921 Levis from stock.—'Phone 852. [044

DAN GUY, Weymouth.—Levis 1921 models in stock £60. [0554

LEVIS 1921 Brand New 2-speed Model in stock £68.—Moss, Wem. [X9955

£33.—2¼h.p. Levis, splendid running order, lamps tax paid.—King, Egrove, Oxford. [X9933

LEVIS 1921 2-speed Model in stock; £68.—C.A.E. Co., 21, Hobson St., Cambridge. [7077

LEVIS, quite new, fully equipped; 58 gns.—57, Kenbury St., Camberwell, London, S.E. [7956

TWO 1916 Levis, splendid condition; 28 gns. each —Ramsden's, 8, Maybell Av., Blackpool. [7905

LEVIS 2¾h.p., Albion 2-speed, clutch, tax paid £45, or near offer.—Turnbull, Allhallows, Honiton Devon. [7646

LEVIS, late 1919 Popular, splendid condition, low mileage, accessories, tax paid; £47/10.—99, Butler Rd., Harrow. [7225

1920 Levis Popular, fully equipped, in splendid condition; sacrifice £50, or nearest.—Burge, 12 Henry St., St. John's Wood. [7625

LEVIS.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5755

LEVIS Popular, late 1920, practically new, perfect order, lamps, horn, legshields, accessories, Ideal exhaust, very little ridden; £52, bargain.—Heather, 83 London Rd., Bromley. [7445

MOTOR CYCLES FOR SALE.

Levis.

Stock, 1921 Levis, £60. Good wine needs no bush. Nuff sed!—Sole agents, The Headingley Motor and neering Co., Ltd., 18, St. Michael's Lane, Leeds. ne: Headingley 480. [0494

21 Levis Popular, the super 2-stroke; immediate delivery from stock; £60; easy payments or ex- ges.—Official agents, Homac's, 243, Lower Clapton N.E. 'Phone: Dalston 2408. [8161

ENTLEMAN'S Popular Model, £60; lady's Popular Model, £60; Model S, 2-speed, hand-controlled h, £68; immediate delivery. Levis specialists sole distributors for London and district. Spare stocked, repairs undertaken.—Vivian Hardie and Ltd., 23 and 24, Woodstock St. (off Oxford St.), St. W.1. [0384

Lincoln-Elk.

NCOLN-ELK Combination, 2-speed, countershaft, kick start, 4½h.p., beautiful turnout, as new; ns.; take solo part.—57, Kenbury St., Camber- London. [7960

ACTICALLY New Sporting Lincoln-Elk, 3½h.p., Philipson pulley, Druids, Bosch, B. and B., lamps, ssories, footrests, £40; exchange 2¾h.p. Douglas.— Solon Rd., Brixton. [7156

L.M.C.

M.C.—To clear stock, we offer one only, 1920 6h.p. combination, quite new, at £120; full particulars pleasure.—The Layton Garages, 90, High St., rd. [7045

M.O. 1920 4½h.p. Combination, complete with lamps, horn, speedometer, tools, etc., tax paid, small ge; bargain, £100.—W.A.T.S., Garage, Alperton, lesex. (Dist. Rly.). [5814

p. L.M.C., 3-speed, K.S. and clutch, chain-cum- belt, spring saddle-suspension, 1920 model, shop- d only; list price £150, my price £127/10, a opportunity for a sidecar machine.—Davies, 229, gate, Manchester. [0526

M.C. 6h.p. Combination, Gloria sidecar, hood, screen, luggage grid, Tan-Sad, 3 lamps, 3 ators, speedometer, horn, 3-speed Sturmey- r, tax paid, insurance, new March, 1920, mileage 2,500; price £175.—5, Headstone Rd., Harrow. [6857

Lugton.

p. Lugton, 3-speed, F.E., ride away; £40.— 12, Poplars Av., Willesden Green, N.W. [7532

Martinsyde

LIANS, of Reading have 1921 Martinsyde in stock [0484

20 Martinsyde with sidecar, 6h.p., electric lamps, hood, screen, horn, etc., tyres unpunctured, unq- nt condition; 137 gns.—Julians, 84, Broad St., ing. 'Phone: 1024. [0535

ARTINSYDE 1921 Standard Combination: £175; actually in stock; other models early delivery. your order now with the authorised agents.— Moreton Garage, 2, Moreton Terrace Mews, Pim- S.W. 'Phone: Victoria 7164. [7527

20 6h.p. Martinsyde Combination, Easting, leg shields, best F.R.S. lamp set, car generator, ling new chains and valves, condition excellent; Sad, Stewart horn, speedometer, many spares, cost £210/10, licence paid; best offer.—5, Ashley ce, Weston, Bath. [7161

Matchless

ATCHLESS

N'T Hesitate.—If makers reduce prices before the end of May I guarantee to refund the differ-

21 Combinations, any model from stock, or in few days. Gradual payments can now be arranged. outfit personally tested by the Matchless specialist. s of all dates in stock.—J. Tussell, 1a, Bloomfield 'Plumstead. [6881

LIANS of Reading have 1921 Matchless in stock. [0480

35 Gloucester, can deliver 1921 Matchless models from stock.—'Phone: 852. [0443

20 Matchless, Magdyno lighting, absolutely brand new, unused; £195.—Below.

. 1921 Models Immediate Delivery from Stock; deferred payments and exchanges if desired.—

21 Matchless and Sidecar Chassis, brand new, single or 2-seater body optional; £185.—Below.

20 Matchless, M.A.G., Magdyno, unused; £190.— Edwards, 60, Harrington Rd., South Kensing- 'Phone: Ken. 3709. [8309

TCHLESS Combination, 8h.p. J.A.P., 1914, fully equipped; £72.—17, Heaton Rd., Mitcham. [7109

TCHLESS 1921 Combinations.—We can deliver from stock.—The Layton Garages, 90, High St., d. [7046

4 8h.p. Matchless-Jap Coach Combination, tax paid; 39 gns.—Ramsden's, 8, Maybell Av., pool. [7907

9 Victory Matchless Combination, fine condi- tion, Lucas accessories; £130.—Varvell, Crocken- Kent. [7910

SPECIAL OFFER
OF
DOUGLAS
MOTOR CYCLES

Rebuilt as new from ex-Government machines and new parts.

Completely equipped with new accessories, including head lamp and generator, tail lamp, horn, licence holder, two toolbags, pump, and tool kit, and guaranteed 3 months.

Douglas 2¾ h.p., 2-sp., £65

Douglas 4 h.p., 3-sp., kick-start and clutch .. £85

Douglas 4 h.p. Combination, with new body, £105

Being the largest dealers in renovated Douglas motor cycles in the trade, and having large numbers on hand for disposal, we make the above offer for a short period, to endeavour to considerably reduce our stocks.

Each machine is rebuilt in our own workshops, stove-enamelled, replated, tanks renovated in makers' colours, fitted with new magneto, carburetter, tyres, front brake, etc., and complete with full equipment as above.

Each machine is absolutely guaranteed, and in appearance is practically indistinguishable from new.

In addition to the above, we have about 100 machines at a lower figure, each one overhauled, stove-enamelled, replated, tanks in makers' colours, good serviceable tyres, fitted with toolbag, kit, and pump. Guaranteed sound, good running machines.

Douglas 2¾ h.p. 2-sp., £55
Fully equipped £58.

Carriage extra in each case.

Trade Supplied.

Full particulars of Deferred Payment Terms on request.

Crabtree & Son, Ltd.,
Motor Engineers,
WISBECH.

MOTOR CYCLES FOR SALE.

Matchless.

1921 Matchless, Magdyno, never ridden; £215.—W. T. Dunn, Ltd., 326, Euston Rd., N.W.1. Museum 5391. [8371

MATCHLESS, all models; 5% deferred payments.— Prior, Replingham Rd., Southfields, S.W.18. 'Phone: Putney 1694. [7303

MATCHLESS Combination 1915, M.A.G. 7-9h.p., good order; 95 gns.—B., c/o May and Blundell, Crown Rd., Twickenham. [7743

MATCHLESS, 1920, beautiful condition; cost with accessories £260, quick sale £175.—365, King St., Hammersmith, W.6. [8114

I ALWAYS Have in Stock several second-hand Model H. Matchless combinations from £160.—J. Tussell, 1a, Bloomfield Rd., Plumstead. [6553

DAW, Brixton, for Matchless 1921 models, in stock; order now for delivery before Easter.—114, Brixton Hill. 'Phone: 1713 Brixton. [7252

MATCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0424

8h.p. Matchless C.B. Combination, splendid running order, recently overhauled; any trial.—Wyhle, 29, Fox Lane, Palmer's Green, N.13. [7472

MATCHLESS.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5752

MATCHLESS Model H, Magdyno lighting, spare wheel, hood and screen, tax paid; price £180.— Jackson, Hockenden, Swanley, Kent. [6354

1920 Matchless Combination, Lucas Magdyno, hood, wind screen, speedometer, tax paid, must sell; £160. Smith, 54, Hampstead Rd., N.W.1. [8298

SPORTING Matchless, 8h.p., Zenith gear, special tank, very fast, discs, lamps, etc., finished black and gold; £65.—20, Denmark Rd., Camberwell. [7941

MATCHLESS. Get your combination from R. B. Clark, the experienced rider; immediate delivery. —R. B. Clark and Co., 7, Exhibition Rd., S.W.7. [8136

1915 Matchless Combination, M.A.G., hood, screen, lamps, speedometer, insured September, tax paid; £110.—Morris, Beachfield, Totton, Southampton. [8034

1920 Matchless Combination, Model H, complete makers' specification, shop-soiled; £175.— Wright's Garage, Saffron Walden. Tel.: 16. [8171

1920 Matchless 8h.p. J.A.P. Combination, King of Road head lamp, spare wheel, splendid condition; £170 net. Trevor Howell, Manor Hotel, Datchet, Bucks. [7822

MATCHLESS H Type 1920 Combination, as new, Magdyno lighting, perfect condition; £165; any trial.—3, West Gardens, Robinson Rd., Tooting, S.W. [7430

MATCHLESS Combination, delivered last July, fully equipped, good as new, ready to drive away; £190.—Clifford's Garage, Sidcup. 'Phone: 4. [7803

MATCHLESS 1921 Combination: £205; delivery in a few days.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. 'Phone: Victoria 7164 [7526

1920 Matchless Combination, Magdyno, speedometer, and many extras, not used since last August; £190.—Ratcliffe Bros., 200, Gt. Portland St., W.1. [7393a

MATCHLESS 1917, M.A.G., 3-speed, K.S., screen, hood, Tan-Sad, luggage and petrol carriers, electric; £140.—39, Kyrle Rd., West Side, Clapham Common. [8337

MATCHLESS Combinations for immediate delivery; exchanges. Let us quote you.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6238

1919 8h.p. Jap-Matchless, electric light, horn, wind screen, apron, speedometer, spare wheel, tax paid, condition perfect; £135.—6, Charlwood Rd., Putney, S.W. [7041

MATCHLESS Combination, 8h.p. J.A.P., Sturmey 3-speed, F.E. clutch, tyres good, mechanically perfect, light body, lamps, 2 generators; £110.—734, Holloway Rd., N.19. [6470

DAW, Brixton.—1920 Matchless Model H combination, dynamo lighting, hood, speedometer, child's seat, nearly new, tax paid; £185.—114, Brixton Hill, S.W.2. [8285

1914 Matchless 5-6h.p., fast, sporting machine, perfect condition, owner giving up through illness; £58, or nearest offer.—Stonard, Ridgeway P.O., near Farnham, Surrey. [8300

MATCHLESS Combination, 1918, 8h.p. J.A.P., interchangeable and spare wheel, Lucas lighting set, Easting, hood, good tyres; £135.—46, Griffin Rd., Plumstead, S.E.18. [7453

MATCHLESS. Matchless. Matchless.—Latest 1921 model 8h.p. combination, for immediate delivery.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0418

MATCHLESS Combination, 1920 model, practically as new, licensed, complete with Lucas lamps and horn, Easting screen; a bargain at £170.—Caddey, Lisburn, Landguard Rd., Southampton. [8073

MATCHLESS 8h.p. Combination, 1920, dynamo lighting, practically as new, guaranteed perfect. £185, genuine bargain.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., Bond St., W.1. [0418

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS Service Depot. 'Phone: Greenwich 751.—All 1921 new models. Secure one now. Demonstration ride with pleasure at S. E. Clapham (Motors), Stockwell St., Greenwich, S.E.10. [1030

MATCHLESS-J.A.P. Combination, 7-9h.p., Victory model, 1919, lamps, speedometer, spare wheel, new tyres, licensed, appearance as new, mechanically perfect; £140.—Dillin, Handcroft Rd., Croydon. [6425

MATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [5668

MATCHLESS 1921 Models from £205; demonstrations daily.—Agent (wholesale and retail), for S.W. London: George Smith, 268, Lavender Hill (opp. Arding and Hobbs), Clapham Junction. 'Phone: Battersea 1271. [9423

MATCHLESS 1921 Models, immediate delivery: with Magdyno lighting £230, without Magdyno lighting £205; no waiting; in stock ready to drive away; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [7804

MATCHLESS, 1914, Fulford sidecar, 8h.p., all-chain drive, 2-speed, kick start, clutch, electric lighting, luggage carrier, 700×80 oversize tyres, licence paid, mechanically perfect; £80.—Firmin, 17, Milton Rd., Wallington, Surrey. [8016

MATCHLESS 1920 H Combination, licensed, M.A.G engine, Lucas Magdyno lighting, accessories, spares, run about 2,000, perfect, good as new; accept any reasonable offer; view any time.—288, Sangley Rd., Catford. [7115

MATCHLESS Combination, 8h.p., 1920, dynamo lighting, spare wheel complete and cover, tools, pump, etc., small mileage, in every respect equal to new; £200, or near offer. — Telford Garage, 47, Streatham Hill, S.W.2. [7102

1920 Matchless, 8h.p. M.A.G. engine, roomy 2-seater sidecar, 2 wind screens, hood, spare wheel, Lucas lamps, tools, licence paid, driven under 1,000 miles by owner (an engineer), looks and runs like new; £180.—282, Brownhill Rd., S.E.6. [7495

MATCHLESS Twin J.A.P. Combination, Bosch mag., lamps, kick start, 2-speed, free engine, low, sporty, mechanically perfect, coachbuilt sidecar, hood, wind screen, double-seater; exchange 2¾h.p. Douglas.—Furniture Stores, 32, Market St., Maidenhead. [7879

BEST Bargain Ever Offered, must realise at once: Late 1920 Matchless combination, private owner, 4 detachable wheels, all-chain drive, screen, carrier, Magdynamo-lighting, etc., guaranteed as new; first £175 secures; seen in London.—Box 2,876, c/o *The Motor Cycle*. [7572

MATCHLESS M.A.G. 1914-15 Combination, 3-speed, countershaft, speedometer, mirror, fully equipped every way; also new electric sidecar, rear lamps, Tan-Sad, special wind screen, spares, tools, splendid condition, seen any time; £140 or offer.—Crowland, Shirley Rd., Addiscombe, Croydon. [6844

ALLEN-BENNETT Motor Co., Ltd.—Matchless 1920 Model H. combination, Lucas Magdyno, hood, speedometer, etc., £195; 1919 Victory Model, lamps, horn, speedometer, £140; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6282

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock, for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0381

MATCHLESS Model H., 3,000 miles, just overhauled by makers, tyres perfect, condition as new, fitted hood, side curtains, screen, Cowey trip speedometer and horn, 3 plated lamps and generators, mirror, leg shields, car step, aluminium foot-rests, brass edges, spare driving and gear chains, tax paid; price 175 gns.—Inverness Lodge, Pope's Grove, Twickenham. (Bargain.) [7715

Maxim

MAXIM-DALM 1921 3h.p. 2-stroke, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, absolutely new; £52.—224, Peatonville Rd., London. [4012

Metro.

METRO-TYLER, 2¾h.p., good as new; going cheap; leaving country.—72, Frobisher Rd., Hornsey. [6982

METRO-TYLER 1920 Model, 2-speed, very little used, complete with lamps, etc.; £45.—Hopkins, New St., Ledbury. [0536

1920 Metro, T.T., clutch, 2-speed, K.S., small mileage, overhauled, perfect, lamps, horn, tax paid; £50.—Mannox, Henlow. [8059

1920 Metro-Tyler, 2½h.p., couple for sale, brothers want combination, accessories, electric lighting, discs, tax paid, choice, never failed; £47/10.—Jones, 41, Abbeville Rd., Clapham. [7925

METRO-TYLER, shop-soiled, 1920 model, new and unused, 2-speed model, with enclosed gear box and mag. drive; bargain, £70, reduced from £95.—P. J. Evans, 81-91, John Bright St., Birmingham. [8149

RATCLIFFE BROS.

200, GT. PORTLAND ST., W.

'Phone—Langham 1704.

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TERMS:

Cash—Monthly Payments—or Exchange.

We guarantee to refund difference in price should makers reduce price before June.

ALLON, 2-speed, K.S., clutch	£80 15
ARIEL, 3½ h.p., solo	£120 0
ARIEL, 4½ h.p., solo	£135 0
ARIEL 6-7 h.p. Combination	£197 0
B.S.A., 4½ h.p., H.2, solo	£110 0
B.S.A., 4½ h.p., K.2	£107 0
B.S.A. 6-7 h.p. A. Combination	£175 0
BRADBURY, 4 h.p., solo	£121 12
BRADBURY 6 h.p. Combination	£191 5
BLACKBURNE, 4 h.p.	£135 0
CLYNO, lightweight, 2-speed, clutch	£75 0
DOUGLAS 4 h.p. Combination, all on	£170 0
DOUGLAS, 2¾ h.p., 3-speed, clutch, K.S., all on	£105 0
DOUGLAS, 2¾ h.p., 3-speed only, all on	£100 0
DOUGLAS, 2-speed only, all on	£05 0
ENFIELD Model 180 Combination	£160 0
ENFIELD Model 190 Combination	£182 0
ENFIELD Model 200 lightweight	£65 0
HARLEY, all models	—
JAMES, 4½ h.p., solo	£138 0
JAMES, 3½ h.p. twin, solo	£138 0
JAMES, 2½ h.p., lightweight	£75 0
JAMES 7 h.p. Combination	£195 0
LEA-FRANCIS, 2-speed, 3½ h.p.	£130 0
LEA-FRANCIS, 3-speed, 3½ h.p.	£145 0
MATCHLESS Combination	£205 0
ROYAL RUBY, Sports Model	£89 5
RALEIGH, 5-6 h.p., solo	155 gns.
RALEIGH 5-6 h.p. Combination	195 gns.
TRIUMPH, Model H.	£127 10
TRIUMPH Junior	£75 0
TRIUMPH, S.D.	£140 0
ZENITH, Model H.	£162 0
ZENITH, Sporting E. & G.	£139 0
ZENITH, Sporting C.	£123 0

COVENTRY PREMIER RUNABOUTS, 275 GNS.

MILLFORD, CANDELET, HENDERSON, SWAN, and **MONTGOMERY SIDECARS in Stock.**

TRADE SUPPLIED.

MOTOR CYCLES FOR SALE.

Metro.

METRO-TYLER, 1919 to 1920, all red model, f[or] sale, splendid condition, lamps, horn, etc., co[m]plete, registration paid, also insured for £60 Feb., 192[1] cheap, £45.—G. Mawer, 4, Beech Villas, Beech R[d] Sale, Cheshire. [784

Minerva.

£20.—2¾h.p. modernised Minerva, m.o.v., waterpro[of] mag., new Amac, new saddle, tax paid.—Kin[g] Egrove, Oxford. [X993

2½h.p. Minerva Lightweight, good running orde[r] Druids, B. and B., Dixie, Dunlops, weig[ht] 95 lbs.; £12, no offers.—Stewart, Old Meadows, We[st] Drayton. [819

Motosacoche.

MOTOSACOCHE Lightweight, tax paid, go an[y]where; £20.—42, University Rd., Merton, Surre[y] [782

New Hudson.

JULIANS of Reading have 1921 New Hudsons [in] stock. [065

4h.p. New Hudson 3-speed Combination, new tyre[s] lamps; 48 gns.—176, S. Ealing Rd., W.5. [745

NEW HUDSON, 2¾h.p., 3-speed, complete, excelle[nt] running order; £30.—88, Park Rd., Dulwich. [70[6]

NEW HUDSON 6h.p. Twin, 3-speed countersha[ft] good condition; £65.—Rowe, 89, Well Hall Rd[.] Eltham, S.E.9. [70[0]

1920 6h.p. New Hudson Combination, complete lamp[s] horn, condition new; £145.—Eric Amies, Rowl[ey] Bank, Stafford. [X99

NEW HUDSON 1914, 3½h.p. J.A.P., 2-speed, lamp[s] horn, tax paid; bargain, £40.—Lucy, 27, [St.] Saints' Rd., Babbacombe, Torquay. [69[7]

1914 New Hudson 4h.p. Combination, 3-speed, [re]cently overhauled; £80, including tax and insu[r]ance.—Boreham, 2, Bickley Terrace, Chislehurst. [82[3]

NEW HUDSON Combination, 4h.p., 1919, acc[es]sories, little used; a bargain, £95.—Taylors, Ltd[.] 52, Sussex Place, S.W.7. 'Phone: Kensington 7260 [04[3]

NEW HUDSON 4h.p. 1919 Combination, just ov[er]hauled, excellent condition, lamps, horn, apr[on] legshields, licence; £85.—6, Cleveland Mews, Lancast[er] Gate, W. [82[3]

2¼h.p. New Hudson 2-stroke, late model, Ama[l] Thomson-Bennett, Druids, new Avon and Du[n]lop, lamps, hooter, splendid condition; £28.—35, Perr[y] Rd., Hammersmith. [83[3]

NEW HUDSON 3½h.p., 3-speed, T.T. bars, new [B.] and H. lamp set, Klaxon, all accessories, exc[el]lent condition; 50 gns.—9, Hamilton Gardens, [St.] John's Wood. [69[3]

NEW HUDSON 4h.p. 1914 Model, 3-speed, ki[ck] start, spares, mechanical condition perfect; wh[at] offers?—Bentley, 43, Lower Teddington Rd., Hampt[on] Wick, Middlesex. [76[3]

1915 New Hudson, tax paid; £120; Canoelet 2-seat[er] sidecar, Lucas dynamo lighting set, new Dunl[op] 26×3, screen, speedometer, ready for tour; any trial. 32, Fulham Palace Rd., Hammersmith. [74[3]

1920 3½h.p. New Hudson Combination, Luc[as] lamps, Easting, shields, speedometer, mirro[r] in excellent condition, trial willingly; £100. — 8 Church Rd., Upper Norwood, S.E.19. [79[2]

6h.p. New Hudson Combination, electric light, spee[d]ometer, wind screen, tax paid, mileage 3,00[0] splendid lot, as new, any trial; £140; owner boug[ht] car.—Hieatt, 274, Oxford Rd., Reading, Berks. [79[5]

New Imperial.

JULIANS, of Reading, have 1921 New Imperial [in] stock. [04[8]

NEW IMPERIAL, 1921 models; liberal exchanges. —Motories, 25, Horton St., Halifax. [81[8]

NEW IMPERIALS.—All models from the Covent[ry] Motor Mart, London Rd., Coventry. [X00[4]

NEW IMPERIAL Agents.—Lightweights and spa[res] parts in stock.—Crow Bros., Guildford. [47[0]

NEW IMPERIAL 1919 8h.p. Combination, co[m]plete with lamps, Easting wind screen; £135 Motor Co., Hereford. [43[3]

NEW IMPERIAL.—County agents for Herefordshi[re] delivery from stock 2¾h.p. and 8h.p. combinati[on] Motor Co Hereford. [43[3]

NEW IMPERIAL 2¾h.p., September, 1920, as ne[w] 400 miles, complete, lamps, horn; £67/10 Whitlock, Holsworthy. [75[3]

1920 New Imperial 8h.p., Mills-Fulford sidec[ar] splendid condition, tax paid, all accessories; £1[5] 161, Herbert Rd., Woolwich. [68[3]

DAW, Brixton.—1918 2¾h.p. New Imperial, 2-spe[ed] clutch and kick starter, perfect; £50.—114, Brixt[on] Hill. 'Phone: 1713 Brixton. [72[3]

1917 2¾h.p. New Imperial-Jap, 2-speed, good ord[er] appointment, trial; 120 m.p.g.; £50, offer Highman, Bimport, Shaftesbury. [74[3]

1916 New Imperial, 2½h.p. J.A.P., 2-speed, lam[ps] horn, tax paid, excellent condition; £40 321, St. Margaret's Rd., E. Twickenham. [75[3]

MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5753

1920 2¾h.p. New Imperial, 2-speed, clutch, K.S., lamps, horn, tax paid; £55.—Edwards, 50, Harleyton Rd., South Kensington. Kensington 3709. [8306

1919 New Imperial 8h.p., bulbous back sidecar, as new, little used, lamps, horn, stormproof apron, radial running order; bargain, £125.—Beecher, 472, Finchway Rd., London, N.6. [8098

LATE 1919 Imperial-Jap 2¾h.p., 2-speed, Klaxon, L. and H. lamps, long exhaust, Tan-Sad, licence paid, excellent condition; ride away; £55, or offer.—Hartington Rd., Twickenham, Middlesex. [7469

1920 New Imperial, 2¾h.p. J.A.P., 2-speed, countershaft, Watford speedometer, Miller lamp, Klaxon, unpaid, splendid condition; £72; after 5.—Sunnoads, Tregunter Rd., South Kensington. [6847

IMMEDIATE Delivery of any New Imperial Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, 1., South Side, Clapham Common, S.W.4. 'Phone: Oxford 2417. [0506

NEW IMPERIAL (Delivered Dec., 1919) 8h.p. Combination, excellent condition, almost new tyres, Lucas Easting wind screen, Lucas lighting set, speedometer, Tan-Sad, pillion, horn; £115.—Write for appointment, Winter, 234, Croxted Rd., Herne Hill. [7000

A.O.C.H. have a brand new New Imperial, 2¾h.p., kick starter, shop-soiled; £78 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (or Hampstead Tube Station). 'Phone: Hampstead 2. Hours 9-7, including Saturdays. [7783

WE have every model of New Imperials in stock for immediate delivery; combination £186/15, lightweight Model 1 £80/17, Model 2 £89/5; exchanges and easy payments arranged.—Official Agents, Hoonac's, 5, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [8162

ALLEN-BENNETT Motor Co., Ltd.—New Imperial, brand new, but slightly shop-soiled, list price for 8h.p. combination £186, our price £165; also 1919 8h.p. combination, £110; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450 'Grams: Track, Croydon. [8287

NEW IMPERIAL 1920 Model 8h.p. Combination, purchased Aug. last, driven only 700 miles, Lucas Acmo lighting set, Cowey speedometer, Klaxon horn, Easting wind screen, outfit generally practically new, engine tuned and better than new; cost £223; will sell 160 gns. for prompt sale.—Sharp, 127, Willifield Way, N.W.11. Tels.: Finchley 633, Gerrard 1641. [7696

New Ryder.

NEW RYDER 2¾h.p., 2-speed countershaft, late model, new condition, accessories; photo; £37; exchanges.—20, Frankfort St., Birmingham. [7445

New Scale.

NEW Scale Motor Cycle; original price, £85; sacrifice £62/10; shop-soiled, less kick starter.—64, Bishopsgate, London. [0393

CALLE 3½h.p. Precision, £94/10; 4 h.p. Blackburne, £126, motor cycles you will hear more about. We always a stock of each model; trade supplied.—Vicars 229, Deansgate, Manchester. 536 Central. [2440

Norton

JULIANS, of Reading, have 1921 Nortons in stock. [0489

IBB, Gloucester, can deliver 1921 Nortons from stock. 'Phone: 852. [0444

MORSMAN for Nortons.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0471

DAN GUY, Weymouth.—Norton official agent. Big 4 combination in stock. [0562

WESTON-SUPER-MARE.—Jack Prueo, Oxford St., for Nortons.—'Phone: 440. [6250

NORTON Big Four, De Luxe sidecar, Easting screen. —727, High Rd., Leytonstone. [7628

NORTON.—Immediate delivery T.T. Model 16H and Big Four from stock.—Moss, Wem. [X9958

NORTONS, all models, anywhere, any time.—Dan Bradbury, 224, London Rd., Sheffield. [7514

NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [6126

NORTONS, 1921 models, immediate delivery, specially tuned.—Evans, Garage, Newport, Salop. [X8648

NORTON 1921 Models from the Coventry Motor Mart London Rd., Coventry. 'Phone: 200. [X0037

NORTON 1919, B.R.S., Philipson, speedometer, excellent condition, tax paid; £85.—47, Catford Hill, S.E.6. [7011

NORTON 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5005

1921 3½h.p. Norton, 3-speed, all-chain model; list price £132.—Bambers', Easthaok St., Southport. Tel.: 607. [7097

NORTON.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5754

COPPEN ALLAN & Co

Sole Distributors for

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The WORLD'S MASTER Motor Cycle AND THE

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A Single or Double-Seater at will.

Deliveries have commenced with fittings complete for attachment to the undermentioned makes of cycles—

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Lightweight 2-stroke Types. All 30 - tax.

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"THE SIDECAR WITHOUT A CHASSIS."

38 Guineas.

New Machines in Stock.

READING-STANDARD.

SOLO	£184
COMB. STANDARD ..	£229
,, DE LUXE	£270
,, with PLUS ONE Sidecar, a Single or Double-seater at will	£250

Above prices include Dynamo Lighting.

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POPULAR UTILITY ..	50 gns.
SPORTING MODEL ..	65 ,,
DE LUXE TOURER ..	65 ,,
"ACE" RACER	75 ,,

ACE 4-CYLINDER.

SOLO ORDINARY	£210
,, ELECTRIC ..	£235

B.S.A.

1920 4¼ MODEL H ..	£103
,, 4¼ ,, K	£100
,, No. 2 SIDECAR ..	£35
1921 6-7 MODEL A ..	£133
,, No. 1 SIDECAR ..	£42
,, 6-7 MODEL A, with Plus One Sidecar ..	£193-18

Several Solos and Combs., in first-class used condition, at knock-out prices, for disposal.

89, Gt Portland Street London.

MAYFAIR 5399

MOTOR CYCLES FOR SALE.

Norton

1914 Norton, overhauled, Philipson pulley; bargain, £55, or near; tax paid.—Young, Stromness, Southfield Rd., Middlesbrough. [7489

3½h.p. Sports Model Norton, 3-speed, countershaft, all chain drive, fully equipped, tax paid; £82.—37, Arlington Rd., Surbiton. [7107

3½h.p. Norton Sports Model, countershaft, all-chain drive, fully equipped, tax paid; £85; exchange.—37, Arlington Rd., Surbiton. [8024

OCT. (1920) 3½h.p. Sports Norton, in perfect order, lamps, horn, and tax paid; £115.—J. Oldfield, Brudford, Youlgrave, near Bakewell. [7586

NORTON 1921, belt drive, fast, trial, owner buying combination; letter first instance.—Walters, Berristowe House, South Normanton, Derbyshire [7855

NORTON 1921 Motor Cycles, brand new, all models in stock, immediate delivery.—Palin, Sole Agent, Bourne St. (nr. Spot), Osmaston Rd., Derby. [3181

NORTON 1920 Big 4, with Swan sporting sidecar and all equipment, a thoroughly sound outfit; £115.—The Layton Garages, 90, High St., Oxford. [7049

NORTON 1919-20 Big Four Model, Sandum sidecar, Cameo wind screen, fully equipped; £130.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9979

DAVIES, of Manchester, can deliver 1921 Nortons from stock; the machine you will eventually buy; all spares stocked, prompt attention.—229, Deansgate. 'Phone: 536 Central. [2432

NORTON Agents.—Motor cyclists in or near Oldham call. Our Mr. Mitchell will demonstrate to you the finest machine in the world.—Bulloughs Motors, Waterloo St., Oldham. [2050

NORTON 1920 Big Four de Luxe Combination, 700 mm.×80 mm. tyres, superb condition, appearance almost equal new; £155; tax paid.—Oliver, 30, Chaffinch Rd., Beckenham. [7424

NORTON 1920 Big Four Model with Canoelet Sidecar, fully equipped, low mileage, indistinguishable from new; £155.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9976

NORTON 1920 Big 4 Combination, bulbous back Norton sidecar, electric lamps, Easting screen, etc., condition guaranteed, appearance good; £135.—The Layton Garages, 90, High St., Oxford. [7048

GENUINE 1916 B.R.S. Norton, fitted with latest cylinder, Philipson, lamps, Stewart, this 'bus has made rings round a B.S.; any trial; £72; 16H Model wanted.—Weybourne Cottage, Farnham, Surrey. [7002

NORTON, 1921.—We can deliver 16H, the 3-speed sports model, and the No. 9, direct drive, from stock.—The Layton Garages, 90, High St., Oxford. 'Phone: 784 Oxford. T.A.: Integrity, Oxford. [7047

NORTON Four, De Luxe sidecar, late 1917, accumulator lighting, tyres nearly new, speedometer, watch, tax paid, mileage 5,000-6,000, in first-class mechanical condition, and in use daily; price £100.—202, Rockingham Rd., Kettering. [8094

NORTON, 1920 (November), direct drive model, with hand-controlled Philipson, speedometer, and 1921 licence, mileage 800 only, almost new, and capable of an easy 60 anywhere; £95.—The Layton Garages, 90, High St., Oxford. [7050

NORTON Big Four De Luxe Combination, 1915, with horn, 3 lamps, 3 generators, 2 spare chains, valves, speedometer flexible shaft wants repairs), big tool kit, in really excellent order, tax paid, low mileage buying car; best offer over £94.—Ernest Brown, Hollybank, Leighton Buzzard. [7927

STIFFY.—The 3½h.p. T.T. Norton engine, ridden by Mr. L. Mitchell in competition last season; winner since new on over 30 fir-ts, record time for Sutton Bank in 78 seconds, etc.; engine fitted into new frame and all fittings new, special 2-speed S.A. racing gear box, Senspray carburetter; best offer over £150.—L. Mitchell, Garage, Waterloo St., Oldham. [5098

N.S.U.

N.S.U. Combination, 5h.p. twin, spring frame, accessories; £65.—Blake, 216, Westbourne Grove, W. [5030

N.S.U. 5-6h.p. Engine, Bosch mag., frame, and brass tanks, complete; what offers?—Harrison, Wath, Ripon. [X9946

3½h.p. N.S.U., 2-speed, E.I.C., Senspray, perfect running order, lamps, etc., tax paid; £26.—Stewart, Old Meadows, West Drayton. [8192

N.S.U. 2¾h.p.; owner requires higher h.p.; in splendid running order, fast, complete lamps, horn, etc.; first £17/10 secures.—165, High St., Honnslow. [7680

N.S.U., 1914, 3½h.p., 2-speed, clutch, spring frame, lamps, horn, etc., tyres and belt perfect, laid up throughout the war, and is in almost new condition; any trial; £30 cash, a bargain.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. [7113

N.U.T.

N.U.T., new Dec., 1920, mileage about 1,000; £135.—Full particulars from A. Roberts, 33, Torwood St., Torquay. [7072

N.U.T. Latest Electrically-equipped 3½h.p. Models at makers' list prices from stock.—A. J. Young and Co., Ltd., Newmarket. [1253

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B47

MOTOR CYCLES FOR SALE.

N.U.T.

N.U.T. Twin, new, unregistered, unused, Lucas Magdyno, complete as received; first £150 secures.—A. Brewis, Svendsen and Co., Newcastle-on-Tyne. [7486

O.K.

JULIANS of Reading have 1921 O.K. in stock [0481

1920 O.K. Junior, in stock; £50/8.—Morriss, 139, Finchley Rd., N.W.3. [7777

1915 O.K. 2¼h.p., 2-speed, accessories; £28.—Blake, 216, Westbourne Grove, W. [5034

2-SPEED O.K., latest model from stock at list price.—A. J. Young and Co., Ltd., Newmarket. [1258

DAVIES, of Manchester, can deliver 1921 O.K.'s from stock.—229, Deansgate. 'Phone: 536 Central. [2435

£26.—O.K. 4-stroke, 2 speeds, handle starter, splendid running order.—King, Egrove, Oxford. [X9933

O.K. 2-stroke, good running order; £20, or near offer.—C. McKenzie, 40, Saxon Rd., Southall, Middlesex. [7496

O.K., M.A.G., 1917, 2¾h.p., 2-speed, accessories; bargain, £33; tax paid.—18, St. Edmund's Terrace, St. John's Wood. [6845

2¾h.p. O.K.-Union, single speed, 1920 model, shop-soiled; list price £50/8, my price £43.—Davies, 229, Deansgate, Manchester. [0528

O.K. Lightweight, 1920, lamps, Klaxon, registered, as new, 2 speeds; £45.—302, London Rd., Thornton Heath. 'Phone: 2237 Croydon. [8033

£30.—O.K. Junior, 2-speed, countershaft, splendid condition, new front tyre, excellent back, lamps, horn, tax paid.—Westley Rectory, Newmarket. [6869

F.O.C.H. have a brand new O.K., 2-speed, shop-soiled; £59 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7784

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall Andover. [0368

1920 Omega-Jap, 2¾h.p., 2-speed, clutch, kick starter; £60.—Jones, Garage, Droitwich. [4681

OMEGAS.—All models from the Coventry Motor Mart, London Rd., Coventry. [X0038

1919-20 2¾h.p. Omega-Jap, 2-speed, tax paid, accessories; £60.—R. Hills, Warboys, Hunts. [8209

OMEGA 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2438

OMEGA.—Immediate delivery of all models.—The Rochester Auto Supply Co., Corporation St., Rochester. [0465

1919 2¾h.p. Omega, 2-speed, excellent condition, licensed; £50, offers; after 5.—113a, Streatham High Rd. London. [6842

1920 Omega-Jap, 2-speed, K. start, clutch, done 300 miles, lamps, Cowey, insured till Oct.; £65.—The Poplars, Durkar, Wakefield. [7117

1920 Omega-Jap 2¾h.p., 2-speed, kick start, lamps, speedometer, horn, mileage 1,300; £65.—Barnett, Bungalow, Knighton, Newport, Salop. [7593

1920 Omega-Jap 2¼h.p., 2-speed, clutch, and kick starter, shop-soiled; £76.—Stanleys, 173-4, Railway Approach, Shepherd's Bush, W.12. [8327

OMEGA-J.A.P., late 1919, 2¾h.p., 2-speed, all on, tax paid, Watford trip speedometer; bargain; guaranteed perfect; £55.—12, Hills View, Barnstaple. [8221

SEPT. (1920) 2¾h.p. J.A.P.-Omega, 2-speed, speedometer, watch, and all accessories, 45 m.p.h., copper exhaust; £65, no offers.—'Phone appointment, Brixton 1514. [7468

1920 (July) Omega-Jap, 2-speed, mileage 1,000, new condition throughout, polished chain case, nickelled copper patent exhaust, Klaxon, no lamps, licensed; expert examination; £60.—Cutler, 40, Glebe St., Walsall. [X9969

F.O.C.H. have a brand new Omega, 2¾h.p., kick starter, shop-soiled; £73/10 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7785

Overseas.

3½h.p. Overseas Combination, 2-speed, Gloria sidecar; bargain, £50.—73, Parson's Mead, Croydon. [7885

P. and M.

JULIANS, of Reading, have 1921 P. and M. in stock. [0488

1917 P. and M., perfect order, good condition; £55; on appro. against cash.—Below.

1920 Combination, unused, delivered for Easter; £140; owner out of work.—H. Beardwood, 147, Burlington St., Liverpool. [7403

P. and M., 1920, run 50 miles; £94, bargain.—Clark, 7, Exhibition Rd., S.W.7. [8141

P. and M.—All models from the Coventry Motor Mart, London Rd., Coventry. [X0039

1918 P. and M., tax paid, ready for road; 48 gns.—53, Pelham St., South Kensington. [7934



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P. and M.

P. and M. 1918 3½h.p., excellent condition; £50 London.—Box 2,805, c/o *The Motor Cycle*. [7333

P. and M., 1917-18, less mag. and carburetter, and small parts; £33.—1, Othello St., Liverpool. [771

£20.—Old 2-speed P. and M., minus front forks otherwise sound.—King, Egrove, Oxford. [X993

1918 P. and M. Combination, R.A.F. model, tax paid; £62.—9, Church Rd., Willesden, N.W. [6833

£28.—Incomplete R.A.F. P. and M. and damaged sidecar chassis.—King, Egrove Farm, Oxford. [X9935

P. and M., new 1921 models in stock for immediate delivery at Blackburn and Sons, Station Garage, Spalding. [7305

P. and M. Combination, 1918, nice order, lamps, horn, new tyre; £67.—Blake, 1, Eveline Rd., Mitcham. [7255

P. and M., new Nov., 1919, good condition, lamps, horn, 5,000 miles; £75.—Morton, Red House, Matlock. [8195

P. and M. Combination, 1919, all accessories, excellent condition; £95.—Snelling, 2, Morley Rd., Richmond Bridge, S.W. [7440

P. and M.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5755

P. and M. 1920 R.A.F. Model Combination, as new, little used, horn, lamps, cover, wind screen.—Arthur, Pynnacles, Stanmore. [7875

P. and M. C.B. Combination, 1921, appearance and condition perfect; £75.—Write, trial, Motor Cycle 6a, Alexandra Rd., N.19. [8065

P. and M., W.D., renovated, in good running order, 1917-18, £48 and £55; combination, £60.—272, Green St., Forest Gate, E.7. [7750

P. and M. R.A.F. Model, thoroughly overhauled and re-enamelled; £55.—Stanleys, 173-4, Railway Approach, Shepherd's Bush, W.12. [8330

1920 P. and M. Combination, only run 800 miles, £25 worth of spares; a bargain, 132 gns.—Egbert Spearman, Bishop's Stortford. [7523

P. and M., December, 1919, perfect condition, tax paid, all accessories; £86.—F. Warner, 442, Harborne Park Rd., Harborne, Birmingham. [X9613

P. and M., under 500 miles, Easting, electric light, Mechorn, bulb horn, mascot; etc.; any trials; £110. Write first.—263, Hampstead Rd., N.W.1. [7824

P. and M. Combination, 1919 (not W.D. model), new tyres, speedometer, lamps, etc., splendid condition; any trial; 100 gns.—Veasey, Newport, Barnstaple. [7195

P. and M. Combination, 3½h.p., 2-speed, lamps, horn, screen, good order; £70.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6234

P. and M. 1919 Combination, as new, engine overhauled, frame restored, sidecar reupholstered, repainted; £85.—35, St. Clements Mansions, Lillie Rd., Fulham. [8255

OCT (1919, guaranteed) P. and M. Combination, in perfect mechanical order, and ready for immediate use, privately owned.—Bond, 7, Boord St., E. Greenwich, S.E.10. [8085

1920 P. and M. Combination, any reasonable offer; also variety of other makes.—Antoveyors, Ltd., Service Depot, 12, Palmer St., Westminster, S.W.1. 'Phone: Vic. 309. [0463

1920 P. and M. Combination, Lucas lamps, horn, spares, tax paid, excellent condition; £100.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [8311

P. and M. Combination, September, 1919, privately owned, excellent condition, well equipped, many spares, trial; bargain, £90, no offers.—Apply Eagleton, Oak Lodge, Court Rd., Eltham, S.E. [7975

NO Reasonable Offer Refused.—1918 R.A.F. P. and M., Camber C.B. sidecar, electric lighting, all tools, spares, licensed, fully insured, splendid condition.—Write, R.S.F., 31, Silverdale, Sydenham, S.E. [7025

SEVERAL Bargains in reconditioned P. and M.'s 1918, 2-speed, all-chain drive, thoroughly overhauled and tested; 55 gns.; special terms to trade.—Norris and Hall, Church Works, 312, Cricklewood Lane, N.W. [7585

ALLEN-BENNETT Motor Co., Ltd.—P. and M. several reconstructed models from £68; cash, exchange, extended payments.—9, 10, 11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams, Track, Croydon. [6295

PHELON and Moore R.A.F. Machines, reconditioned and re-enamelled by makers, same guarantee as with new machine, only a few left; £90; sidecars to match, £28.—Phelon and Moore, Ltd., 4, Berners St., Oxford St., W., and Cleckheaton, Yorkshire. [4396

P. and M. R.A.F., assembled July, 1920, overhauled by makers in October, front brake and new handle-bars added, has only run 1,500 miles, with new Ride-easy sidecar, only run 500 miles, Degory carburetter, new Tan-Sad non-twist suspension saddle, with 2 tool bags, lamps, kick starter, licence holder and licence; £90; seen and tried by appointment.—Pope, 62, Holland Park Av., W. 'Phone: Park 2955. [7849

MOTOR CYCLES FOR SALE.

P. and S.

21 Pearson and Sopwith, 3½h.p. Dalm 2-stroke, 2-speed Albion, brand new; 70 gns.; London ict.—Box 2,938, c/o *The Motor Cycle.* °[7928

20 P. and S. 2¾h.p. 2-stroke, 2-speed, clutch, kick starter, lamps, Klaxon, etc., excellent con-n; bargain, 60 gns.; cost £85.—77, Landseer Rd., oway, N. [7602

Paragon.

20 Paragon 2-speed 2-stroke, not ridden 30 miles, spring frame model; offers before Easter.—17, ox Rd., Wandsworth Rd., London, S.W.8. [7975

20 Paragon 2-stroke, 2-speed, spring frame, list price £70, only run 200 miles; price for quick £50; good as new.—Owner, 16, Mt. Ararat Rd., mond, Surrey. [8291

Pax.

LLEN-BENNETT Motor Co., Ltd.—Pax, 2¾h.p. Blackburne, 2-speed, brand new, slightly shop d, unridden; cost £100, our price £80; cash, ange, extended payments.—9, 10, 11, Royal Parade, t Croydon. 'Phone: Croydon 2450. 'Grams: k, Croydon. [6297

Peugeot.

18/10.—Peugeot twin, 5-6h.p., in fine condition, U.H., B. and B., thoroughly overhauled, make ndid combination; after 6 p.m.—Dent, 43, Devon-e Rd., Hackney. [7449

Precision.

RECISION 1914 Special 3½h.p., T.T., 60 m.p.h., Bosch, Cowey, spares; £50, or offers.—Coulthard, nont, Weston-super-Mare. [5888

14 4½h.p. 3-speed Precision Combination; £42, or nearest; solo considered exchange.—7, ingham Rd., New Cross, S.E. [7001

ARGAIN.—1916 2¼h.p. Precision, 2 speeds, U.H. mag., B. and B., silencer, unit complete, splendid dition; £9.—Goodgame, Bearton Rd., Hitchin. [7478

Premier.

REMIER Combination, lamps, horn, screen, perfect order; £65.—132, High Rd., East Finchley. [8123

REMIER 2½h.p., B. and B., Bosch, in good condi-tion; £25.—Watkins, 7, Poplars Av., Willesden en. [7205

14 3½h.p. Premier, 3-speed, good condition; £30.—29, St. Leonard's St., Bromley-by-Bow, East 4708. [7176

REMIER 3½h.p. Combination, 1914, countershaft, lamps, horn, etc., perfect running order; £90.—High St., Fulham. [7182

REMIER 3½h.p. Coach Combination, 2-speed, accessories, good order and condition; £40, s; exchange Levis or Clyno.—11, Kilmartin Av., bury, S.W.16. [7000

REMIER Combination 7-9h.p., 3-speed countershaft, kick start, speedometer, lamps, hood, screen, new dition; any trial; bargain, £90.—'Phone: Waltham s 299.—Stanley Biss, Waltham Abbey. [7353

15 Premier, 4h.p., 3-speed countershaft gear, K.S., lamps, and extra heavy Dunlops, as new, C.B. ar, Eastings, tax paid; genuine bargain, 75 gns.—gerald, 83, Gt. Dover St., Borough, S.E.1. [7418

REMIER Combination, 4h.p., 1914, countershaft, 3-speed gear, clutch and kick-starter, in very good r, and mechanically perfect; price £60.—Further par-ars from M., Woodside, Robin Hood Lane, Sutton. rey. [7942

REMIER 4½h.p. Motor Cycle, 3-speed, countershaft, chain drive, kick start, belt, tyres practically new, running order, with Overland sidecar, renphol-d, must sell; £80, or nearest offer.—Harvey, Culford, St. Edmunds. [7547

0.—4h.p. Premier combination, 2-speed counter-shaft gear box, clutch, starter, Dunhill underslung ar, roomy, comfortable, Bosch, B. and B., heavy lops, Druids, footboards, excellent condition; ex-nge, 2¾h.p. Douglas preferred.—63, Solon Rd., Brix-[7158

REMIER 7-9h.p. Combination, 1914, double-seater sidecar, perfect condition, 3-fold wind screen, just e from overhaul, ready to ride away, 3-speed h, kick start, lamps, nearly new tyres, tax paid; 0, or offer; photo.—2, Mascotte Rd., Putney, Lon-S.W.15. [7322

Quadrant.

ORSMAN for Quadrants.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0472

AUCHOPE'S, 9, Shoe Lane, London, E.C.4.—4h.p. Quadrant combination, 1920; £110. [8263

UADRANT.—All models at reduced prices.—Coventry Motor Mart, London Rd., Coventry. [X0040

20 Quadrant Combination, accessories, original tyres, chain, etc., as new; £115.—289a, Lea ge Rd., Leyton. [7847

h.p. Quadrant, a.o.i.v., spring forks, B. and B., thorough good order, mag. brackets, sprocket, no mag.; £8.—Stewart, Old Meadows, West ston. [8193

20 Quadrant Combination, all lamps, horn, Cameo wind screen, mileage 500, absolutely as new; 5; exchanges.—Homac's, 243, Lower Clapton Rd., 'Phone: Dalston 2408. [8163

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RADCO, ride away, duty paid; £25.—36, Limes Grove, Lewisham. [7653

RADCO 2-stroke, 1915; exchange anything; sell £35.—202, Munster Rd., Fulham. [8106

£20.—Radco 2-stroke, in splendid running order, bargain.—King, Egrove Farm, Oxford. [X9936

2¼h.p. 1915 Radco; £24; new tyres, fast, reliable.—Shaw, Park St., Wellington, Salop. [X9955

RADCO 2-stroke Lightweight, rebushed, renovated, perfect order; £32.—333, Hoe St., Walthamstow, E.17. [6978

RADCO 2-stroke, 1916, new tyre on rear, lamps, perfect order; £37/10.—261, Mitcham Lane, Streatham. [7260

RADCO 2-stroke, electric light, all accessories, tax paid; £30; fine little mount.—35, Freegrove Rd., Holloway, N.7. [8008

RADCO 2-stroke, 2 speeds, lamps, horn, good condition; trial; £34, bargain.—143, Ravensbury Rd., Earlsfield, S.W. [8155

RADCO 1916 2½h.p., 2-stroke, 2-speed, clutch, kick start, lamps, etc., licensed, excellent condition; £37.—8, Silver St., Enfield. [7296

Raleigh.

1921 5-6h.p. Raleigh, immediate delivery; £162 15.—Morriss, 139, Finchley Rd., N.W.3. [8228

RALEIGH Combination in stock.—Prior, Replinghan Rd., S.W.18. 'Phone: Putney 1694. [7304

RALEIGH 1921 5-6h.p. Flat Twin; 155 gns.; unpacked, delivered anywhere.—Frost, Mulbarton, Norfolk. [7262

RALEIGHS, solos and combinations in stock; exchanges entertained.—Hicking, Bromley Rd., Beckenham. [3277

1921 Raleigh 5-6h.p. Flat Twin, spring frame, chain drive; solo, 155 gns.; combination, 195 gns.; both in stock.—Rose's Garage, Uxbridge. [7119

RALEIGH 5-6h.p., solo or combination, in stock; orders now accepted.—Ratcliffe Bros., 200 Gt. Portland St., W.1. 'Phone: Langham 1704. [0425

RALEIGH 5-6h.p. Spring Frame Model in stock for immediate delivery; liberal allowance on your present machine.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6241

1921 Raleigh, 5-6h.p., flat twin, spring frame, chain drive, solo, 155 gns.; sidecar, 195 gns.; first as usually with anything really good, we now have both in stock.—Sole Birmingham Agents, The Premier Motor Co., Aston Rd., Birmingham [3041

Reading-Standard.

READING-STANDARD, 1920, and Henderson sidecar, electric light, ridden 1,000 miles, perfect; £175.—Bond, 245, Euston Rd., N.W.1. [7986

8h.p. Reading-Standard Coachbuilt Combination, family sidecar, 3-speed C.B., clutch and kick start, fully equipped, and in good condition, tax paid; £135, or offer.—Box 2,932, c/o *The Motor Cycle.* [7890

Regal.

REGAL-PRECISION, 3-4h.p., basket sidecar, good running order; £35.—Millars, Annan. [8006

Rex

6h.p. Rex Combination, mag., B. and B., spring forks, good tyres; £15.—40, West Hill, S.W.18. [7762

1916 Rex, 4h.p., C.B. sidecar, 2-speed N.S.U. gear, fully equipped, reliable; £33.—321, Ivydale Rd., Nunhead, S.E.15. [7421

REX 6-8h.p. Combination, 2-speed, free, stored years, overhauled, fine condition; £45, bargain.—Taylor, 637, Seven Sisters Rd., Tottenham. [7186

REX 3½h.p. C.B. Sidecar, free engine, 2-speed, handle start, Bosch, B. and B., lamps, tax paid; ride away.—570, Stratford Rd., Sparkhill, Birmingham. [7015

REX 5-6h.p. C.B. Combination, 2 speeds, B.B., W.R.S., U.H. mag., Brampton Biflex forks, spring seat-pillar, luggage grid, nearly new lamps and mechanical horn, good condition; best offer over £55.—82, Union St., Borough, S.E. [7995

8h.p. Rex-Blackburne, 1920, catalogue price £230, practically new, 28×3 interchangeable wheels, large sidecar with dickey seat, aluminium steps, hood and screen, spare wheel and tyre; £185; Midlands.—Box 362, c/o *The Motor Cycle.* [X9925

Rex-Jap.

REX 6h.p. Twin J.A.P. Combination, in first-class condition, 2 speeds, tax paid, ride away; £65.—Perriman, 87, Greyswood St., Streatham. [7931

1913 Rex-Jap 8h.p., 2-speed, handle start, and coach sidecar, wind screen, etc., mechanically perfect, Dunlops new; bargain, £65; trial.—Thomson, 85, Church Rd., Willesden. [7670

Rover.

5-6h.p. Rover, late 1919, special sidecar, all accessories, small mileage.—182, Humber Av., Coventry. [X9951

MOTOR CYCLES FOR SALE.

Rover.

1920 (Aug.) T.T. Rover, Philipson pulley, lamps and horn, equal new; £78.—Wilderspin, Chatteris. [5808

ROVER 3½h.p., 1919, 3-speed, T.T., little used; £99, or exchange Tamplin.—Lloyd, Backwoods, Lindfield, Sussex. [7585

1919 3½h.p. T.T. Rover, Philipson, newly equipped, tuned, and enamelled; £80.—Yarrow, 2, Akeds Rd., Halifax. [7493

1914 3½h.p. Rover, 3-speed; £35; seen only after 7, Thursday and Friday.—65, Plimsoll Rd., Finsbury Park. [7981

1919 5-6h.p. Rover Solo, all-chain drive, T.T. bars, splendid condition; £110.—Wright's Garage, Saffron Walden. Tel.: 16. [8173

5-6h.p. Rover and Sidecar, delivered April, 1920, done 500 miles, lamps, horn, perfect.—Stannard, Littlehales, Leek, Staffs. [X8736

ROVER 1920 3½h.p., shop-soiled; list price £135, our price £125.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0426

ROVER, 3½h.p., 1920, 3-speed, with sidecar, kick start, perfect condition.—A. McNeil, Priory Field, Cannon St., Taunton. [7085

ROVER.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5756

1920 Rover, 3½h.p., T.T., Philipson pulley, as new, all accessories; £110, or near offer.—Heady, 44, Alma Rd., Carshalton. [7029

3½h.p. Rover and Sidecar, 3-speed, clutch, splendid condition; £80. — Write, Mitchell, Thornhill, Madeira Av., Bromley, Kent. [6984

ROVER 3½p., T.T., engine No. 6803, splendid condition, tax paid; £54; bought combination.—Hollingworth, Cumberworth, Huddersfield. [8093

1917-18 T.T. Rover Model, Philipson pulley, electric lighting, all on, condition excellent; £70; tax paid.—Avonhurst, King's Av., Woodford. [7379

1918 T.T. Rover, band Philipson, fully equipped, perfect; genuine bargain, £60.—Holliday Bros., 20, Queen St., Hammersmith Broadway, W.6. [7725

3½h.p. Rover, 1919, countershaft, 3-speed, kick start, sidecar, complete kit, spares and accessories; 85 gns.—Hoare, P.O., Wilton, Salisbury. [6983

1920 Rover Combination, 5-6h.p., W.D., Easting, Volex, lighting, carrier, speedometer, spares; must sell; offers.—Smith, 70, Kitchener Rd., East Finchley. [7479

ROVER 3½h.p. Combination, Sept., 1919, nearly new, Lucas lamps, speedometer, many unused spares; £120.—Malpas Motor Works, 12, Brockley Cross, S.E. [7291

ROVER 6h.p., Gloria sidecar, electric lighting, Bluemel wind screen, horn, tools, etc., the whole in new condition, tax paid; £150.—35, High St., Dartford [8083

ROVER Combination, small mileage; bargain, £85, tax paid; tuition if purchased; owner buying car; seen by appointment.—98, Holyhead Rd., Coventry. [X0021

1920 Rover Combination, as new, electric lighting, very fully equipped, only done 200 miles; £178.—Stanleys, 173-4, Railway Approach, Shepherd's Bush, W.12. [8326

3½h.p. Rover and Millford Sidecar, splendid condition, excellent appearance, speedometer, all accessories, inspection invited any evening; £85.—Boness, 4, Rondu Rd., Cricklewood. [8015

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery; hire-purchase if desired. — Collard, Cook's Garage, Shifnal. [2684

ROVER Combination, 3½h.p., 1915, splendid order, sidecar lately re-enamelled, engine perfect, 3 acetylene lamps, 2 generators; £90. 'Phone.—Wanhope, Goldings Manor, Loughton, Essex. [7710

ROVER, 5-6h.p., W.D., 3-speed, countershaft, K.S., clutch, reconditioned, new cylinders and pistons, gears, carburetter, tyres, renovated as new; £85.—P.S., 96, Glenarm Rd., Clapton, E.5. [7936

ROVER Late 1920 5-6h.p., with Lucas Magdyno lighting set, and Millford sidecar, Cowey horn, very little used, perfect condition; bargain, £165; licence paid.—Hitchings and Son, Evesham. [7705

ROVER 8h.p., 1921, latest type, delivery from stock, dynamo lighting set, spare wheel, complete; 250 gns.—Official Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

1914 3½h.p. Rover Combination, 3 speeds and clutch, Sturmey-Archer J.S. Hub, coachbuilt sidecar, all lamps, Klaxon, etc., in good condition, tax paid; £48.—Falmouth Villa, Kentish Rd., Belvedere, Kent. [7918

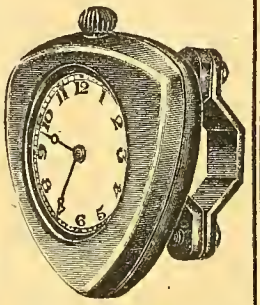
ROVER 1914 3½h.p., with Sturmey-Archer hub gear; stored more than half its life, this machine is in exceptional condition, and will do someone a good turn; £40.—The Layton Garages, 90, High St., Oxford. [7051

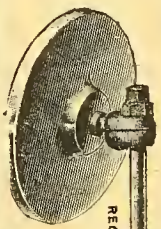
LATE 1920 5-6h.p. Rover Combination, as new, with Lucas dynamo lighting set, luggage grid, £175, or nearest offer; similar machine, without lighting set, £145, or nearest offer.—E., 137, Tachbrook Rd., Leamington. X9971

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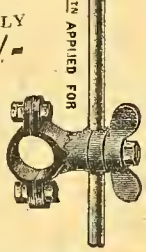




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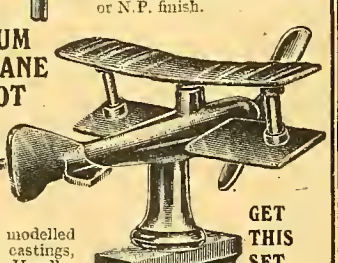


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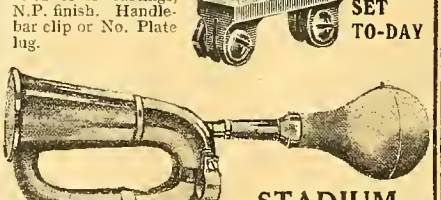
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Rover.

ROVER Combination, 5-6h.p., indistinguishable fr new, run 300 miles only, hardly soiled, fu equipped, Cameo wind screen; £140.—'Phone: W stead 48.—374, Grove Green Rd., Leytonstone. [78

ROVER 5-6h.p. Combination, from makers O 1919, special sidecar, child's extra seat, spee meter, all accessories, appearance and condition alm as new, tax paid; nearest £140.—17, Pepye R Wimbledon, S.W.20. [7

1920 5-6h.p. Rover and second-hand sidecar, East screen, Cowey speedometer, Lucas horn, head sidecar lamps, tools, etc., run about 1,250 miles, ex lent condition; seen by appointment; £140.—G. Wace, Fieldside, London Rd., Shrewsbury. [X9

SENSIBLE Offers Wanted.—1920 twin Rover special bulbous De Luxe sidecar, mileage un 500, in perfect condition, fully equipped with all best, insured, and tax paid, really smart combi tion.—Stanley Aldiss, Friendly House, East Dereha [7

1919 5-6h.p. Rover Combination, complete with lamps, including large P. and H. head lamp Cowey speedometer, mechanical horn, and Cameo w screen, the whole in practically new condition; reasonable offer accepted.—Temeside Garage, Ltd., low. [8

ALLEN-BENNETT Motor Co., Ltd.—Rover, 1 T.T., Philipson pulley, unscratched, £85; 1920 speed and Swan sports sidecar, all lamps, speedome etc., £150; 1919 combination, electrically equipped, new, £125; 1916 combination, all lamps, splendid dition, £100; cash, exchange, extended payments. 10-11, Royal Parade, West Croydon. 'Phone: Croy 2450. 'Grams: Track, Croydon. [6

Royal Ruby.

DAVIES, of Manchester, can deliver 1921 R Rubys from stock.—229, Deansgate. 'Phone: Central. [2

ROYAL RUBY, 2¾h.p. J.A.P., 1916, 2-speed, equipped, licensed, fine condition; £37.—L Villa, Holly Walk, Enfield. [7

1919 Royal Ruby 8h.p. Combination, practic new; £140.—National Drug Stores, 13, Pr Wales' Rd., Kentish Town. [7

ROYAL RUBY 2¾h.p. 1921 Sports Models, deli from stock.—Fowler and Brigden, 130, En Rd., N.W.1. Museum 4827. [6

ROYAL RUBY, new Villiers engine, re-name all on, discs, tax paid, like new; £39.—Tra 249, Albert Rd., South Norwood. [7

4½h.p. 1918 Royal Ruby-Jap Combination, 3-s S.A., K.S., Millford sidecar, tax-paid; £75 solo with cash.—19, Valney St., Tooting. [8

1920 Royal Ruby 2½h.p., all on, little use new; bargain, £45; tax paid.—Bushnell, Church Path, by Church, Merton Park. [7

3h.p. Spring Frame Royal Ruby, 2-speed gear, and clutch, 1920 model, shop-soiled; a bean machine; list price £120, my price £102.—Da 229, Deansgate Manchester. [6

ROYAL RUBY, late 1919, 8h.p. J.A.P., luxu combination, 3 speeds, all-chain, fully licensed equipped, expensive accessories; cost over £200, e tional bargain, 130 gns., or exchange.—Clapham Mo 113, High St., Clapham. 'Phone: Latchmere 429 [

Rudge.

NEW I.O.M. Rudge; £89.—Ramsden's, 8, Ma Av., Blackpool. [7

I.O.M. Rudge Multi at makers' list price, from sto A. J. Young and Co., Ltd., Newmarket. [

1921 I.O.M. Rudge Multi, just arrived; list pri 39, Liverpool Rd., Eccles, Manchester. [

1917 Rudge Multi Combination, tax paid; 59 g Ramsden's, 8, Maybell Av., Blackpool. [

1915 Rudge 5-6h.p. C.B. Combination, exce condition; £65.—10, Clarendon Rd., W.1 [

RUDGE Multi 5-6h.p., July, 1920, splendid tion; bargain, £75.—Bradbeer, Friday St., head. [

3½h.p. Rudge Multi and Sidecar, speedometer, overhaul; £30.—Bond, 245-247, Euston N.W.1. [

RUDGE Multi 3½h.p., good condition, speedom horn, lamps; £45-29, Kilmaine Rd., Fnl S.W. [

1920 Rudge Multi 3½h.p., lamps, horn, licensed; bargain, £90. — Teat, Anca Grantham. [X

1914 Sporty Rudge, clutch, discs, overhauled as for combination; sell £40.—Batten, Mo Potter's Bar. [

RUDGE 5-6h.p., May, 1920, splendid condition, age 2,300, tools, licence; £80, or nearest.—C. kins, Cirencester. [X

RUDGE Multi 3½h.p., had 3 years' use, store years, perfect condition; £42.—Williams, 1, St., Finsbury, E.C.2. [

3½h.p. Rudge, 2-speed, splendid condition, also suit, complete; £55, or nearest.—Fisher, Office, Barton, Beds.

MOTOR CYCLES FOR SALE.

Rudge.

GE Multi 1919 3½h.p., sidecar, done 3,000 les, first-rate condition; £75.—Yorke, Dame atlington, Oxon. [7546

GE Multi 3½h.p. Combination, coach sidecar; 45, bargain.—29, St. Leonard's St., Bromley-by- 3. East 4708. [7173

ND New 3½h.p. Rudge, T.T., full guarantee; 95.—Fowler and Brigden, 130, Euston Rd., Museum 4827. [0543

Rudge Multi, new Dunlop, licensed, £32/10; 1912, F.E., licensed, £28, new Dunlop.—Shaw, t., Wellington, Salop. [X9952

IE.—All models will be on sale at the second and Automobile Show, Crystal Palace, from nd. (See Wanted.) [5757

GE Multi, hand clutch, new belt, tyres, mag. wound, splendid condition; £35.—Rudge, 112, l Park Rd., Twickenham. [7014

I.O.M. Rudge, Klaxon, splendid condition, ax paid; £70; or exchange W.D. Indian.—28, Gardens, Shepherd's Bush. [7030

Rudge Multi, solo, 3½h.p., hardly used; ex- change considered; £70.—Stanleys, 173-4, Rail- proach, Shepherd's Bush, W.12. [8331

5-6h.p and 7-9h.p. Rudge Multi Combinations new; £152 and £175.—Shepherd, Enfield High nfield. Tel.: Waltham X31. [0341

Rudge Multi Combination, fully equipped, in xcellent condition; £80; owner buying car.—6, Rd., Upper Norwood, S.E.19. [7237

Rudge Multi, T.T., new August, lamps, speed- meter, horn; £85.—Crispin, 6, Frederic Mews, on St., Wilton Place, S.W.1. [7678

I.O.M. Rudge Multi, accessories, insurance, icence, expert tuned, special silencer and ast; £85.—Norfolk House, Beaconsfield. [7498

GE Multi Combination, as new, speedometer, ly equipped; £60; seen and tried any time.—3, rdens, Robinson Rd., Tooting, S.W. [7429

(late) 3½h.p. Rudge Multi Combination, in ex- llent order, full of accessories; bargain, £95.— ndelhffe, Keighley Club, Keighley, Yorks. [7473

1919 3½h.p. Rudge Multi, fully equipped, and fect, 30/- tax paid, spare belt; any trial; bargain.—Letters, Grubb, 218, Windmill Rd., . [7446

Rudge, 3-speed, countershaft and kick-starter, est model, all-chain drive, combination, im- delivery; £167; list.—Southfield Garage, Henly- es. [7566

Rudge Multi, 3½h.p., new October, perfect ondition, lamp, horn, knee grips, licence paid ; £85.—Parker and Son, St. Ives, Hunts. 15. [7100

E Multi 5-6h.p. C.B. Combination, speedo- ter, lamps, horn, etc., new tyres and belt, tax enuine bargain, £65.—Wilcox, 25, Cromwell erborough. [7028

E 5-6h.p. and Coachbuilt Sidecar, October, 9, fully insured, had very little use, and in condition; price £115.—T. C. Budd, The Brinrs, Surrey. [7639

Rudge Combination, 7-9h.p., F.R.S., electric mps, very fast, guaranteed; £130; exchanges. 's, 243, Lower Clapton Rd., N.E. 'Phone: 2408. [8164

Rudge Multi, 750 c.c., new, unused, as de- red from makers, cost £120/15, owner must ss): accept £110/10.—Apply, 2, Reading Rd., n-Thames. [7567

E, 1920, 3½h.p., Multi gear, Isle of Man me, speedometer, electric horn, equal to new; rker's, Bradshawgate, Bolton, and 245, Deans- nchester. [X9980

E, 3½h.p., sports model, sound mechanical dition, very powerful, smart appearance; any d inspection; £42.—Bonfield, Station Rd., n, Middlesex. [6880

(Aug.) T.T. I.O.M. Rudge Multi, mileage nder 2,000, Klaxon, spares, insurance to x paid, indistinguishable from new; £90.— 36, Balby Rd., Doncaster. [6994

Rudge Multi, 5-6h.p., very little used, new ndition, with new (£30) de luxe Ride-ezi side- black and gold finish, tax paid; bargain, £123. rriff Rd., West Hampstead, N.W.6. [6976

E Multi, coachbuilt sidecar, just overhauled, th full equipment, year's licence paid; no le offer refused.—Hemingsways, Ltd., 3, Kes- , Putney S.W.15. 'Phone: Putney 2334. [7517

E Multi 1920 3½h.p., special I.O.M. touring, tric lighting, Tan-Sad, new August, hardly d, absolutely as new, tax paid; £93; want M. combination.—382, York Rd., Wandsworth. [6909

7-9h.p. Rudge Multi Twin Combination, com- ete, Lucas lamps, horn, etc., the whole outfit n every respect, mileage about 700; bargain: 5.—Jas. Plaistow and Son, 13 and 15, Osborne sbry. [X9940



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NEW IMPERIAL, 8 h.p., and Sidecar.	£186	18
NEW IMPERIAL, 2½ h.p., 2-speed ...	£80	17
SCOTT Combination	£170	0
SCOTT, new Squirrel model	£130	0
BRADBURY, 6 h.p., and Sidecar	£187	10
TRIUMPH chain drive and sidecar ..	£172	10
TRIUMPH, countershaft, and Sidecar.	£159	10
B.S.A. twin Combination, Lucas dyno. lighting, spare wheel. New price	£212	18
SUNBEAM 8 h.p. Combination, Lucas dynamo lighting, spare wheel, etc..	£274	1

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Including lamps, generator, horn, licence holder

2½ h.p., 2-speed	£85	0
2½ h.p., 3-speed (no clutch)	£100	0
2½ h.p., 3-speed, kick start, clutch ..	£105	0
4 h.p., 3-speed, clutch	£130	0
4 h.p. 3-speed Combination	£170	0

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RICHARDSON 1920 2-seater. Tax paid	£195	0
MORGAN 8 h.p. Sporting. Tax paid..	£145	0
MORGAN 1915, sporting	£160	0
MORGAN Grand Prix, overhead M.O.V. engine, new tyres, tax paid	£170	0
SCOTT 2-stroke coach Com., tax paid..	£85	0
PREMIER, 3½ h.p., 3-speed, and S'car	£65	0
BRADBURY, 6 h.p., Grindlay Sidecar, lamps, etc., 1920 Combination	£149	10
ARIEL 3½ h.p. 1920 3-sp. Combination	£110	0
HARLEY, 7-9 h.p., 1920, and new latest type bulbous back Sidecar..	£195	0
HARLEY 1920 Combination, electric..	£200	0
DOUGLAS 1919 4 h.p. Combination ..	£120	0
CHATER-LEA 8 h.p. 3-speed Com. ..	£85	0
BRADBURY, 3½ h.p., 3-speed, Sidecar	£75	0
NORTON Big Four, 3-speed, Swan sporting Sidecar, electric lighting..	£145	0
RUDGE, 5-6 h.p., Multi-Rudge S'car..	£65	0

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SCOTT 1913 Combination, tax paid ..	£88	0
PREMIER, 3½ h.p., 2-speed and Sidecar	£67	10
RUDGE, 5-6 h.p., Rudge Sidecar.....	£67	10
BRADBURY, 3½ h.p., 3-speed, Sidecar ..	£78	0
CHATER-LEA, 8 h.p., 3-speed, Sidecar	£88	0
ARIEL, 1920 3½ h.p., 3-speed	£99	10
NOIAN, 1915, 3-speed and Sidecar....	£95	0

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Rudge.

RUDGE Multi 7-9h.p. Combination, as good as new, only done 1,000 miles, electric light, Cameo, speedometer, a bargain; £150, or nearest.—Apply, Hammond, Garth, Quinton Rd., Coventry. [X0024

RUDGE Multwin, 7-9h.p., 1920, and Henderson sidecar, hood, wind screen, luggage grid, Cowey, lamps, all accessories, splendid condition throughout, tax paid; £200.—Briance, 114, Station Rd., Hamp- ton, Middlesex. [7957

ALLEN-BENNETT Motor Co., Ltd.—Rudge. Several 1920 I.O.M. models in stock at prices from £80- £95; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6290

RUDGE Multi 3½h.p. T.T., pedal starter, tha catch of the season; your Easter tour on this brand new but slightly soiled mount, usual price £110/5; sacrifice, £85; secure now for spot cash.—Wilkins, Simpson, opposite Olympia, London. [7809

EXCEPTIONAL Opportunity.—Rudge Multi 2-cyl. 7-9h.p. combination, Aug., 1920, condition as new throughout, fully equipped, wind screen, lamps, speed- ometer, spares, fine turnout; cost over £200; tax paid; must realise quickly; accept £115.—98, Tulse Hill. 'Phone: Brixton 2104. [8236

RUDGE Multi, I.O.M., T.T., with clutch and starter, August, 1920, specially picked engine, original tyres as new, P. and H. lamp set, Klaxon horn, spare belt and case, full toolkit, tax paid for 1921, in perfect condition throughout, unscratched; any trial given; very fast; £85.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. [7112

Scott.

GIBB, Gloucester, can deliver 1921 Scotts from stock. —'Phone: 852. [0446

SCOTT, T.T., Binks, ride away; £35; exchange.—187, Elm Rd., New Malden. [7038

SCOTT Combination, 1915, just overhauled, sound; £85, offer.—135, Lavenham Rd., Southfields, S.W. [7632

SCOTT, Squirrel and other models from Coventry Motor Mart, London Rd., Coventry. 'Phone 200. [X0041

SCOTT Combination, October, 1919, mechanically perfect; what offers?—Jones, Bushmere House, Craven Arms. [7013

SCOTT 1913 Twin, 2-stroke, 2-speed, K.S., just overhauled, tax paid; £48.—Chris, 120, Argyle St., St. Helens. [X9605

BARGAIN.—Semi-T.T. Scott, Dec., 1914, fast, flexible, tax paid.—Particulars, Gothic Cottage, Milford, Surrey. [8017

1921 Scott, sports model; £130; for immediate de- livery; easy payments accepted.—Scott agent (below).

1920 Scott Combination, Godfrey's electric lighting, Cowey speedometer, Lucas horn, Easting screen, mileage 1,067, tax paid; cost £209 last August, price £155; absolutely as new, guaranteed; exchanges.—Scott agents (below).

1920 Scott, with Rennoc sidecar, P. and H. lamps, Lucas horn, etc., magnificent condition, guaran- teed perfect, tyres unscratched; £145; exchanges.— Scott agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [8165

SCOTT, 1913-14, completely overhauled by agents, equipped, speedometer; £55.—40, Rico Hey Rd., Egremont, Cheshire. [7622

1920 Scott Combination, electric lighting, Bonnik- sen speedometer, tax paid.—E. Cockell, Holly Lodge, Dalston, E.8. [6840

SCOTT.—All models will be on sale at the second- hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5758

SCOTT Combination, 1920, small mileage, splendid condition, Easting; £135; electric lighting and spares at valuation.—Voss, Malmsmead, Woodcote Lane, Purley. [7613

3¾h.p. Scott, 1920, Degory carburetter, done 250 miles, splendid order; £112, or nearest; any trial.—A. Rautmer, Walford Heath, Bomere Heath, Shrewsbury. [6973

1920 Scott Combination, horn, all lamps, usual accessories, condition as new, tax paid, little used; cost £180; 130 gns.—Gardiner, New Lodge, Hyde Park, W.2. [7340

SCOTT, 1914, and Millford sidecar, screen, etc., lamps, spares, and tools, insured £100, tax paid, splendid condition; £85.—Morrad, 14, Ringcroft St., Holloway, N.7. [7842

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0510

SCOTT, November, 1919, stored 10 months, mileage under 4,000, in perfect condition, runs magni- ficently, new Lucas lamps and horn, Binks, spare chains, tubes, etc., licence paid; £96.—Hunt, Llan- wenarth, Abergavenny. [6957

SCOTT 1920 Combination, electric lamps and horn, speedometer, run under 2,000, Cox Atmos carbu- retter, splendid condition; £155; accept lightweight part.—Newoham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6227

MOTOR CYCLES FOR SALE.

Scott.

1920 Scott Combination, electric lighting, speedometer, small mileage, absolute as new, guaranteed; £148, near.—Old Barracks, Kensington Palace, W 8. 'Phone: Park 86. [8068

SCOTT Combination, November, 1919, excellent condition, lamps, Easting, insurance, tax paid; seen by appointment; £137, or nearest.—Norton, Storth House, Fulwood, Sheffield. [7032

SCOTT, 1914 or 1915, excellent condition, thoroughly overhauled Sept., 1920, has not been ridden since, one week's trial given, carriage paid to any part of England; £45.—Box 2,878, c/o *The Motor Cycle.* [7569

SCOTT, 1920, just overhauled, new touring bars and Lucas horn, also original T.T.-bars, Cowey speedometer, lamps, new chains, all spares and tools, Dunlop studded, perfect internally and externally, requires no expenditure; £105, no offers, or lightweight and cash adjustment.—Batten Killin, Perthshire. [X8260

Scout.

SCOUT-DALM 2-speed, clutch, K.S., 2 lamps, tax paid, insured, bought October, 1920, excellent going order and appearance; £73.—Bradford, 30, Bouverie Rd. West, Folkestone. [7882

Singer.

SINGER 3½h.p., re-enamelled and overhauled; £30. 132, High Rd., East Finchley. [8125

1914 Singer, 2-speed gear box, tax paid; first 29 gns.—Ramsden's, 8, Maybell Av., Blackpool. [7903

£25.—2½h.p. Singer, good tyres, belt, waterproof Bosch, fine running order.—King, Egrove, Oxford. [X9937

3½h.p. Singer, free engine, clutch, Bosch, Amac, overhauled, tyres as new, licensed; bargain, £35.—Salmon, Albany Rd., Stratford-on-Avon. [7912

Sparkbrook.

1920 Sparkbrook-Villiers, 2-speed, shop-soiled; offers.—Stretton's Garage, Ltd., Gloucester. [X9966

1920 2-speed 2¾h.p. Sparkbrook, lamp and horn, done 700 miles, like new; £55.—Wilderspin, Chatteris. [5809

1920 Sparkbrook, 2 speeds, lamps, speedometer, tax paid, as new; £52, offer; combination wanted.—T. Avis, Rotherfield, Sussex. [7027

1920 Sparkbrook, 2-speed, nearly new, lamps, horn, tools, and pillion seat, tax paid; nearest £65.—Rooke, 14, Chatsworth Terrace, York. [7953

SPARKBROOK, 1920, 2½h.p., lamps, horn, very little used, perfect condition; £60. — Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [8255

Stewart.

STEWART-VILLIERS, brand new, 2½h.p., 2 speeds, lamps, etc., lady's model; £45.—Auclaume, 7, Osman Rd., Hammersmith. [8130

Sun.

SUN-VITESSE.—All models from Coventry Motor Mart, London Rd., Coventry. [X0042

SUN-VILLIERS, 2-speed, new tyres, fine order; £32/10.—Shaw, Park St., Wellington, Salop. [X9953

SUN-VITESSE, 1920, 2¾h.p., 2-speed, lamps, horn, tax paid, small mileage, excellent condition; £50.—Penry Jones, Library, Rhos, Wrexham. [X9782

Sunbeam

E. KICKHAM for Sunbeam; trade supplied.—Stokes Croft, Bristol. [3352

NEW 1920 Sunbeam 3½h.p. Solo; £155/8; in stock.—Randall, Andover. [0366

1920 3½h.p. Sunbeam Combination, lamps, horn, tax paid, unscratched; £150.—Below.

1919 3½h.p. Sunbeam and Sunbeam sidecar, speedometer, lamps, horn, perfect condition; £125.—Edwards, 50, Harrington Rd., South Kensington. Kensington 3709. [8505

1918 Sunbeam Combination, tax paid; 110 gns.—Ramsden's, 8, Maybell Av., Blackpool. [7906

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3½h.p. Sunbeam and sidecar, 1915. 3 speeds; £105. [8265

SUNBEAMS, 1916 3½h.p., 1914 6h.p. combinations, good order; offers, A.J.S. wanted.—Potts, Biddulph, Congleton. [6974

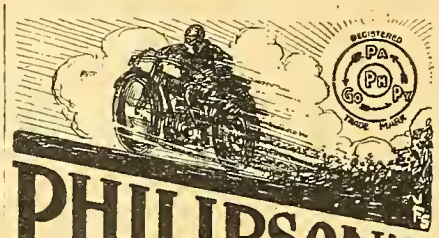
1920 Sunbeam 6h.p. Combination, complete with lamps, horn, wind screen; any trial; £190.—Hopkins, Motors, Ledbury. [7082

SUNBEAM 6h.p. Combination, twin J.A.P. engine, Bosch mag., 3-speed gear B.B. carburetter.—King, 57, Westbourne Park Rd., W.2. [8290

SUNBEAM.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5759

1920 3½h.p. T.T. Sunbeam, delivered November, under 500 miles; any trial; £145, or best offer.—Warriner, 3, Sunnyside, Kendal. [8231

1920 3½h.p. Brand New Sunbeam and Sidecar, interchangeable wheels, at list price, from stock.—A. J. Young and Co., Ltd., Newmarket. [1254



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Sunbeam.

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. and Co., 52-54, Hampstead Rd., N.W.1.

CAN Supply Now.—8h.p. and 3½h.p. Sunbeam combinations; first letter will secure one of —Sleaths, Ltd., 6, Clemens St., Leamington. [X

1916 3½h.p. Sunbeam Combination, in perfect dition, as new; £110; owner bought car (10 to 4) 98 Byfleet.—Butland, West Byfleet.

1921 3½h.p. Sunbeam Combination, fully equ cost £220 two weeks ago; tax paid; £195. Museum 6626.—A.S.C., 60, Mortimer St., W.1.

1921 3½h.p. Sunbeam Touring Model, perfect from the works, unused, must be sold; no able offer refused.—Vernon, Allostock, Knutsford

8h.p. Sunbeam Combination, 1919, about miles; bargain, £165, or exchange lower and cash.—Pumping Station, Hadley Rd., Enf

1914 6h.p. J.A.P., Sunbeam new sidecar; £1 offer; overhauled by Eastern Garage, 418, ford Rd., E.7, where seen and tried.—Crow, ow

1921 Sunbeam 3½h.p., with Mills-Fulford s black and gold, best Lucas lamps and horn ridden 80 miles, perfect; £185.—Dennis, Fur Cheltenham.

SUNBEAM 1915 3½h.p. Model with Sidecar, co with all accessories, excellent condition; Parker's, Bradshawgate, Bolton, and 245, Dea Manchester.

7-9h.p. Sunbeam Combination, 1916, small s just overhauled, new valves, rings, and gea excellent condition, spare tyres, etc.—J. and A. Flixton, Manchester.

3½h.p. Sunbeam, Sept., 1920, Lucas lamps, hor long exhaust, mileage 500, stored four m condition as new; £130; near offer considered Alliance Av., Hull.

1916 6h.p. Sunbeam and Sidecar, spare interc able wheel with new tyre, electric li motor cycle insurance, fine condition; £140.— 33, Cecil Rd., N.10.

1920 3½h.p. Sunbeam Combination, as new, changeable wheels, mileage under 500, order, tax paid, insurance policy; £175.—F. T. The Stores, Twyford, near Winchester.

1920 Sunbeam 3½h.p., very powerful, as new, 300 miles, Lucas acetylene lamps, horn Sad, specially made waterproof cover, insurance, goggles; £140.—W., 21, Marine Av., Hove.

1919 Sunbeam, 3½h.p., black and gold, military model, all lamps, horn, etc., tax guaranteed perfect; £110; exchanges.—Homac' Lower Clapham Rd., N.E. 'Phone: Dalston

SUNBEAM.—We are Wolverhampton agents. parts in stock. Repairs and overhauls. Est upon request for re-enamelling and plating Molineux Garage Co., Ltd., Wolverhampton. 1160.

SUNBEAM, 6h.p. J.A.P. engine, 3-speed, kick Gloria sidecar, black and gold finish, all engine recently overhauled; £99.—Newnham Mot 223, Hammersmith Rd., W.6. 'Phone: Hamme 80.

1914 6h.p. J.A.P. Sunbeam Combination, £12 sidecar, Lucas lamps, horn, etc., overhau Eastern Garage, 418, Romford Rd., E.7, where se tried.—H. H. Crow, Wilburton, Hermitage Walk, Woodford, Essex.

SUNBEAM 1919 8h.p., 1920 Sunbeam sidecar, miles, accumulator set, Lucas horn, speed interchangeable wheels, good Dunlops, tax paid, winters, beautiful condition, sound; £165.—2, H Rd., Earl's Court.

1920 3½h.p. Sunbeam Motor Cycle, 2 Lucas and horn, legshields, only done 2,000 mi excellent order, only sold as owner has bough price £125.—Apply, F. Hawke, 11, Bessborough Bessborough St., S.W.1.

8h.p. Sunbeam 1919 Combination, first-class hood, screen, speedometer, lamps, low m any trial or examination; seen Southsea; £160, cash, £100 any War Bonds.—G., Thornbur Andrew's Rd., Caversham, Reading.

1920 8h.p. Sunbeam Combination, spare unused, hood, screen, Cowey speedometer, lamps, Klaxon, spare valve, tools, new con guaranteed perfect, any trial; £230; east Ke trict.—Box 2,940, c/o *The Motor Cycle.*

1919 3½h.p. Sunbeam Combination, Watford ometer, aluminium disc wheels, Lucas Klaxon horn, new tyres, condition as new, in policy, tax paid; any trial; £135, or exchange A.J.S. combination.—G., 54, Malvern Rd., E.8.

SUNBEAM Combination, 6h.p., 3-speed counat and clutch, 3 lamps, horn, speedometer, licence, Tan-Sad seat, large Canoelet sidecar, hood, screen, luggage carrier, whole outfit gua perfect, and good as new; worth £185; will £95; a gift.—Wallis, 23, Hartington Grove, Can

MOTOR CYCLES FOR SALE.

Thor.

R 1915 8h.p., Rennoc sidecar, electric equipment, new plating, unpunctured; £120, or offer; seen ead.—51, Brigstock Rd., Thornton Heath. [6989

T.D.C.

0 T.D.C. 2¾h.p., mileage 800; 35 gns.; first cheque,—Heatley, Montgomery. [7734

C. 2¾h.p. 2-stroke, variable gear, Amac, U.H., Druids, new tyres, tubes, lamps, licensed; £35 stamp reply.—Broadfields, Letchworth, Herts. [7689

TOBER (1920) T.D.C. De Luxe 2¾h.p. 2-stroke, 2-speed, hand clutch, 5in. P. and H. speedo. Klaxon, copper exhaust, mileage 700, as new; ride 30 miles.—Howard-Allman, The Lodge, Wye. [7086

Torpedo.

PEDO-PRECISION 2¾h.p., 2-seater, 2-speed, 1916, stored 2 years, just overhauled, lamp, horn, Bosch fitted; £28.—1, Earhard St., Wandsworth. [7250

Triumph.

IANS, of Reading, have 1921 Triumph in stock. [0487

UMPH, 1921 Models.—George Smith, Clapham Junction, S.W. [9424

N 1921 Triumph S.D. Solo; £140; in stock.—Randall, Andover. [0365

N 1921 Triumph S.D. Combination; £195; in stock.—Randall, Andover. [0364

N Triumph 4h.p., shop-soiled only.—Clifford's Garage, Sidcup. 'Phone 4. [7802

). Renovated Triumph, 3 speeds, countershaft; £60.—114, Brixton Hill, S.W.2. [8283

UMPH, Bosch mag.; £12; after 6.—221, Droop St., Queen's Park, Paddington. [7617

AIN Drive Triumph, 1921, only run in, perfect; £115.—Banks, Clifford St., York. [X9614

UMPH, countershaft, re-enamelled and plated; £70.—272, Green St., Forest Gate, E.7. [7748

–3½h.p. Triumph, fixed engine, in good condition.—King, Egrove Farm, Oxford. [X9938

8 Trinmph Combination, accessories, discs, etc.; £95.—20, Prah Rd., Finsbury Park. [8009

UMPH 1921 Models in Stock; list price; cash or exchange.—Rose's Garage, Uxbridge. [7118

4 Triumph Combination, excellent condition, 3-speed; £62.—83, Burton Rd., Brixton. [7019

9 Countershaft Triumph, Lucas accessories; £95. —Gifford, 75, St. John's Rd., Oxford. [6860

N GUY, Weymouth.—1921 Triumph combination, £182/10; Triumph 2-stroke, £75; in stock. [0555

UMPH Machine, late model, less power unit; £20. —5, Vant Rd., Mitcham Rd., Tooting, S.W.17. [7470

3 3-speed Triumph, just overhauled and enamelled, in tip-top order; £50.—Wilderspin, Chatteris. [5810

UMPH 3½h.p., good condition, Philipson pulley; £35.—Whitewood, Eason's Green, Framfield, Sussex. [7914

1 Triumph 4h.p., countershaft S.A. gear, in stock; £127/10.—Morriss, 139, Finchley Rd., N.W.3. [7775

TCH Triumph, lamps, horn, licence, practically new engine; £35.—Collett, Waterstock, Oxon. [7856

9 Triumph Countershaft, almost new, with lamps; £60; after 6.—Scoltock, 78, Sloane Av., Chelsea. [7311

1 Junior Triumph 2¼h.p., 2-stroke, 2-speed, in stock; £75.—Morriss, 139, Finchley Rd., N.W.3. [7776

) Countershaft Triumphs, just been renovated; £70 each.—Hole, 129, Park Lane, Carshalton. [8049

BY Triumph; £45; in perfect order.—Apply, 104, Southwark Park Rd., Bermondsey, between [7432

0 Triumph new, 4h.p., 3-speed, C.S.; £105; take Douglas part.—2, Chudleigh Rd., Lady- [7867

UMPH, 1920, as new, all accessories; £105.—East woods Garage, Harborne 'Bus Terminus, Birming- [X9824

UMPH, 1913, 3-speed hub, tax paid; £55, or near, or exchange lightweight.—37, Samos Rd., [7451

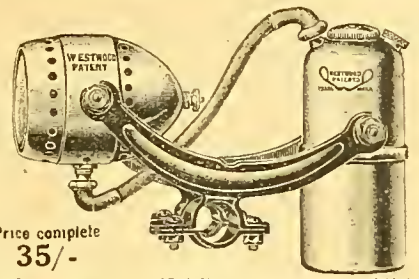
UMPH Baby, as new; £66.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, [8323

W (Aug., 1920) 4h.p. Triumph, speedometer, lamps, horn, tools, etc. £110; perfect.—Stoten, 40a, High orking. [7650

UMPH, 2-speed, B. and B., Bosch, perfect condition, tax paid; £50.—Land, Primrose Hill, ersfield. [7007

20 Triumph and Millford sidecar, practically new, fully equipped; £130, or near offer.—Cox, 15, rell, Oxford. [X9944

3 Triumph, converted into countershaft model, at same time completely overhauled; £60.—Monck- Stone, Glos. [7584



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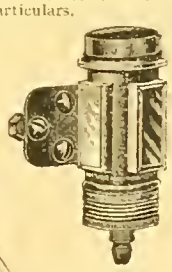
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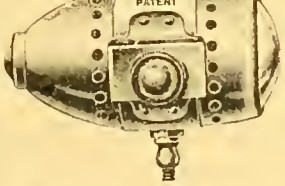
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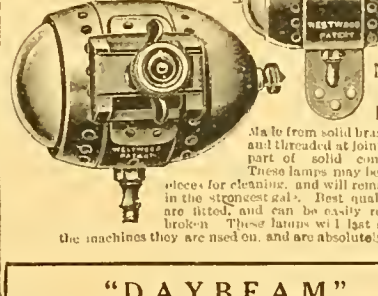
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4h.p. 3-speed Countershaft Triumph, new tyres, small mileage; £85; tax paid.—14, Chipley St., New Cross, S.E.14. [8252

TRIUMPHS.—A fine selection of Triumphs in stock, fully guaranteed; inspection invited.—Ross, 86, High Rd., Lee. [5671

1914 Triumph Combination, 3-speed, condition excellent; £75, or near offer; must realise.—Mercer, Burwash, Sussex. [7685

TRIUMPH (renovated), Dunhill sidecar, lamps, horn, screen, licenced; any trial; £110.—132, High Rd., East Finchley. [8122

TRIUMPH Combination, new C.B., lamps, horn, 3-speed clutch, guaranteed perfect; £63.—18, Key Hill, Birmingham. [X0010

TRIUMPH, 1914, 3-speed, 4h.p., Gloria sidecar, lamps, perfectly reliable; £75.—64, Forthbridge Rd., Clapham, S.W.11. [7388

1914 4h.p. Triumph, S.V., 3-speed hub, cylinder scored, lamps, horn, etc.; £30. Wake, Denby Flockton, Wakefield. [7358

TRIUMPH Junior, 1920, appearance and condition as new, lamps, Klaxon, tool kit, licensed; £60.—8, Silver St., Enfield. [7295

TRIUMPH 1914 3-speed C.B. Combination, perfect running order; any trial; £72; tax paid.—46, Hilton Rd., Surbiton. [7692

RENOVATED Countershaft Triumph, fully equipped with Lucas accessories, as new; £85.—33, Blackford Rd., Brixton, S.W. [7386

1920 Countershaft Triumph, little used, Lucas lamps, Klaxon, insured, taxed; £108.—56, Malyons Rd., Lewisham. [7992

1916 Triumph 2¼h.p., 2-speed, free, recently overhauled, accessories; £45; must sell.—Lane, 18a, Wrottesley Rd., Plumstead. [7888

TRIUMPH 4h.p., late countershaft model, in excellent condition, lamps, etc.; £70.—F. Fitt, near Pike's, Church St., Chelsea. [7310

1920 4h.p. T.T. Triumph, Watford, Millers, licence, mileage 700, unscratched; £90.—Stephens and Kay, Staveley, Chesterfield. [7459

DAN GUY, Weymouth.—Triumph 1919 4h.p., fitted Mills-Fulford sidecar, Lucas lamps and horn, good condition throughout; £100. [0565

TRIUMPH 4h.p., 3-speed, countershaft, K.S., new Miller lamps and spares, fast, nice order; £78/10. —261, Mitcham Lane, Streatham. [7259

TRIUMPH.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5760

TRIUMPH, all models in stock, W.D., fully guaranteed by makers; £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0436

1919 Junior Triumph, lamps, accessories complete, little used; £60; view by appointment only.—Weiler, 42, Eton Av., Hampstead. [7688

TRIUMPH 1918-19 Countershaft, accessories, thoroughly reliable, ready to go anywhere; £69.—Lamb, 1, Devonshire Place, Bath. [7611

TRIUMPH, renovated, late countershaft H model, fully equipped, new condition; £82/10.—365, King St., Hammersmith, W.6. [8115

TRIUMPH 3½h.p. Combination, clutch model; nearest to £50, or part exchange good piano.—No. 9, Grove Park West, Colwyn Bay. [X9315

TRIUMPH 1918 4h.p. Countershaft, indistinguishable from brand new; £90; by appointment.—21, Rodborough Rd., Golders Green, N.W. [7450

TRIUMPH Combination, C.B., fully equipped, 4h.p., 2-speed, very good condition throughout; £58. —110, Pitshanger Lane, Ealing, W. [6979

TRIUMPH Combination, late 1919, 3-speed countershaft, Easting, lamps, complete, licensed, excellent condition.—Hilton, Stone, Staffordshire. [3074

TRIUMPH, 1914, 3-speed, Gloria sidecar, speedometer, lamps, horn, etc., tax paid; any trial; £65.—58, Rye Rd., Hoddesdon, Herts. [7709

1920 Triumph Gloria, lamp, horn, Eastine, perfect condition; £127.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [8313

TRIUMPH, 3½h.p., F.E. clutch, splendid condition, tax paid, £50; also wicker sidecar, latest pattern, £10.—42, Riggindale Rd., Streatham. [7425

TRIUMPH, 4h.p., with 1920 Henderson B1 sidecar, all lamps, horn, etc., Tan-Sad; £110.—28, Lower Addiscombe Rd., East Croydon. [7873

WATCHOPE'S, 9, Shoe Lane, London, E.C.4.—3½h.p. 1913 Triumph, 3-speed gear, £50; also 4h.p. Triumph and sidecar, 1915-16, £75. [8260

TRIUMPH 1918 Countershaft Combination, bulbous de luxe sidecar, lamps, horn, etc., in splendid condition; £115.—28, Cromwell Grove, W.6. [7437

LATE 1913 3½h.p. 3-speed Triumph, with 26 gn. sidecar, fully equipped, splendid condition; £70.—Wagstaff, Photographer, Brinklow, Rugby [X9927

1919 Baby Triumph, fitted with accessories, speedometer, tax paid, in good condition; £57.—Bounds, 225, High Rd., Kilburn, N.W.6. [7576

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1919 (September) Combination, horn, lamps, etc., tax and insurance included, excellent condition; £125.—159, High St., Tonbridge. [7738

TRIUMPH 4h.p. 3-speed 1918 C.B. Combination, overhauled, fine condition, accessories, tax paid; £110.—M., 46, Clarendon Rd., Putney, S.W.15. [7033

£30.—Triumph, T.T., fast and powerful, new bearings throughout engine, new Dunlop heavies, good appearance.—20, Tame Rd., Witton, Birmingham. [X9945

TRIUMPH, late 1919, Sunbeam sidecar, Easting, late gear change, splendid condition, Lucas lamps, Tan-Sad, Klaxon, tools; £130.—3, Harrington Sq., N.W.1. [5969

TRIUMPH 1919 Combination, in beautiful condition, fully equipped; £110, or offer.—'Phone: Waltham Cross 299.—Biss, Sun St., Waltham Abbey. [7354

TRIUMPH 1921 Models.—We can give prompt delivery of all types; exchanges quoted with pleasure.—The Layton Garages, Bicester, near Oxford. [7053

1920 (July) Triumph Cauoelet K4 Combination, as new, fully equipped, all accessories, tax paid; £120.—R. Waddington, Thornton Steward, Bedale, Yorks. [6843

DAW, Brixton, for Triumphs, 1921 Type H £127/10, S.D. £140; Gloria sidecar, £55; delivery from stock.—114, Brixton Hill. 'Phone: 1713 Brixton. [7255

1920 Triumph, Model H, shop-soiled only, 105 gns.; 1920 Henderson coachbuilt sidecar, cost £23, accept £14.—Parker and Son, St. Ives, Hunts. 'Phone: 15. [7101

TRIUMPH 1912 3½h.p., clutch, new works and front wheel, new lamps, excellent condition, tax paid; 40 gns.; by appointment.—50, Malvern Rd., Hornsey, N.8. [7836

DAW, Brixton.—1921 Triumph and B.S.A. sidecar, chain drive model, Easting, luggage grid, etc., tax paid, practically new; £175.—114, Brixton Hill, S.W.2. [8286

TRIUMPH Combination, July, 1920, countershaft, 3-speed, kick start, clutch, lamps, horn, Tan-Sad; inspection invited; £103.—4, North Side, Wandsworth Common. [7301

TRIUMPH, 1920, 4h.p. model, Triumph sidecar, horn, Watford speedometer, equal to new; £160.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9974

1920 Triumph Countershaft Combination, used 3 months, exceptional engine, well equipped; £125; exchanges.—144, Ladbroke Grove, North Kensington, W. [7853

LATE Model Countershaft 3-speed Hand Clutch Triumph and Sidecar, engine 57700 series, lamps and tools; £95; after 6.—69a, Hambalt Rd., Clapham Common. [7169

TRIUMPH 1918 4h.p., 3-speed, countershaft, all accessories, speedometer, engine just overhauled by Triumph; £80; tax paid.—18, St. Edmund's Terrace, St. John's Wood. [6846

1919 (Oct.) Triumph and Swau sporting sidecar, Lucas lamps, horn, Watford speedometer, tax paid, splendid condition; £130.—Williamson, Bowerchalke, Salisbury. [8045

NEW 1921 Model H Triumphs and Baby Triumphs in stock at list price; second-hand machines taken in part payment.—Parker and Son, St. Ives, Hunts. 'Phone: 15. [7099

IF You Want to Get There Before the Others, buy my Triumph late 1920 countershaft, W.D. bars, long pipe, beautiful condition; closest £120.—Walter Madeley, Wem., Salop. [7373

1917 Triumph, 3-speed countershaft, plating and tyres as new, thoroughly overhauled, perfect running order; £70.—71a, King Henry's Rd., Hampstead. 'Phone: 6552. [8119

CROYDON Agents for Triumph motor cycles. All models in stock, ready for immediate delivery.—Moore's Presto Motor Works, Ltd., 145, North End, Croydon. 'Phone: 2624. [1348

3½h.p. Triumph, N.S.U. 2-speed, Bosch, lamps, horn, spares, good covers, tubes, ready for road, tax paid: £30: Chater-Lea wicker sidecar for same, £5.—39, Selkirk Rd., Tooting. [8224

LATE 1914 Triumph, 3-speed, rebuilt by makers, invoice shown, beautiful condition, tax paid; £58.—Morgan, 1a, Carlton Mansions, Park Rd., Hornsey, N.8. 'Hornsey 945. [7766

TRIUMPH Brand New 1921 Model H. for immediate delivery; your present machine accepted in part payment.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6240

1918 Triumph 4h.p., 3-speed countershaft, just thoroughly overhauled, plating, tyres, etc., very good, perfect running order; £75.—71a, King Henry's Rd., Hampstead. 'Phone: 6552. [8118

TRIUMPH 1920 3½h.p., direct drive, single-geared T.T. model; catalogue price £105, offered at the giving away price, quite new, of £87/10.—The Layton Garages, Bicester, near Oxford. [7052

1919 4h.p. Triumph, Sturmey-Archer, latest pattern gear lever, lamps, Stewart horn, overhauled Sept. by makers, not used since; £85, or close.—Arnold, Milton Hall, Gravesend. [4900

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3½h.p. Triumph, Bosch mag., Senspray carburet Philipson pulley, excellent condition, tax p £38/10.—Bellows Garage (next County Arms), Tri Rd., Wandsworth Common, S.W.18. [7

AUG., 1920.—Latest Triumph motor cycle with ford sidecar, complete acetylene lighting set, l luggage grid, and licence; cost £175, will take £14 6, Clemens St., Leamington Spa. [X9

LATE Countershaft Triumph Combination, sport exceptional engine, aluminium discs, knee-g mechanical horn, lamps, tax paid; £82; exchange 60, Wallingford Av., N. Kensington. [8

SIX Countershaft Triumphs, 1917 and 1918 mo lamps, Klaxons, plate and enamel excellent; pr from £75; all ready for the road.—'Phone: Wanstead —374, Grove Green Rd., Leytonstone. [7

1918 Triumph 4h.p. Coachbuilt Combinatioo, lar accessories, licence paid, perefect order; reasonable offer refused; seen by appointment.—W St. Thomas's Hospital, Westminster. [7

COUNTERSHAFT 3-speed Triumph, large lamp Klaxon, tools, £5 spares, insured, mech cally perfect, splendid appearance, ride away; £8 6, Brondesbury Villas, Kilburn, London. [7

1919 Triumph, 4h.p., countershaft, fitted brand Swan sporting sidecar, Lucas lamps, ha soiled, guaranteed perfect; £130.—Homac's, 243, L Clapton Rd., N.E. 'Phone: Dalston 2408. [8

LATE 1918 4h.p. Countershaft Triumph, equipped with new accessories, guaranteed pe in every respect and indistinguishable from new; £8 436, Whitehorse Rd., Thornton Heath, S.E. [8

TRIUMPH, 1916, no wear, coachbuilt sidecar, returned thorough overhaul, £110; also a solo, feet condition, £60; owner buying car; appointm only.—Wenham, Loudon Lane, Bromley, Kent. [7

TRIUMPH Combination, 3-speed, electric li fully equipped, £70; 4h.p. Douglas, 3-sp kick starter, £60; 1916 2¾h.p. Douglas, £45.— Pindock Mews, Warwick Av., W.9. (Mornings.) [7

1921 Triumph H and Junior; also sidecars stock; deferred payments, quarter down and payments.—Lambs, 151, High St., Walthamstow; Euston Rd., N.W.; 50, High Rd., Wood Green, [7

CHAIN Drive 4h.p. Triumph, 1920, 28×3 Pal rear tyre, 6-volt accumulator lighting, semi- bars, special mudguards and leg shields, all spa £125, no offers.—Box 361, c/o *The Motor Cycle*. [X9

1919 Triumph 4h.p., 3-speed countershaft, new g box, tank, mudguards, tyres, engine t oughly overhauled, new parts fitted, as new; £8 71a, King Henry's Rd., Hampstead. 'Phone: 655 [8

TRIUMPH, about 1912, newly enamelled, piston, new adjustable pulley, new covers, front brake, Bosch, Binks, tax not paid; £30, barg —Johnson, Mitre, Mitcham Rd., Tooting, S.W.17. [7

TRIUMPHS.—We are the North London agents, can give immediate delivery; chain drive, ch cum-belt, and renovated models.—Jones Garage, Mus Hill, N.10; and at Woodside Parade, North Finch [0

1914 Triumph 4h.p., 3-speed Sturmey hub, K engine and gears just thoroughly overhau enamel and tyres good, lamps, tools, valve, splen condition; £55.—Rathgar, Ashley Rd., Walton Thames. [8

1919 Triumph 4h.p. Combination, Millford side Bonniksen speedometer, Binks, Klaxon, T Sad, long plated exhaust, lamps, full accesso expert examination; £125.—A. Kitchener, Se Yorkshire. [8

IMMEDIATE Delivery of any Triumph Model; casi deferred payments; book your order now, avoid disappointment later.—Burlington Motors, I South Side, Clapham Common, S.W.4. 'Phone: B ton 2417. [0

LATE 1919 Countershaft Triumph, Mills-Fulford point fixing sidecar, nicely upholstered, v lamps and horn, little used, tyres as new; £90, gain; stamp reply.—Beecher, 472, Archway Rd., I don, N.6. [8

TRIUMPH 1921 Models in stock for immediate livery, exchanges arranged; also Triumph Models, renovated by the makers, just relivered new, £90 and £95.—Eagles and Co., 275, High Acton, London. [7

TRIUMPH 3½h.p., 1912, fitted with new £8/8 Ph son pulley, disc wheels, Bosch mag., good co tion, tax paid, good sidecar machine; exchange l weight.—Avery, Little York Cottage, Back Pant Tunbridge Wells. —[X9

F.O.C.H. have a 4h.p. Countershaft Triumph B.S.A. sidecar, all lamps, speedometer, tools, gage grid, tax paid; £130, bargain.—5, Heath Hampstead (near Hampstead Tube Station). 'Ph Hampstead 3752. Hours 9-7, including Saturdays. [

1918 Triumph, renovated and guaranteed makers June, 1920, Millford sidecar, lamps, Smith speedometer (trip), Cowey horn, tax and insurance paid, perfect condition; £ after 6.30.—Darby, 51, Burnaby Gardens, Chisw W.4. [

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H. are Triumph agents. New and second-hand chines in stock. Exchanges or easy payments .—5, Heath St., Hampstead (near Hampstead ation). 'Phone: Hampstead 3752. Hours 9-7, Saturdays. [7789

Triumph and Gloria Special Sidecar, mechanism erfect, oversize tyres, in splendid condition, enamelling, and bodywork as new, no fault, ll spares; bargain, £130.—Kershaw, 2, Calais rton-on-Trent. [X9779

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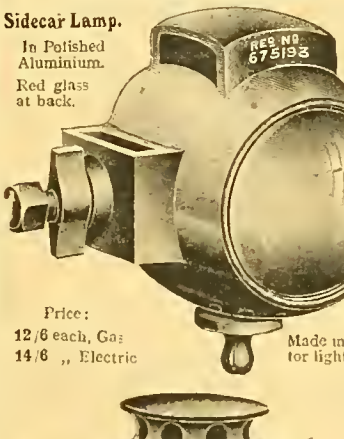
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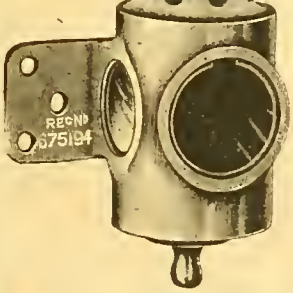
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DAN GUY, Weymouth.—Zenith agent, early delivery all models. [0556

ZENITH, all models.—Dan Bradbury, 224, London Rd., Sheffield. [7516

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WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—5h.p. Zenith 1920 sporting model; £97/10. [8261

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ZENITH, 1919 (late) 8h.p. Sports Combination, speedometer, discs, splendid order; £135.—40, Rice Hey Rd., Egremont, Cheshire. [7623

ZENITH.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5761

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ZENITH 5h.p. 1920 Sports, equipped, hardly used, appearance as new; £95, or offer.—Deacon, 33, College Av., Slough, Bucks. [8077

ZENITH 6h.p. Combination, clutch, lamps, discs; £65, or offer, tax paid, tools, and spares.—32, Canterbury Rd., Brixton. [7378

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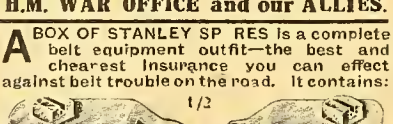
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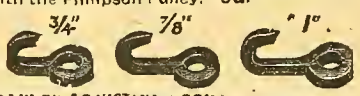
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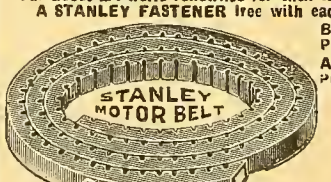
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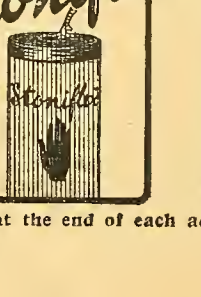
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GAINS.—1919 P. and M., with new sidecar, 110/10; 1920 Scott, £87/10; 1920 Scott and , £110/10.—Booths' Motories, Halifax.

GAINS.—1919 Royal Ruby, 3-speed, with side- r, £110/10; 1919 Enfield, 2-stroke, £42/10; O.K., £35/10; 1919 Rudge Multi, £67/10.— Motories, Halifax.

GAINS. — Shop-soiled 1920 models: 2¾h.p. K., £43/10; ditto 2-speed, £54/10; 2¾h.p. Jap, 2-speed, £67/10; Harley-Davidson and , £189/10; 6h.p. Ariel combination, £149/10; ges entertained. Pay us a visit.—Booths' es, Portland Place, Halifax. Tel.: 1062. [7858

P-SOILED Only, 2¾h.p. Wooler, £90; shop- iled only, 3½h.p. T.T. Rudge Multi, £98; shop- only Scott, £120. — The Metropole Garage, ool. [7518

GLAS 2¾h.p. 2-speed, £20; Brown 3½h.p. and oachbuilt sidecar, Grado gear, £20, enamel, tyres carriage paid.—Bunting's Motor Exchange, tone. [8177

BIRMINGHAM

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Showroom and Service Depot for

IVY MOTOR CYCLES

Certainly there is no better two-stroke; the "Ivy" was one of the original pioneer makes, and has never varied from a high standard of quality and reliability. Moreover, it always bears the distinctive marks of taste, technical knowledge, and "brains," in its design and finish.

THE IVY "THREE" is the leading model, a new conception in two-strokes, possessing the power and pull of a 3½ h.p., combined with the lightness, handiness, low cost, low upkeep, and low taxation (30/-) of a lightweight; it is an elegant machine for either sidecar or solo. It "two-strokes" at all speeds, due to correct engine design. The Ivy 2½ h.p. is another model, a dainty mount for solo only, and one well tested and proved over the years. Send for list showing all models and prices from £62 (2½ h.p. Solo) to £118 (3 h.p. Combination)

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AS SUPPLIED TO LIVERPOOL CITY POLICE

It's——

Strength—Comfort—Efficient Simplicity — Trouble - proof Automatic Lubrication—Braking—Two-speed Gear—Unique System of Cantilever Leaf Springing—and Wonderful Precision Engine—they're

——Great!

LIST PRICE:

Solo, £105; with Sidecar, £140.

Write for full description and learn all about this Fine Mount.

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Miscellaneous.

MOTOR Cycle, 3h.p., sound throughout, cylinder re-bored, new piston and rings, new tyre and tube, Grado gear, Bosch mag.; £25.—Sudale, Rolleston, Burton-on-Trent. [7234

EVANS, Garage, Newport, Salop, agent for Sunbeam, Triumph, Rover, Raleigh, New Imperial, Diamond, and other leading makes of motor cycles for immediate delivery [X8651

YOU can get exactly the motor cycle you want through the Kwiksale Private Motor Registry, 35, Long Acre, W.C. Gerrard 2392. Send for list of privately owned motor cycles. [0138

RADCO 1920 (June) 2¾h.p., single-speed, as new, lighting set, tools, complete, licenced, £50; Sun-Vitesse 2¾h.p. 2-speed combination, as new, licenced, 65 gns.—Game, 21, Canterbury Rd., Colchester. [7881

RICHMOND Park Garage, 110, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Putney 2622. No. 37 and 33 'bus passes the door. L.S.W.R. Barnes Station. The following machines are for sale or exchange:

R.P.G.—Sunbeam late 1919 sports model, 3½h.p., fully equipped, tax paid; £100; very nice machine.

R.P.G.—Humber and sidecar, 3½h.p., 3-speed gear, kick starter, clutch, all accessories; £45; extra smart appearance.

R.P.G.—Alldays Allon 2-stroke, 2-speed countershaft gear, footboards, all accessories; £40; splendid runner.

R.P.G.—Radco 2-stroke, 2-speed countershaft gear, all accessories; £32; cheap machine.

R.P.G.—Triumph and sidecar, 3-speed gear and clutch, all accessories; £48.

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SEVERAL 4h.p. Douglases and Triumphs, 1918-19, all renovated, re-enamelled and plated like new inside and out, and thoroughly tested, from £65 to £95 each; special price for the lot.—Box 2,904, c/o *The Motor Cycle*. [7674

2¾h.p. 2-speed Douglas, perfect, £55; another, fitted clutch, kick starter, new condition, £70; Baby Triumph, as new, £70; Triumph, 1903, N.S.U. 2-speed, £32, offers; 12h.p. Vulcan 2-seater, dickey, bargain, £260.—Wall, Aldenham Rd., Bushey. [7210

MOTOR Cycles (new models), sidecars, and bodies actually in stock: B.S.A., Allon, New Scale, Radco (3 models), Triumph, Douglas, Sun Vitesso (for which we are the sole agents for the City of London), and others at lowest manufacturers' prices; carriage paid.—Bancroftian Co., 64 and 78, Bishopsgate, London, E.C.2. [0356

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F.O.C.H. for new and second-hand cycles, combinations and runabouts, at low prices; inspection invited. Spot cash, or an exchange arranged for your present mount. Agents for Triumph, F.N., Zenith, B.S.A., A.J.S., etc., also Kingsbury, Citroen, Bleriot Whippet, and G.N. cars; any make supplied; cash or easy payments.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7792

BATCHELOR and Co., 36, Clarence St., Kingston-on-Thames (est. 1898), 'phone 1809, can supply from stock 1921 Triumph, chain drive, £140; 1921 Triumph, Model H, £127/10; 1921 Baby Triumph, £75; Triumph 4h.p. W.D.B., £95; 1921 Enfield 2-stroke, £65; 1921 Enfield 8h.p. combination, £160; 1921 Douglas, 3-speed, £100; 1921 Douglas, 2-speed, £85; 1921 Douglas, clutch, £105; 1921 Douglas combination, £170; 1921 Matchless combination, dynamo, £230; also 1921 Rover, Ariel, A.J.S. Allon, Bradbury, B.S.A. motor cycles; exchanges arranged. Montgomery sidecars, all models stocked; catalogue sent. [6334

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MOTOR Cycles, solo, Saturday to Monday, 42/6, one week, 85/-; combination, 52/6 and 115/-; write for further information.—Maudes', 100, Gt. Portland St., W.1. [8160

MOTOR ATTACHMENTS.

WALL Auto-Wheel, in good condition; bargain, £8. —Cowley, Lechlade, Gloucestershire. [7759

YOUNG Attachment and Cycle, almost new, licensed; £26/10.—Thomson, 85, Church Rd., Willesden. [7669

AUTO-WHEEL, 1919, good order and condition; £12/10.—Thomson, 85, Church Rd., Willesden. [7668

SIMPLEX Motor Attachment, 1h.p., for pedal cycle, new; £23, or offer.—Barford, Denmark Rd., Kingston-on-Thames. [7138

YOUNG Cycle Attachment, fitted to makers' own special cycle, new, tax paid.—Wain, Cotton Rd., Potters Bar. [7144

WALL Auto-Wheel and Gent.'s Cycle for sale, 1½ h.p., 140 m.p.g., splendid condition; £22, offers. —Apply after 7 or Sat. 2-5, Horvath, 15, Stanhope Rd., Highgate, N.6. [7228

TRICYCLES FOR SALE.

ARGSON Hand and Motor-propelled Tricycles, for invalid and disabled.—Particulars, Argson Eng. Co., Ltd., 3, Kendalls Mews, George St., W.1. [2647

ARIEL Tricycle, 3h.p., water-cooled head, mag., B.B. carburetter, 2 speeds, free engine, easy starter, licensed.—Letters, A., 133, South Norwood Hill, South Norwood. [6689

TRICARS FOR SALE.

TRICAR, 5h.p. Chater-Lea, water-cooled, perfect condition; £60.—58a, Gosberton Rd., Balham, S.W.12. [7540

CENTAUR Tricar, 4h.p., 2 speeds, free engine, chain drive, suit tradesman, good order; £20, or nearest. —Hall, Astage, Windlesham, Surrey. [8020

THOMPSON Brothers 1920 Tricar, 3-speed and reverse, Stewart speedometer, 4 disc wheels, insurance, run 600 miles, running perfectly; £250.—Warren, Chemist, Wareham. [8248

MOTOR SCOOTERS.

SKOOTAMOTA, 1920 model, new and unused; £48.—Hopkins, New St., Ledbury. [0538

A.B.C. Skootamota, practically new; 28 gns.—Street, 9, Edge Hill, Plumstead. [7137

KINGSBURY Scooter, nearly new; £20.—Clifford's Garage, Sidcup. 'Phone: 4. [7801

EGERTONS, Northgate, Ipswich, can deliver from stock A.B.C., Skootamotas, and Mobile Pups. [4863

A.B.C. Skootamota, 1920, only 50 miles; £35; as new. —G. G. Williams, Crowland, Peterborough. [X9777

A.B.C. Skootamota, 1920, only ridden 10 miles.—R.M.O., Derbyshire Sanatorium, Walton, Chesterfield. [7168

SCOOTER.—Coventry Stafford, with seat and electric light, not done 70 miles; £26.—170, Red Lane, Coventry. [X0009

1920 Kingsbury Scooter, as new, fitted seat; £28, offers.—Merifield, 15, Balmoral Rd., Kingston-on-Thames. [7139

1920 Autoped Scooter, with dynamo lighting; £25.—Stanleys, 173-4, Railway Approach, Shepherd's Bush, W.12. [8328

A.B.C. Skootamota, brand new, recently from works; £35, carriage paid.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X9947

AUTOPED, brand new, electrically equipped; £21.—Broughton Garage, Gt. Cheetham St. West, Higher Broughton, Manchester. [7605

AUTOPED Scooter, brand new, value 45 gns.; cash or exchange offers; Manchester.—4, Blantyre Av., Walkden, near Manchester. [8202

SKOOTAMOTA, A.B.C., late 1920, practically new, and hardly used, perfect order, fast; accept £30, bargain.—Heather, 83, London Rd., Bromley. [7447

SKOOTAMOTA, practically new, lady owner given up riding, new electric head, tail, and accumulator; £25.—Seen Boyne Works, behind Holland Park Tube. [7656

A.B.C. Skootamotas, brand new; special price, 38 gns.; delivered free anywhere in Great Britain at purchaser's risk.—Egertons, Northgate, Ipswich. 'Phone: 962. [4328

A.B.C. Skootamotas, brand new; 38 gns., list price £55; delivery free anywhere in Great Britain at purchaser's risk.—Howes and Sons, Ltd., Chapel Field, Norwich. [X9874

MOBILE Pup Scooters, with seats included, brand new, at special price, £28; delivered free anywhere in Great Britain at owner's risk.—Egertons, Northgate Ipswich. 'Phone: 962. [4329

AUTOPED Scooters.—Immediate delivery 1½h.p. 4-stroke engine, free engine clutch, and dynamo lighting, 1920 model, shop-soiled only; £25.—P. J. Evans, 81-91, John Bright St., Birmingham. [8152

HOODS, WIND SCREENS, ETC.

CAMBER.—Hoods, 50/-; wind screens, 27/6.—Bright and Hayles, 78, Church St., Camberwell. [3794

WIND Screen Easting, £4/10, new, unused; will take any useful accessory in part payment.—64, Bishopsgate, London. [0398

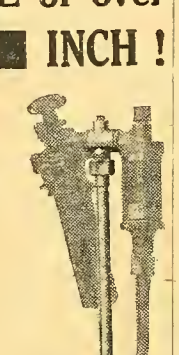
HOOD Materials.—Twill, sticks, celluloid, fittings, etc.; materials complete for re-cover, 14/9.—Henry Jones, 778, High Rd., Tottenham, London. [7408

AUSTER Triplex Adjustable Aero Type Wind Screen, overall size 13×7¾in., 15/- each, including carriage and packing.—George Cumming, 19, Rose St., Aberdeen. [3290

AUSTER Triplex Adjustable Aero Type Wind Screens, 12×6½, brand new, 8/6, post free, splendid value.—S. Lewis, 193, Upper Charlton St., Carburton St., W.1. [7287

AUSTER Triplex Glass Adjustable Aero Type Wind Screens, 12×6½, 10/6 each; electric test lamps, with wire, 2/-.—Bastone's, 228, Pentonville Rd., King's Cross, London, N.1. [2006

THE "BEST" MECHANICAL PUMP will deliver OIL at a PRESSURE of over 100 LBS. per ■ INCH!



Price **25/6**

PLUS COST OF FIXING AT ANY GARAGE.

Manufactured by :—

BEST & LLOYD, LTD., Handsworth, Birmingham.

"The pump has functioned quite correctly ever since fitting. I have run machine in a snowstorm after standing in the cold till the acetylene generators froze, and it made no difference to the oil supply."

Extract from testimonial.

BRAND NEW 1920 MACHINES.

NEW IMPERIAL-J.A.P., 8 h.p., twin ..	£127 10
BLACKBURNE, 4 h.p., 3-speed	£122 10
ZENITH, 8 h.p., clutch model	£140 0
DOUGLAS, 4 h.p., 3-speed, clutch	£112 10
ROYAL RUBY, spring frame, 3 h.p.	£95 0
INDIAN, 4½ h.p., 3-speed, spring frame .	£110 0
COVENTRY-EAGLE, 3½ h.p., 3-speed ..	£107 10
B.A.T., 6 h.p. twin, spring frame	£130 0
ROVER, 3½ h.p., 3-speed, chain drive ..	£130 0
N.U.T., Magdyno, 3½ h.p. twin	£150 0
ARIEL, 3½ h.p., 3-speed	£100 0
B.S.A., 4 h.p., T.T.	£90 0
IMP, 2-speed, 2-stroke	£65 0
O.K., 2-speed, 2-stroke	£55 0
JAMES, 2-speed, 2-stroke	£67 10
METRO-TYLER, 2-stroke	£50 0
TRIUMPH 4 h.p., 2-speed	£117 0

BRAND NEW 1921 MACHINES.

NEW IMPERIAL-J.A.P., 2¾ h.p., 2-speed, K.S., and clutch	£89 15
B.S.A., 4½ h.p., chain drive, 3-speed	£110 0

New **Autoped Scooter**, dynamo lighting . £15 0

BRAND NEW 1920 COMBINATIONS.

NEW IMPERIAL-J.A.P. 8 h.p. Com., 3-sp.	£167 10
MATCHLESS Comb., Magdyno, M.A.G.	£215 0
ZENITH Comb., 8 h.p., clutch model ..	£182 10
HAZLEWOOD Comb., 6 h.p. J.A.P. twin	£180 0
ROVER Combination, 5-6 h.p. twin J.A.P.	£185 0
B.A.T. Comb., 6 h.p., spring frame	£170 0
ROYAL RUBY Comb., 8 h.p., 3-speed ..	£130 0
LEA-FRANCIS Comb., 2½ h.p. twin.	£145 0

SECOND-HAND COMBINATIONS.

1919 **RUDGE MULTI** Comb., 5-6 h.p. ..	£115 0
1915 **INDIAN** Combination, 7-9 h.p.	£70 0

BRAND NEW 1921 COMBINATIONS.

TRIUMPH Comb., 4 h.p., chain drive ..	£195 0
ENFIELD Combination, 8 h.p.	£160 0
CLYNO Combination, 8 h.p., spring frame	£250 0

Trade supplied.

WANTED.—Good Second-hand Motor Cycles and Combinations.

Cash or Deferred Payments.

PERCY & CO.,
314—316, Euston Road, N.W.1
'Phone: Museum 1337.

BODIES.

VENUS Step Bodies are the best for old chass

VENUS Bulbous Bodies are roomy and very sma

VENUS Tandems hold 2 persons. Strong and but not unsightly. Get one.

VENUS Bodies are made in a factory and sup direct. Catalogue free.

VENUS Sidecar Co., 6-14, Gourley St., S. Totter

CLYNO C.B. Body, fair condition, roomy; room wanted.—197, Henley Rd., Ilford.

SIDECAR Body, coachbuilt, best quality; original £12/12.—64, Bishopsgate, London.

ENFIELD Sidecar Body for sale, or exchang seater.—219, Stanstead Rd., Forest Hill, S.E.

BARGAIN.—Extra light coachbuilt body, as door, wind screen; £5; evenings.—41, Mora S.W.9.

SIDECAR Body, Chater-Lea, underslung, screen, perfect; bargain, £7/15.—45, Charles Stepney.

ADJUSTABLE 2-seater Coach Body, new, u stered, wants painting; £3/17/6.—230, way Rd., N.

BULBOUS Back Bodies, fit old type chassis each; few only left; also other high-class b 8, Byron Rd., Harrow.

COACHBUILT Step Body, side doors, locker in needs slight repair; 30/-; after 6.—69a, Ha Rd., Clapham Common.

CAMBER.—Step bodies, bulbous, and tandem suit any machine.—Makers: Bright and H 78, Church St., Camberwell, London.

LUXURIOUS New Tandem Sidecar Body, adult child, 2 cockpits, wind screens; cost £25, off White, Newsagent, Cobham, Surrey.

PERFECTION Coachbuilt Sidecar Bodies, £6/15: new sidecar chassis, with wheel, £ —Motories, 25, Horton St., Halifax.

ROYAL Leicester Sidecar Bodies fit any chassis, class finish. Several bodies (new) to clear Write for designs.—The Willowbrook Co., Ma turers, Leicester.

SIDECAR Body Designs for the trade only. ing, coloured, pencil, or line drawings of ori designs, also working drawings, full-sized or to sc Cooper's Vehicle Journal, Ltd., established des to the coach trade for over 80 years. Consult us designing new ideas.—20, Tudor St., London, E.

SIDECAR ATTACHMENTS.

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FOR

SANDUM, the Smart Sidecar Specialists.

SANDUM Sidecars.—Best value in Olympia Sho

SANDUM Models.—The Exquisite £24/10, Sports £28/10, are of distinctive appearan

SANDUM Elite Sidecar, £28/10; the smartest car on the road; highly recommended in Motor Cycle."

SANDUM Duel Purpose Sidecar (patented). A or 2-seater sidecar as required in 5 seconds. of body as our single-seater Elite. Luxuriously fortable seating for 2 adults, with the weight in rect position over rear axle. Finished in colours t any make of machine, £45; bodies only, £2 The latest development of the 2-seater as designe us, and approved by the recognised experts.

SANDUM Featherweight Streamline Body, smar racy, weight 18 lbs.; price £4/17/6.

SANDHAM Engineering Co., Ltd., 336, Gray's Rd., W.C.1. 'Phone: Museum 3427. Facto 162 to 165, Pentonville Rd., N.; and Brit Works, Britannia St., W.C.

ALLEN-BENNETT Motor Co., Ltd.

SWAN Sports, all models, from £30; fittings f makes, including Henderson, Indian, Tri Douglas, Harley, etc. Some special shop-soiled bar

HENDERSON, all models, also some special soiled bargains.

MILLFORD, all models, also some special shop bargains.

BAICO, Indian, bulbous-back, list £45, our £38; Triumph fittings, £28.

MILLFORD, all models.

THE Alben, bulbous back, any colour, any fi from £25.—9, 10, 11, Royal Parade, West don. 'Phone: Croydon 2450.

P. and M. Sidecar, as new; £15.—33, Hackford Brixton, S.W.

SCOTT Sidecar, good condition; £15, or near 43, Estcourt Rd., Fulham.

THE MOTOR CYCLE

ESTABLISHED in 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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T.T. Preparations.

IN less than three months time the Tourist Trophy races will be won and events of the past. Already many firms have their experimental models well in hand, and those who are behind time would be well advised to snatch every available moment for testing purposes. Everything points to very keenly contested races, and since the events are being strongly supported by the manufacturers there is a likelihood of very fast times being made.

Last year's senior race was fought out between two or three well-known makes, but there were many notable absentees. In 1921, however, most of those firms whose names have figured prominently in pre-war races, and who owe much of their success to the island races, will be competing, whilst there will be newcomers of no mean import.

At least four of our best known manufacturers who have so far been wedded to side-by-side valve gear are giving the overhead type a trial, and it will be interesting to see whether their experiments bear fruit in the Isle of Man.

Two-strokes will figure largely in the junior event and 250 c.c. class, but they are not likely to carry all before them, since some very fast miniature four-strokes are already on the road. It is probable that stamina will be the deciding factor amongst the smaller machines, and it is this very factor which affects the buying public most.

Every year there are a few motor cyclists who voice the opinion that racing effects no direct benefit upon the touring machines, and yet it is hard to name a single prominent firm whose reputation has not been largely founded on racing successes, and whose products have not been improved by lessons learned on track and road events.

Apart from the sporting side of the Isle of Man races their technical value is enormous to any manufacturer who is genuinely on the look out for weak places in his production and their possible cure. Absolute reliability, the ability to maintain high speeds, perfect controllability and braking are essentials over the long and tortuous course, and who can say that these points are not, directly or indirectly, the essentials of a first-class touring mount?

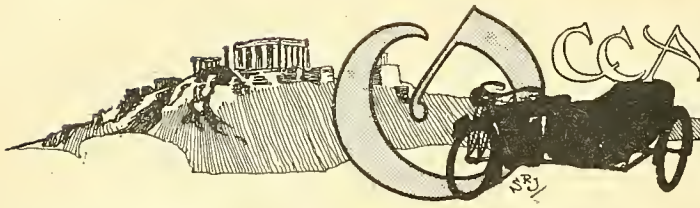
Speed Events.

THERE is every indication that the summer of 1921 will be eventful from the speedman's point of view. More than ever, manufacturers are realising the value—both from a publicity and an educative point of view—of successes in races or record-breaking. The large entries for the spring speed trials augur well for the more important events a little later on, and, no doubt, the thoughtful designer is appreciative of the assistance accruing from such events in producing his machines for the Tourist Trophy and Grand Prix races.

Around midsummer there is a galaxy of important races. In addition to the several meetings at Brooklands, where new racing mounts may be tried out, there will be the T.T., the 500 mile race for the Miller Gold Cup at Brooklands, and the Grand Prix in France, all within a period of five weeks. Probably the 500 mile race would have been more interesting had it been arranged to take place prior to the Isle of Man event, as it would have provided designers with valuable data which even the Tourist Trophy may not produce. 500 miles "all out" on Brooklands is a more severe engine test than the Isle of Man course, and any motor cycle capable of surviving such a trial would prove itself fit to undergo the gruelling of the T.T. On the other hand, it does not necessarily follow that the winner of a T.T. could survive the race for the Gold Cup.

Altogether, a most interesting season's racing is in sight, and the motor cycle movement must benefit by it by reason of the public interest which will be focussed upon such highly sporting events.

An index to the advertisements in this issue will be found on the page facing the back cover.



OCCASIONAL COMMENTS

BY 'IXION'

Do not Forget the Old Crocks.

MR. D. Elyard Brown, of the C.A.V. people, tells me he still has the single-geared 3½ h.p. Ormonde on which he secured a gold medal in the 1904 Edinburgh Run (the first of the historic series), being one of the twenty-two men in a field of forty-six who covered the distance inside twenty-four hours, and thereby confounded the prophets who denied that any 1904 machine could succeed. If I remember aright, he carried no fewer than four twenty ampère-hour eight-volt accumulators, and may probably claim to have been the first motor cyclist to use electric lighting regularly. I remember that in the same year his firm made me a metal box for my rear carrier, containing two Castle accumulators, which provided the ignition current and also illuminated a transparent rear number in the back panel of the case. These reminiscences inspire me to suggest that a number of the old-timers may still possess their ancient crocks, and that it would be rather fun if a special parade—or even a trial—were arranged during the summer for such machines. One of my most treasured possessions is a bound volume of the *Gazette*, which the M.C.C. circulated gratis amongst its members for a few years, commencing in March, 1903.

Did he Know?

THOSE readers who have scanned my disconnected prattle for any length of time will recognise that my nature is a lovable compound of logic and innocence. It let me down badly the other day. I was burbling gently over an atrocious road when I ran into the tail of the most gigantesque dustcloud ever encountered. It choked the narrow lanes from hedge to hedge. The summit of it ascended miles up into the blue empyrean. The vanguard of it disfigured the distant horizon. Says I to myself, says I, "Some oof-merchant on a 30-98 h.p. Vauxhall, full of champagne! I will loaf along leisurely until we emerge upon something like a road north of Exeter, and then I will encourage my A.B.C. to dally with him."

However, the route was long, and the dust titillated my larynx most unpleasantly, so it fell on a time that I strove mightily with the aforesaid oof-merchant, and penetrated into the very heart of his dustcloud. After a suffocating two miles I caught and passed him. The murk was too thick for me to identify his 'bus, but he was merely the very spit of Poy's John Citizen, seated at the helm of a quite tardy sidecar outfit with Mrs. Citizen dutifully beside him. The magnific dustcloud was solely ascribable to the fact that their luggage grid had sagged under two heavy suitcases, and was trailing along the road! I now wish I had paused to enquire whether the task of tucking up the tail of his grid had baffled his resources, or whether a rigid framed sidecar, on an execrable road, jolts so fiendishly that he did not know his luggage was filing down the humps between the potholes?

Kick-starters for Baby Two-strokes.

MY latest baby two-stroke has a kick-starter and free engine clutch. I incur much odium in consequence amongst hard riders. "Muff" and "mammie's darling" are two of the mildest epithets which such a specification provokes from the sort of fellow who rides a single-geared 7-9 h.p. As my excuses have a technical and commercial significance, I make them *coram populo*. There are two-strokes which, on occasion, commence to two-stroke in their garages. There are others—and there are occasions with the rest—when an engine of this type hesitates between two and four-stroking for a matter of a hundred yards or so after it is first started up from cold.

Now if there is a nasty little bit of 1 in 6 right outside your villa gate, and if your usual pillion passenger is a well-nourished person, do you not think it wise and right to ensure that the aforesaid hill shall be climbed under power at the first attempt? If so, the ability "to warm her up in free" is a *sine qua non*.

One might add that the fair sex are nowadays very interested in baby two-strokes, and that few of them love the jump mount. Wherefore any two-stroke maker on the lookout for the largest nett sales should list a kick-starter if only as an option.

Over-organised?

ON tour the other day, I ran over a pound of nails which some unscrupulous garage owner had presumably deposited in the roadway, until my back tyre resembled a hedgehog (spasm 1), and then a sieve (spasm 2). I used all my patches and solution, and finally struggled into a town, where I stopped at the kind of garage which reminds one of an R.E. base depot, so highly organised that the men can't chalk your cover without filling in a store ticket. Here I bought and fitted a new inner tube, arranging for the old one to be posted on to my destination for the night. Later in the day I ran over another pound of nails, and next morning I was eagerly awaiting the postman. He staggered up to the door stooping under a large parcel, which proved to contain six large char-à-banc size inner tubes. Next time I strike trouble I shall patronise the kind of garage which consists of an army hut dumped near a blind corner, when an ex-corporal of signals sits hungrily waiting for a collision in order that he may send his wife to the village store for a pound of margarine. I prefer personal attention to over-organisation. But I should like to have heard what the char-à-banc owner said when he received my 26 × 2½in. tube; my own verbosity was censored by the presence of my hostess on the doorstep.

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Making Smiles Grow.

I AM just home from watching some cracks—and others—contest a big trial. There is a lot of human nature to be trapped by the observant in such events. I collected several lumps at the freak hills. For example, I stationed myself at a hairpin of the double or meathook type, where the surface was of deep, wet loam, garnished with assorted boulders. What golfers call the "approach" consisted of a water-splash, beneath which lurked immemorial mud of unknown depth, whilst the double bend was excellently camouflaged by an innocent-looking shrub on the right. The first man up was a broth of a boy, who greeted the spectators massed on the footbridge with a friendly grin, opened his throttle, charged the splash like a champion hurdler, and evidently intended to impress his audience. He cast up a bow wave of extraordinary dimensions, accomplished a miraculous slither in the hidden mud, commenced the ascent with his near-side footrest leading, and finally scrabbled up the hill with much cavorting and foot-slogging, looking a sadder and a wiser man. No. 2 had more sense. As soon as he saw the water-splash, he went down into bottom gear, slowed down to a crawl, and ambled through very cautiously and not uncreditably. As he sighted the boulders sticking out of the loam like almonds in a cake, he pursed his lips, tightened his wrists, and commenced to ride very, very carefully. But his front wheel presently hit a big stone, and he disappeared muttering impious ejaculations. Nos. 3 and 4 were pals, who loved each other so dearly that it was their habit to ride with their handle grips all but touching from start to finish. Incredible to relate, they attempted to negotiate the aforesaid packet of trouble like Siamese twins. All went well till Joe found himself forced on to the more bouldery portion of the hairpin, whilst Jim was riding easily on a smooth, if greasy, rabbit track about four inches wide, and, moreover, had the wide side of the wickeder half of the meathook. Joe screamed lurid objurgations at Jim, who knew when he was well off, and neither accelerated nor cleared the delectable bit of the track. With an oath Joe plunged at the stony road centre, skidded, twisted, and rammed Jim's machine heavily in the region of the carburetter, unseating both men. I will not stain our meek pages by repeating what they said to each other. An age-long friendship was apparently shattered beyond repair. Presently there appeared a veteran trials rider: in other words, a small, cautious figure, with a cynical countenance, twinkling with the tired humour you may find in a very old man. He was well out by himself, having no fancy for close company when a wicked secretary is devising pitfalls for the unwary. He came along at a crawl, and attempted no stunts. Bottom gear in plenty of time, of course. Throttle right back. Legs, wrists, back, and thighs braced into trussed girders. Keen eyes performing prodigies of path-picking. He made no more bones of this find-a-winner corner than a novice makes of the Portsmouth Road on a summer afternoon. His front wheel never swerved, and his feet never wavered from the rests.

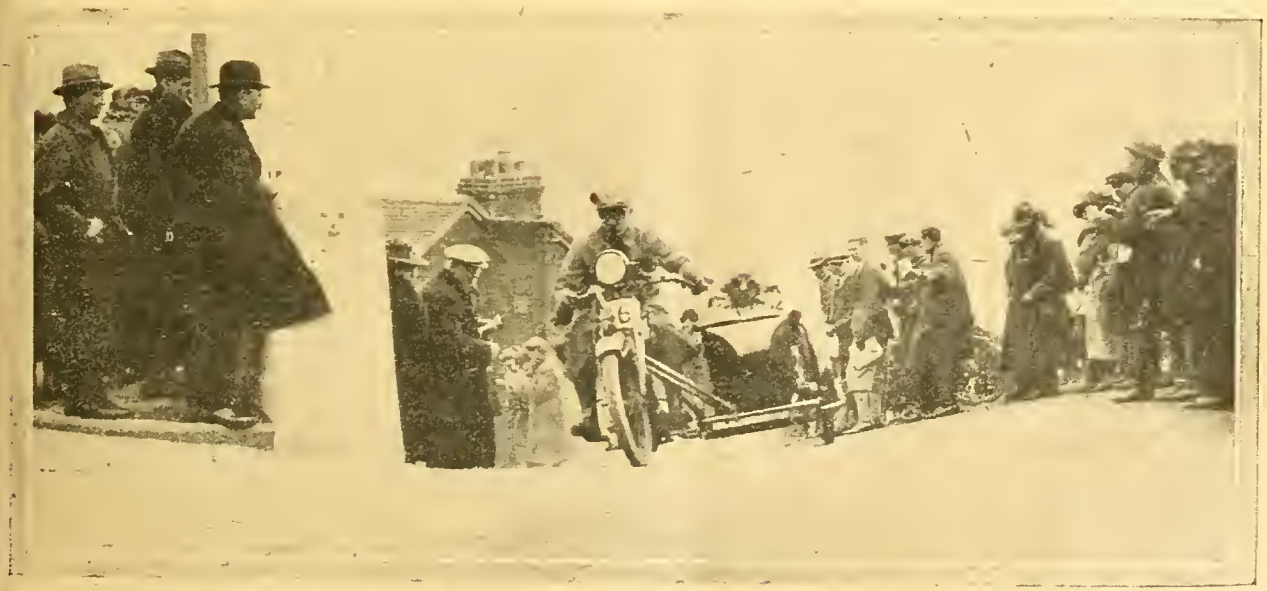
Where are the Scooters?

AGAIN I ask, where are the scooters? I don't mean the *fin de siècle* type with a 2¾ h.p. engine and two speeds, but the old originals, which were mass-produced (or so the advertisements said) with one cylinder about the size of the pots in which the revue girl buys her lipsalve. So far I have traced three, viz.:

No. 1.—Bought by a young artist during the boom. It wouldn't climb his drive, so he sold it *at a profit* to a sportsman who wanted to own the first scooter in Seaville, and finally dropped it off the pier at midnight in a huff.

Nos. 2 and 3.—Bought by a married couple, who live near the foot of Sutton Bank, and dislike walking. These are now rusting in a marine store. I think they were bartered for a job of grinding scissors.

Anyhow, *The Motor Cycle's* withers were unwrung, for we never believed in the little beasties, and frankly said so. Meanwhile, the lightweight is making good.



J. E. Greenwood, designer of the Sunbeam, piloting his 3½ h.p. sidecar over the crest of the Old Wyche in the Victory Cup Trial.



Single and Twin-cylinder Models with Three-speed Gears and All-chain Drive.

AFTER a long adherence to belt drive, the chain-driven Rudge machines are at last a fact.

A preliminary model was exhibited at last year's Olympia Show, but since then certain modifications, notably in the clutch design, have been carried out, and both single and twin-cylinder machines will shortly be available.

A few days ago a road test of the two models was undertaken, and we were particularly interested in the running of the single-cylinder machine, for of late it has not been so prominent in the competition world as of old on account of the narrow gear ratios, which placed the belt drive models at a disadvantage in modern freak-hill trials. The new three-speed chain-drive will no doubt bring the excellent 3½ h.p. single Rudge engine once more into the forefront of trials winners—a position which it justly merits.

SPECIFICATION.

ENGINES: Rudge single, 85 × 88 mm. (499 c.c.); twin 85 × 88 mm. (998 c.c.), overhead inlet valves.

GEAR BOX: Rudge three-speed, constant mesh.

CLUTCH: Ferodo and steel plates on engine-shaft, hand controlled.

TRANSMISSION: ⅝ × ⅜in. chains, front enclosed

WHEELS: 650 × 65 mm., interchangeable.

LUBRICATION: Heel-operated oil pump

Briefly, the machine closely resembles former Rudge models, for the engine, forks, and frame are of the same type as those used on the I.O.M. multi machines. The rear portion of the frame (*i.e.*, chain stays, back stays, etc.), is detachable, and has a special bracket to carry the new Rudge three-speed gear box. Instead of hanging the box from the bracket by means of vertical studs, the bracket itself is of channel section, and the walls of the channel have longitudinal slots through which pass two horizontal bolts in the top of the gear box casting. An eccentric on the top of the bracket meshes with a suitable recess in the upper surface of the box, so that its rotation slides the box to or from the engine as required for purposes of chain adjustment.

Gear control is obtained by means of a long lever mounted on the top of the gear box; the mounting embodies a quadrant with a spring plunger device on the lever for locating the latter in the required positions, while a gate is fitted beside the tank to facilitate gear changing.

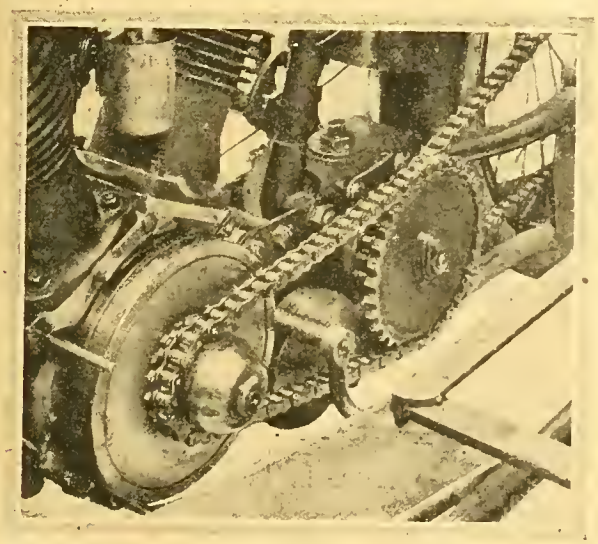
Chains of ⅝in. pitch × ⅜in. width are used throughout, and the clutch, which is located on the engine-shaft, has four large diameter plates, two of steel and two with Ferodo inserts; the clutch is controlled from the handle-bar, and is sensitive in operation. Covering the clutch, the front chain, and the countershaft sprocket is a large aluminium cover, which, like the crank case, is a smooth casting with no excrescences, the whole being easily cleaned.

The above remarks apply almost equally to the 7-9 h.p. twin-cylinder model. Both machines are

Road Tests of New Models.—

equipped with the same transmission, and only minor differences, such as the use of Lucas Magdyno on the twin and an M-L Maglita on the single, were noticed; the single also was burdened with an unduly heavy sidecar.

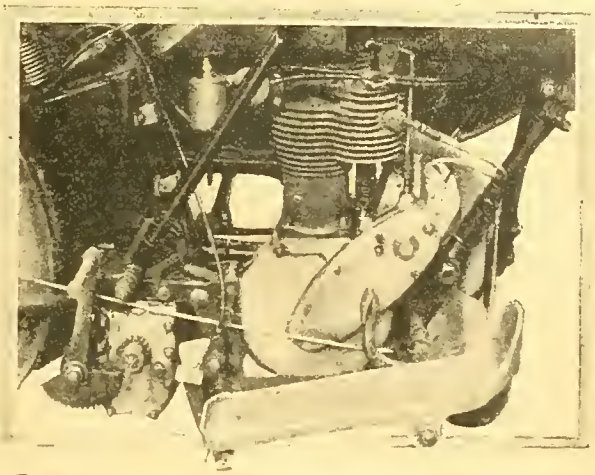
Actually under way, it was found that the engine was capable of a fair turn of speed, but, owing to a high top gear (4½ to 1), the 1 in 9 gradient was just too much without changing down to second.



In place of the more conventional location on the countershaft, the fabric and metal plate clutch is mounted on the engine-shaft.

In view of the fact that the engine is of 499 c.c. capacity only, the performance generally was good, and we must admit that all through, our impression was that the machine was of the new more common 500-600 c.c. class.

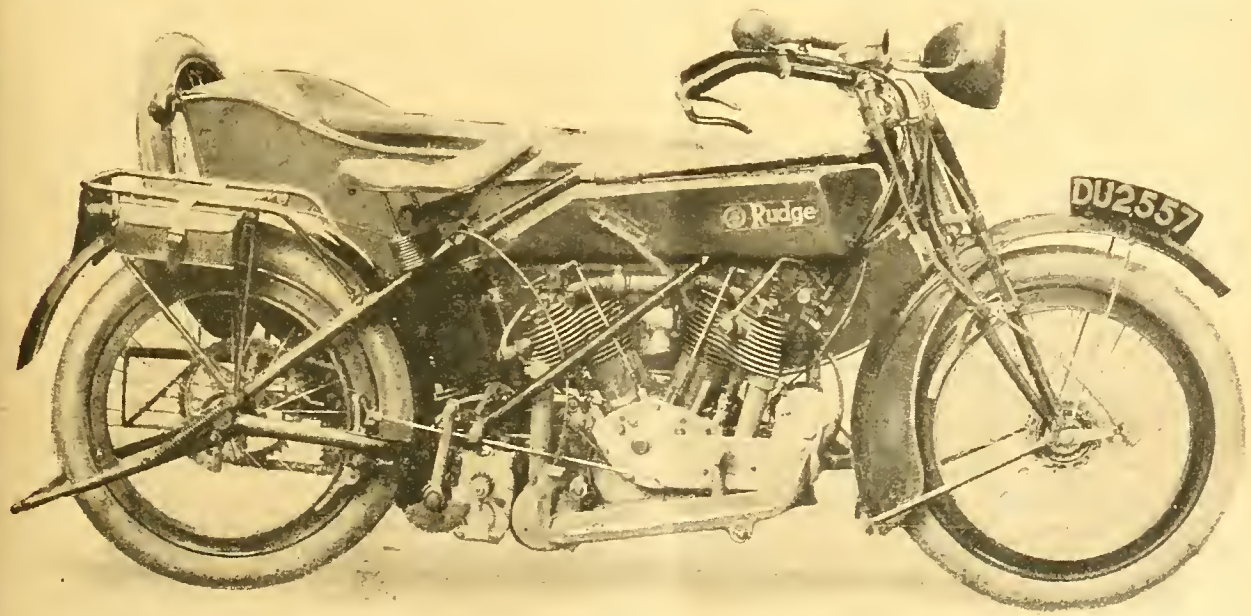
In general, the machine, regarded as an outfit, is comfortable and easy to handle, the low riding position, combined with moderately wide handle-bars and large footboards, allowing an easy attitude. The



Engine and gear units of the single-cylinder model. Observe the kick-starter and the heel pedal for the oil pump.

only foot controls are both situated on the right footboard, the near brake pedal being at the front, while behind, and convenient to the heel, is the oil pump pedal, the oil tank being carried on the saddle tube as in usual Rudge practice.

Changing over from the single to the twin, we found a remarkable difference in speed and power, as was only to be expected with an engine of twice the capacity. With a high top gear the big engine trickles along at 20 m.p.h. in the easiest way imaginable, while its all-out speed with a sidecar is rather exhilarating, to say the least; rushing over half a mile of 1 in 9, the speed never dropped below 37 m.p.h., even at the summit, and would have been still higher



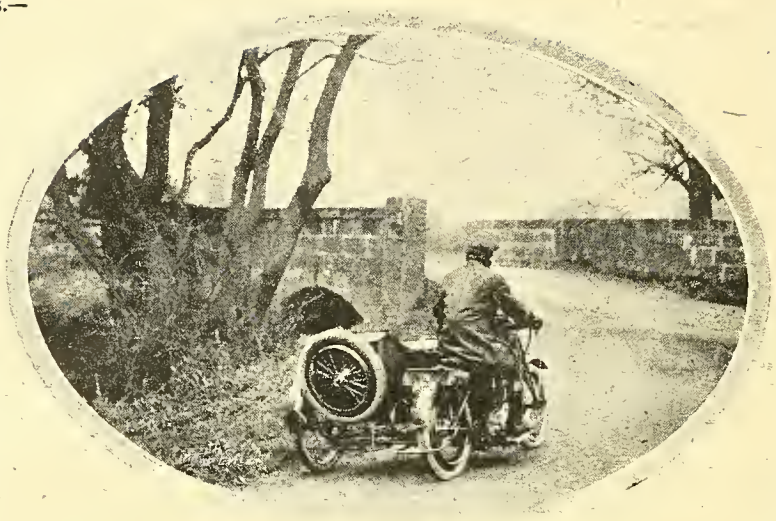
The three-speed chain-driven 7-9 h.p. twin Rudge with interchangeable wheels. A 3½ h.p. single-cylinder model with similar specification is also being made.

Road Tests of New Models.—

if the whole outfit had not bounced on the rough surface and so lost speed.

With a really fast machine powerful and smooth-acting brakes are a *sine qua non*, and the flat Ferodo-faced slipper type used on both front and rear wheels of the Rudge are excellent, especially in their smoothness of operation. Two points only call for criticism—the first is that the twin-cylinder engine is by no means silent in operation; while the second, applicable to both models, is the lack of guarding for the rear chain. In all other respects, however, the machines will most certainly take a front rank, and we look forward to their successful participation in the 1921 trials.

Although our test was primarily connected with the machine, a word of praise for the springing of the Rudge sidecar must not be omitted



Detachable and interchangeable wheels are used on the chain-driven Rudge models.

FUEL ECONOMY—IS YOUR GEAR TOO HIGH?

THE considerable increase in petrol consumption due to raising the gear ratio of a motor cycle is only appreciated by those who have experimented in this direction. A well-known carburetter manufacturer recently gave us several examples of a falling off of good consumption figures through raising the gear. One firm of motor cycle makers, he informed us, had obtained very good results one year, but with the same engine and machine there was a considerable falling off the next. It was found that the gear ratio had been raised, and as soon as the original ratio was reverted to the former low consumption was obtained.

In another case it was found that 28in. instead of 26in. wheels were being used, without alteration to the gear ratio to counteract the effect of the larger wheels. [This effect, by the way, is greater than might appear at a glance: actually it means a 7½% higher "gear."]

We recall a test made by a prominent firm with two "big twin" outfits regarding the gear ratio of which two of the technical staff could not agree. Identical in every respect, excepting gear ratio, with the same load, the two machines were sent over a 100 mile course side-by-side. The machine with a 5 to 1 top gear was infinitely better than its companion on 4 to 1.

MUDGUARDING AND LARGE TYRES.

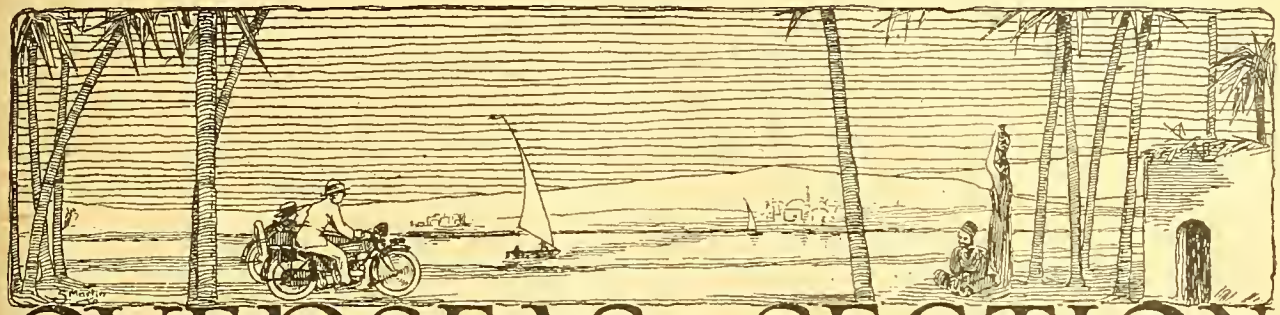
IT seems to me that the enthusiastic advocates of large wheels and tyres purposely ignore one important point—the mud and dust proposition. The gentry who ride huge twins solo, and who, perhaps, are particularly to the fore in stating their views—personally, I have just finished riding solo the hugest twin purchasable—do not, as a rule, care though they get as muddy as the bed of the Mississippi, or, rather, they are prepared to accept as much mud as happens to be thrown at them in return for the unquestionable advantages of the breed.

Now, in all conscience, the ordinary run of British motor cycle, equipped with 26 × 2½in. tyres, is muddy enough for most people, but I never realised what difficulties are in the way of the mudguard specialist till I owned my present sidecar outfit—a heavy affair of 10 h.p., equipped with 28 × 3in. tyres. These tyres make an immense trough on the road surface, and the outfit, accelerating up to 48 m.p.h. without effort, fills the vacuum in its wake with minute particles of road surface, be it dust, mud, or water. This rearguard of minute particles attaches itself to the rear of the rider and his passenger, and nothing will keep it out. Leg shields are essential, for without them the rider on a wet day becomes literally saturated with liquid mud up to the shoulders—no exaggeration. The shields, however, increase the area of the vacuum in the rear, and though they defend one from frontal attack, they tend to supplement the force of the rear assault.

I am aware that a great many sidecar outfits are not such mud-slingers as my present mount, but my experience is that a fast machine having big tyres is about the filthiest type of mount one can have.

I put the blame of the mud slinging capabilities of my present machine entirely on the huge tyres, as the mudguarding has been considerably improved. The size of the wheels does not matter, but if we increase the width of the road tread we at once increase the greatest drawback to the existing type of sidecar outfit—mud! The force at which mud is ejected from under the tread must increase enormously with every millimetre of width of tread, and, whereas a 2in. tyre throws out a comparatively limpid splash, a 2½in. tyre hurls out a high pressure fountain, while a 3in. tyre blasts forth a mud stream equivalent to shot from a blunderbuss.

CHINOOK.



OVERSEAS SECTION

A Commentary based upon Practical Experience and a Study of Overseas Opinions.

Oversize Tyres. YEAR by year larger, or "oversize," tyres are coming slowly into their own on British machines. In section and in diameter, present-day standards have increased greatly on what was ample in pre-war times. This is all very much to the good, for the higher average speeds attained by more efficient engines are made possible without a corresponding increase in road discomfort. Indeed, it is considered by some that the super-diameter tyre of the distant future may prove a simple and efficient solution of the rear springing problem. But the point we wish to emphasise here is that, big and "fat" as are the tyres on 1921 mounts, there are many cases where they might be even larger yet. Hard riders in the Home Country recognise this, and either specify or themselves fit "oversize" tyres (in its literal sense). For example, on 26 × 2¼in. standard rims it is becoming quite popular to fit 28 × 3in. tyres, which in conjunction with security bolts have been found entirely satisfactory. For the other common size of British rim, 26 × 2½in., there are, of course, specially made 26 × 3 × 2½in. covers, with which, however, security bolts are unnecessary. Readers carrying out either of these conversions should remember that they both automatically raise the "gear" of the machine, although the actual engine-sprocket to wheel revolution ratio remains unaltered.

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Australia and International Records. SPEED events, on road and track, are immensely popular in Australia, and this development combined with a preponderance of solo big twins has resulted in some very fast times being recorded there over various measured distances. Electrical timing at these events is the rule rather than the exception and, quite justifiably, our Australian friends wish to know if their records are eligible for consideration as *world's records*. For the benefit of several correspondents we may, briefly, make the present position clear.

In addition to approval of the record by the Federation of International Motor Cyclists it is necessary that the attempt be measured and timed by a representative of that body or of an approved affiliated club. The F.I.C.M. has laid down exhaustive regulations governing attempts on international times, including, of course, the two-way "mean speed" stipulation regarding all short distance times, but there are no limitations regarding locality such as imagined by one of our overseas readers, who recently asked if, "to create a world's record, the ride must be made at Brooklands? No; to have a motor cycle record considered for international honours, be it made on a beach in South Australia or a dirt-track in Canada, it is only necessary to comply with the requirements, and to obtain the approval of the F.I.C.M.

Mr. T. W. Loughborough, 83, Pall Mall, London, W.1. is the general secretary of the Federation.

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In the Wilds! So many of our readers send us terrifying reports of "roads" that are not roads, of hills that are unclimbable, and of various other conditions that do not make for pleasurable riding in the out-of-the-way corners of the world, that one might well pause and consider if the game is worth the candle in such circumstances. Even without allowing for a certain amount of, possibly unintentional, exaggeration (for these selfsame Jeremiahs generally acknowledge that they still own and use motor cycles!), there is a brighter side to the use of a motor cycle in the wilds. To the legislation-smitten and taxation-harried rider in more "civilised" realms, the lot of the pioneer country motor cyclist is indeed a happy one. There being few or no motor laws, the police, if any, have no terrors for him; natural conditions only limit his speed, and the design of his engine the noise he may make. He knows not the worry of nursing a rear light through an anti-motoring district; if the almanac permits he may even dispense with his head lamp and cruise along in the silvery moonlight. Increased taxation and licence holders do not interest him; in some cases he may be able to allot himself registration numbers, or else dispense with them altogether. Finally, however atrocious his roads, there are no tramways!

A Selection of Letters from Readers scattered all over the World.

British, American, and German Motors in Ceylon.

MR. G. W. MOTLEY echoes briefly the general sentiment of the majority of our overseas readers. The German circular to which he refers is an "Invitation to the Leipzig Fair," printed mainly in English. He writes:

"British manufacturers might be interested to know that I have received the enclosed German circular, which, although it does not deal with the motor cycle trade, shows that Germany is again trying to get trade back.

"A German Adler car has already been imported into the island.

"I and many others would like to see British cycles and cars replace the hundreds of Americans which are on the road here."

Overseas Section.—

Show Criticism from New Zealand.

From Wellington, New Zealand, comes the following criticism of cycle cars at the last Show. "BANISHED," as our correspondent signs himself, to be in the fashion also appends an ideal specification:

"Possibly a few notes from this distant corner of the motor cycling world may be of interest to your readers. Naturally, one sees very little of recent developments here, and one relies entirely on your entertaining paper for being kept up to date.

"The long-looked-for Show numbers have just arrived, and I cannot help being struck by the over-development of the illogical sidecar outfit and also the odd mentality of those who design three-wheeled runabouts. They seem quite incapable of grasping these apparent facts:

"1. A 550 to 750 c.c air-cooled engine has been *proved* to be capable of taking two people over any ordinary roads with comfort and economy.

"2. The driver would like his seat arranged so that he may share the passenger's comfort.

"Surely it is possible to embody the good points of a sidecar outfit in a three-wheeled chassis, borrowing a few odd fitments from car practice. It seems necessary, however, to resort to *(a)* bigger engines, *(b)* water cooling, and *(c)* excessive weight. One or more of these points seem to apply to the three-wheelers at the Show.

"One is tempted to ask whether the Scott Sociable offers a better fuel consumption than the G.N., which certainly beats it on price, appearance, and speed? By the way, how does one *clean* the chassis?

"I will not comment on the five-wheeler on show, except to suggest that having bought five wheels one might with advantage ride on four of them. For the rest, designers seem to have solved their difficulties by taking a four-wheeler, lopping off one wheel, and making a small—a very small—price allowance on account of it.

"Price would appear to be a comparatively small point, however, to most riders *if* the right sort of value is offered. This value, I suggest, should be lightness, high efficiency, and slow depreciation. An extra £50 on the purchase price costs in interest only, say, £4 per annum. Slow depreciation and an engine which runs on a whiff of petrol are cheap at any price. It is the *annual* cost which matters.

"Not being an engineer, I put forward the following suggested specification with all diffidence:

"1. Air-cooled engine to taste, lively and economical, say, 6 h.p. flat twin.

"2. Four-speed gear or three-speed and reverse to taste, integral with power unit.

"3. Morgan chassis.

"4. F.N. drive.

"5. Cotay disc wheels, made interchangeable on the Sunbeam plan.

"6. Electric light. Option of dynamo.

"7. Comfortable, but not luxurious body. Plenty of luggage space. Spare wheel.

"8. Cost £200 to £250, but not to be built to a price."

In Cyprus.

"Where roads are a luxury," is how "CITIUM" describes Cyprus. His views on the ideal overseas machine have therefore been formulated accordingly:

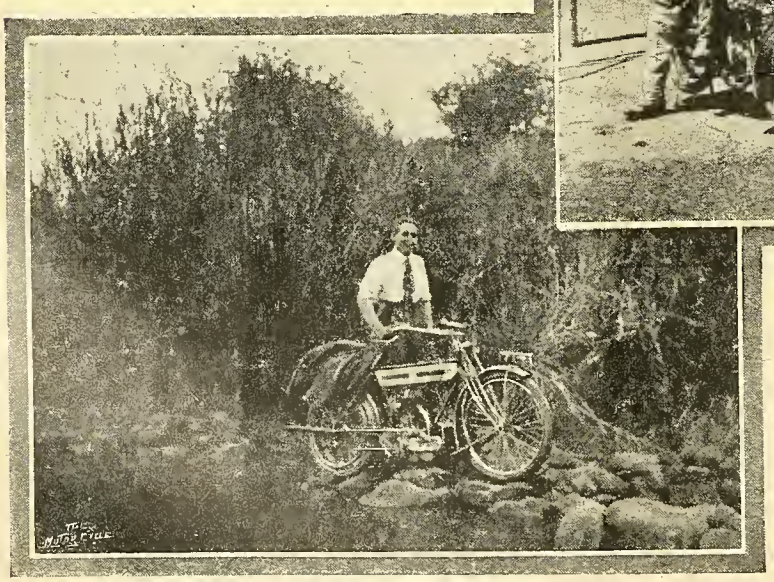
"I am a Colonial and wish to express (if I may) my views on motor cycles in a country where roads are a luxury.

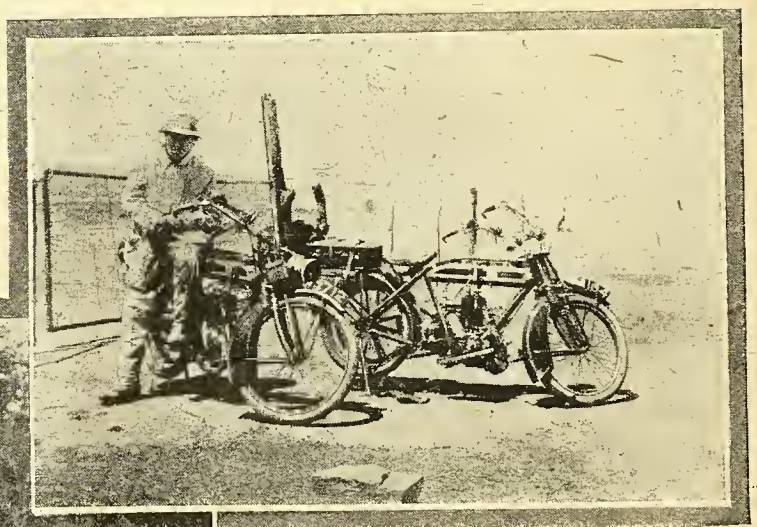
"First and foremost, I consider a heavy machine much more suitable for this sort of work than a lightweight. With a lightweight you may run along O.K. till you come to a really rough road. After you have done a couple of miles of this you wish your machine was made of solid lead. Of course when I say a rough road I mean a rough road. It wouldn't be called a road at all in England, but we have to because the map says it is so.

"So I choose a heavyweight. Now my machine, although being a heavyweight, must be very well sprung. When building a machine for Colonial use, manufacturers should consider springing a prime factor.

"After bad roads, the next monster we have to contend with is mud. One often comes across a long stretch of road which is covered with a sort of silica clay, lovely in the summer but a terror in the winter. Apart from slipping and sliding all over the place, the mudguards are bound to get choked up within the first hundred yards. I have now fixed my front mudguard in such a way that I can easily take it off at the first signs of this clay. Of course I get a lump of mud, the size of a cottage loaf, deposited on and around my magneto, but that's taken off with greater ease than when jammed between tyre and mudguard. The chief collecting centre seems to be the front fork. There is never enough clearance between tyre and fork, which, I think, should have, at least, 1½in. on each side.

"The next point is, of course, plenty of ground clearance. A machine with its engine too low will soon 'go west.'"

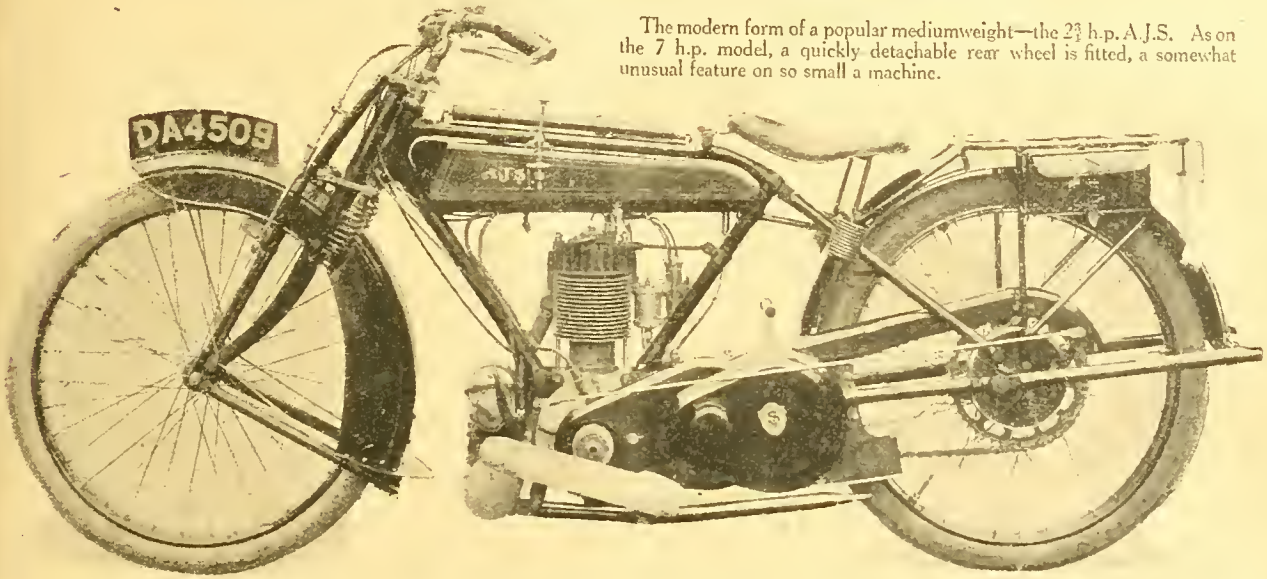




Although thousands of motor cycles are being exported, old type machines are still serving riders overseas. Here are Premiers and an old Triumph which are still doing good work on the Veldt—a country, too, where garages are few and far between.

A Medium-powered Three-speed Solo Mount.

The 2¾ h.p. A.J.S. Reintroduced with Many Refinements.



The modern form of a popular mediumweight—the 2¾ h.p. A.J.S. As on the 7 h.p. model, a quickly detachable rear wheel is fitted, a somewhat unusual feature on so small a machine.

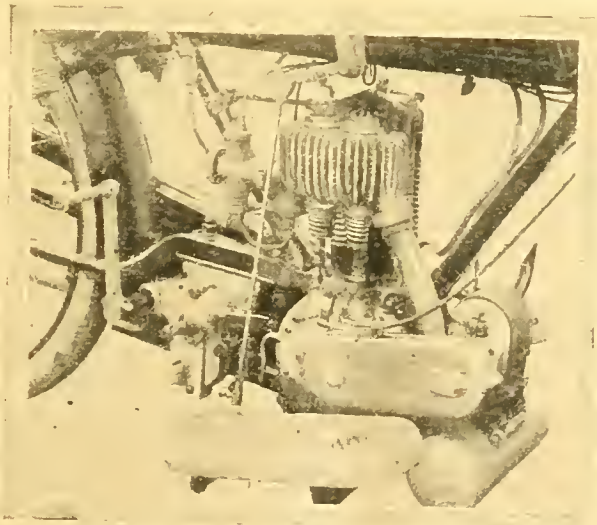
THOUGH mainly associated with sidecar machines, the magic letters A.J.S. have figured largely in all speed events since last spring. The overhead valve 2¾ h.p. type which won the 1920 Junior T.T. has earned a wonderful reputation for speed, and was the first motor cycle of under 350 c.c. to accomplish a speed of 80 m.p.h.

Many of our readers also will remember the highly successful pre-war 2¾ h.p. A.J.S., and it is this machine, incorporating all the refinements acquired by experience in other fields, which is now being introduced to the public.

Roller Bearings.

The engine, a single-cylinder of 74×81 (349 c.c.), is a typical A.J.S. production, and closely resembles half a 7 h.p. engine. A detachable head is, of course, retained, and the clamping bar is fixed to a "steady" bolted to the saddle tube. Roller bearings are used throughout the crankshaft; and the back of the magneto chain case is cast with the timing gear cover plate.

Chain drive is employed throughout, a three-speed gear box with dry plate clutch and powerful kick-starter being neatly housed in the bottom bracket. Incidentally, this gear box is provided with a screw adjustment for chain tension of sensible proportions. A simple coil spring shock absorber is fitted on the engine shaft.



The cylinder dimensions of the new A.J.S. lightweight engine are 74×81 mm. (349 c.c.). Note the "steady" to the cylinder head.

The frame is a neat and very sturdy piece of work, the top tube being slightly sloped and dropped at the rear end. Contrary to the practice employed on the 7 h.p. model, the tank is not of the saddle type. Druid forks and a saddle pivoted to the top tube and supported from the carrier are used. The finish is excellent.

Weather Protection.

Both front and rear mudguards are sensibly proportioned, and the former is widely splayed behind the forks so as to provide ample protection. The front chain is almost completely enclosed, and the rear chain is protected over the top run, while the lower run is shielded from any mud which might drop from the tyre.

Footboards covered with thick rubber pads and a silencer which is both large and efficient complete a very workmanlike specification, and we feel sure that the 2¾ h.p. A.J.S. in its latest form will fill the very large demand for a well-made "go anywhere" medium-powered machine.

A short run round convinced us that its capabilities do not fall short of its appearance, but we will defer further comment till we have thoroughly tried out the new model on the road.

ROAD CONDITIONS.

THE A.A. has issued a series of maps showing roads particularly to be avoided, and, in some cases, alternative routes. It is emphasised that these maps do not show every road in poor condition.

Under the classification of "Roads to be Avoided" are the following:

NORTH-WESTERN COUNTIES.—Kendal to Shap (first eight miles), Kendal to Kirkby Lonsdale,—Doncaster to Boroughbridge, Pocklington to Beverley, Doncaster to Barnsley.

NORTH-EASTERN COUNTIES.—Newcastle to Brampton, Newcastle to Otterburn.

MIDLAND COUNTIES.—Northwich to Holmes Chapel, Northwich to Warrington, Birmingham to Wolverhampton, Coventry to Nuneaton.

EASTERN COUNTIES.—Downham Market to Ely, Downham Market to King's Lynn, Norwich to Bungay.

WESTERN COUNTIES.—Bath to Radstock, Bath to Chippenham (first six miles), Yeovil to Shaftesbury, Shaftesbury to Wilton, Barnstaple to Ilfracombe.

HOME COUNTIES.—Chelmsford to Burnham, Colchester to Mersea, Hastings to Eastbourne.

In Scotland, Argyllshire, Caithness and Sutherland possess a majority of bad roads; while around Stirling, also, practically every route is out of condition.

CAR PRACTICE OR SIMPLICITY.

Will the Future Motor Cycle be fitted with a Body? Idealism and Practicability again Discussed.

AS to whether the motor cycle of the future will reveal that its designers have followed car practice in order to improve them is a question only time can answer. At the moment, however, much interest is focussed on this point as a result of the controversy which has appeared in these pages, and which was opened by a critic's survey of the motor cycles at the last Olympia Show.

It will be recalled that this writer suggested that present-day motor cycles could be improved by the embodiment of car features. Recognising the dangers of over development we qualified his plea, because price is a question of paramount importance with a motor cycle, therefore simplicity should be a more useful objective than elaboration.

CAR DESIGN AND THE MOTOR CYCLE.

That eminently representative, and always interesting, journal *The Motor Cycle*, to which, let me say, the movement owes a tremendous debt of gratitude, did me the honour of dealing at considerable length with a contribution (under the above heading) to *The Times* a week or two ago. That this journal and myself are at variance upon certain relatively trifling details was only to be expected, but upon the main points at issue I believe we see eye to eye.

At all events, the article in question is one with the spirit of which I am in entire agreement, though it contains certain contentious material which, I think, would be all the better for being thrashed out. Thus, for instance, when I was so bold as to enter the controversy, I wrote: ". . . as a vehicle for the transport of passengers, it (the motor cycle) is so obviously less highly developed than a car. The mere fact that the motor cycle demands special clothing is a case in point."

In reply to this, *The Motor Cycle* said: "We do not agree that this is a case in point. To render a motor cyclist immune from the inconveniences of mud does not necessarily mean following car practice. In the majority of cases, the special clothing mentioned is necessary to protect the rider from the wind and cold rather than the mud. . . . This vital point (making motor cycles weatherproof) is hardly relevant to the question as to whether motor cycles should follow car practice."

Weather Protection Essential.

Now, with submission, I maintain that it is very relevant indeed, and I propose to base my argument upon two facts. In the first place, when motor cars were at a very early stage of their development, they were, so far as wind and weather were concerned, in much the same case as the motor cycle of to-day. Some of my earlier experiences were gained in cars that boasted neither body sides, nor hoods, nor screens—and bitterly uncomfortable they were. For all practical purposes a squab seat, when utterly exposed to the elements, is neither more nor less luxurious than a saddle.

Car manufacturers were not slow to see that if their products were to have an extended vogue, something better had got to be done, and it will be remembered that, once this realisation had been made, the evolution of windscreens and high-flanked bodies was amazingly rapid, and that, incidentally, the popular demand for cars (*i.e.*, from buyers who were not technicians in the least) grew in proportion.

I hold that the type of sidecar which is now deservedly popular materialises the direct influence of car design. Long after car bodies had become commonly equipped with high side doors, and hoods, and screens, the typical sidecar remained a thing of basket work, with no better protection for its passenger than a thin apron of American cloth. To-day it is modelled deliberately upon the latest thing in torpedo touring bodies.

While the car has many qualities which the motor cycle designer should set as standards to attain, motor cyclists are inclined to the opinion that it does not follow that car design must be copied.

The Times correspondent on motoring matters entered the controversy with a long contribution to that newspaper criticising the motor cyclists' view, and in a recent issue we reviewed these comments.

We confined our remarks to the question of following car practice, and the term apparently has been more widely interpreted by *The Times* correspondent, who now replies with the following contribution, from which it will be seen that means for weather-proofing are regarded as car practice, whereas the original critic confined himself to the mechanical elements.

By the Writer of "The Times" Article.

Surely this cannot be an accident! Just as the old-time motorist demanded something more convenient than leather clothing to protect himself from "wind and cold," so I am confident will the motor cyclist of the future; and it seems clear to me that in that case car practice *must* be followed in the solution of the problem.

Another point upon which *The Motor Cycle* took me to task was my statement that "the two-wheeler is more often found in trouble by the side of the road than is the ordinary car." My critic said that the inference as to the unreliability of the motor cycle was erroneous, and went on: "Actual breakdowns are really few and far between, and roadside adjustments come under several headings. First, the motor cyclist is prone to 'tinker'—it is part of the game."

Appealing to the Non-mechanical.

It is unnecessary for me to quote further, for this sentence lays bare the whole root of the matter. One of the reasons I advocated a closer study of car principles of design on the part of the motor cycle producer is because he is too ready to see in the "tinkerer" the whole of his *clientèle*. Tens of thousands of potential motor cyclists are frightened away by the mere idea of "tinkering." To them it is not "part of the game" at all, more than that they regard the motor cycle, not as a pastime in the least, but a possibly valuable form of mechanical transport giving train-like service at command.

To reach this class of buyer, designers must exercise their psychological faculties. They must hide the forbidding complications which it is undesirable should be seen. *The Motor Cycle* knows as well as I do that, in beginning to go in for "simple externals," many makers are already following fundamentally "car" practice. It will also recollect that at one time the mechanical economy of the four-wheeler was also exposed to view. Does it seriously suggest that the car would be what it is to-day if this ingenuousness had been persisted in? When *The Motor Cycle* said, "Because certain features are embodied in a car is no criterion that they will improve the motor cycle," I agree heartily with it, for I have never advanced any such preposterous argument. On the other hand, it will, I am sure, concede that gear boxes and leaf spring suspensions are entitled to be called "improvements," even although they may cost money. What I have all along represented is merely that car ideals should be regarded more attentively by those whose responsibility it is to develop the motor cycle. One of the most useful of those ideals is the production of something which will appeal as much to the non-technical mind as to that of the engineer, and I uphold the basic ideas of car design for the motor cycle on the ground that the "ignorant but interested" outnumber the "enthusiastic and instructed" by twenty to one at the very least. The former should be catered for far more than they are at present.

TRIALS ARE POPULAR!

The support accorded the 1921 trials augurs well for this year's large programme. Scenes such as these will be witnessed every week-end for many months to come.

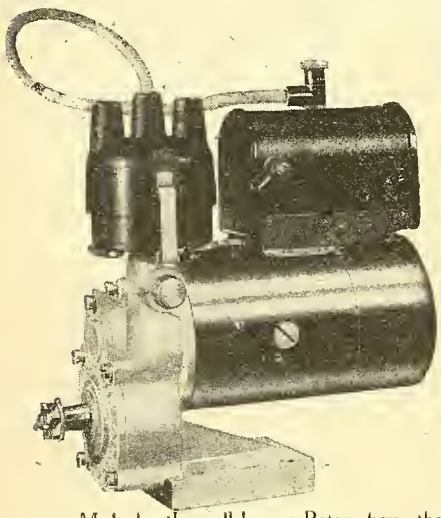


Scenes on well-known trials routes in the Midlands.

Dynamo-battery Lighting and Ignition.

A Description of the Rotax Igdyno Set, which eliminates the High-tension Magneto.

WHEN the magneto came into general use about the year 1907 it seemed that the battery system was killed for good and all; and so it was in its original form. Of late, however, especially in the car world, the battery system of ignition has received a new lease of life. The new method of application is very different from the old accumulator arrangement, as the current is all the time passing from the dynamo through the accumulator and keeping it up to its



Made by the well-known Rotax firm, the Igdyno lighting and ignition unit (twin-cylinder model).

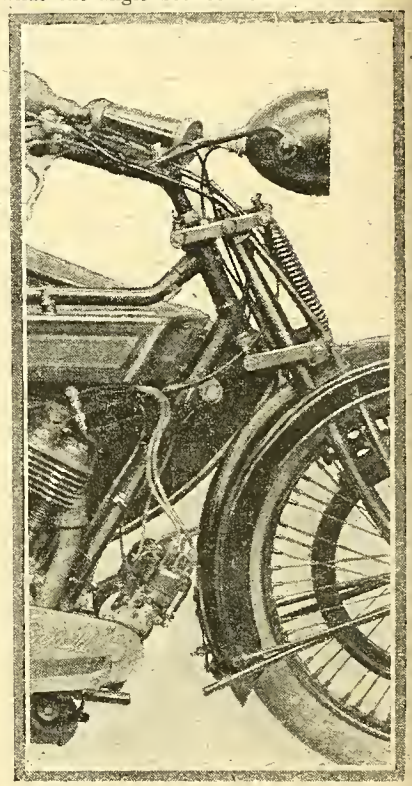
work. Moreover, wiring and terminals have been improved, to say nothing of improvements in the battery. Certain American motor cycles are also fitted with accumulator ignition in conjunction with dynamo lighting sets.

The Rotax Igdyno (made by the Rotax Motor Accessories Co., Ltd., Rotax Works, Willesden Junction, London, N.W.10) is the first British outfit of this nature to appear on the market. It consists of a dynamo, high-tension coil, and a distributer incorporating a low-tension contact breaker. The particular pattern under review will bolt on to a magneto platform, and can be driven by the same method as the magneto. The dynamo is geared up from the driving shaft so as to rotate at its correct speed, while the distributer is geared down again by means of skew gearing. The remainder of the outfit consists of a six volt accumulator, a switchbox including fuse, a head lamp, side lamp, tail lamp, and ignition switch.

Advantages.

Current is supplied to the battery all the time the machine is running when the switch is placed in the charging position, and when the lamps are alight. From the battery also current is taken to the stationary high-tension coil mounted on the top of the dynamo, passing through a contact breaker on the way. High-tension current from the coil is then directed to a distributer in the case of multi-cylinder engines, and so to the sparking plugs.

Special advantages of this system are that the characteristic weakness of the magneto spark on full retard is eliminated, for the maximum spark is given at any position of the contact breaker; this permits of the engine to be started easily on retarded ignition, and also gives very slow running. As the intensity of the spark does not depend upon the "maximum" position of a magneto armature, there is an equal spark at both cylinders of a V twin engine, no matter what the angle between them.



The Rotax Igdyno lighting and ignition set fitted to an 8 h.p. Royal Enfield motor cycle.



THE PORTSMOUTH ROAD. Near Esher. For the benefit of our readers in the North and elsewhere, this is where the originals of Helen McKie's sketches in "Facial Expression on the Road" may (or may not) be found any fine Saturday afternoon. The article referred to was by "Ixion," and was published in our Spring Number and Buyers' Guide (March 17th).

CURRENT CHAT

Times to Light Lamps.

Mar.	31st	... ...	6.58 p.m.
Apr.	2nd	... ...	7.2 ,,
,,	4th	... ...	8.5 ,,
,,	6th	... ...	8.8 ,,

he Extra Hour of Daylight.

Next week evening runs become more opular with the extra hour of daylight.

outhport Speed Trials.

The Southport Watch Committee has ecided not to sanction the speed trials hich the North-western Centre A.C.U. roposed to hold on the promenade in ily.

T. Entran's.

Frank Whitworth, Ltd., have entered vo riders for the T.T.—one for the unior Race on a 3 h.p. Ivy.

cottish Six Days Reliability Trial.

The arrangements for this trial are now ell in hand, and the date is definitely xed for the 11th to the 16th July, thus aking room for the St. Andrews Speed rials on the 9th of that month. The oute is not yet definitely settled, but the rganisers propose that two days be spent the vicinity of Oban, which district ounds full of promise. The route will e for the most part along the West of cotland, but has yet to be finally raversed by the organisers.

rivate Owners' Inter-club Team Trial.

Club teams of private owners only are ligible for the Surbiton and District M.C.C. inter-team trial, and for this eason the event has aroused considerable nterest in, and has been promised excelent support by, club-land generally. As special A.C.U. permit has been granted or the event, it is open to any club ffiliated to that body; only one team, owever, consisting of three solo riders nd three sidecarists, may represent each lub.

As last year, Maudes' Challenge Shield ill be awarded to the winning club, also old and silver medals to members of the econd and third teams.

The course—a secret one—is laid in urrey, and as the date of the trial has een advanced to April 30th, clubs inending to enter should communicate mmediately with the hon. trials secreary, Mr. W. Pratt, c/o Maudes' Motor lart, 100, Great Portland Street, London, W.1.

For this event, the term "private wner" has been defined as "one who is ot engaged directly or actively in the anufacture or sale of motor cycles or heir component parts." No A.C.U. ompetition licences are necessary.

The Penalty of Greatness.

During last year's T.T. practising, it was not unusual to hear some comment to the effect that Nortons ought to win with so many entrants. Comparatively few people seemed to recognise the fact that the Norton is one of the few standard machines which are fast enough to encourage private entries. For 1921 the official riders who have the firm's assistance will be: Duggie Brown, V. Horsman, J. W. Shaw, N. C. Sclater, and H. W. Hassall. No other Nortons entered will receive help from the works. It is not without interest to note that the veteran designer, Mr. J. L. Norton, intends to tour South Africa, New Zealand, and Australia. He hopes to sail in August.

Dutch Motor Cyclists' Visit to England.

Preparations are now being made for the visit of the Dutch team to England next August on the occasion of the fourth Anglo-Dutch International Trial. A special sub-committee of the A.C.U. has the preparations in hand, and Mr. W. Cooper is acting as the hon. secretary to that committee. Several Midland clubs, including the Worcester, Birmingham, and Coventry clubs, have offered to share in the entertainment of our visitors, and it is possible that the leading works in the Midlands may be visited.

Special Features.

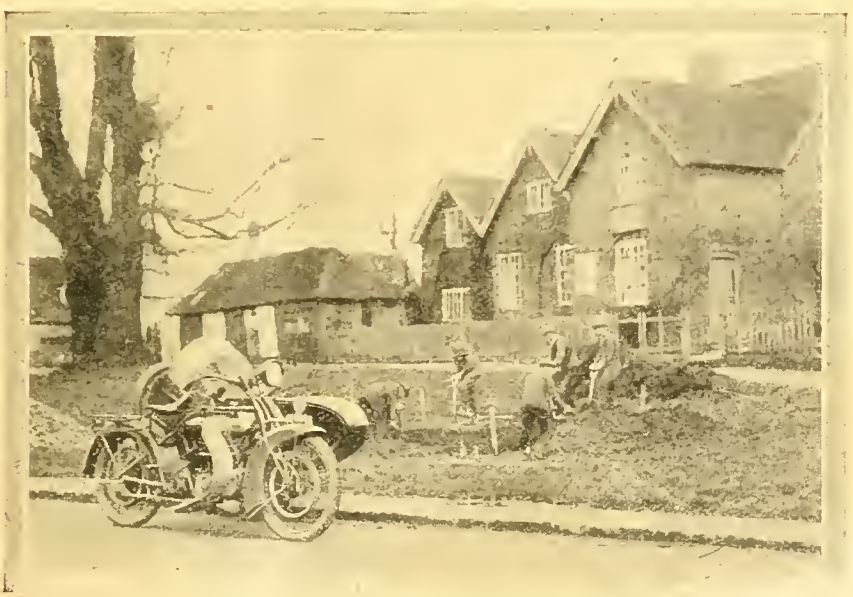
EASTER EVENTS.
THE LONDON-LAND'S END TRIALS.
OVERSEAS SECTION.

A.C.U. One Day Trial Regulations.

The official regulations for the A.C.U. One Day Trial for motor cycles and cycle cars, to be held on Wednesday, April 27th, 1921, have now been sent to the trade. Any manufacturers, agents, or private riders who have not received a copy of the regulations are invited to apply for one at once to the Secretary, Auto Cycle Union, 83, Pall Mall, S.W.1.

Trade Numbers in Competitions.

The Secretary of the Auto Cycle Union has received an official intimation from the Ministry of Transport that the Minister has approved the use by manufacturers of general identification mark licences on the motor cycles or cycle cars entered by them in competitions promoted by the A.C.U. or by other bodies under permit from the A.C.U. This means, of course, that all competing vehicles directly entered by the trade will be allowed to bear the new official trade number whilst they are competing in open competitions under A.C.U. rules.



Digging the site for the "Cyclists of England" War Memorial at Meriden (regarded as the centre of England) on the Coventry-Birmingham road. The sidecar outfit is a 6 h.p. B.S.A.

CLUB NEWS.

Forthcoming Club Events.

April 2.—Stourbridge M.C.C. Captain's Run.
April 2.—Dewsbury and District M.C.C. Competition.
April 2.—Public Schools M.C.C. Surprise Competition.
April 2.—Cheltenham C., M.C., and L.C.C. Opening Run.
April 2.—North Wales M.C.C. Reliability Trial.
April 2.—Herts. M.C. and L.C.C. Opening Run.
April 2.—Portsmouth and District M.C. and L.C.C. Club Run.
April 3.—Eastbourne and District M.C.C. Opening Run.
April 3.—Reigate, Redhill and District M.C.C. Club Run.
April 3.—Bradford M.C. and L.C.C. Triumph Cup Trial.
April 3.—N.W. London M.C.C. Opening Run.
April 3.—Worcester and District M.C.C. Opening Run.
April 3.—Newcastle and District M.C. Novices' Reliability Trial.
April 3.—Leeds and District M.C. Club Run.
April 3.—Sheffield M.C.C. Club Run.
April 3.—Halifax and District M.C.C. Club Run.
April 3.—Ilkeston and District M.C.C. Club Run.
April 6.—Plymouth and District M.C. and L.C.C. Hill-climb.

IMPORTANT club and OPEN events are tabulated on the "Questions and Replies" page.

Marlow and District M.C.C.

Although the weather was unsettled a run to Windsor on the 20th inst. was much enjoyed.

Coventry (Triangle) M.C.

In spite of uncertain weather there was a good attendance at the opening run and paperchase on the 19th inst.

Cheltenham C., M.C., and L.C.C.

All members and potential members are invited to attend the opening run on Saturday. The venue is the Swan Hotel, Bibury.

Hartlepool M.C.

Important changes in the constitution of the club took place at a recent general meeting. Mr. G. H. Wheeler, 2, Anncliffe Gardens, West Hartlepool, is now secretary.

Wolverhampton M.C.C.

A good muster turned out for the opening run under the captaincy of Mrs. J. E. Greenwood, and enjoyed an excellent run. This year several prizes are offered for the best aggregate attendance at outdoor club events.

North London M.C.C.

The run to Bishop's Stortford was carried out successfully, in spite of strong head winds and a heavy storm which failed to damp the ardour of those members taking part. A watersplash caused some amusement near Bishop's Stortford, but everyone managed to get through, and an excellent lunch was followed by an impromptu musical programme.

South Midland Centre A.C.U.

Following on the meeting at the R.A.C. a week earlier, clubs in the projected South Midlands area were invited to send delegates to a meeting at Luton on Saturday. Only six clubs (the necessary quorum) were represented, but from others letters were received promising support, although owing to short notice they could not be represented. Mr. Pooley presided, with Mr. Iveson as acting secretary; and, after considerable discussion as to the advantages to be gained by forming a district centre, it was unanimously resolved to make formal application to the A.C.U. for a South Midlands Centre to be constituted. A further meeting was fixed for Saturday, April 30th.

Leeds University M.C.

On Wednesday, March 9th, the Leeds University Motor Club held its first hill-climb, which took place on Thornthwaite Brow. The results were:

350 c.c. CLASS.—1, G. Hardy (2¾ Douglas), 39⅗s.; 2, C. R. Perritt (2¾ Douglas), 45⅖s.

500 c.c. CLASS.—1, A. W. Gregory (3½ Norton), 32⅖s.; 2, R. F. L. Gosling (3 A.B.C.), 34⅘s.

750 c.c. CLASS.—1, R. F. L. Gosling (3 A.B.C.), 32⅘s.; 2, A. W. Gregory (3½ Norton), 34⅘s.

750 c.c. SIDECAR CLASS.—1, H. Marriott (4 Triumph sc.), 1m. 4s.; 2, A. F. Plummer (6 A.J.S. sc.), 1m. 27⅕s.

1,000 c.c. SIDECAR CLASS.—1, W. Hallett (8 Zenith sc.), 47⅗s.; 2, A. F. Plummer (6 A.J.S. sc.), 1m. 23⅗s.

CAR CLASS.—1, T. Moore (G.N.), 56⅕s.; 2, J. Watts (G.N.), 1m. 3⅕s.

R. F. L. Gosling made an excellent climb on his A.B.C., making fastest time of the day.

Tamworth and District M.C.C.

About fifty members and friends sat down to the first annual dinner on the 9th inst. Prizes were distributed to the winners of last year's events by the hostess, Mrs. A. Ison.

Manchester M.C.

The opening run on the 20th inst. took the form of a speed-judging competition, the distance covered being about twenty-four miles. The attendance was quite good, taking into consideration the adverse weather conditions prevailing early in the day. The results were as follow: 1, A. E. Cope, error 55s. early; 2, J. P. Wigley, error 1m. 8⅗s. early; 3, J. D. O'Hanlon, error 1m. 23s. early. The three winning competitors will be awarded club medals.

Bath and West of England M.C.

A twenty-four-hour reliability trial to Land's End and back resulted as follows: Winner of the Young Cup, E. W. Spencer (4 Omega); winner of the Catley Cup, A. E. Sims (4 Norton sc.); silver medal, L. G. Williams (3½ Norton).

Banbury and District M.C.C.

At the adjourned meeting of the club a small but enthusiastic attendance decided to carry on the club under the new A.C.U. rules. A challenge from the Oxford M.C. to an inter-club hill-climb was accepted.

Loughborough and District M.C.C.

Over a hundred members—a record turn out—attended the speed-judging competition on the 20th. Results: 1, F. Bennet (2¼ Velocette); 2, H. J. Chambers (4¼ B.S.A. sc.); 3, E. Norman (2 Radco).

North-west London M.C.C.

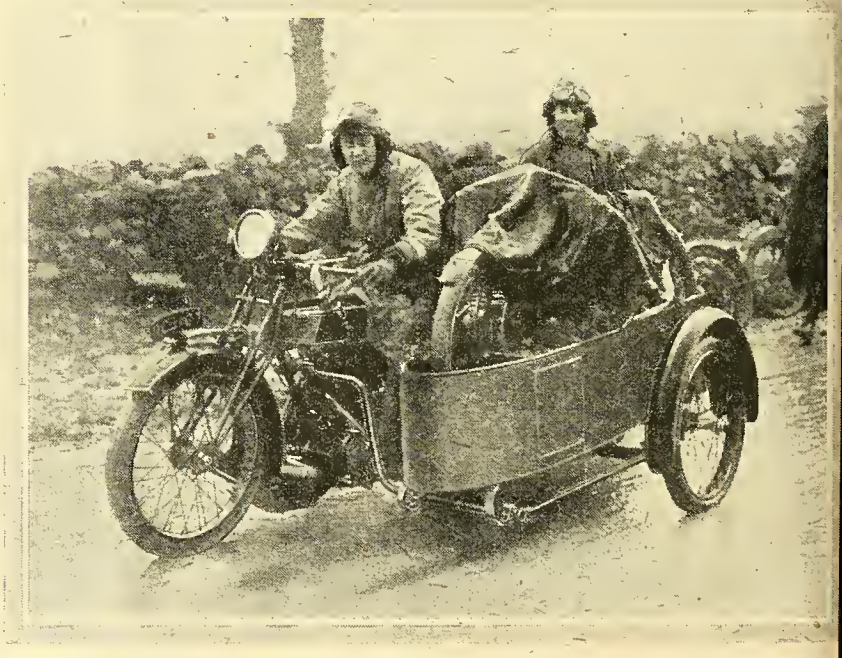
By special request of the Auto Cycle Union, the London-Gloucester Reliability Trial provisionally arranged for Dec. 31st will be promoted as a joint event with the North London M.C.C.

Worcester and District M.C.C.

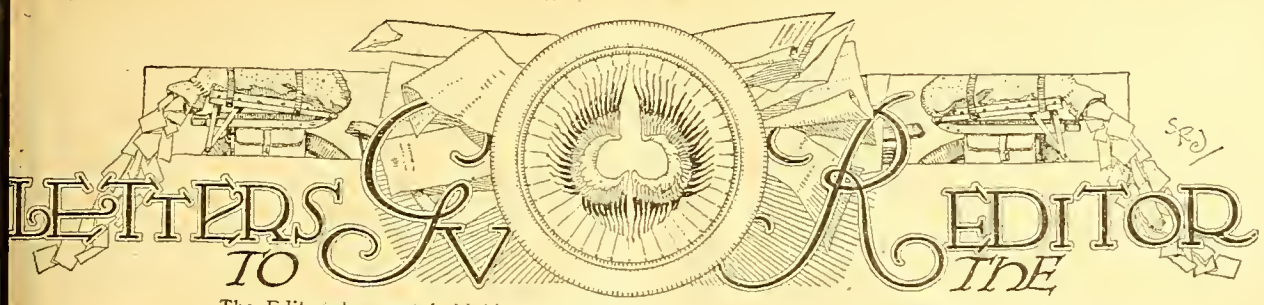
On the occasion of the opening run on the 3rd prox., it has been arranged to meet other clubs in the Western Centre to discuss the forthcoming Two Day Open Reliability Trial.

Wellingborough, Rushden, and District M.C.C.

A most attractive programme has been arranged for the next three months, and local motor cyclists wishing to participate should communicate with the hon. secretary of the club, Mr. W. A. Fathers, at the Angel Hotel, Wellingborough, or the Victoria Hotel, Rushden.



SPECIAL PRECAUTIONS. A competitor's machine being transported to the Stockport Open Hill-climb by a lady driver of a Sunbeam.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

DEFINING "SILENCE."

Sir,—Living in the Bromley district, I should be very much obliged if anyone could give me some advice. Have we no redress when our silencers are just as they left the makers of standard machines? Round here we feel as if we may as well give up motor cycling owing to the way in which we are persecuted. Personally, I have not been trapped yet. E. A. GURNEY-SMITH.

CLASSIFYING COMPETITION RIDERS.

Sir,—Your correspondent on the above subject touches a query that would be better squared up at once. Last season I enjoyed a certain amount of success as an amateur, and was then classed as an expert (I had no connection with the trade).

In some events no distinction was made between the amateur and trade rider, and in others a distinction was made, but again the real amateur on a standard machine had the dissatisfaction of having to compete against the amateur having a special machine, which he (the first amateur) could not purchase. My own opinion is to ignore the question of trade and amateur trade rider altogether, and to class as an expert or amateur. L. MITCHELL.

Sir,—May I be permitted to endorse heartily the remarks contained in the letter of your correspondent "Etaples"? The suggestion put forward is an excellent one and would, I feel sure, give an added interest to competitions and reliability trials from a non-competitor's point of view.

Many motor-cyclists judge the capabilities of a machine by the performance put up by it in the big events of the year, and are consequently guided to a certain extent by these performances when making a selection; it is therefore in their interests that it should be made quite clear if it is an amateur who does well, since every motor cyclist feels that what the average rider can do he can do. Whilst if it is a trader rider who distinguishes himself, one hears vague remarks ment "special tuning" or "the makers behind him," and to many the names appearing in the award lists convey nothing, be the rider trade or amateur.

Another point in favour of this suggestion, which "Etaples" appears to have overlooked, is that the adoption of it would help to place motor-cycling on a par with our other national sports, which, as I think everyone will agree, is very desirable. ENTHUSIAST.

Bishopsgate, E.C.2.

ORGANISATION AND CO-OPERATION.

Sir,—I am surprised that you should have allowed the statement that I signed my approval of the new scheme of taxation, made by "A.A. 282590" in your issue of the 17th to have been published without comment.

Every credit is due to the A.A. for its strenuous fight on behalf of all motorists against the present unjust system of taxation. Equal credit is due from every motor cyclist to the A.C.U., which stood shoulder to shoulder with the A.A., and, when the Government flatly refused to continue the petrol tax, succeeded in getting for two and three-wheelers far more favourable terms than those now imposed on either private or commercial cars.

To state that I signed my approval of the new scheme is a *gross perversion of the facts.* The A.C.U. has fought for the petrol tax from the start, and to-day, in company with the A.A., is fighting for its re-imposition in place of the present unjust and unfair system.

Your Cambridge correspondent rightly emphasises what is the chief, but too often unappreciated, object of such organisations as the A.A. and the A.C.U. But he is obviously ignorant of the work of the Motor Legislation Committee, and of the fact that "organisation and co-operation"—his slogan—are its watchwords. It will be news to him that on this committee the A.A. and A.C.U. work together.

The interests of motor cyclists, equally with those of all other classes of motorists, have had the careful consideration of every member of the M.L.C., but have been more particularly watched over in that committee by the A.C.U. and the Manufacturers' Union, the two organisations that are concerned solely with this class of road user.

To imply, as does your correspondent, that the A.A. is the only body that has recognised its duty in this matter is grossly unfair to the other members of the M.L.C., as the A.A. would be the first to acknowledge.

Letters such as that from "A.A. 282590" only hinder that co-operation amongst all motor cyclists that to-day is so vitally necessary. T. W. LOUGHBOROUGH,

Secretary A.C.U.

WAS IT ENGINE SEIZURE?

Sir,—I was riding a 1920 4 h.p. belt-driven Triumph solo, with a friend on the Tan-Sad, and, having taken a small hill on two-thirds throttle (full air always) at about 30 m.p.h., I left the throttle as it was for the approaching level. We were soon doing 50 m.p.h., when suddenly the engine stopped, the back wheel locking in consequence, but our momentum was evidently sufficient to drag the wheel, and by the time we were going slow enough to upset I had declutched. The first thing I thought of was seizure, so put the machine on its stand, and tried to turn the engine over with the kick-starter. At first it would not move, but, after priming very gingerly and leaving the compression tap open, I persuaded it with a terrific heave, and kept it moving for a couple of minutes. We had not then done more than three miles, and it had already had three pumpfuls of oil (one at the bottom of the hill). I had borrowed the motor cycle, and oiled so copiously to avoid seizure. As we were in a hurry, I did not stop to inspect, but the cycle is in perfect order now, and, indeed, it touched 50 m.p.h. that same evening. It started easily, and ran the rest of the journey faultlessly. Now, what was it? F.L.S.

Derby.

SIDECAR OR CYCLE CAR?

Sir,—May I through the medium of your world-wide journal express a few opinions *re* "Sidecar or Cycle Car"?

At the present time the sidecar outfit practically holds the field, with a few exceptions. Perhaps the reason may be attributed to the fact that in years past far many more firms built motor cycles and cycle cars.

Of late there has been quite an amount of controversy and wrangling as to whether the cycle car of the four-wheeled type should be allowed in open competition with the motor cycle and sidecar. To many of us it would suggest "wind up" on the part of motor cycle manufacturers.

Undoubtedly, the days of the luxurious sidecar outfit are numbered. The stop gap between the £150 motor cycle and sidecar and the £250 light car is the cycle car. The next two years will see the cycle car holding its own with all and sundry. As a motor cyclist of seven years' experience, under varying conditions, I have had my fill of bad weather riding. PUP III.

Letchworth.

Sir,—I quite agree with the writer of the article "Sidecar or Cycle Car," that the latter by no means has all the advantages over a sidecar outfit. I would like to get a cycle car, a "side-by-side" four-wheeler, the only kind worth considering against a sidecar, but am "choked off" by the apparent discomfort of the seating accommodation afforded.

Your correspondent, Mr. F. E. Schofield, says that the successful sidecar must possess simplicity, reliability, and good construction. To these I would add comfortable and convenient side-by-side seating. The occupants of the various makes of this class of car one sees look as if they were sitting on the floor, or lying on their backs with their heads propped up. These positions may be comfortable and convenient for the supple joints of youth, but certainly not for the middle-aged.

Moreover, when two average sized people are seated side by side they give the appearance of having got in with the aid of a shoe horn. The reason for this extreme lowness of the seat seems to be to enable the bonnet to be utilised as a windscreen, and so save a trifle by eliminating that accessory or reducing it to almost vanishing point. Surely this brings the face of the occupant nearer the mud splashes of passing vehicles than the seat of a sidecar would. Personally, I would rather sit two hours on a motor cycle saddle than one in a cycle car; but then I am no longer young.

Another drawback is the excessive shaking of the bonnet and long mudguards, due apparently to flimsiness in construction such as lack of supporting stays or fastenings. I have several times seen the extremely long front mudguards almost flapping when the car is in rapid motion. Why are they made so long, and why placed so far from the tyres? Is it to allow for their movement? Surely two or three inches added to the height and width of the seat would not materially add to the cost. TWO-STROKE.

Worthing.

CARBIDE PRICES.

Sir,—With reference to "Trader's" letter of March 10th, *re* the carbide bogey. I am not in any way connected with the trade, but buy retail one drum of carbide every six weeks, for lighting purposes. This carbide is uncoated, and small enough to fill into a Lucas rear light generator, and dark in colour when the drum is opened. I have yet to find more than a 1 lb. carbide tin full of dust when the drum is empty at the end of six weeks. The quantity is so small that I don't even spray it with paraffin or light oil.

The price I pay is 40s. per cwt.; this works out at under 4½d. per lb. I should like to know why this carbide could not be sold, coated in 1 lb. tins, at 9d. to 10d. per tin, and at the same time yield the retailer a profit of 25%. Perhaps this is not good enough whilst motor cyclists *will* pay.

West Didsbury. MOONSHINE.

DISCOURAGING PRIVATE OWNERS IN CENTRE EVENTS.

Sir,—To those who have never taken part in a motor cycle competition or closely observed one, it may seem that, as a form of sport, it cannot equal, say, rowing, golf, or even pedal cycling; but the fact is that the combination of skill and nerve necessitated by the delicate control of a machine which is almost too susceptible to human adjustment, makes competitive motor cycling one of the finest, if not the most fascinating, of our out-door sports. Like other forms of sport, motor cycling has suffered from the successful attentions of the professional, and many motor cyclists have refrained from entering local events, because they have felt that, in comparison with the accomplishments of the experts, theirs would be but a sorry performance.

The recent decision of the A.C.U., however, to allow the members of any number of clubs within an A.C.U. local centre to compete together without there having to be obtained an open permit, with all its attendant formalities, should go far to revive the enthusiasm of the genuine private owner for the sporting side of the movement. An influx of "foreign" track riders, many of whom are members of clubs all over the country, would defeat the object of such local centre trials or hill-climbs, which should be promoted to encourage the sport locally, and not to provide opportunities for booming particular makes of machines nor to replenish the coffers of any particular club. If the old A.C.U. rule prohibiting "extensive advertising" of the results of any competition other than an open competition is loyally observed by both competitors and the trade, there will be no danger of the entry list being swamped by professionals, the local aspect of the competition will be enhanced, whilst the open competition proper will gain in importance from the trade point of view.

Some of our old-established clubs, whose nominally "closed" events have become historic, may at first object to any of the publicity such as their competitions have secured in the past being curtailed. But, on reflection, they will probably agree that to obtain a good press report of their trial—which is, of course, quite legitimate—is a much finer tribute to their sport-promoting abilities than a host of advertisements stating that such and such a machine won a gold medal. It may reduce their often too-swollen entry list.

London, S.W.1. LICENCE HOLDER.

HOMELY HINTS.

Sir,—The following hints may be of interest to some of your readers:

(1.) It is an easy matter to compress valve springs in a trousers press in order to tie them before putting on machine.

(2.) A sparking pistol (called "Shoot-a-Lite"), which is sold for lighting gas stoves, etc., is equally useful for acetylene lamps, and obviates trouble with matches on a gusty night. A. SIMONS.

REDUCING SECOND-HAND VALUES TO A FORMULA.

Sir,—On applying Mr. Frank Hall's formula to several of my friends' machines, including my own, I came to the conclusion that the prices arrived at were too high, especially when the present state of trade is considered. I think the following modification would be nearer the mark:

$$V = x\left(\frac{y-1.3}{y}\right)^n$$

where V = the value of second-hand machine minus the unexpired value of taxation. A.R.A.

Carlin How.

BELT DRIVE.

Sir,—I am writing regarding the letter published in a recent issue of *The Motor Cycle* concerning belt wear, and hold the same opinion as the writer. I have never had any trouble with belts through faulty driving. I was sorry indeed to part with my Zenith when I came back from France, having been in hospital for three months, and I have not been able to have another. I prefer the hand pump lubrication, for in France we had much trouble with drip feed, especially in winter and on rough roads. Chain troubles used to hold me up for hours, often tearing off the chain cover and putting the back wheel drive out of order. Often I wished I had my Zenith in France with me. I enclose a snapshot of my late outfit. GEO. LOCKE, Ex-D.R.



Mr. G. Locke, who praises the belt-driven Zenith. (See above letter).

ELECTRICAL PHENOMENON.

Sir,—I have a Saltley-Villiers two-speed two-stroke fitted with a C.A.V. magneto, which, by the way, is quite in order. A short time ago I broke the high-tension lead from the magneto to the plug. As at the time I had about a yard of flexible with me, I jointed up the broken piece on the magneto and then coiled all the slack wire round the right-hand bearing. I connected up to the plug and then re-started; but found that I had to push the machine nearly as quickly again to get a good spark, whereas before I had only to paddle off with it and it started easily. I managed for a few days with it, but eventually I uncoiled the length of wire from round the bearing, and cut it just long enough to reach the plug. Then I tried the machine again, and found that it started as easily as before I broke the wire.

I can only account for this phenomenon by surmising that as a magneto generates a single phase alternating current it is highly probable that the high-tension wire coiled round the bearing caused a choking coil effect, using the driving shaft as the iron core, and thereby diminishing the current value at the plug terminal. I may say that the insulation of the coiled flexible wire was perfect throughout its length. I should be obliged to know if any of your readers have met with this elusive fault. N. H. BAILEY.

BRITISH MACHINES IN SWITZERLAND.

Sir,—In one of the recent issues of your paper you published a lament by a Swiss correspondent about the lack of English machines in Switzerland. This may be so in the canton of Geneva, where your correspondent resides, but in this canton (Vaud) every second machine is a Douglas, and practically all of them are post-war models.

The popularity of the Douglas is largely due to the live local agent, who rides and races the machines which he sells.

I have also seen in this country Humber, Verus, Ariel, Triumph, James, Royal Enfield, Scott, and A.J.S. machines. American makes are comparatively scarce, Indians mostly; but I have seen Thors and Harley-Davidsons. The general opinion, I think, is in favour of English machines.

The best Swiss motor cycle, the Motosacoche, is almost as popular as the Douglas. It is really a modified Royal Enfield with a M.A.G. engine. Other Swiss makes are Condor and Moto-Rêve.

The only other agent for British machines in these parts represents the A.J.S. and Verus firms.

I take exception to the idea of importing Brough-Superiors for Swiss sportsmen. The majority of Swiss speed merchants are road hogs, and, consequently, less dangerous with a $2\frac{3}{4}$ h.p. Douglas, than a big o.h.v. twin.

Hoping you will find space to publish this protest against the wholesale condemnation of the British export system,

Vaud, Switzerland. SUREV.

THE EINSTEIN THEORY OF RELATIVITY.

Sir,—I should like, if I may, to congratulate you on your courage in reprinting Mr. Bolton's prize essay on the Einstein Theory of Relativity, and to make one or two observations suggested by it.

I wonder how many of your regular readers read it through, and what proportion of those understood it. Undoubtedly, it is difficult to grasp, but it need not have been so difficult but for the conditions. Mr. Bolton has done wonderfully well in trying to accomplish an almost impossible task—to explain a mathematical theory without being allowed the use of formulæ. It is like trying to make an omelet, not merely without breaking eggs, but with egg powder instead of eggs. It is true there are no formulæ, but, none the less, the whole essay is pure mathematical physics.

Is it not rather a slur on our boasted education that the ordinary Englishmen must be assumed to be entirely ignorant not merely of the calculus (the only mathematics of any real use in science), but even of the A B C of elementary algebra and trigonometry. No such assumption would, as a rule, be made in France, Germany, or Italy. Here men claim to be mechanics, even engineers, who regard such a statement as $y = e^{ax}$ (or $y = \frac{dy}{d.x}$, which is the same thing) not as a fundamental scientific law (the "compound interest" law), but a meaningless assemblage of three or four letters of the alphabet. The fact is that we are so intensely practical a people that we have a kind of horror of any abstract idea. The only rule we believe in is the rule of thumb.

That all sound mechanical practice must be founded on sound theory and mathematics is the one key to unlock and elucidate that theory. Much of the so-called "higher" mathematics, *i.e.*, what we have discovered in the last 200 years, is not really difficult (though, apparently, simple problems such as the time of a swinging pendulum take us into the depths at once), and it is immeasurably more interesting than the common or schoolboy's variety. The late Professor Sylvanus Thomson, in his "Calculus made Easy" (Macmillan), made the subject entertaining, and even amusing. But then he admitted he had left out all the difficult parts.

To get any real idea of so epoch making a theory as the Theory of Relativity (including the famous Michelson-Morley experiment) without some knowledge of mathematics is impossible. People are already writing to the papers to say that Einstein's theory is utterly incredible; it is simply because they cannot understand it. It is rather futile to tell people about "Gaussian" co-ordinates, when they do not know the common or rectangular co-ordinate, and would not recognise a definite integral if they saw one. We have a lot to learn yet.

It is significant that when Mr. Garrod produces a spoof formula to determine the legal speed limit in any area he feels obliged to use the × to indicate multiplication, which mathematicians abandoned ages ago. The result is that the denominator may mean $(w^2 + d)re$ or $w^2 + dre$.

H. L. LEWIS.

SUMMARY OF CORRESPONDENCE.

With reference to the "Sidecar or Cycle Car" controversy, "J.G.D." writes in praise of the comfort and performance of his Tamplin cycle car. Belt trouble he has never experienced.

"W.W.," writing in support of the suggestion to differentiate between trade and amateur riders in competitions, also states that long exhaust pipes are dangerous fitments in Cardiff and district.

Mr. G. F. Ackland Johnson has a ready solution to the alleged superiority of American big twins in the matter of speed. "Superior design" is how he explains it.

As a result of his letter on the subject of rebalancing a two-stroke, Mr. R. E. Coleridge received a number of queries regarding fitting an aluminium piston. For the benefit of these correspondents, he now writes that the piston was obtained from the Laystall Motor Engineering Works, Ltd., 34, Queen Street, E.C.4, who gave him every satisfaction.

The conversion of hub-geared machines to countershaft models is a subject that excites considerable interest. Mr. Clarence F. J. Searle reports entire satisfaction with the conversion as carried out on his Rover by the Sheldon Engineering Co., Coventry.

A correspondent, signing himself "Cato," asks why an increased insurance premium should be demanded for pillion riding when a sidecar is attached. He also complains of the totally inadequate tool-rolls supplied with many expensive machines.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	Book post.
"HINTS AND TIPS FOR MOTOR CYCLISTS" Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Seventh Edition	2/	2/3
"TRACING MOTOR CYCLE TROUBLES." A system for tracing motor cycle faults and of remedying them when found. Fourth Edition ..	2/-	2/3
"MAGNETOS." By A. P. YOUNG. A complete treatise on magneto ignition for motor cars, motor cycles, and aeroplanes. Second Edition	4/6	4/10
"TWO-STROKE MOTOR CYCLES." A reliable treatise on Two-strokes, from the rider's point of view. Just published	3/-	3/3
"MOTOR CYCLE REMINISCENCES." By "IXION," of *The Motor Cycle*	5/-	5/4
"THE MOTOR CYCLE" ROAD MAPS, England and Wales, Scotland, London (showing roads into and out of London and avoiding London). Mounted on linen. Set of three, complete in case.	5/6	5/10
"THE MOTOR CYCLE" ROUTE BOOK. With 32 pages of Road Maps of England and Wales, Scotland, and the London District ..	5/-	5/4

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects

DISMANTLING FLYWHEELS.

Will you please furnish me with the following particulars of a B.S.A. engine (1912): (1.) How can I separate the flywheels to rebush the big end? How are they fastened? (2.) What size jet is best suited for use with benzole? (3.) What causes knocking over 30 m.p.h.? The engine is in perfect condition, as laid down in the makers' manual.—F.H.

(1.) The flywheels are secured by the crank pin, which is riveted on one side and held tight in a taper hole by a nut at the other. After removing this nut the flywheels may be separated by the use of wedges. (2.) A 30 jet. (3.) The knocking may be due to wear in the connecting rod bushes, especially as it only occurs at fairly high speeds, when, presumably, the engine is running light.

A SINGLE TRACK MONOCAR.

(1.) Would it be possible to drive a monocar built on motor cycle lines, with one front wheel and one back wheel, and one wheel each side of the body, which would be let down by a foot control for getting away (*i.e.*, balancing speed, and for stopping? After balancing speed had been attained the side wheels would be taken off the ground by the control. The control of the machine would be on the Maurice Farman aeroplane principle, and the driver would be more or less in a lying down position. When banking or turning, this control would come more natural than the ordinary handle-bar form when in this position. (2.) If this is possible, why has it not been used before? It has so many advantages, both over the motor cycle and over the four-wheeled monocar. It would be *very* comfortable only having the two wheels in contact with the road, while the expense to build and to run would be less than the 5-6 h.p. motor cycle. A spring chassis would also be very easy to fit.—S.H.S.

It would no doubt be possible to drive a monocar built on the lines you suggest: in fact, such designs have been carried out by various experimenters from time to time. The great objection lies, of course, in the fact that at very slow speeds, in traffic, or in the event of a sudden skid, the driver has not nearly so much control over the vehicle as he has over a motor cycle of a conventional pattern.

STARTING TIPS.

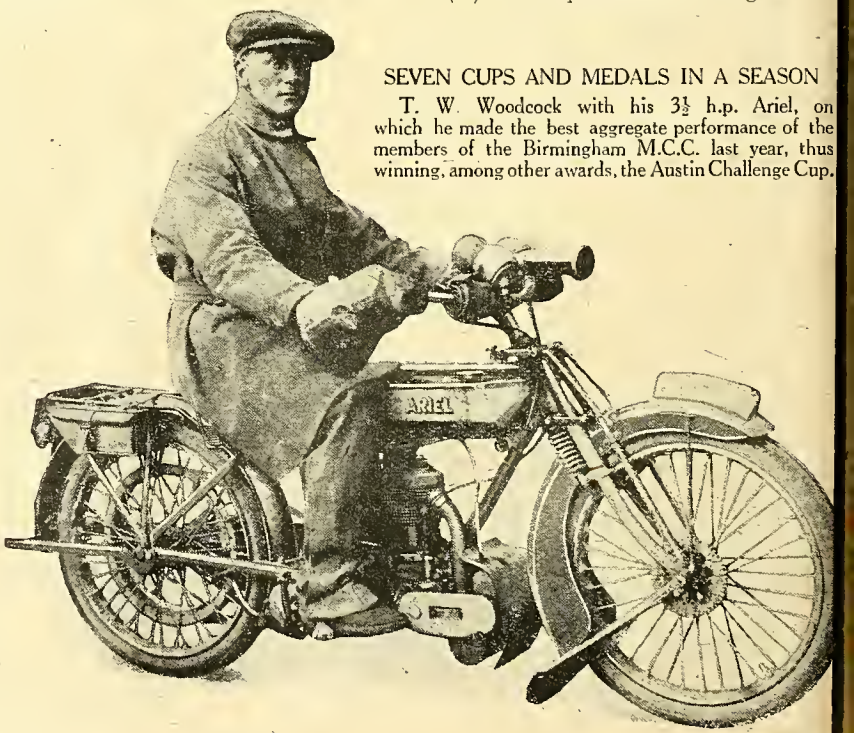
(1.) In starting my Rudge, which has a Senspray carburetter, I close the air and give about one-third gas, and find starting rather hard. In driving, I am told to open the air fully and drive on the gas. Is this correct? (2.) Is this carburetter suitable for benzole? (3.) What is the most suitable oil for this machine, and how often should the pump be actuated?—E.F.G.

(1.) When starting, keep the ignition fairly well advanced; also open the throttle slightly less—try about one-quarter. An injection of petrol in the cylinder or induction pipe will help matters. The makers will fit an injection tap in the induction pipe for quite a small charge if you return it to them. With this carburetter you can keep the air lever fully open almost the whole time, but it may be necessary to close it slightly when running slowly or when hill-climbing. (2.) Benzole will be quite satisfactory; but you might find it necessary to fit a slightly smaller jet or to lower the level a little. (3.) A good quality oil of medium body is most suitable. About one charge for every eight miles.

COMPLETING A PURCHASE.

A short time ago I selected a motor cycle at a dealer's, and paid a deposit of £4. Since then circumstances have arisen which prevent me completing the purchase. I have written to the dealer in question explaining the position, and offering him to deduct something for his trouble, but he absolutely refuses to refund the deposit, or to allow me to select goods to the value. I should therefore like to know: (1.) Am I compelled to complete the purchase? (2.) If so, can I refuse any other than the machine I selected? (3.) If I agree to forfeit the deposit, can he force me to purchase? (4.) Is he within his rights in refusing to return the deposit?—R.

(1.) The payment of a deposit constitutes a contract to complete the purchase, and if the dealer chooses he can take legal steps to compel you to do this. (2.) If the dealer accepted the order for a particular machine he certainly cannot compel you to take any other. (3.) If the dealer agrees to accept the forfeiture of the deposit, the matter will then be ended. (4.) He is quite within his rights.



SEVEN CUPS AND MEDALS IN A SEASON

T. W. Woodcock with his 3½ h.p. Ariel, on which he made the best aggregate performance of the members of the Birmingham M.C.C. last year, thus winning, among other awards, the Austin Challenge Cup.

WONT STOP ON THROTTLE.

A two-lever Amac carburetter is fitted to my 2¾ h.p. Douglas, and the running of the machine is perfect, the only trouble being that it is impossible to throttle own. When I close the throttle the gine slows, but still keeps running, d will keep running until I lift the haust lever. I have tested the gas d air slides and fitted new springs, so have adjusted control wires but no avail.—H.D.

iously, if the engine will not stop n the throttle control lever is in the closed position, there is some conrable leakage past the throttle itself. s may be due to the throttle being ly worn, or to the fact that it does close down completely. We would gest that you remove the carburetter n the induction pipe, when you will ble to see at once whether the throttle es right down. In its fully closed tion it should rest on the small form which contains the five spraying at the base of the mixing chamber. s just possible that the trouble is due he control wires being carried round ome position at a very sharp angle. —

WIN IGNITION AND VALVE TIMING.

I have a 1912 6 h.p. Rex and sidecar which has run very well until recently when one morning on attempting to start the engine it could not be pulled er. Thinking a tooth had broken and mmed in the gear wheels I took them wn but found nothing there, so took e front cylinder off and found an old tter pin on the crank case platform d the piston down on top of it, of urse preventing the piston going down s full distance. I put the engine gether again and can get the back linder and magneto timed correctly, it cannot get the front cylinder ght. The magneto is marked 48°, the rminals 1 and 2 and the contact eaker 1 and 2. 2 is leading to the ont cylinder and 1 to the back; is this rrect? Is there any rule for timing e valves to coincide with the ignition? hen I have the back cylinder valves d magneto right, the front cylinder haust is open when the magneto arks.—G.H.B.

e the engine as follows: Rotate the heels until the piston of the back nder is at the top of its stroke, then rt the cam wheel so that the exhaust e is just closing and the inlet valve commencing to open. Rotate the ne forward one full revolution, plus angle between the two cylinders; this bring the front piston to the top of stroke, and the corresponding cam el and valves should be inserted in same way. Rotate the engine still her in the same direction until the piston is again on top dead centre. s is the firing point for this cylinder, the sparking plug should be connected he No. 1 terminal of the magneto. rocker arm of the contact breaker ld be just touching the correspondy marked segment, the ignition con being two-thirds retarded. The firing t of the front cylinder will then be matically correct, and it will occur full revolution plus 48° after the g point of the back cylinder.

RECOMMENDED ROUTES.

ALFORD TO RIPLEY.—P.C.

Alford, Ulceby Cross, Spilsby, Turnby, Tattershall, North Kyme, Anwick, Sleaford, Ancaster, Barkston, Grantham, Bottesford, Bingham, Nottingham, Nuthall, Eastwood, Codnor, Ripley. Approximately 86 miles.

DERBY TO MOLD.—H.B.D.

Derby, Duffield, Belper, Ambergate, Cromford, Matlock Bath, Matlock Bridge, Rowsley, Haddon Hall, Bakewell, Ashford-in-the-Waters, Taddington, Buxton, Burbage, Macclesfield, Broken Cross, Chelford, Knutsford, Northwich, Hartford, Kelsall, Tarvin, Chester, Saltney, Broughton Church, Mold. Approximately 98 miles.

EXPERIENCES WANTED.

"K.D." (Edinburgh).—2¾ h.p. or 4 h.p. Coulson-B. Strength of frame, tank, and efficiency of springs; performance of Flexi carburetter and general reliability of machine.

"B.W." (Birmingham).—Method of cleaning a leather coat, or address of any cleaners who would undertake such work.

"H.G.Y." (Edmonton, N.).—Vickers-engined 8 h.p. Royal Enfield sidecar. Petrol consumption with twenty-stone load, reliability, and hill-climbing.

"F.S.B." (Eastbourne).—New Hudson 2¼ h.p. Popular model. Consumption, tyres, and absence of four-stroking.

Important Dates.

Sat. April 2nd—Essex M.C. Open Hill Climb.

Fri., April 8th, and Sat., April 9th—Western Centre A.C.U Two-day Open Trial.

Sat., April 16th—Yorkshire Centre A.C.U. Open Hill-climb.

Sat., April 23rd—Midland Centre A.C.U. Open Reliability Trial.

Wed., April 27th—A.C.U. One-day Trial

Fri., April 29th, and Sat., April 30th—Ealing and District M.C.C. London-Holyhead Open Reliability Trial.

Sat., April 30th—Newcastle and District M.C. Travers Challenge Trophy Open Reliability Trial

Sat., April 30th—Surbiton and District M.C.C Open Inter-Team Trial (Private Owners only).

Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.

Sat., May 21st—Western Centre A.C.U. Open Hill Climb.

Wed., May 25th—A.C.U. Silencer Trial at Brooklands.

Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.

Tues., June 14th—Junior T.T. Race

Thurs. June 16th—Senior T.T. Race.

Sat., June 25th—M.C.C Inter-team Trial for "The Motor Cycle" Cup

Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.

Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Mon., Aug. 1st, to Sa., Aug. 6th—International Six Days Trial in Switzerland

Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

SPARKLETS

XL-All Saddles.

Famous for the comfort provided by excellent springing and anatomical shape, the XL-All saddles will henceforth be manufactured by John Leckie and Co., Ltd., of Goodall Street, Walsall. This firm has taken over the patents, goodwill, tools, and machinery necessary for the production of these accessories, and the plant is being moved from Hall Green, Birmingham, to the purchasers' new works at Walsall.

Magneto Repairs.

A special factory for dealing with magneto repairs has been equipped by the Fellows Magneto Co., Ltd., of Cumberland Avenue, Park Royal, Willesden, N.W.10. Not to keep a magneto more than twenty-four hours is the ideal set by this firm, but if this time is unavoidably exceeded the firm is prepared to loan a magneto to the customer. An inclusive price for overhauling motor cycle magnetos is quoted, no exception being made, however bad the condition may be, provided that they are complete and not damaged by fire. Small repairs not necessitating a complete overhaul are also undertaken.

Catalogues Received.

C. B. Harrison (1909), Ltd., Endurance Works, Sheepcote Street, Birmingham: A list of motor cycle components and parts, also the Endurance two-stroke engine, 68×72 mm., 259 c.c., 2.89 h.p.

Patrick Engineering Co., Ltd., Brearley Street, Birmingham: Price list, dealing with the Simplex motor attachment for bicycles, and the Motorped motorised cycle. Two pages of useful hints on management are included.

F. Aslett Coulson Eng. Co., Albion Works, Albion Street, King's Cross, London, N.1: Coulson-B. motor cycles are adequately described in the 1921 catalogue, which gives specifications of both 2¾ h.p. and 4 h.p. models.

W. H. Frost and Co., Ltd., 179, Colne Road, Burnley, Lancs: "Lubrication," a sixteen-page booklet, which contains some extraordinary claims for the efficiency of the W.H.F. system of engine lubrication.

Chater-Lea, Ltd., 74-84, Banner Street, Golden Lane, London, E.C.1: Fittings for motor cycles and light cars. An interesting catalogue dealing with motor cycle component parts, spring seat-pillars, and sidecar frames and fittings. Chater-Lea terminals are also described.

F.R.S. Lamps, Beam Works, Vere Street, Birmingham: As the name of the makers' works implies, the catalogue deals primarily with apparatus for the production of "beams"; in short, all manner of electric and acetylene lighting equipment is listed. Motor cycle horns are also produced by this firm.



The 1921 London - Lands End Run

M.C.C. Trial for the Jarrott Cup. A 314 Miles Route, including Timed Ascent of Porlock.

"LONDON to Land's End" is a magic phrase, and one which makes an appeal to the motor cyclist as alluring as the Spanish Main was to our forefathers. That is one reason why the M.C.C. annual Easter run to the south-western extremity of our island attracts such a large entry.

Of recent years the conditions have been made more and more severe in order to keep pace with the increased speed, power, and reliability of motor cycles, and this year a competitor had a difficult task to earn one of the coveted gold medals.

First organised in 1908, the London-Land's End Trial is one of the classic events of the year, and it is interesting to review past events since that date.

In 1908 the run was to Land's End and back, *via* Salisbury and Exeter, a six hours' rest being allowed at Penzance. There were only sixteen started, and ten retired. The Jarrott Cup was awarded to S. G. Frost, who rode a 4½ h.p. Minerva.

Double Journey Events.

The same course was utilised the following year, but a day and two nights were spent at Penzance, and sixteen survived out of twenty-four starters. The premier award went to F. G. Smith (3½ Triumph); and in 1910, over the same course, it was won by the late Admiral Sir R. K. Arbuthnot, Bart., R.N. (3½ Triumph), out of thirty-five starters and twenty finishers.

In 1911 the course was stiffened slightly. There were sixty-nine starters, and thirty-seven finishers, the winner being the late A. J. Moorhouse (7 Indian). Again, in 1912, the conditions were made more difficult, and eighty started, forty-four finished, and the winner proved to be H. Karslake (3½ Rover).

Bad Weather in 1913.

Bad weather was encountered in the 1913 event, which included a new route *via* Lyme Regis and Trow Hill. Ninety-five started and fifty finished, the cup being won by P. W. Moffatt (2¾ Douglas); while in 1914, under better weather conditions, there were 169 competitors and 108 survivors, and E. A. Colliver (7-9 Indian) won the trophy.

Last year saw the introduction of Porlock and Lynton hills, and the journey finished at Land's End; 161 started and 120 finished, with T. S. Sharratt (4 Triumph) the winner.

The difficulties of Porlock hill are known to every reader of *The Motor Cycle*. Those who have ascended it can realise what it means to take it "on the run" in a 20 m.p.h. schedule. But that was not all. The three miles commencing at the Ship Inn at Porlock had to be accomplished within ten minutes, *i.e.*, 18 m.p.h. This done, the competitors had to "carry on" over the none too good moorland road to Countisbury, and down this narrow dangerous hill on the face of the cliff to Lynmouth, proceeding up Lynton Hill—even worse than Porlock—to the summit, a total of twelve miles from Porlock village at an average speed of 19.4 m.p.h.

Severe Conditions This Year.

It will be recalled that *The Motor Cycle* has commented upon these conditions, and that an interesting controversy followed which made the sporting motor cyclist more keen than ever to participate; in fact, had the entry list not been closed, we were informed that the list would probably have been doubled. Two hundred odd competitors are quite enough to make a trial unwieldy, and, with this number only excellent organisation, for which the Motor Cycling Club is famous, could make the event a success.

THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read

The Autocar

Every Friday 4d.

the forerunner of all motoring journals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

The 1921 London-Land's End Run.—

Many disconcerting rumours were current regarding the condition of the two hills, which, by some, were said to be unclimbable a few days before the start. We had visited both Porlock and Lynton a few days previous to the event, and found the condition of Porlock fairly good, but Lynton is rough in parts.

148 Motor Cycle Starters.

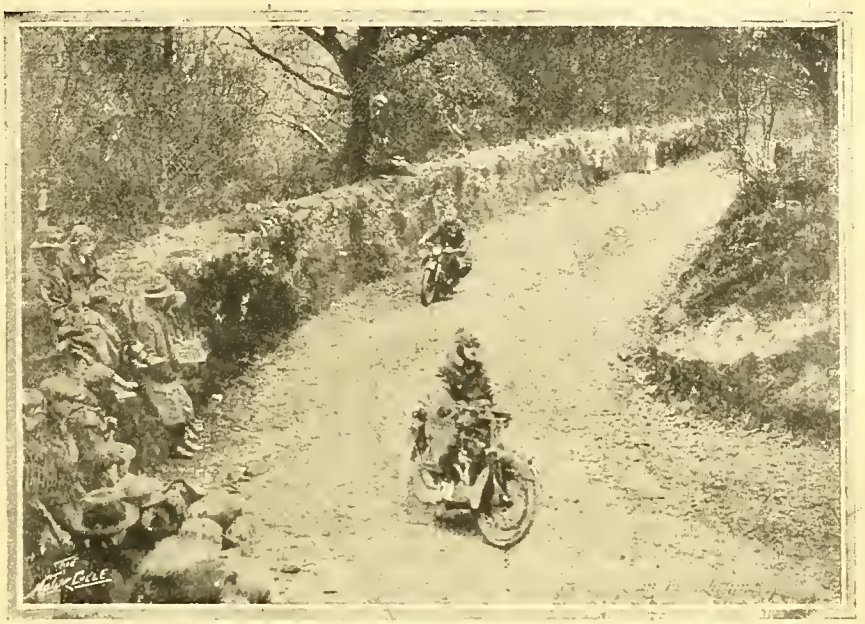
A brilliant night with a large white moon high in the heavens created a happy and essentially "springtime" atmosphere when the competitors assembled at Hounslow.

The usual last minute preparations impressed upon the onlooker the severity of the task. Many and varied were the methods of holding the route card.

Lamps were, for the greater part, electrically illuminated; the acetylene outfit, however, was conspicuous on the solo machines.

The first man was signalled to start by Mr. A. G. Reynolds at 10.1 p.m., the remainder following at one minute intervals, which, incidentally, means that the procession, including the light cars, was about seventy miles long. As each man left there was a rousing cheer from the large crowd. Many of the competitors shouted back a cheery good night and sped away to the first control at Bridgwater—130 miles away.

Little of note happened on through the night. Stretches of "gritty" road accounted for many "sprints" to clear the dust of the man in front, but with so many competitors at one minute intervals this was not easy. D. G. Bays, who had heroically attempted to bring through a single-geared Levis, was lost in the night; but the vast majority reached Bridgwater (the breakfast stop) as the darkness dispersed, although one or two were rather late owing to a fog that lay around Frome and onwards. Most of the competitors had a short wait outside the ancient town, having risked the lurking danger of a time check in the night.



J. Richardson (3½ Lea-Francis) followed by H. R. Harveyson (Indian Scout), both happy in reaching the last bend of Porlock.

Breakfast at the White Hart saw everybody in a very happy mood and generally confident that Porlock-Lynton would be "too easy"; alas for human hopes! Before all the sidecarists had breakfasted it rained, and rained very heavily—quite heavily enough to make even the leading men very glum before they branched off the Minehead road for Porlock.

On Porlock Hill.

Porlock Hill was, of course, one of the chief difficulties of the trial. Rain in the night, and a steady drizzle since dawn had done their work in rendering the surface potent with unpleasant possibilities for the rider; but the corners had not reached the last stage of looseness.

It is a tribute to the wonderful popularity of the motor cycle that a large crowd of spectators had assembled on the hill at the early hour of seven in the morning.

Punctually to time, 7.5 a.m., the first batch of solo men was headed by V. Olsson (3½ Sunbeam), and the fun began. Some of the more powerful machines came up to the first corner at some speed, and, coming round a trifle too closely on the inside of the bend, started terrific skids, hitting the bank or charging the spectators first on one side, and then cannoning over the other before they could steady for accelerating up the steep straight to the second and left-hand hairpin.

Watching some of these performances, it seemed miraculous that no one got hurt. It seems obvious that an extremely low bottom gear, steady cornering, and plenty of reserve power for absolutely certain acceleration are the surest way of making a faultless climb.

Unwanted Assistance.

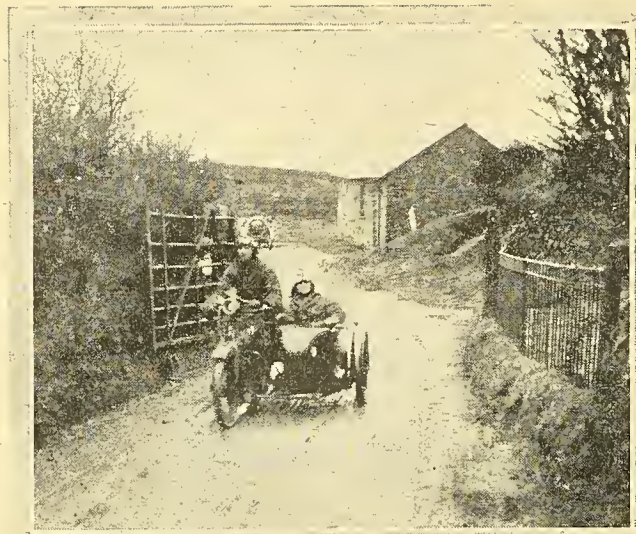
Very few solo men or sidecar drivers failed altogether to get up this nasty hill with its two awkward corners, tough incline, and considerable length, though quite a number received assistance. In this latter respect, it should be mentioned that on the first, and worst, corner no official regulated outside assistance at first, but when about half the competitors had passed, an official arrived, and first asked the failing rider if he wanted help before he was permitted to have it.

Official regulation of this kind is correct, but it should have been the same for all the riders. Also the competitors should be made aware of the regulation beforehand.

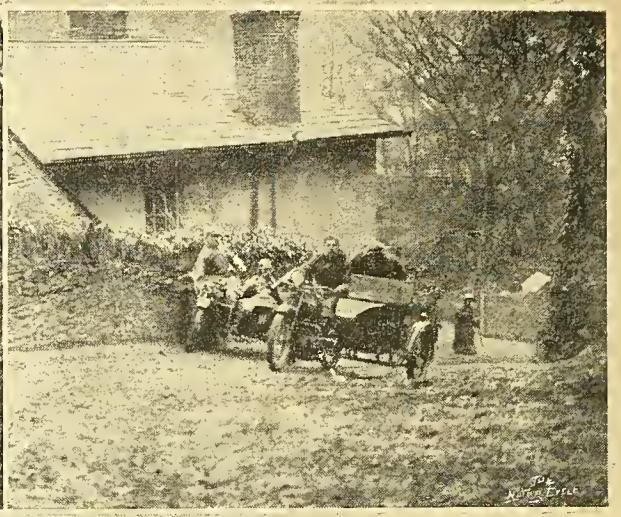
Grit appears to be a special trait of many of the competitors. Quite a num-



Two Harleys on the first reach of Porlock, where many spectators were gathered.



A James outfit entering Devonshire (the white post denotes the county boundary—Porlock is in Somerset, and not in Devonshire, as many imagine).



Geo. Brough (8 Brough-Superior sc.) watches W. Julian (7 Harley-Davidson sc.) enjoying better luck on Lynton than he himself experienced.

ber came off at the hairpin: at one second hitting the bank, sprawling on the ground with engine roaring, and all the elements of a first-class crash, yet before one had time to get the number on the machine, the rider would be up and on his way again. Before detailing some of the star performances, and the failures, one man especially demands mention, for he would not be beaten; he turned defeat into a victory. This was D. Crawford (5 Zenith), who stopped at the first corner. Nothing much the matter: just general difficulties. Thereafter quietly and at intervals he tried again and again until one lost count. Every time something happened to him; either he just stuck or was baulked. But he would not give in, and at last got away on a clean climb, receiving an ovation that he thoroughly deserved.

Exceptionally good climbs were made by Karslake (8 Brough Superior), Olsson (3½ Sunbeam), Hoult (3¾ Scott), Ellison (6 Zenith), Guthrie (2¾ Dalton), Knight (3½ Norton), Slann (4 Triumph), Applebee (2¼ Levis), Kickham (3½ Douglas), Wall (2¼ Cedos), Bray (3½ Nut), Keevil (3½ Sunbeam), Fellowes (4 Coulson B), Churchill (2¾ Verus), O'Sullivan (4 Harley-Davidson), and Harveyson (4 Indian Scout).

Good Sidecar Performances.

Excellent climbs were also made by Fell-Smith (8 Rex sc.), Le Vack (7 Indian sc.), Simpson (7 Indian sc.), Sandford (6 Rover sc.), White (8 Sunbeam sc.), Packman (8 Matchless sc.), Parsons (8 Matchless sc.), Ellis (8 Matchless sc.), Hardy (8 Matchless sc.), Gibson (8 Royal Ruby sc.), Nott (8 Matchless sc.), Watson (6 Ariel sc.), Lumniss (8 Sunbeam sc.), Brandon (4 Triumph sc.), W. H. Bashall (6 Martinsyde sc.), Masters (7-9 Harley-Davidson sc.), J. T. Bashall (6 Martinsyde sc.), Carslake (7-9 Harley-Davidson sc.), Julian (7-9 Harley-Davidson sc.), G. Brough (8 Brough Superior sc.), Pehrson (4½ Dunelt sc.), Attwood (4 Norton sc.), Guiver (8 Matchless sc.), Newnham (4¼ B.S.A. sc.), Strong (7-9 Harley-Davidson sc.), Hillary (4 Triumph sc.), Claridge (4 Triumph sc.), Charlesworth (8 Zenith sc.), Watson (7-9 Harley-Davidson sc.), Giles (7 A.J.S. sc.), McGowran (4 Triumph sc.), Allen (7-9 Harley-Davidson sc.), Hemy (7 A.J.S. sc.), Hartfall (10 Morgan), Sawtell (10 Morgan), McCarthy (10 Morgan), Holmes (10 Morgan), Bennett (10 Morgan), and Croucher (Coventry Premier).

Elce (10 Morgan) stopped past the first bend and baulked Spouse (10 T.B.).

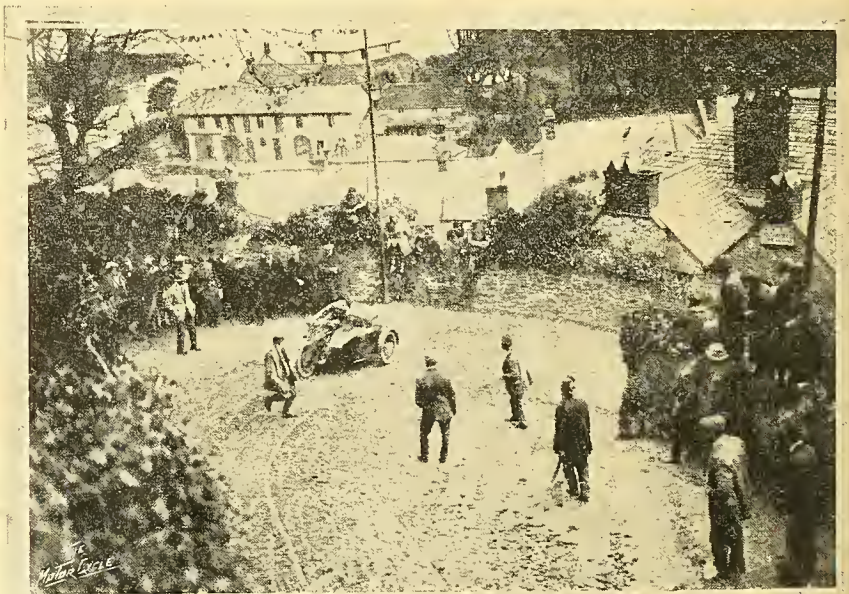
Across Exmoor from Porlock the track (we use the word advisedly) was of wet clay interspersed with pot-holes filled right up by that untimely shower.

It was only a shower after all, for by the time Lynton was reached by No. 1 it was dry once more—overhead!

This area claimed its quota of tosses—A. C. Rhodes (3½ N.U.T.) took rather a nasty one, but like the others he carried on. The later sidecar and three-wheeler men were more fortunate; less affected by skidsome roads, they were blessed with greatly improved visibility.

In Devonshire

It had rained in Lynton and Lynmouth during the night just sufficiently to con-



A 4¼ h.p. B.S.A. and sidecar rounding the bend on Lynton. Considerable skill is required in negotiating this nasty corner.



A critical moment on Lynton. A. Pehrson (4 Dunelt sc.), baulked by a man in front, was forced to stop, but re-started again without assistance.

vert the dry surface of Lynton Hill into slippery grease much resembling the Derbyshire Peak District oolite. Even by 7.30 a.m. spectators had assembled for the fray, and the checking was done by members of the Bournemouth M.C.C. The leaders all did well, notably Moffatt (Douglas), Olsson (Sunbeam), and Stacey (Verus), but Karslake clearly was anxious on his Brough Superior, which, though possessed of abundant power, was difficult to keep straight in the grease. He stuck gamely to the task, but half-way up came to a standstill.

Here it may be said that the heavy and powerful solo mounts were repeatedly in difficulties on the Devonshire terror, for once the throttles were opened the back wheels could obtain no grip. A Scott, a Norton and an Ariel toured up the 1 in 4½ grade comfortably enough, followed by F. W. Applebee, whose Levis was going great guns. This ever popular veteran received a great ovation from the crowd.

Traces of Porlock!

Clifford Wilson (Quadrant) was conspicuous for a cool climb, but Hoult (Scott) overtook him and just touched his arm in passing on the narrow strip of smooth surface which all the soloists hugged. Sims (Triumph) arrived with red clay smeared over his coat and face; evidently he had fallen, but his engine was in fine fettle.

Prestwich (2¾ New Imperial) went up with a crackle which might have been heard half a mile away; his speed caused him to slide about, but he kept upright. Ellison (Zenith) footed round the hairpin, where most of the fun occurred, and finally stopped. Street (Sunbeam) also footed, but only to keep himself upright.

It was a subject of open comment that many riders failed to handle their machines with any great skill. Many were evidently excited, and went at the hill with open throttles and a "do or die" expression, only to find that their back tyres would not grip, when a less generous throttle would have sufficed.

Leather (N.U.T.) stopped, Plowman (Triumph) footed, and Knight (Norton) was excellent, and, moreover, won the palm for the noisiest exhaust; Notari (Triumph) stopped; Rhodes (N.U.T.) made a good ascent. Then a curious incident occurred. Wallis (8 Reading-Standard) appeared in view round the bend, and as if his "horse" had shied at the gradient, performed a lightning pirouette, and shot straight down the hill. He stuck to his machine magnificently, and prevented what might have been a bad accident.

Then followed a fifteen minute gap; so many clearly were late. A blue trail down Countisbury, across the Lyn Valley, indicated the approach of other competitors, and Slann—a local rider—appeared on a Triumph. Rounding the bend



R. Carey (8 Blackburne sc.) closely following a Morgan on Lynton. Observe the excited spectators in the foreground, who considerately advised many of the passengers to sit on the carrier to avoid wheel slip.

The 1921 London-Land's End Run.—cautiously, he appeared about to peter out, when he let in the low gear and simply toyed with the gradient.

Bateman and Price, on Diamond machines, were both good. Alcock (Coulson B) peeped round the corner, his back wheel shot from under him, and he descended again at speed, to the spectators' great amusement. He did better next time. Francis (Triumph) was good. Morgan, on a similar machine, used his feet. Cuffe (Metro-Tyler) made a steady climb. Bourlet (Ariel) had power to spare. Shepherd (Beaumont) was good.

Roadman's Attention to Lynton.

Another gap, what time a roadman, with a useful spade, removed some of the surface grease. Kickham (3½ Douglas) came next, and made one of the best climbs of the day. Labin (Indian Scout) went up nicely, but trailed his feet. Ammon (Metro-Tyler) stopped, due to lack of petrol, so it was said. Bray (N.U.T.) footed slightly. Wall (Cedos) skidded below the bend, and remounted. Morgan (Harley-Davidson) also skidded on the corner, lying prostrate when Keevil (Sunbeam) appeared, and dexterously avoided him, continuing with a clean ascent.

O'Sullivan (4 Harley-D.) made a very neat climb, but Fellowes (Coulson B) elected to cut the corner, scattering the spectators. It was a good ascent, however. Churchill (Verus) went up well, but noisily, Knill (Indian Scout) footed slightly, Guthrie (2¾ Dalton) went up as cool as a cucumber, but he was observed to use his feet nearer the summit; Eaton (N.U.T.) had his engine running too fast and footed to keep upright. Cunningham's P. and M. was in fine fettle, and ascended surely, also Richardson (Lea-Francis), Harveyson (Indian Scout), and Watson Bourne (Rex). Love (Douglas) made a clean ascent.

The Sidecars Arrive.

Then followed, at 8:57 a.m., the first sidecar—Glendinning (8 Rex). Flinging mud from his driving wheel, he went up magnificently; Le Vack (7 Indian) was next, and stopped due to lack of wheel grip, side by side with Simpson on a similar outfit. There was a perfect din at this stage, for Sykes (Harley-D.) arrived and had to foot to keep straight. Fell Smith (8 Rex) was excellent. Michaelis (7 Harley) and White (Sunbeam) stopped, with wheels spinning.

Now the spectators tumbled to the reason and yelled to the passengers to get on the carrier to assist wheel adhesion. Some could not understand the shouting and gesticulations, and the drivers were often puzzled and consequently hampered.

Stone (Olympic) and Ratcliffe (Brough Superior) had difficulty in avoiding stranded sidecars; the former footed, but the big twin showed up very well. Marvin (Rex) stopped, Ross (Matchless) was very good, but Ellis (Matchless) stopped with his engine running. Sandford (6 Rover sc.) was good. Apsey (Royal Ruby) shed his passenger, and Hardee (Matchless) did the same; then Gibson (Royal Ruby) made probably the finest and fastest climb of the sidecars. Dale on a similar outfit dismounted and ran, Parsons (Matchless) got up after his passenger had climbed on to the touring valise perched high on the carrier, Nott (Matchless) was sure and fast withal, Packman (Matchless) good, Lucking (New Imperial) stopped with his engine asking for weight on the back wheel. Watson (Ariel) nearly stopped until his passenger did a lightning move to the carrier, when he picked up speed, W. E. Brough (Brough) stopped, also Lunniss (Sunbeam) and J. T. Bashall (Martinsyde). W. H. Bashall (Martinsyde) was "touch and go," but just crawled over the summit; Caslake (Harley-Davidson) was good; Masters (Harley-Davidson) was unlucky in being baulked, and stopped in the stones after accounting for the worst pitch; W. Julian (7 Harley-Davidson) charged the inside of the bend, and went up well, passenger and driver bouncing up and down in unison. George Brough came round the bend at speed, when his engine suddenly pëtered out for no apparent reason. Restarting, he went up comfortably. Kaye Don (6 Zenith) just scraped the wall, but got up well. Pehrson (Dunelt) was baulked, waved assistance aside, and then restarted with ease, and went up splendidly.

S. Julian (Humber) slewed across the road, and had to halt momentarily, though his engine kept running. Strong (Harley-Davidson) was baulked; Claridge (4 Triumph sc.) made a very good, steady climb; Charlesworth (8 Zenith) was excellent, in spite of switching off to avoid the inevitable stray dog; Allen (Harley-Davidson) did well; Giles (7 A.J.S.) made a conspicuously good climb; and McGowran (4 Triumph sc.) made some of the big twins look sorry by his sure and clean ascent. Tait (Harley-Davidson) got well past the corner before he came to a standstill; Saddington (6 James) was excellent.

We sympathise with some of the charming lady passengers, who, in the excitement of the moment, were energetically coaxed out of their snug sidecars on to the carriers to assist in holding the back wheel down. The display of dainty ankles was quite a feature of the morning's ascents.

Runabouts do Well.

Spouse (T.B.) led the runabouts, and did well, thanks to Parsons chains. Hartfall (Morgan) was, if anything, faster. Carey (Blackburne sc.) made a good climb, also Hillary (Triumph sc.). Sawtell (Morgan) went up well, also Croucher (Coventry Premier) and McCarthy (Morgan). Betteridge (Douglas sc.) was late, and broke his belt. Of the light four-wheelers there was no more meritorious climb than that of V. G. Loyd (6 Carden); the two-stroke twin engine had a most healthy crackle. G.N. drivers also merit special mention.

Lynton overcome, some thought their troubles over, but those who had been before knew better. For, beyond Bideford and almost right into Holsworthy, the road was vile. Single file was the order for the survivors. So many were unseated that it would be invidious to particularise; and, as a result, a secret check near Holsworthy found very few early, not a few too late for a "gold," and one or two unfortunates who had forfeited all hope of a humbler "silver."

The welcome lunch stop at Launceston revealed many bent footrests and lamps.

At noon the leading men were off again fortified by promises (fulfilled) of better roads now that Cornwall had been reached. Indeed, the going to Bodmin and across Goss.noor to Truro was so good that another secret check formed an unpleasant reminder of the 20 m.p.h. schedule.

From Penzance to Land's End the twisting, "lumpy" road was thoroughly hated by all, and returning competitors made it even worse for the "tail-enders."

LONDON-LAND'S END SURVIVORS: 148 motor cyclists started; 108 finished.

MOTOR BICYCLES.

1. T. S. Sharratt (4 Indian Scout).
2. F. A. Longman (3½ Ariel).
3. P. W. Moffat (3½ Douglas).
4. E. A. Wright (2¾ Diamond).
5. H. Karslake (8 Brough Sup.).
6. H. J. Scale (4 Scale).
9. R. B. Clark (2¾ Coulson-B.).
10. G. E. Stacey (2¾ Verus).
11. S. Dunford (2¾ Verus).
12. C. A. McKeand (4 H.-Davidson).
14. R. M. Knowles (3½ Norton).
15. J. G. Goodenough (3½ Norton).
16. E. Pond (4 Triumph).
19. C. Wilson (4½ Quadrant).
20. P. Street (3½ Sunbeam).
21. A. Ellison (6 Zenith).
23. F. Notari (4 Triumph).
24. E. J. Anderson (3¾ Scott).
26. J. A. Hoult (3¾ Scott).
27. B. J. Sims (4 Triumph).
28. J. Harrison (2¾ Wooler).
30. S. G. Wooldridge (4 Omega).
31. R. T. Leather (3½ N.U.T.).
32. J. Wallis (8 Reading Standard).
33. A. C. Rhodes (3½ N.U.T.).
34. H. K. Knight (3½ Norton).
35. A. S. Guthrie (2¾ Dalton).
38. G. E. Cuffe (2½ Metro-Tyler).
39. C. C. Labin (4 Indian Scout).
40. H. V. Bateman (2¾ Diamond).
41. F. G. Price (2¾ Diamond).
42. C. F. Alcock (2¾ Coulson-B.).
43. A. A. Prestwich (2¾ New Imperial).
44. T. A. Slann (4 Triumph).
45. F. W. Applebee (2¼ Levis).
46. T. Morgan (4 Triumph).
47. T. Francis (4 Triumph).
49. C. Bourlet (3½ Ariel).
50. G. W. Shepherd (2¾ Beaumont).
53. E. Kickham (3½ Douglas).
54. G. H. Morgan (4 H.-Davidson).
55. R. G. Spikins. (7 H.-Davidson).
56. W. Bray (3½ N.U.T.).
57. A. M. Knill (4 Indian Scout).
58. L. Keevil (3½ Sunbeam).
59. H. F. Fellowes (4 Coulson-B.).
60. P. Cunningham (3½ P. and M.).
63. W. G. Churchill (2¾ Verus).
66. J. A. O'Sullivan (4 H.-Davidson).
67. R. B. Roberts (4 Triumph).
68. H. S. Eaton (3½ N.U.T.).
69. S. W. Ratcliffe (8 Brough Sup.).
72. J. Richardson (3½ Lea-Francis).
74. H. R. Harveyson (4 Indian Scout).
76. J. A. Watson-Bourne (4 Rex).
79. W. G. Sykes (7 H.-Davidson).

SIDECAR MACHINES.

80. W. A. Fell-Smith (8 Rex).
81. H. W. Glendinning (8 Rex).
83. W. J. Simpson (7 Indian).
85. J. C. Sandford (6 Rover).
88. R. A. Lucking (8 New Imperial).
89. P. W. White (8 Sunbeam).
91. C. D. Michaelis (7 H.-Davidson).
92. J. D. Marvin (8 Rex).
94. W. E. Brough, Sen. (5 Brough).
95. T. J. Ross (7 Matchless).
96. F. J. Ellis (7 Matchless).
97. G. D. Hardee (7 Matchless).
98. G. Nott (7 Matchless).
99. D. S. Parsons (7 Matchless).
100. G. Packman (8 Matchless).
101. Hugh Gibson (8 Royal Ruby).
102. H. Dale (8 Royal Ruby).
103. L. A. Apsey (8 Royal Ruby).
104. F. J. Watson (6 Ariel).
105. J. T. Bashall (6 Martinsyde).
106. W. H. Bashall (6 Martinsyde).
107. S. T. Tessier (8 Bat sc.).
108. E. C. Lunniss (8 Sunbeam).
109. S. Julian (4½-Humber).
110. W. Julian (7 H.-Davidson).
111. J. Caslake (7 H.-Davidson).
112. A. P. H. Pehrson (4½ Dunelt).
114. G. Brough (8 Brough Superior).
115. J. S. Morgan (7 H.-Davidson).
119. R. Charlesworth (8 Zenith).
120. K. Don (6 Zenith).
124. R. H. Attwood (4 Norton).
125. W. F. Guiver (8 Matchless).
126. E. J. L. Strong (7 H.-Davidson).
128. J. F. Perrin (6 Zenith).
130. G. R. Claridge (4 Triumph).
133. G. K. Gibbs (8 Reading Standard).
134. B. S. Allen (7 H.-Davidson).
135. F. W. Giles (7 A.J.S.).
137. S. C. Tait (7 H.-Davidson).
138. A. P. McGowrau (4 Triumph).
139. W. C. Hemy (7 A.J.S.).
141. V. Pentlow (4¼ B.S.A.).
142. R. Carey (8 Blackburne).
143. H. H. Saddington (6 James).

THREE-WHEELED CYCLE CARS.

145. A. E. Hartfall (10 Morgan).
146. F. S. Spouse (10 T.B.).
148. R. Croucher (7 Cov. Premier).
151. S. A. McCarthy (10 Morgan).
152. H. W. Holmes (10 Morgan).

The gaps in the numbers indicate retirements, excepting the following non-starters: 8, 18, 36, 61, 64, 65, 118, 121, 131, and 150.

The EASTER INTER-CLUB MEET at RICHMOND



Record Attendance at Northern Gathering of Motor Cyclists on Good Friday. Eleven Hundred Machines Assembled.

ON Good Friday the Mayor and Corporation of the ancient borough of Richmond in Swaledale welcomed motor cycle clubmen to their town for the third year since the war.

In 1919 a scarcity of men made the meet a mere gathering of a handful; in 1920 the scarcity of motor cycles resulted in the rallying of fewer than 300 machines; but this year proved a record. By mid-day on Good Friday over 800 machines were actually counted in the competition for the A.C.U. Cup offered to the club with the greatest percentage of paid-up members present, taking mileage into account. In addition to these, the cobbled market square of the sixteenth century town contained another 300 machines driven by unattached riders, who made Richmond a rendezvous in order to inspect the many machines parked there.

Unpropitious Weather Conditions.

Glorious spring weather, a gorgeous sunset and a wonderful moonrise the previous evening had raised high hopes in the North for a fine Eastertide, but Good Friday arrived to grey skies. Between ten and eleven an unpleasant drizzle of fine rain fell continuously, and the conditions were a little disheartening. Parties, however, were heading for the capital of Swaledale from all points of the compass, and the old market square, very type of that "old-fashioned town" of song fame, which was wrapped in its habitual calm at ten o'clock, was filling rapidly by eleven. At noon the spacious cobbled places around the square-towered church were filled almost to overflowing, for strong representations



All types of motor cycles being marshalled by police and scouts into the town.

The Richmond Meet.—

from thirty-three motor cycle clubs were present, and every type of machine from the miniature to the light car was to be seen.

The marshalling of the riders on arrival was efficiently carried out, each being directed to the section indicated for his club by a banner marked with the appropriate name and colours.

Nominally, the taking of the count was due at twelve noon, but a delay took place as a result of a somewhat prolonged meeting of the committee and judges in order to discuss the question of the mileage travelled by competing clubs to the rendezvous on the day previous to the actual meet. Amongst the local clubs it is understood that the distance covered in attending the meet shall be accomplished actually on Good Friday, but this not being in the printed rules a team from the North London M.C.C. made an entry and thirteen arrived. It was at first decided that their Friday mileage should be counted, but ultimately their total mileage was taken.

While the count was proceeding many Thermos flasks and Primus stoves were in evidence, for the influx of some fifteen hundred visitors naturally strained the catering resources of the town to the utmost.

Awards for Ingenious Fitments.

Other judges were examining the machines for the allocation of such awards as those for the best kept machines and the most ingenious device fitted by a rider; and about three o'clock the results were announced in the Town Hall.

Unfortunately, some of the clubs had already departed, and, in consequence, the names of certain prizewinners could not be announced, only the registration numbers of their machines being available. Amongst the assembled motor cycles, few outstandingly new or original home-made "gadgets" were to be seen, while the condition of the machines generally was that they were either nearly new or had the appearance of having seen considerable service, and in many cases were indifferently kept.



Including those of non-competing visitors, some eleven hundred machines were parked in the market place at Richmond (Yorks).

The principal award, the A.C.U. Trophy, for competition amongst motor cycle clubs, decided on the formula: Percentage of paid-up members present multiplied by mileage travelled, fell to the Scarborough and District M.C.C., and the placing was as follows:

	No. present.	Fig. of merit.
Scarborough	33	5356
Leeds M.U.	51	5100
Doncaster	19	5007
Barnsley	39	4986
Hull Auto.	21	3465
North London	13	3234
Barrow	23	2901
York	47	2801
Colne	20	2727
Wakefield	25	2607
Keighley	24	2089
Middlesbrough	66	1957
Annfield Plain	20	1872
Durham	34	1647
Easingwold	17	1575
Sunderland	23	1483
Harrogate	42	1460
Ilkley	34	1389
Wombwell	11	1357
Beverley	1	1321
Leeds and Dis.	29	1198
Bradford	32	1138
Northern (Newcastle)	26	985
Bradford (Gypsies)	24	916
Hartlepool	11	836
Newcastle	28	714
Sheffield and Hallam	7	548
Ripon	16	535
Blackpool	2	340
Bishop Auckland	5	268
Darlington	25	—
Hull M.C.C.	14	—
Skipton	24	—

Other results were:

Mayor of Richmond's prize for owner of best kept machine: G. Dawson (3½ Rudge, 1916 model), Bishop Auckland M.C.C.

Prize for best kept ladies' machine: Mrs. Gilchrist (6 A.J.S. sc.), Middlesbrough M.C.C.

Prize for lady driving greatest distance to attend: Miss Ireland (Scott sc.), Barrow M.C.C.

The Motor Cycle prize for the most ingenious amateur improvement: C. Cockran (8 Clyno sc.), Ripon M.C.C., partioned tool drawer in luggage grid.

GOOD WEATHER FAVOURS SOUTHERN HILL-CLIMB.

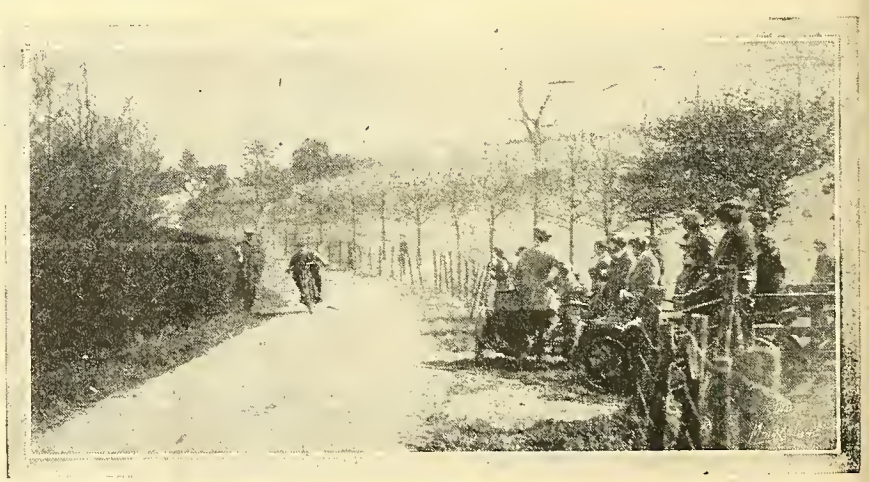
AN inter-club hill-climb was held on Good Friday between the West Kent Motor Club and the Holmwood M.C.C. The meet was at Green Street Green, whence competitors proceeded to the venue, in the neighbourhood of Shoreham. Over a hundred members of the two clubs witnessed the event, which was run off in magnificent weather.

Results:

350 c.c. CLASS.—1, Jessop (2¾ New Imperial), W.K.M.C., 33⅘s.; 2, Grey (2¾ Douglas), Holmwood M.C.C., 34⅘s.; 3, G. Williams (2¾ Douglas), W.K.M.C., 35s.

600 c.c. CLASS.—1, A. G. Williams (3½ Norton), W.K.M.C., 27⅗s.; 2, Farman (4 Matchless), 29⅗s., and Wallis (A.B.C.), W.K.M.C., 29⅗s.; 3, Bull (4 Bradbury), W.K.M.C., 30⅗s.

UNLIMITED CLASS.—1, L. Williams (6 Zenith), W.K.M.C., 26s.; 2, Hyde (Harley-Davidson), W.K.M.C., 26⅗s.; 3, Tweedy (Harley-Davidson), W.K.M.C., 29⅗s.



A competitor in the Kent club's hill-climb making a flying start.

AN EASTER "ROUND-UP."

In Gloucestershire and Somersetshire there was much activity on the part of the police during the week-end examining licences.

OTHER EASTERTIDE EVENTS.



Dr. Lindsay rounding the top bend in the Carmarthen M.C.C. hill-climb.

Hill-climb in South Wales.

THE hill-climbing and speed trials under the auspices of the Carmarthen and District M.C. and C.C. on Good Friday attracted eighty-six competitors, and the whole course was lined with interested spectators. The test selected was the Golden Grove Hill, situated about eighteen miles outside Carmarthen and in sight of the Earl of Cawdor's magnificent Carmarthenshire residence. Conditions were ideal, no sun to interfere with the competitors, and the road surface dry, hard, and clean. At the tail of a particularly difficult S bend a little "grease" on the outside of the bend took heavy toll. Several of those who swept the corner rather wide came to sudden grief. Undoubtedly the mounts which manœuvred the bends best, although not figuring in the awards list, were the Scotts. The total length of the course was practically one mile. The winners were :

CLASS 1 (250 c.c.).—Expert: 1, J. Thomas (Massey-Arran), 1 min. 35½ sec. General: 1, B. Griffiths (New Hudson), 1 min. 44 sec.

CLASS 2 (300 c.c.).—Expert: 1, J. Thomas (Massey-Arran), 1 min. 33⅘ sec. General: 1, J. J. Davies (Omega), 1 min. 55⅘ sec.

CLASS 3 (350 c.c.).—Expert: 1, Wm. Edwards (Massey-Arran), 1 min. 26⅘ sec. General: 1, E. O. Evans (Douglas), 1 min. 26 sec.

CLASS 4 (500 c.c.).—Expert: 1, Dr. Lindsay (Norton), 58 secs.; 2, H. Davies (A.B.C.), 58⅘ sec. General: 1, M. Price (Norton), 1 min. 4 sec.; 2, J. Evans (Rover), 1 min. 6 sec.

CLASS 5 (Unlimited c.c.).—Expert: 1, H. Davies (A.B.C.), 1 min. 1½ sec.; 2, J. Ash (Norton), 1 min. 2⅘ sec. General: 1, J. Ash (Norton), 1 min. 2⅘ sec.; 2, J. L. Jenkins (Norton), 1 min. 5⅘ sec.

CLASS 6 (Sidecars, unlimited).—Expert: 1, J. Ash (Norton), 1 min. 15 sec.; 2, Alex. Thom (Harley-Davidson), 1 min. 17⅘ sec. General: 1, B. Griffiths (James), 1 min. 23⅘ sec.; 2, T. Hancock (Enfield), 1 min. 33 sec.

Fastest time of the day, 58 secs., Dr. Lindsay (Norton).

Westmorland Open Hill-climb.

THE open hill-climb organised by the Westmorland M.C.C. for Easter Monday had to be abandoned at the eleventh hour owing to heavy rains and high winds. A vote was taken of the assembled competitors, who decided that the event should be postponed.

A North-Western Easter Rally.

ONE hundred and fifty members of twelve clubs affiliated to the North-Western Centre A.C.U. faced heavy snow and rain for the inter-club rally at Ribchester on March 27th. Fortunately, however, the weather cleared up at lunch time, and the judges were able to make their inspection for awards, which are as follows :

THE MOTOR AGENTS' CUP for largest number of points gained by a club (percentage of members present multiplied by mileage from headquarters).—1, Liverpool M.C., 817 points; 2, Blackpool M.C.C., 763 points; 3, Burnley M.C.C., 720 points.

SMARTEST SOLO MACHINE.—Porter, Accrington (2¾ Douglas).

SMARTEST SIDECAR.—Parker, Liverpool (8 Matchless).

OLDEST MACHINE PRESENT.—Fox, Liverpool (1912 Matchless).

LADY RIDING THE GREATEST DISTANCE.—Miss Cottle, Liverpool (79 miles).

LADY'S MOST SUITABLE COSTUME.—Miss Cowley, Manchester.

GENTLEMAN'S MOST SUITABLE COSTUME.—Mercer, Colne.

OLDEST RIDER AT THE RALLY.—Willock, Accrington (52 years).

YOUNGEST RIDER.—F. Hebden, Burnley (14 years 4 days).

A Birmingham to Lynmouth Trial.

ARRIVING at Lynmouth just after the last of the M.C.C. competitors had gone on, members of the South Birmingham M.C.C. held a fast and slow climb on the new road to Lynton at the conclusion of their trial from Birmingham. The event also included the ascent of Porlock, where H. Johnson (2¾ Allon sc.) made a clean climb, after averaging 20 m.p.h. for the run.

The following had clean sheets on arrival at Lynmouth :

B. Kershaw (Verus sc.), W. Handley (2⅘ O.K.), L. Newey (6 Ariel sc.), L. E. Clulee (2¾ Allon), H. Baragwanath (3½ Sports Sunbeam), and H. P. Cutler (4 Norton sc.).

The flexibility test resulted as follows :

SOLO CLASS.—1, H. Baragwanath (3½ Sports Sunbeam); 2, L. E. Clulee (2⅘ Allon).

SIDECAR CLASS.—1, L. Newey (6 Ariel sc.); 2, H. P. Cutler (4 Norton sc.).

Rain fell throughout the return trip.

Easter Monday Hill-climb at Staxton.

SLIGHT showers and high wind proved no detriment to the 170 entries for Staxton hill-climb, the popular Easter event of the Scarborough M.C.C. There were ten classes, and the results were as follow :

CLASS I. (275 c.c.).—1, J. S. Jenkins (2¼ Velocette), 1m. 14s.; Miss S. F. Wilson (2¼ Velocette), 1m. 52⅘s.

CLASS II. (350 c.c.).—1, J. S. Jenkins (2¼ Velocette), 1m. 16⅘s.; 2, J. T. Johborn (2¾ Sunbeam), 1m. 23⅘s.

CLASS III. (600 c.c. Sidecars).—1, E. Searle (3½ Norton sc.), 1m. 19⅘s.; 2, G. Hill (3¾ Scott sc.), 1m. 49⅘s.

CLASS IV. (800 c.c. Sidecars).—1, E. Searle (3½ Norton sc.), 1m. 17⅘s.; 2, W. Wells (4 Norton sc.), 1m. 40s.

CLASS V. (1,100 c.c. Sidecars).—1, E. Earle (3½ Norton sc.), 1m. 20⅘s.; 2, W. Wells (4 Norton sc.), 1m. 40⅘s.

CLASS VI. (560 c.c. Sidecars).—1, R. T. Cawthorne (3½ Norton sc.), 1m. 2s.; 2, E. Searle (3½ Norton sc.), 1m. 2⅘s.; 3, H. G. Sissons (3½ Norton sc.) and L. A. Runton (3 A.B.C. sc.) tied.

CLASS VII. (Unlimited Solo).—1, E. Searle (3½ Norton), 1m 0⅘s. (fastest time of day and record for the hill); 2, A. C. Thornton (3½ Norton), 1m. 5s.; 3, F. Shepherd (3½ Sunbeam), 1m. 5⅘s.

CLASS VIII. (650 c.c. Touring Solo).—1, W. Backhouse (4 Triumph), 1m. 8⅘s.; 2, L. A. Chappel (4 Triumph), 1m. 12⅘s.

CLASS IX. (1,100 c.c. Touring Solo).—1, A. C. Thornton (6-7 Ariel), 1m. 8⅘s.; 2, L. A. Chappel (4 Triumph), 1m. 12⅘s.

CLASS X. (Cycle Cars).—1, F. W. James (10 Morgan), 1m. 27s.; 2, R. E. H. Hatton (10 G.N.), 1m. 50s.

Everything went off to time, the arrangements being excellent. Miss F. Rippon (4 Triumph), won the special prize for the best performance of the day by a lady.

Easter in Ireland.

IN spite of the severe restrictions prevailing in Ireland where motoring is concerned, the Dublin M.C.C. ran off a successful trial on Easter Monday. Owing to the nature of the course and severe weather conditions, only eight finished. These were as follows : P. H. Hurse (B.S.A.), N. Leppler (Indian), J. A. Carville (Triumph), T. E. Green (Enfield), G. Thompson (Matchless), — Nesbitt (Douglas), J. Mactaggart (Indian), and A. Carton (Indian).

North, South, East, and West.

ALL the important motor cycle events held at Eastertide are described in this issue of *The Motor Cycle*. The articles are accompanied by exclusive photographs by our own operators. Four pages are devoted to the classic London-Land's End Trial. This year the Richmond (Yorkshire) Meet attracted a record crowd of nearly 1,100 motor cyclists.

Just as our last issue formed a programme of Easter events, so this issue records the latest available news of trials from all parts of the country.

A Stormy Week-end Event.

HEAVY rain showers, some sleet, and muddy roads spoiled the first day's run of the Glasgow Western M.C.C. Easter trial. Saturday's course was over a very easy route, being the main road to Carlisle. Monday's route, however, was of a more strenuous nature, and embraced several hills well-known to English competitors, such as Buttermere Hause, Red Bank, and Kirkstone.

Out of an entry of forty-four about forty started. The first check, at Abington, found the majority arrive to time. H. M. Batten (3½ P. and M.) arrived with a tube round his waist, appearing to have had puncture trouble; while Gordon Baker (8 Acme sc.) wasted precious minutes during a wayside halt. Several machines were making their first appearance in Scottish local events, these being the Scott Squirrel, ridden by A. J. C. Lindsay, and the flat twin Humber ridden by T. Watson. A.J.S. sidecars were well to the fore, and interest centred in the performance of Mrs. Bell, who was driving one of these outfits through the event.

Speed Trials in Lincolnshire.

ON Easter Monday, the East Midland Centre A.C.U. held speed trials at Grimsthorpe Park, Bourne, Lincolnshire. With twenty classes, well supported, the programme was a long one. A strong following wind prevailed, but the weather, though threatening, did not prevent the programme being brought to a successful conclusion. The distance was half a mile. F. T. Bidlake was the official timekeeper.

CLASS 16 (Open, Solo, 350 c.c.).—Flying start: 1, G. Dance (2¼ Sunheam), 19⅗s.; 2, A. Swann (2¾ New Imperial), 25⅗s.

CLASS 17 (Open, Solo, 500 c.c.).—Flying start: 1, G. Dance (3½ Sunbeam), 18⅗s.; 2, H. Petty (3½ Norton), 20⅗s.

CLASS 18 (Open, Solo, 550 c.c.).—Flying start: 1, G. W. Walker (3½ Norton), 19⅗s.; 2, H. Petty (3½ Norton), 20⅗s.

CLASS 19 (Open, Solo, 750 c.c.).—Flying start: 1, G. Dance (3½ Sunbeam), 18⅗s.; 2, H. Petty (3½ Norton), 20⅗s.

CLASS 20 (Open, Solo, Unlimited), Flying Start.—1, G. Dance (3½ Sunbeam), 18⅗s.

CLASS 2 (Open, Sidecars, 550 c.c.), Standing Start.—1, G. Dance (3½ Sunbeam sc.), 30⅗s.; 2, H. Petty (3½ Norton sc.), 34⅗s.

CLASS 3 (Open, Sidecars, 750 c.c.), Standing Start.—1, G. W. Walker (3½ Norton sc.), 31⅗s.; 2, G. C. Boston 2¾ A.J.S. sc.), 31⅗s.

CLASS 4 (Open, Sidecars, Unlimited).—Standing start: 1, G. Dance (3½ Sunbeam sc.), 29⅗s.; 2, Reg. Stacey (7-9 Harley-Davidson sc.), 30s.

CLASS 6 (Open, Sidecars, 550 c.c.).—Flying start: 1, G. Dance (3½ Sunbeam sc.), 22s.; 2, H. Petty (3½ Norton sc.), 24⅗s.

CLASS 7 (Open, Sidecars, 750 c.c.).—Flying start: 1, V. Horsman (3½ Norton sc.), 24⅗s.; 2, H. Petty (3½ Norton sc.), 24⅗s.

CLASS 8 (Open Sidecars Unlimited)—Flying Start: 1, G. Dance (3½ Sunbeam sc.), 21⅗s.; 2, Reg. Stacey (7-9 Harley-Davidson sc.), 23⅗s.

CLASS 9 (Open Solo 275 c.c.).—Standing Start: 1, J. V. Prestwich (2¼ Diamond-Jap), 30s.



An A.J.S. sidecar on Kirkfield Bank during the Glasgow Western M.C.C. Easter Trial.

CLASS 10 (Open Solo 350 c.c.).—Standing Start: 1, A. Swann (2¾ New Imperial), 35s.

CLASS 11 (Open Solo 500 c.c.).—Standing Start: 1, G. Dance (3½ Sunbeam), 27s.; 2, H. Petty (3½ Norton), 30⅗s.

CLASS 12 (Open Solo, 550 c.c.).—Standing start: 1, G. W. Walker (3½ Norton), 27⅗; 2, H. Petty (3½ Norton), 28⅗s.

CLASS 13 (Open Solo, 750 c.c.).—Standing Start: 1, G Dance (3½ Sunbeam), 26⅗s.; 2, H. Petty (3½ Norton), 29⅗s.

CLASS 14 (Open Solo, Unlimited).—Standing start: 1, Reg. Stacey (7-9 Harley-Davidson), 29⅗s.

CLASS 15 (Open Solo, 275 c.c.)—Flying start: 1, J. V. Prestwich (¼ Diamond-Jap), 24⅗s.; 2, Mrs. Jennison (2¼ Velocette), 25⅗s.

Victory Cup Trial Results.

VICTORY Cup results have been announced by the Birmingham M.C.C., and are as follow:

Victory Cup for best performance: B. Kershaw (2¾ Verus). Midland Cup for best performance by a passenger machine: R. Brown (3½ Sunbeam sc.). Duke Cup for best performance by a solo machine over 275 c.c.: B. Kershaw (2¾ Verus). Best amateur performance: R. Brown (3½ Sunbeam sc.). Best lightweight under 275 c.c.: P. Pike (2¼ Levis). Team prize: M.C. and A.C. Team No. 2: W. T. Woodcock (3½ Ariel), N. Hall (2½ O.K.), and A. E. Rollason (3½ Ariel).

GOLD MEDALS.—G. S. Arter (5-6 James sc.), W. R. Urwin (2½ Levis), A. Woodfield (4¼ James sc.), H. C. Jennens (3½ James), Reg. Brown (3½ Sunbeam sc.), R. W. Duke (4 Triumph), S. T. Tessier (8 Bat sc.), T. F. Watson (4 Norton sc.), B. Kershaw (2¾ Verus), F. J. Adam (3½ Norton sc.), F. S. Short (5-6 James sc.), H. Newey (2¼ Levis), Hugh Gibson (8 Royal Ruby sc.), J. W. Parkes (2½ Sun-V.T.S.), F. A. Watson (3½ Sunbeam sc.), T. F. Blumfield (6 Ariel sc.), S. E. Longman (7-9 Harley-Davidson sc.), R. T. Cooke (4 Triumph sc.), J. C. Edkins (2¾ Pax), C. W. Ramstedt (2½ Cotton), A. D. Atkin (5 Rover sc.), N. Rycroft 4 Triumph), P. Pike (2¼ Levis), J. E. J. Whitaker (4¼ B.S.A.), L. Baker (8 Enfield sc.), J. W. Wills (3¾ Scott), R. C. Bennet (2¾ Federation), W. F. Smith (2¾ Hobart), S. G. Neal (3 Neal-Dalm), C. H. Hanwell (2¼ Cedos), T. Peck (4½ Ariel sc.), F. H. Brown (8 Rex sc.), H. J. Willis (3½ Norton), A. E. Rollason (3½ Ariel), Eric Williams (3½ Sunbeam), B. Bladder (8 New Imperial sc.), F. S. Barnes (3½ Sunbeam), A. Elliot (5-6 Rover sc.), E. Griffiths (3½ Norton), B. Clare (3½ Norton), J. H. Walker (4¼ B.S.A.), J. W. Moxon (4 Coventry Eagle), W. Chapman (7 A.J.S. sc.), F. A. Longman (3½ Ariel), S. H. Rhodes (2¾ Wolf-Blackburne), W. T. Woodcock (3½ Ariel), W. Handley (2½ O.K. Junior), N. Hall (2½ O.K. Junior), R. C. Cooper (2½ Alldays Allon), L. S. Horton (2¼ New Imperial), W. Tongue (3½ Rover sc.), G. Ravenhall (3½ Rover sc.), Rex Mundy (2¼ Cedos), H. Poole (4¼ B.S.A.), G. Mason (2¾ Pax), A. W. Thrush (2¼ Levis), G. Kuhn (2¼ Verus), L. Crisp (4½ Humber), Sam Wright (4½ Humber sc.), H. F. S. Morgan (8 Morgan), J. Wainwright (10 T.B.), W. A. Ridley (10 New Hudson), P. Yates (10 New Hudson), F. W. Benson (8 Morgan), W. A. Carr (8 Morgan), R. N. Hamilton (10 G.N.), and A. Milner (2¼ Diamond).

SILVER MEDALS.—G. R. Morgan (4 Triumph sc.), H. F. Edwards (2¾ Coulson-B.), T. G. Amphlett (4¼ James sc.), G. J. Baragwanath (3½ Sunbeam), W. Swiffin (3½ Norton), H. R. Fowler (5-6 James sc.), T. Stevens (7 James sc.), J. Allday (3½ James), J. R. Fellows (3½ Norton), F. Porter (2¼ Levis), B. Bourke (2¼ New Hudson), E. Mundy (2¼ New Hudson), W. Bell (2¼ New Hudson), L. Paynter (3½ Norton), G. Nott (8 Matchless sc.), H. Finch (4 Triumph sc.), B. H. Norris (2½ Sun), M. Bishop (2½ Sun), H. Riley (5-6 A.J.S. sc.), F. Morgan (2¾ Cotton), G. White (5 Rover sc.), E. S. Astley (5 Rover sc.), R. R. Grindlay (4 Triumph sc.), G. S. Smith (3½ B.S.A. sc.), H. L. Burley (2¾ Marloe), H. Greaves (3½ Beardmore-Precision), E. J. Cope (7-9 Indian), L. L. Sealley (4¼ B.S.A.), H. Greathead (3 Ivy), K. G. Hay (2¾ Coulson-B.), A. J. Jacobs (5-6 New Imperial), S. H. Brand (4 Indian Scout), F. Hallam (8 Excelsior sc.), H. F. Brockbank (8 Blackburne), W. H. Carson (8 Excelsior sc.), J. Allen (3 Neal-Dalm), J. Lee (7-9 Indian), B. L. Bird (4¼ B.S.A. sc.), E. Walker (2¼ Excelsior), A. Ellison (8 Zenith), A. E. Wood (6 B.S.A. sc.), Seymour Smith (3 Ivy), E. Kibble (4 Triumph), D. S. Heather (6 B.S.A. sc.), A. J. Wilkes (3½ Rover), H. Poole (6 A.J.S. sc.), C. L. Hull (2¼ Levis), S. Hall (3½ Sunbeam), L. E. Clulee (2½ Alldays Allon), F. Goodman (7-9 Indian), V. G. Wilkins (2½ New Imperial), W. Brandish (5-6 Rover), H. Riddle (4¼ B.S.A. sc.), G. Denley (2¼ Velocette sc.), J. W. Meredith (10 T.B.), and A. Frazer Nash (8.7 G.N.).

The judges report that J. G. Skinner (2½ Autoglider) completed the course of 128 miles, arriving at all time checks to the schedule time.

The 500 Miles Race.

IT has now been decided by the British Motor Cycle Racing Club that the 500 miles motor cycle race for the Miller 200 Guineas Gold Cup, which is to be held on Brooklands track on Saturday, July 2nd, shall commence at 7 a.m. The race has a time limit of twelve hours; but as the present 500 miles record is held by a 2¾ h.p. machine in a much shorter time, it is anticipated that the winner and a number of others will have completed the distance well before 7 p.m.

Cycle Cars at Brooklands.

BOTH the G.N. and the Crouch cycle cars did well at the Brooklands Easter Monday meeting. The former, driven by L. A. Cushman, proved an easy winner in the cycle car handicap at 63¾ m.p.h., and J. Cocker—better known to motor cyclists as a pre-war rider of Singer and Triumph motor cycles—won two races on his racing Crouch, averaging 69.57 m.p.h. in one event.

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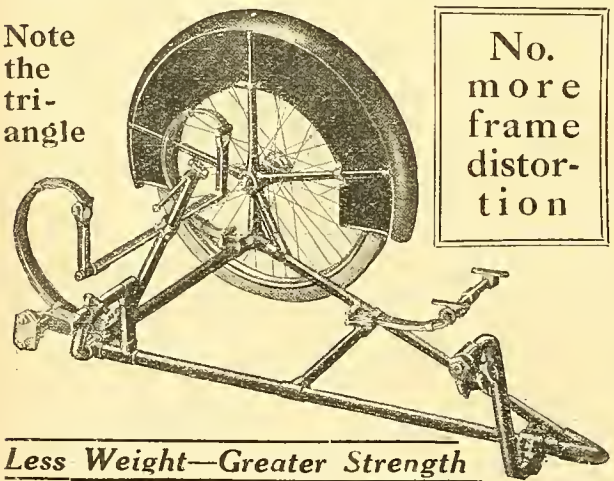
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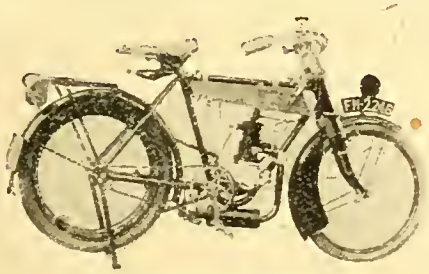
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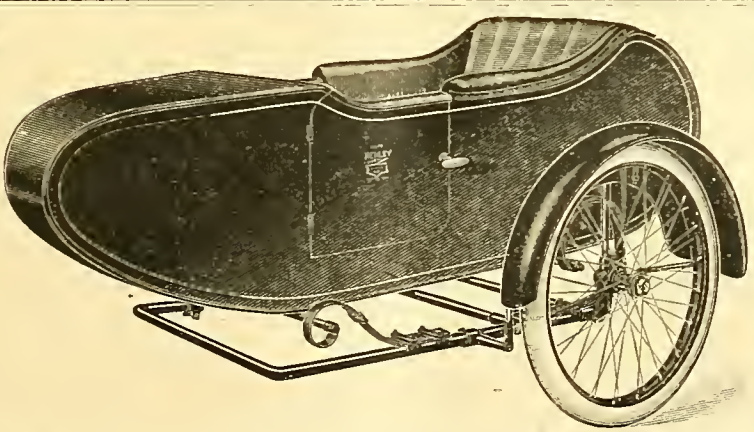
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TRIUMPH, 3½ h.p., 1913, 3-speed model	£50 0
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BAT 1921 Models.—We are now accepting orders for early delivery. Your enquiry esteemed.—Below.

BAT, 6h.p., fully equipped as makers' specifications, shop-soiled; at greatly reduced price; also second-hand combination, same make.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [9226

BAT.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5738

BAT 1920, shop-soiled only, list price £160; our price £132.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0439

BAT-J.A.P. 7-8h.p. Combination, 1912, accessories complete, excellent condition; £70; photo and particulars.—Woodman, Albany Rd., Leighton Buzzard. [X0158

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BEARDMORE-PRECISION 1921 Models in stock for immediate delivery. Your enquiry esteemed.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [9227

Beaumont.

2¾h.p. Beaumont-Blackburne, Sturmey-Archer gear, all chain drive; 95 gns.; fully equipped free.—The One Tree Motor Cycle Co., Huddersfield. [8549

Blackburne.

4h.p. Blackburne, 3-speed S.A. hub gear combination, good order; £65.—1, Bellingham Terrace, Bromley Rd., Catford. [8535

BLACKBURNE Agents.—Official Blackburne engine repairers in any make.—Bulloughs Motors, Ltd., Waterloo St., Oldham. [1099

BLACKBURNE new 1920 4h.p., list price £135; our price £120.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0430

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GENUINE Bargain.—Blackburne 4h.p., 1920, new; £120.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., Bond St., W.1. [0320

BLACKBURNE 1920 4h.p. Combination, with screen, speedometer, 3 acetylene lamps, with separate generators; £135.—Milsted's Garage, Tenterden. [7729

1920 4h.p. Blackburne, splendid condition, Lucas head and tail lamp and horn, Cowey speedometer, Sturmey-Archer gear box, legshields, tax paid; price £100.—John O. Beadle, Ltd., Dartford. [7544

BLACKBURNE 1920 8h.p. Combination, spare wheel, hood, screen, speedometer, lamps, legshields, Klaxon, tools, etc., splendid condition; £175.—Write, Elliott, 25, Whitmore Rd., Beckenham. [0349

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BLACKBURNE Combination, 4h.p., 1920, Sturmey-Archer, Cowey speedometer, Klaxon, 3in. Palmers unpunctured, bulbous back sidecar, Easting, electric light, tax paid, leg shields, spares, excellent condition; £135.—Grant, 37, Poppleton Rd., Leytonstone. [8843

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BRADBURY 4h.p., sporty machine, perfect condition; £38.—Standing, 5, Hyde Park Square Mews, Paddington, W.2. [8607

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BRADBURY, 4h.p., single-speed, sporting model, new last April, excellent condition; £60.—Buckley, 27, Regent St., Oldham. [X0394

BRADBURY, 4h.p., Gradua gear, 2-speed, free engine, good condition, lamps, new tyres; £45, bargain.—Killick, Station View, Rye, Sussex. [8921

BRADBURY 6h.p. Combination, shop-soiled, makers' price £199, our price £175; fully equipped.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0433

BRADBURY 1913 4h.p. Combination, N.S.U. 2-speed gear, equipped, good condition; £60.—Parker's, Bradshawgate Bolton, and 245, Deansgate, Manchester. [X9984

4h.p. Bradbury C.B. Combination, 3-speed clutch, Bosch mag., in perfect condition, tyres good; any trial; first cheque secures, £50.—G. Welford, Preston, Bissett, Buckingham. [8606

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1912 4h.p. Bradbury, Bosch, B. and B., recently overhauled, tyres as new, new belt, all lamps, tax paid, in perfect order, guaranteed; 24 gns.—Ogden, 11, Thomas St., King's Lynn. [8340

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1920 Bradbury Combination, 3-speed countershaft gear, clutch, and kick start, mileage 300, new throughout; 100 gns., bargain.—304, Fulham Rd., S.W.10. 'Phone: Kensington 2372. [8605

BRADBURY 6h.p. Twin, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [9228

Brown.

1913 3½h.p. Brown, mechanically perfect, tyres and belt practically new; £28.—20, Foundry Rd., Stamford, Lincs. [8357

Brough.

BROUGH 3½h.p. o.h.v. flat twin, 2-speed; bargain, £50.—141, Merton Rd., Wimbledon. [8777

BROUGH 5h.p. Flat Twin, £140; 3½h.p. flat twin, overhead valves, ideal sporting solo, £130.—Sole agents, G. and J. Dawson, Regent St., Cambridge. 'Phone: 993. [0462

BROUGH 3½h.p., 1914, o.h.v., 3-speed S.A. hub, aluminium discs, stove re-enamelled, lamps, horn, perfect condition, smart and fast, tax paid; £65.—Swainson, St. Rest, Stafford. [8568

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BROUGH 3½h.p., overhead valves, 3-speed Sturmey-Archer gear, chain-cum-belt, in perfect mechanical order and good general condition, 30/- tax, little used and much too fast for present owner; £79; seen at week-end North London, by appointment.—'Phone: Palmer's Green 388; after 7.30 p.m. any night. [9056

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BROUGH Superior, 8h.p., overhead valves, built to an ideal for the rider who will have the best; £175; enquire of sole agents for Cambridgeshire, Huntingdonshire, and district, G. and J. Dawson, Regent St., Cambridge. 'Phone: 993. [0463

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B.S.A. Sidecars, hoods, grids, screens, etc., in stock

B.S.A. Replacements, every part and pattern, by return.

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B.S.A. Combination, fully equipped like new; £110. —H. Wright, Arlesey, Beds. [8467

B.S.A. 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2439

B.S.A. 4¼h.p. Model K., brand new; £100.—Byfleet Automobile Co., West Byfleet. [6362

B.S.A. 1921 Model H2; £110; in stock.—Hucklebridge, 133, Sloane St., London, S.W.1. [X0084

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B.S.A. 1921, chain-belt, ridden from works only, tax paid; £104, guaranteed.—205, Hampton Rd., Twickenham. [8374

B.S.A. 4¼h.p., C.B. sidecar, kick start, Bosch, screen, lamps; £60, or offer.—Muskett, 677, High Rd., Leytonstone. [9111

1920 B.S.A., Model K, guaranteed perfect condition; £85; sidecar if required extra.—Jenkins, Easemore Rd., Redditch. [8948

B.S.A. 1921 Twin 6-7h.p. Combination, in stock, £175; spare wheel, tyre, and luggage grid extra £13/19.—Below.

B.S.A. 1921 Model H., 4¼h.p., chain drive; £110; No. 2 sidecar £35, in stock.—Below.

B.S.A. Model K., 4¼h.p., 1920, chain-cum-belt, £100; No. 2 sidecar, £35; in stock.—A. Rivett, 236, High Rd., Leytonstone. [3586

B.S.A. 6-7h.p. Twin, fitted with special sidecar, Easting, screen, Miller lamps; £210.—Milsted's Garage, Tenterden. [7728

B.S.A. 1921 Models; orders now accepted for early delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0429

B.S.A., 1921, Model K2, chain-cum-belt; immediate delivery; £107.—Turner Brothers, 134, Upper Thames St., London, E.C. [8411

B.S.A.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5741

NEW 1921 B.S.A. Combinations: twin and single-cyl. in stock; list price.—Bounds, Garage, 223, High Rd., Kilburn, N.W.6. [9039

B.S.A. 3½h.p., 2-speed, B.B., Bosch, lamps, horn, and accessories, in good order; £40.—105, Hartington St., Barrow-in-Furness. [8737

1920 B.S.A. 4¼h.p., Montgomery sidecar, all-chain drive, mileage low; £125.—Hobson, Old Hall, Coole Pilate, Nantwich, Cheshire. [9250

B.S.A. 1919 4¼h.p., K Type, Millford sidecar, tyres nearly new, splendid condition; £105.—H., 54, Thorneyhedge Rd., Gunnersbury, W.4. [9052

B.S.A. 1920 Brand New Magdyno Combination, £162; new Model H2, £110.—Agents, R. B. Clark and Co., 7, Exhibition Rd., S.W.7. [9171

B.S.A. 1920 4¼h.p Combination, as new, hood, wind screen, electric lighting; £135, no offers.—F. R. Redman, Uphall Arms, Barking. [9078

B.S.A., July, 1919, all-chain combination, insured, tax paid, unpunctured, screen, etc., new condition; £110.—162, Chatsworth Rd., Clapton, E.5. [8616

1919 B.S.A. Combination, Easting screen, lamps, etc., insurance and tax paid, condition as new; £120; trial.—Reeves, 175, Roman Rd., Bow, E.3 [8347

B.S.A. Singles and Twins, early deliveries, fitted with any model Sandum sidecars; B.S.A. twin and dual sidecar in stock.—Sandum Sidecars, 336, Gray's Inn Rd., W.C.1. [0541

B.S.A. Combination, 1917, coachbuilt sidecar, kick starter, 3-speed, fully equipped, new tyres, good condition, tax paid; £95.—Neale, Estcourt, Tatsfield, Surrey. [8674

BRAND New 4¼h.p. B.S.A. Combination, all-chain drive, run few miles, beautifully equipped, tax paid; £115; exchanges.—60, Wallingford Av., North Kensington. [9103

B.S.A. 1920 4¼h.p., Sandum sidecar, hand and foot clutch, fully equipped, indistinguishable from new; £130.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9985

4¼h.p. 1917 B.S.A. (K model), guaranteed mechanically sound, in excellent running order, privately owned; £85; letters or telegrams.—Yates, Valuer, Conway, North Wales. [X0318

1920 4¼h.p. B.S.A. and No. 2 Sidecar, Magdyno, horn, spares, tax paid, condition perfect; £134.—Edwards 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [9269

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1921 6-7 h.p. **B.S.A.** and Sidecar, and spare wheel	£139	0
1921 4 h.p. **DOUGLAS** Combination	£170	0
1921 8 h.p. **MATCHLESS** Combination	£205	0
1921 8 h.p. **NEW IMPERIAL** Comb.	£188	13
1921 2¾ h.p. 2-speed **DOUGLAS**	£86	0
1921 2¾ h.p. 3-speed **DOUGLAS**, with clutch	£105	0
1921 4 h.p. **TRIUMPH**, chain drive	£140	0
1920 5-6 h.p. **JAMES** Combination	£175	0
1920 8 h.p. **NEW IMPERIAL** Comb.	£165	0
1920 2-stroke **DIAMOND**	£45	0
1920 2¾ h.p. 2-speed **NEW IMPERIAL**, with clutch	£73	0
1920 2¾ h.p. 2-speed **NEW IMPERIAL**, without clutch	£63	0
1920 3¼ h.p. **LEA-FRANCIS**	£115	0
1921 **GRAND PRIX MORGAN**, M.A.G. engine	£229	14
1921 **G.N.**, dynamo lighting	£275	12
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1920 2¾ h.p. 2-speed **EDMUND**	£73	0
1915 4 h.p. **TRIUMPH** and accessories	£90	0
1915 4 h.p. **TRIUMPH** and Sidecar	£105	0
1920 4 h.p. **DOUGLAS** Combination, all accessories	£140	0
1920 8 h.p. **NEW IMPERIAL** Combination, all accessories	£145	0
1920 4 h.p. **TRIUMPH** and Montgomery Sidecar, all accessories	£140	0
1920 4½ h.p. **B.S.A.**, all-chain, and Sidecar, all accessories	£130	0
1920 2¾ h.p. 2-speed **NEW IMPERIAL**	£55	0
1920 2-stroke 2-speed **CALTHORPE**, all accessories	£50	0
1920 2-stroke **JAMES**, 2-speed	£65	0
1920 2-stroke **CLYNO**	£50	0
1920 **MATCHLESS**, dynamo lighting	£175	0
1920 4 h.p. twin **HARLEY-DAVIDSON**, all accessories	£105	0
1912 **ZENITH-GREEN**, 3½ b.p.	£35	0
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MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A., June, 1919, Model H, 4¼h.p. countershaft, fully equipped, Lucas lamps, horn, speedometer, all tools, perfect, original owned, licensed; £80; after 7.—168, Burbage Rd., Dulwich. [8543

B.S.A., 1914, 3-speed, chain-cum-belt, K. start, speedometer, lamps, Tan-Sad, under 4,000 miles, solo, licence paid, ready to ride away for Easter; £70.—136, Holland Park Av., W.11. [8685

1917 B.S.A. Combination, 4¼h.p., No. 2 sidecar, condition perfect, including tyres (one new), lamps, horn, tax (£4) paid; bargain, £84.—Hudson, Regina Villa, Hunstanton, Norfolk. [8981

B.S.A. 1921 6-7h.p. Twin Combination, complete with spare wheel, luggage grid, and screen; cash, or extended payments.—Taylors, Ltd., 52 and 53, Sussex Place, S.W. 'Phone: Kensington 7260. [0492

T.T. B.S.A. 3½h.p., 1919 (Sept.), single gear, dome piston model, Lucas lamp, all tools, and spare valve, original tyres good, engine and enamel like new, fast; £80.—Showell, 31, Bridle Rd., Purley. [8517

1915 (late) 3½h.p. T.T. B.S.A., lamps, horn, decompressor, tyres and belt very good, licence paid, excellent condition; a genuine bargain, £42.—Bamber's, Easthank St., Southport. Tel.: 607. [8940

3½h.p. B.S.A. Combination, 1913 (?), 2-speed, clutch, hub gear, Bosch mag., Watsonian cane sidecar, splendid order, reliable, lamps, tax paid; £45, offers.—Dickie, Croft Rd. Pharmacy, Crowborough, Sussex. [8999

ALLEN-BENNETT Motor Co., Ltd.—B.S.A., several reconstructed models from £75; cash, exchange, extended payments.—9, 10, 11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6298

IMMEDIATE Delivery of any B.S.A. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0501

1919 B.S.A. 4¼h.p. Combination, guaranteed only 12 months use, fine condition, mechanically perfect, lamps, Klaxon, insurance, tax paid; any trial; £125, or near offer.—Dickeson, Cliiden, Ragland Gardens, Wembley Park, Middlesex. [8413

B.S.A. 1916 Coachbuilt Combination, 3-speed countershaft, K.S., clutch, acetylene lighting, horn, speedometer, apron, screen, tools, and spares, 1921 licence and insurance; any trial, only wants seeing; £105.—Rake, 207, Sumner Rd., Peckham, S.E.15. [8412

B.S.A. 6-7h.p. De Luxe Combination, new August, 1920, Watsonian super sidecar, very elegant, acetylene lighting, Klaxon, Tan-Sad, Watford speedometer, Easting wind screen, in splendid condition; £160.—Potter, 210, Addison Rd., King's Heath, Birmingham. [8937

B.S.A. 1921 6-7h.p. Twin Model A with B.S.A. No. 1 sidecar, Magdyno lighting, speedometer, spare wheel with tyre, tyre cover, luggage grid; immediate delivery from stock at makers' latest price, £217/10; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [9246

Calthorpe.

CALTHORPE 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Below.

CALTHORPE 2¾h.p., 2-speed Enfield gear, as makers' specifications; at greatly reduced price; now is the time to buy.—Mehes. 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [9229

2¼h.p. Calthorpe Junior, countershaft drive, 2 speeds, free, low, fast; £30.—91, Fairfield Rd., Bow, E. [8686

1920 2¾h.p. Calthorpe, Enfield 2-speed, in new condition, hardly used; £55.—Clarke, 39, Holden Rd., N. Finchley. [8415

CALTHORPE.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5742

CALTHORPE.—Immediate delivery 3h.p. 2-stroke solo, 65 gns.; combination, complete with lighting set, 110 gns.; and 2¾h.p. Calthorpe-Jap, 2-speed, 70 gns. Motor Co., Hereford. [4314

CALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon; all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

CALTHORPE-J.A.P. 2¾h.p., July, 1919, Enfield gears, original tyre front wheel, lamp set, all accessories, discs, spare tubes, tyre, valves, etc., lot perfect; bargain, £55; any trial.—Hawker, 227, Oving Rd., Chichester. [9087

CALTHORPE-J.A.P., 1921, 2¾h.p., 2-speed, delivery from stock; 70 gns.; extended terms 4% extra, quarter cash and 12 monthly payments.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

CALTHORPE 1921 Combination, actually in stock for immediate delivery; cash or deferred terms; place your orders with the Calthorpe specialists.—Burlington Motors, Ltd., Clapham Common, S.W.4. 'Phone: Brixton 2417. [0509

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 4h.p., as new; £80.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, S.W.2 (next to Brixton Skating Rink). [9063

DOUGLAS.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5744

£46.—2¾h.p. Douglas, 2-speed, enamel and plating like new, engine, tyres, etc., perfect.—Milliner, 6, Cavendish Parade, Clapham, S.W.4. [8458

DOUGLAS 2¾h.p., good condition, lamps, spares, £43; light coachbuilt sidecar, £7; after 6.—Inglenook, Woodside Court Rd., Addiscombe. [8365

4h.p. Douglas Combination, 1918, recently thoroughly overhauled, head lamp, generators, 3-speed; what offers —Morgan, The Barn, Camberley. [8567

4h.p. 1920 Douglas, Steven's sidecar, tax paid, insurance, horn, lamps, Cowey, spares; £115, offers; owner going Africa.—8, Tring Av., Ealing. [8811

DOUGLAS 1911 2¾h.p., single speed, engine thoroughly overhauled by makers; offers wanted.—Powell, Cleamside, Worcester Park, S.W. [8540

DOUGLAS 4h.p. Combination, 1920, full equipment, guaranteed; £137/10.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0546

1919 2¾h.p. 2-speed Douglas, lamps, horn, discs, long exhaust, etc., perfect condition, small mileage; £63.—Payne, 127, High St., Winchester. [8832

DOUGLAS 1915 2¾h.p., mechanically perfect, appearance as new, tax paid; reasonable offer accepted; must sell.—1, Priory Rd., Kew Green. [8541

DOUGLAS 1918-19 Combination, C.B., 4h.p., K.S., 3-speed, clutch, lamps, horn, 2 new tyres, splendid outfit; £95.—45, Bayston Rd., Stoke Newington. [9051

DOUGLAS, 1915 (late), 2¾h.p., T.T. model, complete with lamps and horn, fully licensed till December; bargain, £50.—R. D. Varty, Thundersley, Essex. [9901

DOUGLAS, 2¾h.p., 2-speed, free, new tyres, tubes, horn, engine just overhauled, in splendid condition; trial; £25.—Box 388, c/o *The Motor Cycle*. [X0308

1920 (Aug.) Douglas Combination, as new, electric lighting, speedometer, wind screen, etc., insured, tax paid; £136., offer.—Ekin, West Rocks, Eastbourne. [8968

NOV. (1919 4h.p. Douglas Combination, lamps, Klaxon, tyres nearly new, excellent condition throughout; £120.—Smith, Elms, Keynsham, Bristol. [0182

1918 Douglas 4h.p. Combination, absolutely as new, 3 speeds, new sidecar, aluminium disc wheels, Rinks latest carburetter, very smart lot; lowest £90.—Below.

1918 Douglas 4h.p. Combination, re-enamelled and plated, new sidecar, 3 speeds; £85.—Below.

1917 Douglas Combination, re-enamelled and plated, new sidecar body, latest colours, lamps; £82/10. Above can be seen and tried any time over holiday.—Snow, 91, Mapledene Rd., Dalston, E.8. [8826

DOUGLAS 2¾h.p., kick start and clutch; £50; all accessories.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, S.W.2 (next Brixton Skating Rink). [9065

DOUGLAS, 1920, 2¾h.p., 3 speeds, fully equipped, indistinguishable from new; any trial; £85.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9981

GUARANTEED Overhauled Throughout.—2¾h.p. Douglas, 2-speed, heavy tyres, fully equipped, licence attached; £50; ride away.—4, Gaywood Rd., Walthamstow. [8531

LATE 4h.p. T.T. Douglas, 3 speeds, kick start, clutch, all lamps, tax paid, perfect; any trial; bargain, £58.—89, East Hill, Wandsworth. 'Phone: Battersea 443. [8523

4h.p. Douglas Combination, licence fitted, with luxurious Sandum body, Easting screen, petrol carrier, grid, etc., insurance policy included; £95.—336, Gray's Inn Rd., W.C.1. [0540

DOUGLAS, brand new, slightly soiled; a bargain; usual price £100, sacrifice £85; first spot cash secures; cannot be repeated.—Wilkins, Simpson, opposite Olympia, London. [9247

1920 Douglas Combination, Cowey speedometer, Lucas horn, 2 P. and H. head lights, Easting, legshields, perfect condition, tax paid, £140.—91, Well Hall Rd., Eltham, S.E.9. [8722

DOUGLAS, 2¾h.p., fully equipped, aluminium chain guard, 1915, £55; ditto, 1919, £70; guaranteed.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0547

DOUGLAS 4h.p. Combination, excellent condition, lamps, discs, Klaxon and bulb horn, fitted up regardless; a bargain, £130, or near.—41a, Chapel Rd., Worthing. 'Phone: 667 [8966

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

DOUGLAS, 45 gns.; 2¾h.p., 1915, licenced, new P. and H. lamp set, Bosch mag., new tyres, in excellent order.—Smiths, 86, Chalk Farm Rd., Opposite Chalk Farm Tube Station, N.W. [0491



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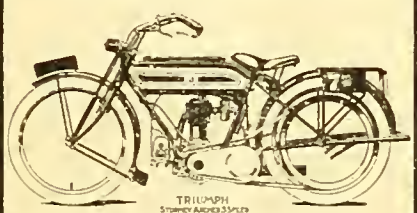
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Douglas.

1920 Douglas 2¾h.p., latest model, 3-speed, clutch and kick start, condition guaranteed new; accept £87/10.—Boon and Porter, Ltd., 161, Castlenau, S.W.13 (close Hammersmith Broadway). [5868

DOUGLAS 2¾h.p., 1916, W.D. model, overhauled, makers' colours, long exhaust, and canoelet sporting sidecar, perfect; first cheque 60 gns. secures.—Cox, 30, Chapel St., Rugby, Warwickshire. [8562

1914 Douglas 2¾h.p., owner driven 2 years only, 50 m.p.h., 120 m.p.g., Bosch, new Amac, Dunlops, leg shields, all accessories; £55.—Howes, 30, Mallinson Rd., Clapham Junction, S.W.11. [8556

DOUGLAS Combination, 4h.p., 1916, overhauled and re-enamelled, and sidecar upholstered, tyres and belt as new, new Miller's lamps, licence paid; £100.—Bagshawe, Wheelwright, Chelmorton, Buxton. [8667

F.O.C.H. have a 1920 Douglas combination, almost new, completely equipped; £135.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9013

1916 2¾h.p. Douglas, thoroughly overhauled, new tyre, lamp set, pump, horn, belt, etc., all enamelling and plating new, nothing more to buy; £50.—232, Elmhurst Mansions, off Manor St., Clapham. [8366

DOUGLAS, late 1914 2¾h.p., 2-speed, clutch model, Godiva sidecar, 3 lamps, Low generator, speedometer, mirror, horn, mileage 2,000 only, good running order; £56; private.—178 High St., Harlesden, N.W.10. [8364

IMMEDIATE Delivery of any Douglas Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4 'Phone: Brixton 2417 [0505

DOUGLAS 4h.p. 1916, with new coachbuilt sidecar, 3-speed clutch, kick start, excellent condition, new tyres, lamps, horn, owner must sell; best offer over £80 secures; South Staffs. district.—Box 372 c/o *The Motor Cycle*. [X0110

DOUGLAS 4h.p. 1919 Combination, P. and H. lighting set, Volta horn, Easting and luggage grid, good condition, garage room required; first best offer near £110 secures.—7, Vauxhall Rd., Gloucester. 'Phone: 125 Gloucester. [8363

ALLEN-BENNETT Motor Co., Ltd.—Douglas. Dozens in stock, 2¾h.p. and 4h.p., from £45; lady's model, 2-speed, £38; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: 2450. 'Grams: Track, Croydon. [6286

1921 2¾h.p. Douglas, 3-speed clutch model, weight 196 lbs., one month old, carefully run 300 miles; £92, or with Cowey horn, F.R.S. Big head lamp, electric tail lamp, etc., £98; Manchester district.—Box 376, c/o *The Motor Cycle*. [X0098

1919 (late) 2¾h.p. 2-speed T.T. Douglas, speedometer, mechanical horn, lamps, tools, long exhaust, discs, light footboards, enclosed chain, new heavy cover, spare chain, valves, tube, belt, insured, the whole absolutely as new, just been overhauled, smartest sporting Douglas on the road; £75; no offers.—Baker, Rosary, Ashford, Kent. [X0204

DOUGLAS, 1916, 2¾h.p., mechanically perfect, plating and paintwork in excellent condition, new C.A.V. mag., P. and H. lamps, horn, tools, footboards, tyres nearly new, spare valve and spring, 100 m.p.g., licensed; £50, or near offer, or would exchange Triumph, cash adjustment.—After 5, Vaughan, 56, Maur, Benhill Wood Rd., Sutton, Surrey. [8905

Edmund.

EDMUND-J.A.P., 1920, brand new, Enfield gears; £65.—Clark, 7, Exhibition Rd., S.W.7. [9168

1920 Edmond, 2¾h.p. J.A.P., clutch, kick start, brand new, unused; £68.—Edwards, 50, Horrington Rd., South Kensington. [9256

2¾h.p. Edmund-Union, spring frame, Enfield 2-speed gear, 1920 model, shop-soiled; list price £86, my price £63.—Davies, 229, Deansgate, Manchester. [0527

Enfield.

JULIANS of Reading have 1921 Enfields in stock. [0478

NEW 1920 Enfield, 2-stroke, 2-speed; £65; in stock.—Randal, Andover [0369

ENFIELD 1918 8h.p. Combination, accessories, as new; £118.—67, New Rd., Woolwich. [8405

ENFIELD 2¼h.p. 2-stroke, new machine, only ridden 50 miles; £59.—134, Bargery Rd., Catford. [9031

BRAND New Late 1920 8h.p. Enfield Combination, unsoiled; £150.—Rose's Garage, Uxbridge. [8804

ENFIELD, 4¼h.p., splendid condition, ready ride away.—Firstbrook, Old Mill, Dartenth, Dartford. [9079

ENFIELD 6h.p. Combination, 1914, first-class condition; price £130.—'Phone: Victoria 9916. [9256

ENFIELD 1921, all models for immediate delivery —Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0432

ENFIELD, 2-stroke, 1921, 2-speed, free engine, chain drive, in stock; £65.—Rivett, 236, High Rd., Leytonstone. [8872

ENFIELD 1919 8h.p. Combination, excellent condition, mechanically perfect; £140.—136, Boundaries Rd., Balham. [8695

MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD Combination, all accessories, wind screen, mechanically perfect; £95, offers.—Plaistowe, South Rd., Southall. [9100

1920 8h.p. Enfield Combination, new; £152/10.—Shepherd, Enfield Highway, Enfield. Tel.: Waltham X31. [0340

1916 Enfield Combination, all accessories, excellent condition; £110, near offer.—98, Westcombe Hill, Blackheath. [8560

ENFIELD 1916 Combination, Lucas dynamo, Easting, licensed, perfect order; £112.—Clark, 7, Exhibition Rd., S.W.7. [9167

1919 (Oct.) Enfield 2¼h.p., 2-stroke, not done 1,000 miles, fully equipped; £48, or offer.—23, Richmond Rd., Kingston-on-Thames. [8654

ENFIELD.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5745

BRAND New 1921 Enfield Combination, dynamo lighting; take lightweight part exchange.—Fox, 12, Conduit St., Sutfield, Staffs. [X0093

ENFIELD, brand new 1920 lightweight; £60.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd. S.E.1. Tel.: Hop. 210. [8797

ENFIELD 6h.p. Combination, excellent condition, with accessories; £105, lowest, seen any time.—42, Bellenden Rd., Peckham. [8810

1920 Enfield 2-stroke, 2 speeds, in perfect order, all lamps, etc., tax paid; £60.—Homac's, 243, Clapton Rd., N.E. 'Phone: Dalston 2408. [9208

1920 Enfield 8h.p. Standard Combination, nearly new, lamps, pillion, screen, hood, side curtains.—Jenkins, Rectory, St. Athan, Cardiff. [8959

ENFIELD Combination, 1920 nearly new, full equipment, Easting, D.A.; £160, or near offer.—C.B., 61, Station Rd., Harlesden, N.W.10. [8649

1920 Enfield Combination, as new; £130; any trial; Easting screen, Klaxon, and lamps.—45, Malden Rd., New Malden, Surrey. 'Phone: 39 Malden. [8906

ENFIELD Combination, 6h.p., 1917, complete with all lamps, sidecar screen, several spares; £115, offers.—Lt. Richardson, c/o Dan Guy, Weymouth. [0563

NEW 1921 Enfield Combination: dynamo, £182; less dynamo, £160; lightweight model, £65.—Enfield Agent, Bounds, Garage, High Rd., Kilburn, N.W.6. [9037

BRAND New Enfield Lightweight in stock for immediate delivery; £65.—Broom and Whitehead, Ltd., Authorised Agents, 88, Gt. Portland St., W.1. [9241

1921 Enfield Combination, dynamo lighting, with or without dynamo; in stock, immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

ENFIELD, 1920, 2-speed, 2¼h.p., splendid condition, full set lamps, tools, speedometer, mileage 2,730, tax paid; £55.—Attwood, 50a, Beulah Rd., Thornton Heath. [8510

ENFIELD (Royal) Twin 2¾h.p., just overhauled, perfect running order, low, comfortable, owner bought combination; £30.—Mills, 72, Manor St. Clapham, S.W.4. [8561

ENFIELD 6h.p. Combination, 1915, in perfect condition, fully equipped, lighting and horn Lucas, trial; £85.—'Phone: Waltham Cross 299.—44, Sun St., Waltham Abbey. [8578

ENFIELD 2¾h.p., 1920, T.D.C. unit, E.I.C., Amac, perfect; £38, offers; exchange for 3½h.p. Humber or similar.—Webb, Grammar School, Tonbridge Rd., Maidstone, Kent. [9148

ENFIELD 6h.p. 1917 Combination, perfect condition, Lucas lamps, speedometer, screen, Tan-Sad, spares, tax paid; any trial; owner bought car; £125.—12, Church St., West Ham. [8710

1916 Enfield Combination, electric-acetylene lamps, speedometer, hood, screen, Tan-Sad, licenced; 90 gns.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [9261

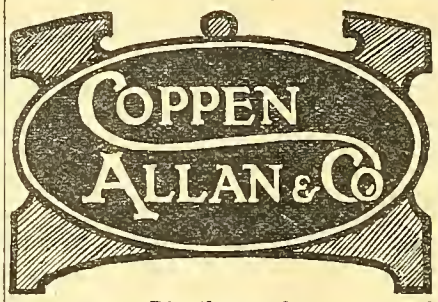
1919 Enfield Combination, 6h.p., new condition, new tyres, spare chain, and tools, etc.; seen by appointment, or after 3 p.m.; £150, or near offer.—126, Amersham Vale, New Cross. [8532

ENFIELD Magdyno Combination, bought Oct., 1920, trip speedometer, Cameo with side curtains, petrol, luggage carriers, tax paid, as new; £175, near.—15, Acacia Rd., Lordship Lane, Wood Green. [8559

ROYAL ENFIELD Combination, late 1916, 6h.p., Lucas lamps, tyres as new, enamel and plating good, in perfect running order, licence paid; £110.—Bagshawe, Wheelwright, Chelmorton, Buxton. [8668

ENFIELD 6h.p. Combination, 1916-17, very little used, hood, screen, Tan-Sad, electric lights, speedometer, new tyres back and front, new chains, spares, tax paid, 11 months insurance; £110.—62, Belvedere Rd., Crystal Palace, S.E.19. [8703

ENFIELDS.—The cheapest twin on the road. We are North London agents, and can supply from stock standard models £160, electric £182, cash, or deferred payments. All spares in stock. Trade supplied.—Jones' Garage, Muswell Hill, and at Woodside Parade, N. Finchley. [0380



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ALLEN-BENNETT Motor Co., Ltd.—Enfield 1918 combination, re-enamelled and plated as new, brand new genuine Enfield sidecar body, £125; also 1919 3h.p. twin, £70; 1917 3h.p. twin, £65; cash, exchange, extended payments.—9, 10, 11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6293

Excelsior.

1915 5-6h.p. Big Single Excelsior Combination, perfect condition; £80.—H. Wright, Arlesey, Beds. [8468

GENTLEMAN Returning to India wishes to dispose of complete Excelsior Model de Luxe and sidecar.—Letters to Illingworth, Engineers, Kendal. [X9956

1921 British Excelsior, new, 2-stroke, 2-speed, clutch, kick starter, models just arrived.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich. [5634

NEW 1920 Excelsior 4½h.p. Big Single Combination, luxurious sidecar; list price £160, offered at £135 spot cash.—The Premier Motor Co., Aston Rd., Birmingham. [8886

1920 Excelsior-Jap, 2¾h.p., Sturmey-Archer 2 speeds and K. starter, all accessories, as new; exchanges; price £80.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [9193

F.N.

F.N., 4-cyl., 2-speed, good condition; £45.—Frank Eele, Thame. [8730

F.N. 4-cyl. Combination; call, have trial run.—Grimes and Co., 18, Bruton Place, Bond St., W. [7645

F.N. 1921 Models, now arriving.—Send enquiries to S.E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [4129

F.N. 5-6h.p. Combination, 2-speed, free, clutch, perfect condition; trial willingly.—4, Roland Rd., Walthamstow, E.17. [8851

DAN GUY, Weymouth.—F.N., 4-cyl., 3-speed, clutch, and sidecar, Easting screen, tax paid, absolutely as new, mileage about 400; cash offers. [0568

F.N. 4-cyl. 4-5h.p., drop frame, Xl'all saddle, Pedley grips, recently had new drive parts, good condition; cheap, £20; am dismantling F.N., all parts cheap.—Apply, 33, Mill Lane, Southport. [9162

1921 F.N. 2½h.p., 2 speeds, clutch, and kick-starter, brand new, in stock for immediate delivery; £84; exchanges or easy payments.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [9203

IMMEDIATE Delivery of any F.N. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0500

Francis-Barnett.

JULIANS, of Reading, have 1921 Francis-Barnett in stock. [0479

FRANCIS-BARNETT, 2¾h.p., 1920, K.S., 2-speed Sturmey, clutch, 1,500 miles, fully equipped, tax paid; bought car; £77, or nearest.—Hall, 23, South Parade, Oxford. [8694

FRANCIS-BARNETT Late 1920, 2¾h.p. J.A.P., 2-speed, clutch, K.S., completely equipped, condition perfect; £80, or part exchange medium combination.—Write, 39, Spratt Hall Rd., Wanstead. [8633

Glen.

GLEN-VILLIERS, 1920, 2-speed, kick starter, 70-gn. model, shop-soiled; £59 cash.—Adams, 278, Dudley Rd., Wolverhampton. [X0282

Harley-Davidson.

HARLEY Sports, brand new, equipped; £145.—Clark, 7, Exhibition Rd., S.W.7. [9175

1920 Harley-Davidson Combination, electrically equipped; £160.—Dentist, 216, Portobello Rd. W.11. [9002

1919 Harley Sporting Combination, all accessories new condition; £140.—18, Hestercombe Av., Fulham. [8658

1920 Harley-Davidson 4h.p. Flat Twin, sports model, fully equipped, as new; £115.—Box 3,004, c/o *The Motor Cycle*. [8785

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross, 86, High Rd., Lee. [5669

HARLEY 1920, electric, with hooded C.B. Montgomery, speedometer, all as new; 150 gns.—54, Coval Rd., Mortlake. [X0121

HARLEY Flat Twin, 1920, unscratched, lamps, horn, speedometer; no reasonable offer refused.—Sanders, High St., Hampstead. [8612

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', Southport, Lancashire. Tel.: 607. [5009

£205.—1920 Harley-Davidson combination, brand new, shop-soiled only; list price £230.—Colmore Depot, 31, Colmore Row, Birmingham. [X0394

HARLEY-DAVIDSON.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5746

MOTOR CYCLES FOR SALE.

James.

ALLEN-BENNETT Motor Co., Ltd.—James, brand new, but slightly shop-soiled 6h.p. combination, list price £190, our price £165; also 1920 sports model 3½h.p. twin, T.T. bars, disc wheels, £100; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6288

J.A.P.

J.A.P. 8h.p., 3-speed, countershaft, K.S., not done 250 miles, excellent condition; £85, or offers.—20, Ailsa Av., St. Margaret's, Twickenham. [8569

£33.—4h.p. J.A.P. Combination, B. and B., kick start Gradua gear, lamps, guaranteed good order; without sidecar, £29.—48, Star St., Paddington. [8575

J.A.P. 2¾h.p., black and gold finish, 2-speed gear; 65 gns; cheapest lightweight machine offered.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X0106

4h.p. J.A.P., 1921 machine, T.T., 90 bore, Palmer tyres, electric lamps, horn, licence, absolutely brand new, will do 60 m.p.h.; £70 for quick sale.—Hill, 3, Bedford Rd., West Ealing, W.13. [9272

J.A.P. 3½h.p. Twin, overhead valves, aluminium pistons, mechanical lubrication, Bosch, Sonspray, dynamo lighting, not ridden 700 miles, tax paid; no reasonable offer refused; after 7 p.m.—14, Cleeve Rd., Knowle, Bristol. [8591

J.E.S.

J.E.S. 1921 Models from stock.—Gibb, Gloucester. 'Phone: 852. [0441

Kerry.

KERRY-ABINGDON, 3½h.p., bulb horn, and licence paid, running order; £25.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [8256

Kingsbury.

BRAND New Kingsbury, never ridden, 2-speed, chain drive, drip feed, hand brakes, clutch, tax paid, perfect; 49 gns., bargain.—18, Marlborough Rd., Old Kent Rd., S.E.1. [8610

KINGSBURY Motor Cycle, unused, 2-stroke, 2-speed, oil chain drive, C.A.V. mag., Sonspray carburetter, Dunlop tyres; price £48, a real bargain.—Estrcham Garage, 35, Estrcham Rd., Streatham, S.W.16. 'Phone: 35. [8552

Lea-Francis

1920 Lea-Francis, new; best offer over £105.—A.B., 128, St. Leonard's Rd., Poplar. [8402

LEA-FRANCIS 1920, 3½h.p. J.A.P., done 600, complete; £98.—24, Union St., Ryde, I.O.W. [8364

LEA-FRANCIS 1921 Models Now Ready.—Davies, 229, Deansgate Manchester. 536 Central. [2436

LEA-FRANCIS 1920, as new, mag.; 100 gns., cost £138.—Tree, 14, Courtfield Gardens, Kensington. [8241

LEA-FRANCIS 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed below.

LEA-FRANCIS, M.A.G., as makers' specifications shop-soiled; at greatly reduced price; now is the time to buy.—Melbes, 154-156, Gt. Portland St., W.1 'Phone: Langham 2230. [9231

LEA-FRANCIS.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd (See Wanted.) [5750

1920 Lea-Francis, perfect condition, un-scratched, speedometer, lamps, 2-generators, and all fittings, licence paid; £110.—Calcutt, Chemist, Marlow. [X0315

LEA-FRANCIS, 1920, shop-soiled only; list price £130, our price £115; orders now accepted for 1921 models.—Ratcliffe Bros., 200, Gt. Portland St. Langham 1704. [0431

LEA-FRANCIS, brand new, 3½h.p. twin M.A.G. engine; list price £130, offered at special cash price £100.—Elce and Co., 15-18, Bishopsgate Av., Lemonite St., E.C.3. [0067

£80.—1920 Lea-Francis, 3½h.p. J.A.P. engine, overhauled at makers' works, small mileage; another similar, but £4 sidecar tax paid, same price; two real bargains.—The Premier Motor Co., Aston Rd., Birmingham. [8889

1920 (Nov.) Lea-Francis, M.A.G., new Henderson featherweight sidecar, fourth attachment, Lucas lamps, horn, Cowey trip speedometer, muffs, special nee-grips, baby Easting, apron, as new throughout, cost over £170, £4 licence paid: £140.—Dickinson, Stourwood House, Stourwood, Bournemouth. [8359

Levis

JULIANS, of Reading, have 1921 Levis in stock. [0483

GIBB, Gloucester.—1921 Levis from stock.—'Phone: 852. [0442

DAN GUY, Weymouth.—Levis 1921 models in stock; £60. [0554

2¼h.p. Levis, capital running order; £35.—14, Deer Barn Rd., Guildford. [8422

LEVIS 1919½ 2½h.p., 2-speed, equipped, speedometer, must sell; offers.—27, Holly Rd., Chiswick. [8648

1917 Levis, tax paid, excellent condition throughout; 34 gns.—Forsfield, Westbury Rd., New Malden. [9147

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LEVIS 1917 2½h.p., perfect running order, speedometer, horn, lamp, licence; £38.—W., 18, Gloucester Rd., Teddington. [8351

LEVIS.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5751

LEVIS.—Sole district agents. Single and 2-speed models actually in stock; exchanges and deferred payments.—Maudes' Motor Mart, Wolverhampton St., Walsall. Tel.: 444. [9191

LEVIS Popular, 1920, mileage 700, perfect running order, fully equipped, electric lighting, tax paid; 45 gns.; no offers; after 7, or Saturday after 2.—29, Downscourt Rd., Purley. [9093

IN Stock, 1921 Levis, £60. Good wine needs no bush. Nuff sed!—Sole agents, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds. Phone: Headingley 480. [0494

1921 Levis Popular, the super 2-stroke; immediate delivery from stock; £60; easy payments or exchanges.—Official agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [9195

IMMEDIATE Delivery of the new Model S Levis, with Sturmey-Archer 2-speed, handle-bar-controlled clutch; £68; the cheapest high-grade lightweight. Place your order now.—The Premier Motor Co., Aston Rd., Birmingham. [8891

NEW 1921 Levis 2½h.p. Touring, sports, and lady's models, all in stock for immediate delivery; £60; you will obtain a specially picked machine if you place your order direct with the Levis Specialists, The Premier Motor Co., Aston Rd., Birmingham. [8890

GENTLEMAN'S Popular Model, £60; lady's Popular Model, £60; Model S, 2-speed, hand-controlled clutch, £68; immediate delivery. Levis specialists and sole distributors for London and district. Spare parts stocked, repairs undertaken.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St. (off Oxford St., Bond St. W.1. [0384

L.M.C.

L.M.C.—Mebes and Mebes are the sole London and Home Counties agents; early delivery of all 1921 models; trade enquiries esteemed.—Below.

L.M.C., suspension and ordinary models, shop-soiled, as makers' specifications, at greatly reduced prices, also 6h.p. and 4½h.p. combinations, second-hand; at bargain prices.—154-156, Gt. Portland St., W.1 'Phone: Langham 2230. [9232

L.M.C. 1920 4½h.p. Combination, complete with lamps, horn, speedometer, tools, etc., tax paid, small mileage; bargain, £100.—W.A.T.S., Garage, Alperton, Middlesex. (Dist. Rly.). [5814

6h.p. L.M.C., 3-speed, K.S. and clutch, chain-cum-belt, spring saddle suspension, 1920 model, shop-soiled only; list price £150, my price £127/10; a real opportunity for a sidecar machine.—Davies, 229, Deansgate, Manchester. [0526

Martinsyde.

JULIANS, of Reading have 1921 Martinsyde in stock. [0484

MARTINSYDE New 1921 6h.p. Combination, actually in stock; £175.—Moss, Wem. [X0378

MARTINSYDE Combination, delivered, never ridden or registered, brand new; £150.—Cotlands, Winkhurst Rd., Horsham. [9048

1920 Martinsyde with sidecar, 6h.p., electric lamps, hood, screen, horn, etc., tyres unpunctured, magnificent condition; 137 gns.—Julians, 84, Broad St., Reading. 'Phone: 1024. [0535

MARTINSYDE-NEWMAN 1921 Models.—We are now accepting orders for early delivery, all models; your enquiry esteemed.—Mebes, 154-6 Gt. Portland St., W.1. 'Phone: Langham 2230. [9235

Matchless

MATCHLESS

DON'T Hesitate.—If makers reduce prices before the end of May I guarantee to refund the difference.

1921 Combinations, any model from stock, or in few days. Gradual payments can now be arranged. Every outfit personally tested by the Matchless specialist. Spares of all dates in stock.—J. Tassell, 1a, Bloomfield Rd., Plumstead. [6881

JULIANS of Reading have 1921 Matchless in stock. [0486

GIBB, Gloucester, can deliver 1921 Matchless models from stock.—'Phone: 852. [0443

MODEL H Matchless, in stock; list price.—Cross, Agent, Rotherham. [X0129

1921 Matchless, all models, for immediate delivery; deferred payments and exchanges.—Edwards; below.

1920 Matchless, Magdyno, brand new, unused; £187.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [9265

MATCHLESS Combination and Ariel Combination; cheap.—Full particulars from Sutton, Bagshot, Surrey. [9129

MATCHLESS C.B. Combination, 8h.p., 2-speed, kick start, overhauled, enamelled; £80.—72, Whitwell Rd., Plaistow. [8764

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS, 1920, beautiful condition; cost with accessories £260, quick sale £175.—365, King St., Hammersmith, W.6. [8114

MATCHLESS.—Order your new combination from the man who rides one.—R. B. Clark and Co., 7, Exhibition Rd., S.W.7. [9172

1920 Matchless, Magdyno, completely equipped: cost £248; mileage only 2,500, perfect; £190.—90, Crofton Park Rd., S.E.4. [8398

I ALWAYS Have in Stock several second-hand Model H. Matchless combinations from £160.—J. Tasseli, 1a, Bloomfield Rd., Plumstead. [6553

MATCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0424

MATCHLESS.—All models will he on sale at the second-band Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5752

1920 Matchless, lamps and horn, perfect condition; £145.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [9264

MATCHLESS Model H. Magdyno lighting, spare wheel, hood and screen, tax paid; price £180.—Jackson, Hockenden, Swanley, Kent. [6354

1920½ Matchless Combination, mag. dynamo lighting, spare wheel, hood, screen, speedometer, licence paid; £185.—Lambert's, Thetford. [8697

MATCHLESS 6h.p. C.B. Combination, 2 speeds, K.S., mechanism perfect, fully equipped, tax paid; £75.—Write 37, Sunderland Rd., South Ealing. [8584

MATCHLESS Victory Model, electric lighting, new Awns, Palmer spare, excellent condition; £140, or near offer.—J. Smith, 94, Creek Rd., Deptford, S.E.8. [8953

MATCHLESS 5-6h.p. Combination, just overhauled, tax paid, new tyres, wind screen, speedometer, lamps, spare tyres and belt; £90.—195, Longley Rd., Tooting. [8858

MATCHLESS-M.A.G., Aug., 1920, electric, discs, full equipment, unpunctured, tax paid; £183, quick sale; view any time; trial 6 p.m.—252, St. Ann's Rd., Tottenham. [9138

1920 Matchless Combination, September, M.A.G. engine, mileage 1,500, Lucas lamps, bulb horn, condition as new; £180, or nearest.—P. C. Milner, Hawes, Yorkshire. [8868

MATCHLESS Combination, 1918, 8h.p. J.A.P., interchangeable and spare wheel, Lucas lighting set, Easting, hood, good tyres; £135.—46, Griffin Rd., Plumstead, S.E.18. [7453

MATCHLESS. Matchless. Matchless.—Latest 1921 model 8h.p. combination, for immediate delivery.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0418

MATCHLESS Model H Combination, 1920, Magdyno, hood, screen, legshields, Tan-Sad seat, Klaxon, spares, excellent condition; any trial; £180.—G., c/o Brand's Garages, Felixstowe. [8907

MATCHLESS Combination, 1914, J.A.P. 6-8h.p., 2-speed, kick start, lamps, etc., in splendid condition; £60, or near offer; seen after 6 p.m.—13, Arragon Gardens, Streatham, S.W.16. [8692

MATCHLESS, 1920, little used, speedometer, Lucas head lights, side screen, spare wheel, Stewart horn, aluminium discs, spares, tax paid, luggage grid; £200.—Babb, Severn Hill, Shrewsbury. [8755

MATCHLESS Victory Combination, 1919, 8h.p. J.A.P., F.R.S. electric lighting, spare wheel, tyres as new, speedometer, excellent condition; £150.—Ashley, Princes Rd., Cleethorpes. [8855

MATCHLESS Service Depot. 'Phone: Greenwich 751.—All 1921 new models. Secure one now. Demonstration ride with pleasure at S. E. Clapham (Motors), Stockwell St., Greenwich, S.E.10. [1030

MATCHLESS, 1921 models, delivery from stock; extended terms 4% extra; liberal exchange offers.—City Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0070

MATCHLESS 1920 Model H, Magdyno lighting, Easting hood-screen, leg shields, sidecar step, spare wheel, lug [illegible] and, just overhauled, tax paid, perfect condition; £190.—Mills, Chemist, Platt Bridge, Wigan. [X0105

MATCHLESS Combination.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [5668

MATCHLESS 1921 Models from £205; demonstrations daily.—Agent (wholesale and retail), for S.W. London: George Smith, 268, Lavender Hill (opp. Arding and Hobbs), Clapham Junction. 'Phone: Battersea 1271. [9423

MATCHLESS 1921 Models, immediate delivery: with Magdyno lighting £230, without Magdyno lighting £205; no waiting; in stock ready to drive away; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [9245

F.O.C.H. have a 1920 Matchless Combination, Magdyno, small mileage, fully equipped, hood, screen, spare wheel, luggage carrier, tax paid; £175.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9027

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MATCHLESS Combination, late 1915-16, 8 Lucas dynamo lighting set, all accessories, sp Tan-Sad, speedometer, wind screen, good running or any trial after 7.30 p.m., or Saturdays 2 o'cl £130, or near.—Hall, 50, Rutland Rd., Victoria Rd., E.9. [

MATCHLESS, late 1920, Magdyno lighting, with spection lamp, Lucas horn, Watford speedom 2-lever Amac, very little used, makers' guarantee; trial; list price £243, and £14 worth of extras; £200 the lot.—Levell's Dining Rooms,, 468, Ha Rd., W.9. [

ALLEN-BENNETT Motor Co., Ltd.—Matchless Model H. combination, Lucas Magdyno, l speedometer, etc., £195; 1919 Victory Model, la horn, speedometer, £140; cash, exchange, extended ments.—9-10-11, Royal Parade, West Croydon. 'Ph Croydon 2450. 'Grams: Track, Croydon. [6

MATCHLESS 1920 Model H. Combination, s wheel and tyre, Lucas Magdyno lighting, Eas wind screen, Lucas horn, speedometer, Binks car etter giving 70 m.p.g., tyres unpunctured, mileage u 2,000, spares, tools, beautiful condition, perfect ning order; £190.—116, Maida Vale, by appointme [6

MATCHLESS.—We are the recognised North Lon agents for the delightfully sprung and practic designed Matchless combination; the Rolls-Royce three wheels; immediate delivery from stock, for c deferred payments, or exchange; trade supplied; spares in stock.—Jones' Garage, Muswell Hill, N and at Woodside Parade, North Finchley. [0

Maxim.

MAXIM-DALM 1921 3h.p. 2-stroke, Amac car retter, E.I.C. mag., Albion 2-speed, Hutchin tyres, accessories, absolutely new; £52.—224, Pen ville Rd., London. [4

Metro.

METRO-TYLER 2½h.p., 1919, splendid condit insurance, tax; sacrifice £40.—59, Third Ave Manor Park. [8

METRO-TYLER 1920 Model, 2-speed, very li used, complete with lamps, etc.; £45.—Hopk New St., Ledbury. [0

Minerva.

3½h.p. Minerva, E.I.C. mag., Amac, low, fast; gain, £15; sidecar, £5.—16, Mason St., Walwo [8

New Hudson.

JULIANS of Reading have 1921 New Hudsons stock. [0

NEW HUDSON 2¼h.p. De Luxe 2-stroke in Sto 65 gns.—Rogers, 42, Church Rd., Hendon. [8

1920 New Hudson Lightweight, 2-stroke, like n £60; tax paid.—Rogers, 42, Church Rd., Hend [8

1916 2¼h.p. New Hudson 2-stroke, 2 speeds, lam Klaxon, tools, licensed; £40.—8, Silver St., field. [8

NEW HUDSON, 3½h.p., 3-speed, clutch, light c sports sidecar; £45.—58, Acacia Rd., St. Joh Wood, N.W. [9

6h.p. New Hudson Coachbuilt Combination, 1914, fect; £88, or offer, bargain.—109, Lyveden R Tooting, S.W. [8

NEW HUDSON 2¼h.p., 2-stroke, single speed, fi class condition; £40.—Venn, Walsham, Littleh Cross, Exmouth. [8

3½h.p. New Hudson Combination, 3-speed, in g sound running order and condition; any tr cheap.—Knowles, Park Farm, Bewdley, Worcestersh [9

NEW HUDSON 1921 2¼h.p., 2-speed, done abo 240 miles, lamps, horn, muffs, tools; 55 gns E. Harries, Myrtle Hill, Penthenry, near Llanelly. [9

NEW HUDSON Combination, 4h.p., 1919, ac sories, little used; a bargain, £95.—Taylors, Lt 52, Sussex Place, S.W.7. 'Phone: Kensington 7260 [0

NEW HUDSON 3½h.p., 3-speed, T.T. bars, new and H. lamp set, Klaxon, all accessories, ex lent condition; 50 gns.—9, Hamilton Gardens, John's Wood. [6

1915 New Hudson, tax paid; £120; Canoelet 2-sea sidecar, Lucas dynamo lighting set, new Dun 26×3, screen, speedometer, ready for tour; any trial 32, Fulham Palace Rd., Hammersmith. [7

NEW HUDSON 1914-15 Big Six Combination, N Hudson coachbuilt sidecar, enclosed Bosch, Am just fitted with latest Sturmey-Archer 3-speed count shaft gear box, clutch, kick start, largest P. and lamp set, mechanical horn, mirror, Stewart speedomet etc., tax paid for 1921, nearly new tyres all rou perfect condition mechanically, very smart, any tr given; £60; bargain.—R. Watson, Victoria Rd., Al burgh, Suffolk. [8

New Imperial.

JULIANS, of Reading, have 1921 New Imperial stock. [0

NEW IMPERIAL, 1921 models; liberal exchanges —Motories, 25, Horton St., Halifax. [9

NEW IMPERIAL 1919 8h.p. J.A.P. Combinati perfect; offers.—88, Kew Rd., Richmond. [8

MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL Agents.—Lightweights and spare parts in stock.—Crow Bros., Guildford. [4709

4h.p. Imperial-Jap, 2-speed, all on, registered; £38; trial; or exchange for 4h.p.—174, High St., ting. [8726

NEW IMPERIAL, 8h.p., nearly new, enamel and plate unscratched; £95.—61, Annesley Av., Hen- N.W. [8598

NEW IMPERIAL 1919 8h.p. Combination, complete with lamps, Easting wind screen; £135.— or Co., Hereford. [4311

NEW IMPERIAL.—County agents for Herefordshire; delivery from stock 2¾h.p. and 8h.p. combination. or Co Hereford. [4313

NEW IMPERIAL 2¾h.p., 1918, 2-speed, clutch, kick start, disc, electric lighting, spares, tax paid; /10.—10, Crowborough Rd., Tooting. [X0090

NEW IMPERIAL.—All models will be on sale at the second-hand Automobile Show, Crystal ace, from April 2nd. (See Wanted.) [5753

1918 New Imperial-Jap, 2¾h.p., kick start, hand clutch, 2-speed, excellent condition; £55, nearest r.—Evans, jun., Eveleigh, The Avenue, Lowestoft. [8386

1920 New Imperial 6h.p. Combination, electric lighting, tools, horn, speedometer, beautiful condi- £170; tax paid.—Burdett, 15, Waldemar Av., ing. [8528

NEW IMPERIAL 1919 Combination, 8h.p., absolutely new, electric lighting, Easting, speedometer, ng pillion, accessories; £150, or offer.—32, Hamble- Rd., Southfields, S.W.18. [8776

1920 New Imperial, 2¾h.p. J.A.P., 2-speed, clutch, kick start, lamps, horn, licenced, excellent con- £55.—Edwards, 50, Harrington Rd., South nsington. 'Phone: Ken. 3709. [9283

IMMEDIATE Delivery of any New Imperial Model; cash or deferred payments; book your order now, avoid disappointment later.—Burlington Motors, d., South Side, Clapham Common, S.W.4. 'Phone: ixton 2417. [0506

NEW IMPERIAL W.D. 8h.p., Mills-Fulford sidecar, new May, 1919, mileage 2,500 (about), excellent dition; £95, no offer. Garaged at 48, Bolsover St., d.—Enquiries, E. J. McL., 3, Aberdeen Terrace, ckheath, S.E.3. [8545

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, 1916, just overhauled, new cylinder, piston, complete; etc., ine practically new, lamps, horn, spare bars, etc., ellent order, tax paid; £42, or nearest.—Beverley, Ann's Rd., Faversham. [8609

O.O.H. have a brand new New Imperial, 2¾h.p., kick starter, shop-soiled; £78 cash; exchanges and y payments arranged.—5, Heath St., Hampstead r Hampstead Tube Station. 'Phone: Hampstead 52. Hours 9-7, including Saturdays. [9015

WE have every model of New Imperials in stock for immediate delivery; combination £186/18, tweight Model 1 £80/17, Model 2 £89/5; exchanges easy payments arranged.—Official Agents, Homac's, 5, Lower Clapton Rd., N.E. 'Phone: Dalston 2408 [9196

NEW IMPERIAL, 1921 models, 2¾h.p. J.A.P., 2-speed, kick starter, hand clutch, 85 gns.; 8h.p. bination, 178 gns.; extended terms 4% extra; eral exchange offers.—City Agents, Elce and Co., 16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: enue 5549. [0066

NEW IMPERIAL absolutely ready for the road, thoroughly overhauled, and has numerous acces- ies, including lighting and pillion saddle; £50, or rest prompt offer; can be seen by arrangement.—Mr. Jackson, 7, Mapesbury Rd., Broadesbury. Tel.: lesden 1290. [9059

ALLEN-BENNETT Motor Co., Ltd.—New Imperial, brand new, but slightly shop-soiled, list price for 8h.p. combination £186, our price £165; also 1919 p. combination, £110; cash, exchange, extended pay- nts.—9-10-11, Royal Parade, West Croydon. 'Phone: ydon 2450 'Grams: Track, Croydon. [6287

New Ryder.

1921 New Ryder de Luxe, brand new; sacrifice 58 gns; complete kick starter, 2-speed, hand control tch; would consider modern piano as part payment. 19, Rotton Park Rd., Edgbaston, Birmingham. [9118

New Scale.

NEW Scale Motor Cycle; original price, £85; sacrifice £62/10; shop-soiled, less kick starter.—64, shopsgate, London. [0393

NEW SCALE Combination, 1920, 3½h.p., 2-speed, 2-stroke, splendid little lot; £80.—Bunting's Motor change, Wealdstone. [9216

SCALE 3½h.p. Precision, £94/10; 4 h.p. Blackburne, £126, motor cycles you will hear more about. I ys always a stock of each model; trade supplied.— vies 229, Deansgate, Manchester. 536 Central. [2440

Norton

JULIANS, of Reading, have 1921 Nortons in stock. [0489

GIBB, Gloucester, can deliver 1921 Nortons from stock. 'Phone: 852. [0444

EASTERN GARAGE

WE OFFER YOU CHOICE OF OVER

ONE HUNDRED MOTOR CYCLES NEW SHOP-SOILED AND SECOND-HAND

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MOTOR CYCLES FOR SALE.

Norton

PREMIER Motor Co. for 1921 Nortons.

WE Can Deliver to your address within 24 hours new 1921 type 16H 3½h.p. 3-speed Norton, £132; Big Four solo, £135; Big Four with family sidecar, wind screen, child's dickey seat, £184/10; write for catalogue, or call for trial run.—The Premier Motor Co., Aston Rd., Birmingham. [6892

HORSMAN for Nortons.—Victor Horsman, Ltd., 7, Monot Pleasant, Liverpool. [0471

DAN GUY, Weymouth.—Norton official agent. Big 4 combination in stock. [0562

WESTON-SUPER-MARE.—Jack Pruen, Oxford St., for Nortons.—'Phone: 440. [6250

NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [6126

NORTONS, 1921 models, immediate delivery, specially tuned.—Evans, Garage, Newport, Salop. [X8648

NORTON 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5005

NORTON Big Four, November (1919), chain drive, lamps, horn, mileage under 1,000; £100.—Pyke, Hermitage, Netley Abbey. [8854

NORTON.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5754

NORTON 1921 Motor Cycles, brand new, all models in stock, immediate delivery.—Palin, Solo Agent, Bourne St. (nr. Spot), Osmaston Rd., Derby. [3181

NORTON 1919-20 Big Four Model, Sandum sidecar, Cameo wind screen, fully equipped; £130.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9979

DAVIES, of Manchester, can deliver 1921 Nortons from stock; the machine you will eventually buy; all spares stocked, prompt attention.—229, Deansgate. 'Phone: 536 Central. [2432

NORTON Agents.—Motor cyclists in or near Oldham call. Our Mr. Mitchell will demonstrate to you the finest machine in the world.—Bullough's Motors, Waterloo St., Oldham. [2050

NORTON 1920 Big Four Model with Canoelet Sidecar, fully equipped, low mileage, indistinguishable from new; £135.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9976

NORTON Nov., 1920, Big Four Combination, Lucas lighting, Coway horn, De Luxe sidecar, wind screen, 500 miles, splendid condition; what offers?—G. Boobyer, Lees, Stoke Saint Gregory, Taunton. [9112

NORTON Four 1919-20 de Luxe Combination, tax paid, engine perfect, Easting wind screen, horn, 700×80 tyres, only used week-ends, mileage 3,000, excellent condition; £130, or offer.—8, The Avenue, Chingford, E.4. [9109

NORTON Big Four, and Norton De Luxe sidecar, 3in. tyres, Kluxon, Brooks, all lamps, tools and spares, chains, bearings, engine, etc., perfect, insured till 1922, tax paid; further particulars and expert examination willingly; best offer over £100.—Fred Spalding, Jun., High St., Chelmsford. [8751

1918 Norton Big Four (unused 12 months), chain drive, horn, speedometer, tax paid, just overhauled, insured May 28th, including spare cylinder, piston, ball races, & bearings, springs, 2 covers, chain, axle, 3 tyres (new retreads), etc.; nearest offer £88.—Ernest Brown, Hollybank, Leighton Buzzard. [7927

N.S.U.

N.S.U. 2¾h.p. Twin, splendid condition; £40.—Richmond, 21, Southbrook Rd., Lee, S.E. [8594

5-6h.p. N.S.U. Twin C.B. Combination, o.h. valves, 2-speed and free, Bosch, tyres extra good; £35.—19, Edgmont Av., Bolton. [8381

N.U.T.

N.U.T., new Dec., 1920, mileage about 1,000; £135. —Full particulars from A. Roberts, 33, Torwood St., Torquay. [7072

N.U.T. Latest Electrically-equipped 3½h.p. Models at makers' list prices from stock.—A. J. Young and Co., Ltd., Newmarket. [1253

N.U.T.-J.A.P., 2¾h.p., o.h.v., T.T., 1914, real sporting little 'bus, in top-hole condition, lamps, tools, grips, all on, practically new tyres and tubes, engine and plating perfect, fast, economical, flexible exhausts; dirt cheap, £55; tax paid; owner broke—Apply Sundays, after 6.30 week days, 26, Fairfax Rd., South Hampstead (Swiss Cottage St.). [8586

O.K.

JULIANS of Reading have 1921 O.K. in stock [0481

O.K. Junior, new 1921 model, in stock; 48 gns.— Moss, Wem. [X0377

1920 (June) O.K. Junior, fully equipped, licence.— Judd, St. Margaret's, Sunbury. [8852

1920 O.K.-Union, noscratched, equal new, tax paid; £45.—Parker, Grocer, Hereford. [9115

O.K., slightly used, 1921, still guaranteed; £48, bargain.—139, New St., Birmingham. [X0109

MOTOR CYCLES FOR SALE.

O.K.

DAVIES, of Manchester, can deliver 1921 O.K.'s from stock.—229, Deansgate. 'Phone: 536 Central. [2435

O.K. Junior, brand new, 1920 model, 2¾h.p. Villiers engine; £42.—Byfleet Automobile Co., West Byfleet. [6363

2¾h.p. O.K.-Union, single speed, 1920 model, shop-soiled; list price £50/8, my price £43.—Davies, 229, Deansgate, Manchester. [0528

1920 (new June) O.K., single speed, 2¾h.p. Villiers, tyres unpunctured, lamps, horn, tax, mileage 600; £42.—96, Tufnell Park Rd., N. [8613

1921 O.K., 2-speed, clutch, K.S., lamps, horn, licensed. 200 miles demonstration, perfect; cost over £70, sell £60.—Harding, Eastover, Bridgwater. [X9289

1919 2¼h.p. O.K.-Villiers, 2-speed, full equipment; cost £64; mileage 700; sell or exchange higher power; offers.—Mitchell, 112, Prescot Rd., St. Helens. [9106

1920 O.K.-Villiers, latest model, 2-speed, absolutely indistinguishable from new, lamps, tax paid; sacrifice £47, near offer; cost £73; photo.—Ewers, Newton Rd., Burton-on-Trent. [8793

1920 O.K., 2-stroke, 2¾h.p. Villiers, C.A.V., Amac, bought 8 weeks ago new, not run 300 miles, perfect, lamps (acetylene), horn, insurance, year's licence; £40.—Vicar, Drax, Selby. Cycle at Eastbourne. [8361

1920 O.K.-Union, small mileage, original tyres almost unworn, lamps, horn, licence and holder, polished copper exhaust, as new throughout; private; £42.—Peacock, Hammer, Haslemere, Surrey. 'Phone: Haslemere 143. [8910

F.O.C.H. have a brand new O.K., 2-speed, shop-soiled; £59 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9016

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall Andover. [0368

OMEGA 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2436

OMEGA.—Immediate delivery of all models.—The Rochester Auto Supply Co., Corporation St., Rochester. [0465

1920 Omega-Jap 2¾h.p., 2-speed, clutch, kick start; £57, lowest.—Lockett, Moreton Wood, Whitchurch, Shropshire. (D) [X0085

OMEGA Lightweight, 1914, 2¾h.p., 2-speed countershaft, splendid condition; £32.—Arundel, 58, Church Rd., Upper Norwood. [8939

OMEGA, 1920, as new, J.A.P. engine, 2¾h.p., 2 speeds, lamps, horn, licence paid; £55.—Wolstencroft, 76, Queen's Rd., Battersea, S.W.8. [8880

F.O.C.H. have a brand new Omega, 2¾h.p., kick starter, shop-soiled; £73/10 cash; exchanges and easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9017

P. and M.

JULIANS, of Reading, have 1921 P. and M. in stock. [0488

P. and M. Late 1919 Combination, good condition.—Frank Eele, Thame. [8731

P. and M., 1918, perfect, tax paid; only £65.—88, Kew Rd., Richmond. [8689

P. and M. 1920, under 50 miles; £94.—Clark, 7, Exhibition Rd., S.W.7. [9165

BRAND New Shop-soiled 1920 P. and M.; £105.—Fox, 12, Condnit St., Sutfield, Staffs. [X0095

1920 P. and M. Combination, new, never been on the road; offers.—128, St. Leonard's Rd., Poplar. [8401

1917-18 P. and M. for renovation, with new mag. and carburetter; £39.—Inman, Othello St., Liverpool. [8933

1916-18 P. and M. Combination, thoroughly overhauled, splendid condition; £68.—Rose's Garage, Uxbridge. [8805

1918 P. and M. Combination, good condition, tax paid; 80 gns.—42, Lillian Rd., Castelnau, Barnes, S.W.13. [8423

60 GNS.—P. and M. 1918 combination, in first-class condition throughout; any trial.—24, Church Walk, Hampstead. [8636

£33.—P. and M., 1917 and 1918 R.A.F. models, complete except chain cases and carburetters.—24, Church Walk, Hampstead. [8835

P. and M.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5755

1918 P. and M. Combination, 1920 colour, perfect condition, accessories, 3 new tyres; £85.—Gallipole, King's Ride, Camberley. [8653

P. and M., W.D., renovated, in good running order, 1917-18, £48 and £55; combination, £60.—272, Green St., Forest Gate, E.7. [7750

£85.—R.A.F. Model P. and M., renovated, exquisite sporting coachbuilt sidecar, every accessory, tax paid.—88, Gleagle Rd., Streatham. [8721



EXCHANGES WANTED.

1921 NEW MODELS.

STANDARD 11.6 h.p. 4-seater	£610	0
LAGONDA 11.9 h.p. coupé, dickey, full equipment. Reduced price	£425	0
CALTHORPE 2-seater. Reduced price	£420	0
CALTHORPE 4-seater. Reduced price	£450	0
COVENTRY PREMIER 3-wheeler	£250	0
REX-BLACKBURNE Model 55 8 h.p. Combination. 28 × 3, spare wheel	£218	18
EDMUND-BLACKBURNE, spring frame	£105	0
ROYAL RUBY, 3 h.p., 2-speed, Sports	85	Gns.
NEW IMPERIAL, 8 h.p., and Sidecar.	£186	18
NEW IMPERIAL, 2½ h.p., 2-speed	£80	17
SCOTT Combination	£170	0
SCOTT, new Squirrel model	£130	0
BRADBURY, 6 h.p., and Sidecar	£187	10
TRIUMPH chain drive and sidecar	£172	10
B.S.A. twin Combination, Lucas dyno. lighting, spare wheel. New price	£212	18
SUNBEAM 3½ h.p., Touring	£155	8
NORTON 3½ h.p., single-speed	£98	0

1921 DOUGLASES.

Including lamps, generator, horn, licence holder

2¾ h.p., 2-speed	£85	0
2¾ h.p., 3-speed (no clutch)	£100	0
2¾ h.p., 3-speed, kick start, clutch	£105	0
4 h.p., 3-speed, clutch	£130	0
4 h.p. 3-speed Combination	£170	0

Prices plus transit. Exchanges. Easy terms.

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Guaranteed in Running Order.

A.B.C., 1920, Magdyno lighting, speedometer, electric horn, 700 miles	£129	0
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COVENTRY-EAGLE, 1920, 3½ h.p., 3-speed, very fine condition	£98	10
METRO-TYLER, 2-speed, red	£82	10
INDIAN 5 h.p. 3-speed Combination	£90	0
CLYNO, 1920. 2-sp., Lightweight	£55	0
MOTOSACOCHE, magneto lightweight	£17	10
MINERVA twin spring forks	£35	0
DOUGLAS 2¾ h.p., 2-speed	£57	10

Passenger Machines.

RICHARDSON 1920 2-seater. Tax paid	£195	0
MORGAN 8 h.p. Sporting. Tax paid	£135	0
MORGAN 1915, sporting	£150	0
MORGAN Grand Prix, overhead M.O.V. engine, new tyres, tax paid	£160	0
SCOTT 2-stroke coach Com., tax paid	£85	0
PREMIER, 3½ h.p., 3-speed, and S'car	£65	0
BRADBURY, 6 h.p., Grindlay Sidecar, lamps, etc., 1920 Combination	£149	10
ARIEL 3½ h.p. 1920 3-sp. Combination	£110	0
HARLEY, 7-9 h.p., 1920, and new latest type bulbous back Sidecar	£195	0
HARLEY 1920 Combination, electric	£200	0
DOUGLAS 1919 4 h.p. Combination	£120	0
CHATER-LEA 8 h.p. 3-speed Com.	£85	0
BRADBURY, 3½ h.p., 3-speed, Sidecar	£75	0
NORTON Big Four, 3-speed, Swan sporting Sidecar, electric lighting	£145	0
RUDGE, 5-6 h.p., Multi-Rudge S'car	£65	0

THE EASY WAY—

£35 down, and £7-10 monthly, purchases:

SCOTT 1915 Combination, tax paid	£88	0
PREMIER, 3½ h.p., 2-speed and Sidecar	£67	10
RUDGE, 5-6 h.p., Rudge Sidecar	£67	10
BRADBURY, 3½ h.p., 3-speed, Sidecar	£78	0
CHATER-LEA, 8 h.p., 3-speed, Sidecar	£88	0
ARIEL, 1920 3½ h.p., 3-speed	£99	10
INDIAN, 1915, 3-speed and Sidecar	£95	0

MOTOR CYCLES FOR SALE.

P. and M.

1920 P. and M. Combination, only run 800 mi... £25 worth of spares; a bargain, 132 gn... Egbert Spearman, Bishop's Stortford. [7

P. and M. Combination, 3½h.p., 2-speed, clutch, and H. lamps, luggage grid, very fast, good ... dition; £75; tax paid.—Cotswold, Wimborne. [8

1919 Model P. and M., indistinguishable from ... perfect condition, guaranteed; first £70; ... trial.—Wardill, Drayton Beauchamp, Tring, Herts. [8

P. and M., January, 1921, lamps, horn, all accesso... only done 300 miles; £110, or exchange ... powerful mount.—Sylvadale, Bramhall Lane, Bramh... Stockport. [X0

1920 P. and M. Combination, Lucas lamps, h... spares, tax paid, excellent condition; £10... Edwards, 50, Harrington Rd., South Kensingt... 'Phone: Ken. 3709. [9

P. and M 1920 (July) Combination, perfect co... tion, unpunctured, as new, electric through... Watford trip, horn, mirror, Tan-Sad, tools, licence p... £140.—Roberts, 13, Preston Rd., Brighton. [8

1916 Phelon and Moore, Mills-Fulford sidecar ... waterproof cover, lamps, spares, tyres ne... new, sidecar new 1919, fully licenced for 1921, ow... going abroad; £68.—Write, Pearson, The Downs, ... tead, Surrey. [8

ALLEN-BENNETT Motor Co., Ltd.—P. and ... several reconstructed models from £68; e... exchange, extended payments.—9, 10, 11, Royal Par... West Croydon. 'Phone: Croydon 2450. 'Gra... Track, Croydon. [6

P. and M. Combination, 1918, complete with lan... tools, horn pump, sidecar apron, spares, includ... new chains, all in splendid condition and runn... order, full tax paid; £78, or exchange for ... countershaft Triumph.—Deneholme, Beeches ... Carshalton, Surrey. [9

JUNE, 1920, P. and M. Combination, Lucas dyn... lighting set and lamps just fitted, 1921 en... improvements, special T.T. bars, sidecar apron, ... shields, Binks, speedometer, beautiful mount, as ... tools, spares; nearest offer £160.—Seen, trial, C... House Farm, Beddingham, near Lewes. Tax paid [8

P. and S.

1920 P. and S., new condition, mileage 300, 2½... Villiers engine, 2 speeds, horn, lamps, ... licence paid; £50.—60, Turney Rd., West Dulwich [8

Pax.

ALLEN-BENNETT Motor Co., Ltd.—Pax, 2¾... Blackburne, 2-speed, brand new, slightly s... soiled, unridden; cost £100, our price £80; c... exchange, extended payments.—9, 10, 11, Royal Par... West Croydon. 'Phone: Croydon 2450. 'Gra... Track, Croydon. [6

Peco.

PECO 2½h.p. 2-stroke, Roc 2-speed, Saxon fo... never been ridden sacrifice; £45.—60, Berke... Gardens, Green Lanes, N.22. [8

Peugeot.

7-9h.p. Peugeot, fixed engine, adjustable pulley, ... mount, being overhauled; when completed £4... Tijou, Loughton, Essex. [8

Precision.

PRECISION Junior, 1915 lady's model, 2-speed; ... or exchange.—11, Stromness Place, Southend. [8

PRECISION 1914 Special 3¾h.p., T.T., 60 m.... Bosch, Cowey, spares; £45, or offers.—Coulth... Belmont, Weston-super-Mare. [5

Premier.

PREMIER, 3½h.p., 4h.p., T.T. model, discs, lan... etc., very smart; £42.—Gibbons, 54, Holland ... Kensington, W.14. [8

PREMIER 3½h.p., 3-speed, clutch, gears and cyli... new, good order, tax paid; £35.—Tom Robin... Went, Great Broughton, Cumberland. [8

PREMIER-J.A.P., 6h.p., 3-speed, kick starter, co... built sidecar, all on, splendid running condit... £65.—76, Devonshire Rd., Chiswick. [8

PREMIER 7-9h.p. Countershaft Combination, per... condition, fully equipped, Lucas lamps, h... speedometer, screen, any trial; £90.—'Phone: ... Waltham Cross.—Stanley Biss, Waltham Abbey. [8

PREMIER Combination, 4h.p., 1914, countersh... 3-speed gear, clutch and kick-starter, in very ... order, and mechanically perfect; price £60.—Further ... ticulars from M., Woodside, Robin Hood Lane, Sut... Surrey. [7

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HORSMAN for Quadrants.—Victor Horsman, ... 7, Mount Pleasant, Liverpool. [0

£15, Bargain.—Quadrant 3½h.p., B.B., Bosch, ... on, tax paid.—19, St. Saviour's Rd., Croydo... [9

QUADRANT 3½h.p., Bosch, good running order ... condition; £17, offers.—Box 3,045, c/o *The M... Cycle.* [9

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20 Quadrant Combination, all lamps, horn, Cameo wind screen, mileage 500, absolutely as new; 5; exchanges.—Homac's, 243, Lower Clapton Rd., 'Phone: Dalston 2408. [9197

E Are Sole Distributing Agents for London, Southern, and Eastern Counties for Quadrant r cycles. In stock: 4½h.p. Combinations, £125, n or chain-cum-belt; 4½h.p. solos, £105, chain or -cum-belt; 5h.p. combinations, £135; also selection econd-hand machines, all guaranteed; all spares in ; 15 years association with Quadrants.—Clifford on Mfg. Co., 177, Westminster Bridge Rd., S.E.1. Hop. 210. [8798

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ADCO 2-stroke, in good order; £25.—Frank Eele, Thame. [8729

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21 Unridden 2½h.p. 2-stroke Radco, Clinchers, Druids, Amac; £42.—56, High St., Shadwell, [8802

ADCO Lightweight, single-speed, as makers' specifications, shop-soiled; at greatly reduced price; is the time to buy.—Mebes, 154.156, Gt. Portland W.1. 'Phone: Langham 2230. [9234

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IE Premier Motor Co. for 1921 Raleighs.

E can deliver to your address within 24 hours the new Raleigh 5-6h.p. flat twin, spring frame, n drive; solo 155 gns., sidecar 195 gns.—Sole Birgham Agents, The Premier Motor Co., Aston Rd., ningham. [8893

5h.p. Raleigh Combination in stock; 195 gns. Moon's Garage, Newmarket. [9117

ALEIGH 5-6h.p. Flat Twin Combination in Stock. —Rogers, 42, Church Rd., Hendon. [8627

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ALEIGH Combination, just delivered; 195 gns., or will accept other motor in part payment.—ors, 69, Church Rd., Hendon, N.W.4. [8963

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ALEIGH 5-6h.p., solo or combination, in stock; orders now accepted.—Ratcliffe Bros. 200, Gt land St., W.1. 'Phone: Langham 1704. [0426

Reading-Standard.

20 Reading-Standard 10h.p., complete, Canoelet sidecar, Tan-Sad, wind screen, hardly used; £190. 5, Clyde Rd., Wood Green, N. [8608

Regal.

EGAL-PRECISION, 3-4h.p., basket sidecar, good running order; £35.—Millars, Annan. [8006

Rex

5h.p. Motor Cycle, twin Rex, B.B., Bosch, etc.; £19/19, bargain.—T. Butler, Engineer, Littleover. [X7801

EX 6-8h.p. 2-speed C.B. Combination, lamps, horn, hood, screen, smart, perfect; any trial; £90.—h, Barnard's Green, Malvern. [X0389

8h.p. Rex C.B. Combination, 2-speed, F.E., overhauled and engine rebushed, necessories, licensed; reason selling; £80, or nearest.—7, Thirsk Rd., hom. [8590

p- Rex-Blackburne, 1920, catalogue price £230, practically new, 28×3 interchangeable wheels, e sidecar with dickey seat, aluminium steps, hood screen, spare wheel and tyre; £185; Midlands.—362, c/o *The Motor Cycle*. [X9925

REAL Bargain.—Brand new Model 55 B.D. Rex-Blackburne combination, 8h.p., 3-speed, interngeable wheels, spare wheel; list price £218, reduced tly shop-soiled to £180, first cheque secures.—The mier Motor Co., Aston Rd., Birmingham. [8894

Roc.

p. Roc Combination, 2-speed, clutch, handle start; £50.—21, Cecil Rd., Walthamstow. [9033

Rover.

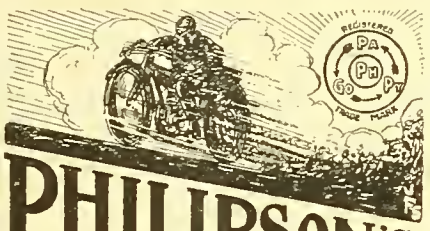
BSOLUTELY New 5-6h.p. Rover Solo; £139.—Eveson, Wollescote, Stourbridge. [8587

OVER 1920 3½h.p., shop-soiled; list price £135, our price £125.—Ratcliffe Bros., 200, Gt. Port- St., W. Langham 1704. [0426

OVER.—All models will be on sale at the second-hand Automobile Show, Crystal Palace, from il 2nd. (See Wanted.) [5756

05.—Rover, 1920, 5-6h.p., all-chain, Lucas lamps, Cowey speedometer, splendid condition.—Feighn, 51, The Village, Bebington, Cheshire. [8428

h.p. Rover, 3-speed, clutch, K.S., 1914, unused 1914-20, as new, speedometer, lamps, tools; ; £60.—Faber, Peppard Common, Oxon. [8998



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1914 3½h.p. 3-speed Rover, Montgomery wicker sidecar, splendid condition, little used, lamps, tools, licence; nearest £60.—F. M. Adnams, Newbury. [8669

ROVER 3½h.p. Coachbuilt Combination, 1914, 3-speed, clutch, K.S., excellent condition, not done 4,000 miles.—Price, 7, Montana Rd., Tooting. [9110

SPORTING Combination, late 1916 4h.p. Rover and Canoelet sidecar, stored 2 years; price £105, or sell separate.—Sparks, Upfolds, Holmbury St. Mary. [8533

SUPERB Rover Combination, 5-6h.p., specially tuned, large exhausts, electric equipment, Easting, tax paid; £120.—Blencathra, Maidstone Rd., Chatham. [9098

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery; hire-purchase if desired.—Collard, Cook's Garage, Shifnal. [2684

1920 3½h.p. Rover Combination, 3-speed countershaft, clutch, lamps, horn, speedometer, Easting screen, small mileage, tax paid; any trial; £145.—Wilkinson, Walpole St., Rochdale. [X0382

1919 Rover, T.T., reliable, variable pulley, hand controlled, lamps, horn, long exhaust, excellent condition, very fast, also Philipson pulley; £87.—W.D.C., Oaks Farm, Shirley, Croydon. [8589

ROVER 1914 4h.p., 3-speed, clutch, Sturmey-Archer gear, lamps, horn, etc., in good running order; £45 for quick sale; send on approval against cash.—Hill, 3, Bedford Rd., West Ealing, W.13. [9273

ROVER 3½h.p., countershaft model, also T.T. model, Philipson pulley, as makers' specifications, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [9235

1919 5-6h.p. Rover Combination, complete with all lamps, including large P. and H. head lamp set, Cowey speedometer, mechanical horn, and Cameo wind screen, the whole in practically new condition; any reasonable offer accepted.—Temeside Garage, Ltd., Ludlow. [8227

ROVER 1914 3½h.p. Combination, 3-speed and clutch, engine and gears recently overhauled £14), excellent condition and appearance, new front forks, new extra heavy Dunlop, hood, screen, lamps, beautifully sprung sidecar, privately owned; £55, or offer.—Seen, Clarke's Garage, South St., Romford. [8754

ALLEN-BENNETT Motor Co., Ltd.—Rover, 1920 T.T., Philipson pulley, unscratched, £85; 1920 3-speed and Swan sports sidecar, all lamps, speedometer, etc., £150; 1919 combination, electrically equipped, as new, £125; 1916 combination, all lamps, splendid condition, £100; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6284

Royal Ruby.

ROYAL Ruby 2¾h.p., lightweight Villiers, little used. —2, Linden Rd. West Greco, N. [8656

DAVIES, of Manchester, can deliver 1921 Royal Rubys from stock.—229, Deansgate. 'Phone: 536 Central. [2433

1919 Royal Ruby 2-stroke, lamps, horn, good tyres, excellent condition; bargain, £44.—Payne, 127, High St., Winchester. [8833

1917 2¾h.p. Royal Ruby-Jap, 2-speed, lamps, discs, good running order; £40, or nearest.—Rose, Aston Rd., Haddenham, Bucks. [8650

ROYAL RUBY 2¾h.p. 1921 Sports Models, delivery from stock.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0542

ROYAL RUBY 8h.p. 1920 Combination, unpunctured, lamps, horn; any trial; exchange piano or solo and cash.—130, Northfield Av., Ealing. [8550

1921 Royal Ruby Sports Model, 2¾h.p., 2-speed, clutch, K.S., brand new, tax paid; £86; list price £89/5.—N. Shires, Quarmby Lodge, Huddersfield. [8571

1920 3h.p. Royal Ruby, spring frame, 2-speed, clutch, Klaxon horn, excellent condition, only done 650 miles; £95.—Flinn, West Surrey Club, Farnham. Tel.: 124. [8950

3h.p. Spring Frame Royal Ruby, 2-speed gear, K.S. and clutch, 1920 model, shop-soiled; a beautiful machine; list price £120, my price £102.—Davies, 229, Deansgate, Manchester. [0529

Rudge.

1919 Rudge, fully equipped, perfect condition; £70; tax paid.—Rectory, Weymouth. [8928

1921 I.O.M. Rudge Multi, just arrived; list price.—39, Liverpool Rd., Eccles, Manchester. [7769

1921 Rudge T.T., brand new; take lightweight in part exchange.—Fox, 12, Conduit St., Sutfield, Staffs. [X0097

7-9h.p. Rudge, Millford 2-seater sidecar, new last November; offers.—Keight, 29, Norfolk St., King's Lynn. [8911

RUDGE, 1918, T.T., 3½h.p., perfect order, all accessories; £65.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [8473

5-6h.p. Rudge 1916 Combination, O.B. sidecar, perfect running order; sacrifice; £60.—36, Cronch St., Colchester, Essex. [8988

MOTOR CYCLES FOR SALE.

Rudge.

1920 I.O.M. Rudge, perfect, speedometer, best lamps, horn tax, insurance; offers.—61, St. Quintin Av., North Kensington. [8344

BRAND New 3½h.p. Rudge, T.T., full guarantee; £95.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0543

1919 (Dec.) 3½h.p. Rudge Multi, I.O.M., Binks carburetter, fast, condition as new; £70.—19, Rusholme Rd., Putney. [8342

RUDGE.—All models will be on sale at the second hand Automobile Show, Crystal Palace, from April 2nd. (See Wanted.) [5757

£50.—Rudge Multi, 1917, complete, new tyre and belt, tank re-enamelled 1921 colours, 100 m.p.g.—20, Crewford Av., Liverpool. [8863

1920 5-6h.p. and 7-9h.p. Rudge Multi Combinations, new; £152 and £175.—Shepherd, Enfield High way, Enfield. Tel.: Waltham X31. [0341

1920 7-9h.p. Rudge Multi Combination, 3 lamps, mechanical horn, leg shields, nearly new; £165.—Wigley, Calke Rd., Melbourne, Derby. [8748

RUDGE 1913 3½h.p. Coachbuilt Combination, 2-speed clutch, mechanically perfect, lighting set; trial; £45, quick sale.—81, Burford Rd., Catford. [8407

5-6h.p. Rudge Combination (late 1920), electric light, Easting, arm Tan-Sad, new condition; £140, or offer.—Quernmore, Westcliff Rd., Broadstairs. [8389

I.O.M. 1920 Rudge Multi Combination, Bax sidecar, lamps, Klaxon, etc., tax paid, splendid condition; £88.—Tansley, Elm Drive, Carlton, Nottingham. [8989

1920 I.O.M. Rudge, fully equipped, low mileage, guaranteed perfect; £90; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [9205

1917 Rudge Multi 6-6h.p. Combination, in excellent order, too heavy for owner; £90, or would exchange.—Write, Cooper, 9, Egerton Gardens, Ealing, W.13. [9126

1920 Rudge Combination, 7-9h.p., F.R.S. electric lamps, very fast, guaranteed; £130; exchanges.—Homac's, 243, Lower Clapton Rd. N.E. 'Phone: Dalston 2408. [9198

1914 Rudge Multi 3½h.p., Dunhill sidecar, engine just overhauled, £4 licence paid, fully equipped, speedometer, etc.; £60.—Heyburn, 19, London Rd., Stranraer. [X0161

£29.—3½h.p. T.T. Rudge, 1912-13, nearly new tyres, all accessories, smart appearance, excellent condition, fast; photo, stamp.—Bacon, Offington Lane, Worthing. [9142

3½h.p. Rudge, 3-speed, countershaft and kick-starter, latest model, all-chain drive, combination, immediate delivery; £167; list.—Southfield Garage, Henley-on-Thames. [7566

RUDGE Multi, I.O.M., 1920½, C.A.V., Sensprav, Dunlops, Cowey speedometer and Cowey horn, tools, tax paid; £75, or offer.—Box 3,043, c/o *The Motor Cycle*. [9223

5-6h.p. Rudge Multi, 750 c.c., new, unused, as delivered from makers, cost £120/15, owner must sell (illness); accept £110/10.—Apply, 2, Reading Rd., Henley-on-Thames. [7567

RUDGE, 1920, 3½h.p., Multi gear, Isle of Man frame, speedometer, electric horn, equal to new; £90.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X9980

RUDGE T.T. (1920, Jan.), lamps, horn, speedometer, spares, etc., tax paid, any trial, examination, good condition, good reason for selling; £75.—Wood, Lapworth, Birmingham. [X9155

3½h.p. Rudge Multi, featherweight sidecar, mechanically perfect, good tyres and belt, lamps, wind screen, etc.; £65.—Radcliffe's Garage, Spencer Av., Rock Ferry, Birkenhead. [8427

RUDGE 3½h.p., T.T., pedal starter; immediate delivery from stock; at makers' latest reduced price; £85; ready to drive away; no waiting.—Wilkins, Simpson, opposite Olympia, London. [9248

RUDGE Multi 3½h.p., 1915, re-enamelled, overhauled, new cylinder, piston, rings, pulleys (cost £15), accessories; expert examination; £55.—Gerard, Workshops, Bovington Camp, Dorset. [9140

3½h.p. Rudge and Roomy Aluminium Sidecar, new Amac carburetter, fully licensed, all fittings except head lamp, many spares; £40, or exchange Douglas.—Macaskie, The Hythe, Staines. [X0384

RUDGE Multi, 1921, 3½h.p., Isle of Man model, brand new; delivery from stock; price £85.—City Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0065

RUDGE Multi 3½h.p. Montgomery Combination, 1918-19, speedometer, horn, 3 lamps, screen, apron, excellent condition; any trial; £75, lowest.—Capt. Harding, Wharton Vicarage, Cheshire. [8670

GENUINE T.T. 3½h.p. 1913 Rudge, overlap cams, etc., exceptionally fast, weight 180 lbs., tax paid, long 2in. exhaust, etc.; £38, or would take £10 cash and older machine, or push cycle.—9, Red Hill, Bassett, Southampton. [8743

RUDGE Combination, Nov., 1920, Easting, luggage grid, lamps, Klaxon, knee grips, muffs, tools, spares, insurance, licence paid; buying car, ride to purchaser; £110.—Jones, Gwalia House, Church St., Shifnal, Shropshire. [X0312

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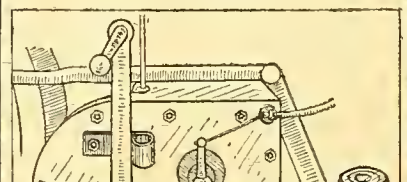
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3½h.p. Rudge Multi, 1920, with sporting sid... 32 oil on, privately owned and only ridden about ... miles by Indian Army officer on furlough.—Can be ... at Thornton Garage, 87, Ridgway, Wimbledon; £110, or near offer.

3½h.p. Rudge Multi Coachbuilt Combination, 32 oughly overhauled, lamps, tools, spares, tax ... ready ride away; £55, lowest; exchange C.S. Trim... cash adjustment.—Yates, 151a, Clayton Common, ... 'Phone: Dalston 1475.

ALLEN-BENNETT Motor Co., Ltd.—Rudge. Se... 1920 I.O.M. models in stock at prices from ... £95; cash, exchange, extended payments.—9-1... Royal Parade, West Croydon. 'Phone: Croydon ... 'Grams: Track, Croydon.

Scott.

GIBB, Gloucester, can deliver 1921 Scotts from s... —'Phone: 852.

1920 Scott for 1920 Triumph; sell £95.—Foste... Monica Rd., Wisbech.

LATE 1915 3½h.p. Scott, with Watsonian sid... little used; £75.—Thomas, Midland Bank, ... berth.

1921 Scott, sports model; £130; for immediat... livery; easy payments accepted.—Scott a... (below).

1920 Scott Combination, Godfrey's electric ligh... Cowey speedometer, Lucas horn, Easting s... mileage 1,067, tax paid; cost £209 last August, £155; absolutely as new, guaranteed; exchanges.— ... agents (below).

1920 Scott, with Rennoc sidecar, P. and H. la... Lucas horn, etc., magnificent condition, gu... teed perfect, tyres unscratched; £145; exchan... Scott agents, Homac's, 243, Lower Clapton Rd., ... 'Phone: Dalston 2408.

1916 Scott, lamps, horn, perfect order; £5... A. Adheman, St. John's Cottage, Roehan... S.W.15.

1914 3¾h.p. Scott, lamps, spare chains, etc., i... fect running order.—Apply, Clark, The ... Ludlow, Shropshire.

SCOTT.—All models will be on sale at the se... hand Automobile Show, Crystal Palace, ... April 2nd. (See Wanted.)

SCOTT, 1920, standard model, speedometer, ... horn, lamps, engine recently overhaule... makers; £100.—Creswell, H.M.S. Vulcan II., Por...

1920 Scott and Henderson lightweight sidecar, ... horn, tools, excellent condition, small m... licence; first reasonable offer.—Brown, Grocer, ... Cambs.

SCOTT, 1910, special radiator jackets, engine co... overhaul at works, Bosch, Binks, all acces... tax paid, ride away; £40, or offers.—Sowerby, B... Grimsby.

SCOTT, 3¾h.p., 2-speed, K.S., perfect order, ... thoroughly overhauled, Binks carburette... accessories; £65.—Snodgrass, 18, Junction Rd., ... wood, Essex.

SCOTT Sports Model, 1920, 2-speed gear, s... shop-soiled, and unused; at £130.—Burl... Motors, Ltd., South Side, Clapham Common, ... 'Phone: Brixton 2417.

1920 Scott, sports model, mileage 2,500, th... order, Cowey speedometer, F.R.S. electric ... ing, speedometer, condition perfect; £105.—... Owner, c/o Upson, South Ascot.

1920 3¾h.p. Scott, tuned up by makers, ... condition; sell or exchange with cas... Triumph combination or other make.—H. Gu... Park Mount, Rotherham, Yorks.

1920 Scott Combination, mileage 900, pass... diplomat, wonderful condition, as new; ... accept quick sale.—Chatfield, Grosvenor Gardens ... East, S.W.1. 'Phone: Vic. 9931.

1921 Scott Combination, very small mileage ... unpunctured, perfect condition, dynamo l... etc., extras on outfit cost over £60; details on ... —Walker, Highfield, Shepton Mallet.

SCOTT Combination, 1916, W.C., thoroughly ... hauled, new radiator and Palmer tyres, e... condition, any trial, Thursdays and Sundays; £... Clark, 389, York Rd., Wandsworth, S.W.

1921 Scott T.T., new, mileage under 100 ... tested, unscratched, tax paid, complete with ... horn, cost £140; accept £130, genuine bargain ... having car.—John's, Glencoe, Launceston.

SCOTT Motor Cycle, early model, 3¾h.p., water... 2 speeds and free, Bosch, engine good co... but requires carburetter; £35; stamp, partic... Rutherford, 25, Minto Place, Newbiggin-by-Sea, ... umberland.

500 C.C. Rotary Valve Isle of Man T.T. S... plugs per cylinder, just completely ove... by makers, not unpacked; £98; weight 196 l... wire secures.—William Groves, Shelfield Hous... Vue, Shrewsbury.

MOTOR CYCLES FOR SALE.

Singer.

NGER 2¼h.p., tax paid; £26.—Edwards, 125, Catford Hill, S.E.6. [8513

NGER Lightweight, 2¼h.p., in good running order; £20.—80, Marlowes, Hemel Hempstead, Herts. [8639

h.p. T.T. Singer, remodernised 1920, Bosch, B. and B., all in excellent condition; £35.—160, High Old Woking. [9158

14 3½h.p. Singer, good condition, hand-controlled clutch; £42, or exchange for 2-speed 2-stroke.—ommondale Rd., Bostall Heath, S.E.. [8994

NGER 2½h.p. Lightweight, 2-speed, clutch, good condition, including tyres, lamps, accessories, es; £34.—Garaged at Atkins, Connaught Rd., d. [5050

NGER 1913 4h.p., 2-speed, clutch, Bosch, B. and B., P. and H. lamps, original enamel as new, ct condition mechanically, tyres very good; £24; al bargain.—R. Watson, Victoria Rd., Aldeburgh, lk. [8354

Sparkbrook.

GNS.—6h.p. Sparkbrook-Jap Combination, low mileage, £25 accessories, new condition.—Sutton, Market St., Earlestown. [8570

ARKBROOK, 1918, 2½h.p. Villiers 2-stroke, in excellent condition; £42/10.—Gilbert, 4, St. ns Gardens, N. Kensington. [8728

ARKBROOK, 1920, 2½h.p., lamps, horn, very little used, perfect condition; £60. — Herbert nson, Ltd., 32-35, Green St., Cambridge. Tel.: T.A.: Bicycles. [8265

ARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra floish, as makers' specifications, shop-l; at greatly reduced price; now is the time to -Mebes, 154-156, Gt Portland St., W.1. Phone: ham 2230. [9236

Spur.

JR 2½h.p. 2-stroke, overhauled, tyres, belt like new, low built; £25, bargain.—13, Dunstans Rd., nlwich. [8409

Sun.

N-VILLIERS, in good condition; £20, or nearest offer.—Box 375, c/o *The Motor Cycle*. [X0183

20 2½h.p. Sun-Vitesse, Albion 2-speed and kick start, as new, not run 400 miles; £60, or offer. King St., Lancaster. [8869

Sunbeam.

W 1920 Sunbeam 3½h.p. Solo; £155/8; in stock —Randall, Andover. [0366

KICKHAM for Sunbeam, sole agent for Bristol and district.—Stokes Croft, Bristol. [3352

AND Now 1921 3½h.p. Sunbeam; accept first £145.—278, Bolton Rd., Ashton-in-Makerfield. [8774

19 Sunbeam Combination, 8h.p., complete, electric lighting; £210.—Wright, 2, Park Rd., Rugby. [X0375

18 8h.p. Sunbeam Combination, good order; £138. —1, Bellingham Terrace, Bromley Rd., Catford. [8536

20 (June) 3½h.p. Sports Sunbeam, lamps, horn, tax paid; £140.—Dewhurst, 22 and 29, Preston Brighton. [9127

20 3½h.p. Sunbeam Combination, £158; absolutely new 3½h.p. Sunbeam solo, £143, equipped.— n, Wollescote, Stourbridge. [8587a

NBEAM.—All models will be on sale at the econd-hand Automobile Show, Crystal Palace, April 2nd (See Wanted.) [5759

20 3½h.p. T.T. Sunbeam, delivered November, nder 500 miles; any trial; £145, or best offer. rriner, 3, Sunnyside, Kendal. [8231

21 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith o., 52-54, Hampstead Rd., N.W.1. [0353

. Sunbeam Combination, 1919, in good condition, electric light, quantity spares, including overalls; —Liddiard, Downing St., Cambridge. [8917

21 3½h.p. Sunbeam Touring Model, perfectly new from the works, unused, must be sold; no reason-offer refused.—Vernon, Allestock, Knutsford. [7557

18 3½h.p. Sunbeam, new condition, chain driven, kick start, tax paid, guaranteed perfect; any £90 for quick sale.—21, Stanford Av., Brighton. [9074

4 6h.p. J.A.P., Sunbeam new sidecar; £125, or offer; overhauled by Eastern Garage, 418, Roman Rd., E.7, where seen and tried.—Crow, owner. [8079

9 Sunbeam, Sunbeam sidecars, speedometer, lamps, excellent condition; £125.—Edwards, 50, gton Rd., South Kensington. 'Phone: Ken. [9262

9 Sunbeam 3½h.p., absolutely sound, fully equipped, insured, licence paid; any trial or in-on; £135, or nearest.—Still, 51, Souldern St., rd. [8379

BEAM, late 1919, 4h.p., French military model, nd sidecar, horn, lamps, etc., used very little; or nearest offer.—Bland, Myrtle Villa, Babworth tetford. [8708

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Broadway, Muswell Hill, N.10.

'Phone: Hornsey 2917.

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ENFIELD Lightweight	£65	0
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Brand New 1920 Models at greatly reduced prices.

A.B.C., electric model	£130	0
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8 h.p. **BAT**, solo	£130	0
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8 h.p. **BLACKBURNE** Combination	£175	0
WOOLER, 2¾ h.p. horizontal twin	£75	0
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3½ h.p. **ROVER** Combination	£160	0
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Slightly used 1920 Models.

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SUNBEAM 1915 3½h.p. Model with Sidecar, complete with all accessories, excellent condition; £110.—Parker's, Brndshawgate, Bolton, and 245, Deansgate, Manchester. [X9976

SUNBEAM, 1920, 3½h.p., Sunbeam sidecar, lamps, tools, etc., ridden solo chiefly, solo sprocket included, tyres excellent, tax paid; £175.—Dr. Warren, 175, Enfield Highway. [8993

£177/10.—Sunbeam 8h.p. combination, new, late 1919, complete with everything, including tax paid for the year.—Weston, Little Buckingham Farm House Shoreham-by-Sea, Sussex. [8808

SUNBEAM Combination, late 1915, tyres and condition excellent, Easting, speedometer, all accessories; must sell, best offer over £100.—Hagues, 80, Cromford Rd., Wandsworth. [6522

SUNBEAM 1920 3½h.p., with Mills-Fulford sidecar, fully equipped, Lucas lamps, Cowey horn, speedometer, Binks, excellent condition; nearest £150.—11, Chapel Ash, Wolverhampton. [8378

1920 Sunbeam 3½h.p., Gloria sidecar, Easting screen, speedometer, Klaxon, leg shields, mileage 1,600, in absolutely first-class condition throughout; price £160. —East Grinstead Garage, East Grinstead. [9061

1919 (late) 3½h.p. Sunbeam and new Mills-Fulford sidecar, fully equipped, overhauled and re-enamelled by makers, absolutely as new, with electric lighting; £140.—Blackmore, Horsemarket, Kettering. [9089

4h.p. Sunbeam, Nov., 1919, made especially for director of Sunbeam, Lucas lamps, Klaxon, leg shields, including tax and insurance, small mileage, perfect; £130, quick sale.—Lovekin, Montgomery, Wales. [8376

1919 Sunbeam, 3½h.p., black and gold, French military model, all lamps, horn, etc., tax paid, guaranteed perfect; £110; exchanges.—Homae's 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [9201

SUNBEAM.—We are Wolverhampton agents. Spare parts in stock. Repairs and overhauls. Estimates upon request for re-enamelling and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

SUNBEAM 8h.p. Combination, Lucas dynamo lighting set, electric horn, interchangeable wheels, hood, screen, speedometer, spare wheel, only 4,000 miles, new condition; £180.—West, 42, Cranbrook Rd., Ilford. [8813

1921 Special Sunbeam and Sunbeam sidecar, 8-10 h.p. M.A.G. engine, glass screen, side screen, Lucas lamps, horn, etc., licence, perfect; £220; owner buying car.—Fletcher-Brewer, Tettenhall Wood, Wolverhampton. [8377

SUNBEAM 3½h.p. Solo, Oct., 1919, 2 lamps and generators, Klaxon, leg shields, enclosed tappets, extra heavy Dunlops, only used few times summer, 1920, had little wear, and carefully used, practically new machine, tax paid; £110, or offer.—2, Hortus Maisonettes, Hortus Rd., Southall, London, W. [8520

1920 3½h.p. Sunbeam Combination, leg shields, Stewart horn, Cowey trip speedometer, largest P.R.S. head lamp, electric tell, sidecar and spot lights, licence in holdor; examination, trial with pleasure; £155.—58, Elm Park Gardens, Chelsea, S.W.10. [9161

SUNBEAM 1920 3½h.p. Combination, electric lighting (accumulator), speedometer, electric and mechanical horns, wind screen, luggage grid, extremely comfortable, economical, absolutely reliable, roars up Porlock and Lynton with heavy loaded sidecar; the machine that will take you there and bring you back; £190, or near offer.—Scroggs, Newhaven, Sheen Rd., Richmond, Surrey. [8626

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T.A.C. 4-cyl. 3-speed Combination, excellent order, cylinders reground, new pistons; bargain, £20.—Apply, Atkins, 20, Pembridge Rd., Notting Hill Gate. [8663

T.D.C.

1919 2¾h.p. T.D.C. De Luxe, in perfect condition; any test; complete spare tyres, all on; nearest £35.—79, Hallburton Rd., St. Margaret's, Twickenham. [9083

T.D.C. de Luxe, 2¼h.p., 2-stroke, believed 1919, P.H. lamps, all accessories, smart appearance, excellent condition; £22/10; photo, stamp.—Bacon, Offington Lane, Worthing. [9143

Thor.

THOR 7-9h.p. Combination, blue, bought new April, 1919, property of an officer still in the army abroad, mechanically sound, enamel like new, 2-speed, usual lamps, horn, and tools, speedometer; any examination and trial; price £160.—Capt. Douglas, Curfew Cottage, Cranleigh. [X0366

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JULIANS, of Reading, have 1921 Triumph in stock. [0487

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TRIUMPH, 1921 Models.—George Smith, Clapham Junction, S.W. [9424

NEW 1921 Triumph S.D. Solo; £140; in stock.—Randall, Andover. [0365

TRIUMPH, 1911, sporting model, perfect; £35.—88, Kew Rd., Richmond. [8690

NEW 1921 Triumph S.D. Combination; £195; in stock.—Randall, Andover. [0364

TRIUMPH 1918 4h.p., clutch, lamps, Klaxon; £60.—36, Beechcroft Rd., Tooting. [8763

TRIUMPH Model H, as new, 50 miles; £90.—94, Perry Rise, Forest Hill, London. [8972

TRIUMPH Junior, 1920, accessories, like new; £63.—309, Hoe St., Walthamstow, Essex. [8667

TRIUMPH 1916 4h.p., purchased new 1919, accessories; £76.—67, New Rd., Woolwich. [8406

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TRIUMPH, countershaft, re-enamelled and plated; £70.—272, Green St., Forest Gate, E.7. [7748

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MODEL H Triumph Combination, in stock, £182/10; Junior ditto, £75.—Cross, Agent, Rotherham. [X0127

BABY Triumph, 2-stroke, 2-speed, shop-soiled, new 1920, unused; bargain, £70.—Willey, Hatfield. [9243

TRIUMPH and New Sidecar, 3-speed, clutch, perfect; £65; would separate.—48, Sedgeford Rd., Shepherd's Bush. [9054

1914 Triumph, 3-speed, hand clutch, good order; £45.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [8475

1919 4h.p. Sporting Triumph, unscratched, fully equipped; £97.—Walker, Ainderby, Thirsk, Yorks. [8679

TRIUMPH, 1917-18, Countershaft, rebuilt, and like new; £70.—South Vale Garage, Upper Norwood, S.E.19. [9279

TRIUMPH 4h.p., countershaft, fully equipped, tax paid, splendid condition; 75 gns.—131, High St., Beckenham. [8368

TRIUMPH 1920 Gloria Combination, equipped, licensed, perfect order; £129.—Clark, 7, Exhibition Rd., S.W.7. [9165

TRIUMPH Combination, 3-speed, 4h.p., new Binks, Klaxon, lamp complete; £58.—Turner, 108, Park Av., Mitcham. [8371

TRIUMPH 1919 4h.p., K.S., 3-speed, clutch, lamps, mechanical horn, new condition; 80 gns.—4, Cedar Rd., Tottenham. [9050

T.T. Triumph, 1913, 3½h.p. Bosch mag., recently overhauled, fast and reliable.—Curry, 56, Park Hill Rd., Croydon. [8564

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TRIUMPH and Limousette Sidecar, 1920, lamps, horn, all accessories; £160.—Faulks, Red Lion Hotel, Radlett. [8655

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TRIUMPH, late 1920, 3-speed, literally unscratched, guaranteed mileage 2,000; £105.—205, Hampton Rd., Twickenham. [8373

3½h.p. Triumph, N.S.U. gears, lamps, perfect condition, tax paid, ready for road; £45.—Greengrass, 41, East St., Epsom. [8951

1919 Baby Triumph and Accessories, speedometer, tax paid, in good condition; £55.—Bounds, 223, High Rd., Kilburn, N.W.6. [9038

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LATE Countershaft Triumph, engine No. 51019, all lamps, registered, new heavy Dunlops; best offer.—20, Valnay St., Tooting. [8699

1919 4h.p. Countershaft Triumph, condition as new, mechanically perfect; £85.—62, New St., Woodbridge, Suffolk. 'Phone: 62. [8339

TRIUMPH, renovated, late countershaft H model, fully equipped, new condition; £82/10.—365, King St., Hammersmith, W.6. [8115

£27.—Triumph 3½h.p., 1911, Grado gear, Bosch, fully equipped, overhauled, powerful, fast; any trial.—322, Lordship Lane, Dulwich. [8369

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TRIUMPH, 1919, coachbuilt sidecar, conditi fect, tools, lamps complete, insurance and December, 1921; £130.—Forsyth, Morton Woburn Place, W.C.

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1918-19 Triumph, No. 54886, not renovated tically new, mileage about 500, Dunlop heavy; £82, guaranteed, a bargain.—Harvey, 47 Lambeth Rd., S.W.8.

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TRIUMPH, W.D.B., renovated by makers, in stock for immediate delivery, new tyres, £95; another Montgomery sidecar to match, £25.—The Premier Co., Aston Rd., Birmingham. [8896

12 Triumph, Sturmey-Archer 3-speed, Millford sidecar, spares, tyres practically new, in first-class licence paid; £50 secures; owner buying car.—r, Auctioneer, Congleton, Cheshire. [8954

TRIUMPH Countershaft Combination, engine No. 50943, 1920 sidecar, fully equipped, splendid conpositively faultless, insured June, tax paid; no offers.—375, Hackney Rd., E.2. [8565

19 Triumph Combination, electric lighting, hood, screen, disc wheels, accessories, etc., not army ine; trial, seen any time; £125, or offer.—379, ridge Heath Rd., Bethnal Green, E. [8711

19 Triumph 4h.p. Countershaft, fitted brand new Swan sporting sidecar, Lucas lamps, outfit hardly guaranteed perfect; £130.—Honnac's, 243, Lower on Rd., N.E. 'Phone: Dalston 2408. [9200

15 Triumph 4h.p., countershaft, with 1920 coachbuilt sidecar, Lucas lamps, hooter, tools, excelcondition; £78; seen 8 a.m. to 5 p.m., or by apment.—108, Rotherhithe St., S.E.16. [8375

UNTERSHAFT 3-speed Triumph, large lamp set, Klaxon, tools, £5 spares, insured, mechaniperfect, splendid appearance, ride away; £80.—ondesbury Villas, Kilburn, London. [7923

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C.H. are Triumph agents. New and second-hand machines in stock. Exchanges or easy payments ted.—5, Heath St., Hampstead (near Hampstead Station). 'Phone: Hampstead 3752. Hours 9-7, ding Saturdays. [9021

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TRIUMPH, 1921 models, delivery from stock; 4h.p. Model H, £127/10; chain drive Model SD, £140; Triumph lightweight, £75; extended terms 4% extra; exchanges.—Authorised Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0071

ALLEN-BENNETT Motor Co., Ltd.—Triumph, 1918, 4h.p., and Swan sports sidecar, all lamps, horn, speedometer, £120; reconstructed machines, £90; cash, exchange, extended payments.—9, 10, 11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Truck, Croydon. [6291

1919-20 4h.p. Triumph and Gloria, 3 speeds countershaft, in excellent order, speedometer, Lucas lamps, horn, mirror, footboards and leg shields, extra heavy Dunlops, 1 spare cover, 2 tubes, insurance to April 26th; £155.—Titt and Co., Woodcock Works, Warminster, Wilts. [8539

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VELOCETTE, new last November, guaranteed good as new, tax paid; £66.—Cottam, Southwell, Notts. [8593

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IMMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¾h.p., 2-speed, all-chain drive; £75.—Agents: W. Sparrow, Ltd., Osborne Garage, Yeovil. [1632

1921 Velocette, Model D3, 3-speed, £85; Model D2, 2-speed, £75; Model DL2, lady's open frame, £78; all in stock for immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [8897

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VERUS BLACKBURNE, 2-speed, kick start, brand new; £85; only one left.—Clark, 7, Exhibition Rd., S.W.7. [9174

1920 New 4h.p. Verus-Blackburne, 3-speed, kick starter, clutch; cost £126; lowest acceptance, £92, absolute bargain.—6, Worple Av., Wimbledon, S.W. [8816

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Villiers.

VILLIERS 1915 2-speed, equipped, reliable, economical, fast; £26.—Write, 54, Coval Rd., Mortlake. [X0436

Vindec.

VINDEC 4h.p., Roc 2-speed, mechanically sound, running order; £25.—2a, Ladbroke Grove, Holland Park, W.11. [8278

VINDEC, 2¼h.p., 1916, 2-stroke, 2-speed, good condition, all on, tax paid, ride away; £35.—42, Undine St., Tooting. [8918

Werner.

WERNER Twin, Bosch, B. and B., low, comfortable machine; £16.—21, Grove Hill Rd., Camberwell. [8420

Wilkin.

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [9237

1920 Wilkin, 2¾h.p. Blackburne, 3-speed, clutch, kick start, brand new, unused; list price £122, our price £78.—Edwards, 50, Harrington Rd., South Kensington. [9257

Wolf.

WOLF, ex-stock, 4h.p. machine, Blackburne engine; £110.—Motor Co., Hereford. [4315

WOLF.—Sole agents for London, South of Thames and district. We are now fixing sub-agencies, and invite enquiries.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0508

WOLF-J.A.P. 4h.p. C.B. Combination, 3-speed Sturmey hub gear, engine No. 15559, Dunlop wood', Stewarts, Ex-ting (new), accumulator lighting, Sensaplay bargain, 78 gns.—136, Burnt Ash Rd., Lee, S.E.12. [8349

Wooler.

WOOLER, 1920-21, gold medal London-Exeter, as new; £75.—88, Kew Rd., Richmond. [8688

WOOLER, mid-1920, new, unused, aluminium footboards; f.o.r. to London; price 92 gns., or nearest offer.—Box 2,999, c/o *The Motor Cycle*. (D' [8780

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ALLEN-BENNETT Motor Co., Ltd.—Wooler, 1920 models, run under 700, all accessories, £90; another at £78; cash, exchange, extended payments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. 'Grams: Track, Croydon. [6283

Zenith.

JULIANS of Reading have 1921 Zenith in stock. [0482

DAN GUY, Weymouth.—Zenith agent, early delivery all models. [0556

4 h.p. Zenith-Gradua, lamps, horn, reliable; £45, offers. —106, Fawe Park Rd., Putney. [8396

ZENITHS, 5 and 8h.p., 1921, for immediate delivery. Evans, Garage, Newport, Salop. [X8649

8 h.p. Sports Zenith, 1920, low mileage; £110, offers.—44, Danvers Rd., Hornsey, N.8. [9072

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1919 Zenith, 5h.p., coachbuilt sidecar, just overhauled, perfect; £105.—15, Fitzjohn Av., N.W. [9070

1920 Zenith, 5-6h.p., special finish, very fast, accessories; offers.—Mabey, 5, Anerley St., Battersea, S.W.11. [8701

1919 Zenith, splendid condition, guaranteed; first cheque £52.—Mitchell, Viewfield, Wodeland Rd., Guildford. [8421

1921 Sports Zenith in stock, with new type 6h.p. J.A.P. engine; price £123.—Downing, Union St., Ryde, I.O.W. [8385

3½ h.p. Zenith-Gradua, lamp, horn, good condition; £30; money urgently needed.—3, Vaut Rd., Tooting, S.W. [8700

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ZENITH 4h.p., Gradua gear, lamps, horn, mechanically sound, tyres good; £45.—Box 2,998, c/o *The Motor Cycle*. [8779

ZENITH.—All models will be on sale at the second-hand Automobile Show Crystal Palace, from April 2nd. (See Wanted.) [5761

ZENITH 1915 6h.p. Combination, lamps, speedometer, horns, in excellent condition, tax paid; £90.—Rogers, 42, Church Rd., Hendon. [8629

1921 Zenith Sports Model or Combination; immediate delivery.—Taylors, 52 and 53, Sussex Place, S.W. 'Phone: Kensington 7260. [0497

1916 Zenith, 6h.p., new tubes, hot stuff, splendid solo 'bus, £55; or with sidecar, £63; after 6 p.m.—156, Browning Rd., East Ham. [8408

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WALL Auto-Wheel, new 2nd March, tax paid; seen London.—Offers to Box 3,007, c/o *The Motor Cycle.* [8788

AUTO-WHEEL, Model de Luxe, new condition; £13/13.—Miss Hacker, Beech Court, St. Helen's Park Rd., Hastings. [8572

1¾h.p. Young Engine Cycle Attachment, new, unridden; nearest offer £18.—H. Huxley, Ruyton-Eleven-Towns, Salop. [8759

J.E.S. 1h.p. engine, tank, mag., carbureter, belt rim on 28in. back wheel, special cranks, free on rail; £7/10.—Inman, Letwell, Rotherham. [X0086

SIMPLEX 1920 Power Unit, perfect condition, attached components 24in. gent's bicycle; £25, complete.—Williams, 82, Mark Lane, E.C.3. [8995

WALL Auto-Wheel, unused; £12.—Gyer, 1, Chichester Mews, Chichester Rd., Paddington, W.9 (near Royal Oak Station, Met.). 'Phone: Padd. 3889. [8857

TRICYCLES FOR SALE.

INVALIDS' Tricycles and Motor Tricycles; catalogue free.—Rayner, 10-12, George St., Blackpool. [X7038

ARGSON Hand and Motor-propelled Tricycles, for invalid and disabled.—Particulars, Argson Eng. Co., Ltd., 3, Kendalls Mews, George St., W.1. [2647

TRICARS FOR SALE.

CHATER-LEA Tricar; £60; smart little runabout, good order; after 6.—5, Northwood Rd., Forest Hill. [8964

TRICAR Chassis, less engine and gear; £4, first.—Miller, Devonshire Cotts., Barrow Hill, Chesterfield. [8777

MOTOR SCOOTERS.

SKOOTAMOTA, 1920 model, new and unused; £48.—Hopkins, New St., Ledbury. [0538

KINGSBURY Scooter, with seat; £30; good condition.—Copestake, Kirk-Langley, Derby. [8909

MOBILE PUP Scooter, new, original price 43 gns., to clear £25.—Wadham Bros., Waterlooville, Hants. [8390

1920 Kingsbury Scooter with Seat, horn, toolbag, carrier; £30, as new.—Rogers, 42, Church Rd., Heudon. [8631

SKOOTAMOTA, A.B.C., brand new, in crate, latest model, complete; 35 gns.—Bradshaw's Motor House, Preston. [8551

A.B.C. Skootamota, brand new, recently from works; £35, carriage paid.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X9947

SKOOTAMOTA, practically new, lady owner given up riding, new electric head, tail, and accumulator; £25.—Seen Boyne Works, behind Holland Park Tube. [7656

AUTOGLIDER, 1920 model, electric lights, full accessories, perfect condition, 1921 licence; £40.—L. LePlastrier, 68, Grovelands Rd., Palmers Green, N.13. [8838

SKOOTAMOTAS.—Are you skooter-motoring this season? If not, why not? It is so cheap.—Autoveyors, Ltd., London distributors, 84, Victoria St., S.W.1. [0468

A.B.C. Skootamotas, brand new; special price, 38 gns.; delivered free anywhere in Great Britain at purchaser's risk.—Egertons, Northgate, Ipswich. 'Phone: 962. [4328

A.B.C. Skootamotas, brand new; 38 gns., list price £55; delivery free anywhere in Great Britain at purchaser's risk.—Howes and Sons, Ltd., Chapel Field, Norwich. [X9874

MOBILE Pup Scooters, with seats included, brand new, at special price, £28; delivered free anywhere in Great Britain at owner's risk.—Egertons, Northgate Ipswich. 'Phone: 962. [4329

HOODS, WIND SCREENS, ETC.

HOOD Materials.—Twill, sticks, celluloid, fittings, etc.; materials complete for re-cover. 14/9.—Henry Jones, 778, High Rd., Tottenham, London. [8507

AUSTER Triplex Adjustable Aero Type Wind Screen, overall size 13×7¾in., 15/- each, including carriage and packing.—George Cumming, 19, Rose St., Aberdeen. [3290

AUSTER Triplex Adjustable Aero Type Wind Screens, 12×6½, brand new, 8/6, post free, splendid value.—S. Lewis, 19a, Upper Charlton St., Carburton St., W.1. [9276

AUSTER Triplex Glass Adjustable Aero Type Wind Screens, 12×6½, 10/6 each; electric test lamps, with wire, 2/-.—Bastone's, 228, Pentonville Rd., King's Cross, London, N.1. [2006

WIND Screens actually in stock.—Eastings, Baby £3/10, Standard £4/10, Royal £5/10; Bluemel's latest, £4/8; Cameo, £2/15 and £3. Any of above packed in a crate and post free. Hoods, finest quality, waterproof, with curtains round, £3/5.—Bancroftian Co., 64, Bishopsgate, London. [0398

BODIES.

VENUS Step Bodies are the best for old chassis.

VENUS Bulbous Bodies are roomy and very smart.

VENUS Tandems hold 2 persons. Strong and light but not unsightly. Get one.

VENUS Bodies are made in a factory and supplied direct. Catalogue free.

VENUS Sidecar Co., 6-14, Gourley St., S. Tottenham [0519

SIDECAR Coachbuilt Body, strong and sound; 50/-.—121, Waller Rd., New Cross Gate. [8974

SIDECAR Body, coachbuilt, best quality; £8/8, original £12/12.—64, Bishopsgate, London. [0399

FOR Sale, Sunbeam 2-seater body, in good condition; £11, or offer.—Bradley, 12, Bessie St., Barnoldswick, Yorkshire. [8705

BULBOUS Back Bodies, fit old type chassis; £9 each; few only left; also other high-class bodies. 8, Byron Rd., Harrow. [4846

1921 Sidecar Bodies, comfortable and up to date. Consult us first.—Sterling Manufacturing Co., Lower Cobden St., Bradford. [X0160

LIGHT Streamline Body, mahogany dash, brand new; £6/18/6; photo 1/6.—Armstrong, 17, Goldhawk Rd., Shepherd's Bush, London. [9151

ROYAL Leicester Sidecar Bodies fit any chassis, first-class finish. Several bodies (new) to clear cheap. Write for designs.—The Willowbrook Co., Manufacturers, Leicester. [0336

SIDECAR Body Designs for the trade only. Working, coloured, pencil, or line drawings of original designs, also working drawings, full-sized or to scale.—Cooper's Vehicle Journal, Ltd., established designers to the coach trade for over 80 years. Consult us when designing new ideas.—20, Tudor St., London, E.C.4. [0004

Turner's Stores

180-1-2, Railway Approach, SHEPHERD'S BUSH, LONDON - W.12.

'Phone: Western 6177.

We hold the largest and best assorted Motor Cycle Accessory Stock in London

"COWEY" 1920 pattern MECHANICAL HORNS.

Makers' price, 60/-

Our Price: **29/6** Each. Postage 1/-

GENERATORS (Motor Cycle).

Small, **5/6** each.
Medium, **8/6** and **11/6** each.
Large, **14/6** and **25/-** each.
Postage 9d.

SILENCERS (Aluminium).

For SINGLES. (With short tube.)
13/6 each. Postage 1/-

For TWINS. (With long tube.)
15/6 each. Postage 1/-

SIDECAR CARRIERS

(To bolt on to the Body).
15/6 each. Postage 1/3.

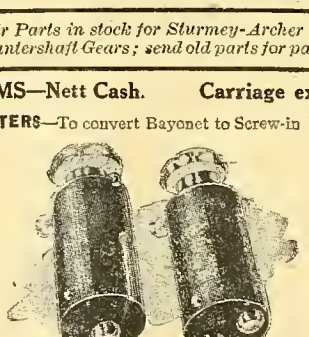
TOOLBAGS (Armoured)

Complete with Clip.
Size, 7⅜in. x 3¾in. x 3¾in.
6/- ea. Postage 9d., or 11/9 pr. Postage 1/-

Repair Parts in stock for Sturmey-Archer Hub or Countershaft Gears; send old parts for pat'ern

TERMS—Nett Cash. Carriage extra.

ADAPTERS—To convert Bayonet to Screw-in Bulb.



Single or Double Pole, 2/- each, post free.

TURNER'S STORES,
180-1-2, Railway Approach, SHEPHERD'S BUSH, LONDON, W.12.
'Phone: Western 6177.

SIDECAR ATTACHMENTS.

S

FOR

SANDUM, the Smart Sidecar Specialists.

SANDUM Sidecars.—Best value in Olympia Show

SANDUM Models.—The Exquisite £24/10, and Sports £28/10, are of distinctive appearance.

SANDUM Elite Sidecar, £28/10; the smartest sidecar on the road; highly recommended in "The Motor Cycle."

SANDUM Duel Purpose Sidecar (patented). A single or 2-seater sidecar as required in 5 seconds. Size of body as our single-seater Elite. Luxuriously comfortable seating for 2 adults, with the weight in correct position over rear axle. Finished in colours to suit any make of machine, £45; bodies only, £22/10. The latest development of the 2-seater as designed by us, and approved by the recognised experts.

SANDUM Featherweight Streamline Body, smart and racy, weight 18 lbs.; price £4/17/6.

SANDHAM Engineering Co., Ltd., 336, Gray's Inn Rd., W.C.1. 'Phone: Museum 3427. Factories: 162 to 165, Pentonville Rd., N.; and Britannia Works, Britannia St., W.C. [001

ALLEN-BENNETT Motor Co., Ltd.

SWAN Sports, all models, from £30; fittings for all makes, including Henderson, Indian, Triumph, Douglas, Harley, etc. Some special shop-soiled bargains.

HENDERSON, all models, also some special shop-soiled bargains.

MILLFORD, all models, also some special shop-soiled bargains.

BAICO, Indian, bulbous back, list £45, our price £38; Triumph fittings, £28.

MILLFORD, all models.

THE Albeu, bulbous back, any colour, any fitting, from £25.—9, 10, 11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [629

MIDDLETON'S Spring Wheel Sidecars are guaranteed for 3 years.

MIDDLETON'S One Piece Unbreakable Chassis Axle, with spring wheel, is fitted to our 2-seater and sidecars for high powered machines.

MIDDLETON'S Undertake all classes of repairs to motor cycles and sidecars, bodywork, etc.

MIDDLETON'S, London's Oldest Established Sidecar Makers, Wholesale and Retail, 27, Stroud Green Rd., Finsbury Park, N.4 'Phone: Hornsey 1584. [052

SIDECAR Chassis; £5, or near offer.—Acfold Rd., Fulham, S.W. [841

SIDECAR, coachbuilt; £5/10.—1, Springfield Park Crescent, Catford, S.E.6. [851

SIDECAR, 28in. wheel, new sporting body; £15.—Archer, King's St., Hammersmith. [876

P. and M. and Douglas Sidecars; £10 each; good condition.—24, Church Walk, Hampstead. [883

BARGAINS.—Shop-soiled high-class coachbuilt sidecars, cheap.—Booth's Motories, Halifax.

BARGAINS.—Shop-soiled underslung sidecar chassis cheap.—Booth's Motories, Portland Place, Halifax.

BARGAINS.—High-class coachbuilt bodies, any colour.—Booth's Motories, Portland Place, Halifax.

BARGAINS.—Shop-soiled £27/10 sidecar, suit Triumph or B.S.A.; £18/15.—Booth's Motories, Halifax.

BARGAINS.—Nearly new Henderson sidecar, suit Rudge, £16/15; Millford 27 gn. sidecar, nearly new, £16/10.—Booth's Motories, Halifax. [785

BASTONE'S for Sidecars and Bodies; no better or cheaper house. Kindly inspect our models before purchasing elsewhere.

BASTONE'S.—New 1921 sporting and other models in stock. Bodies from £4/10; complete sidecars from £16/10.

BASTONE'S.—We have a few soiled sidecars and bodies to clear at low prices.

BASTONE'S.—Distributing agents for the famous Montgomery sidecars. Latest 1921 sporting and other models in stock; trade supplied.

BASTONE'S (Sidecar Dept.), 228, Pentonville Rd., King's Cross, London, N.1. Tel.: 2481 North. [553

WATSONIAN Coachbuilt Sidecar; £12. — 11, Kramer Mews, West Brompton, S.W.6. [847

SIDECAR, Mills-Fulford, C.B., off B.S.A.; £15.—Walters, 61, Westow Hill, Upper Norwood. [60

SIDECAR, Mills-Fulford C.B., good condition; £1 after 6 p.m.—40, Derwentwater Rd., Acton. [852

EMPIRE Sidecar, good as new, cost £35; fit any machine; £24.—West, Popeswood, Binfield. [59

SCOTT. W.D., sidecar; also set Chater-Lea sidecar clips, complete, £4.—Tijou, Loughton, Essex. [89

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

Editorial Offices: Hertford St., Coventry.
Telegrams: "Motorcycle, Coventry."
Telephone: 10, Coventry (5 lines).

Advertising and Publishing Offices: 20, Tudor St., London, E.C.4
Telegrams: "Cyclist, Fleet, London."
Telephone: 2848 City (13 lines).

Northern Offices: 199, Deansgate, Manchester.
Telegrams: "Iliffe, Manchester."
Telephone: 8970 and 8971 City.

Midland Branch Offices: Guildhall Buildings, Navigation Street, Birmingham.
Telegrams: "Autopress, Birmingham."
Telephone: 2970 and 2971 Midland.

Subscription Rates: Home, 23s. 10d.; Canada, 23s. 10d.; other countries abroad, 28s. 2d. per annum.

Motor Cycle Police.

AFTER many years of hesitation and delay the authorities of Scotland Yard have decided to extend its force of motor cycle police. It is understood that the new arm will be employed for traffic control, and that normally they will be subject to the laws and regulations governing motor traffic. Quite naturally they will be permitted to exceed these regulations under special discretionary powers. Up till now only the sidecar outfits have been put in commission, and while offering our heartiest congratulations for this promising beginning we may express the hope that the venture may be still further enlarged both as regards scope and numbers.

We have often urged that the lead set by America, where large numbers of high-powered motor cycles are employed for police purposes, should be followed, but up to the present time the only development has been in Liverpool, where an organisation on the most modest lines already exists.

Scotland Yard has now set the fashion, which, we hope, will extend to all parts of the kingdom, since we are convinced that the utility of the motor cycle is not yet fully appreciated by the official mind.

Fluctuating Demand.

IT may occasion surprise to some of our readers to learn that in certain sections of the industry a shortage of motor cycles later in the year is anticipated. If all causes and effects are carefully considered there seems to be good reason to believe that such will be the case. The withholding of orders, on the part of the public, at the Show and in the first two months of the year undoubtedly has had an influence upon stocks of materials and units held by manufacturers. In this connection it must be remembered that even those firms with an abundance of raw materials for certain components may not have large supplies of other important parts without which complete motor cycles cannot be produced.

With the public postponing their purchasing, contracts for future supplies were considerably cut down, as only the largest concerns can afford to allow stocks to accumulate, and when these materials are required by any increase in demand, it may require considerable time to produce them.

While supply and demand are thus fluctuating so considerably, the prices of motor cycles will not become stabilised, and the public will not secure the same value for their outlay as they would if manufacturers were able to maintain a steady output all the year round.

Motor Cycles in Ireland.

THOSE of our readers who are able to enjoy the pleasure of possession and use of a motor cycle can sympathise with their less fortunate brethren across the St. George's Channel. In Ireland motoring is practically at a standstill on account of the present crisis and the efforts of the authorities to cope with it.

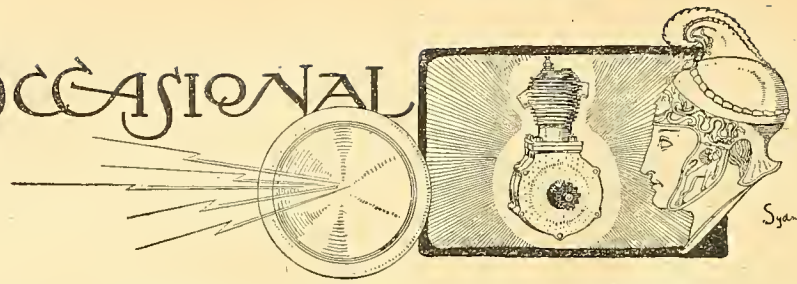
In some parts of the Emerald Isle a motor cyclist is compelled to hand over to the police a vital part of his machine in order to render it useless; while in Dublin, the fact that the Easter trial had to be confined to a radius of twenty miles is an example of the most favourable state of affairs existing at the present time.

It is not for us to suggest that the decisions of the authorities are unduly harsh or otherwise, but they are distinctly hard on Irish motor cyclists who are unable to use their mounts. It is, however, more serious for those members of the Irish motor trade who are now precluded from earning their living and, like the rest of that fair but unfortunate island, are faced with such conditions that did not exist even during the great war. The British manufacturers too are suffering from the cutting off of Ireland as an outlet for their productions.

With the rest of the civilised world, we hope a solution to this serious problem will soon be found, and that Ireland will come into its own again.

An index to the advertisements in this issue will be found on the page facing the back cover.

OCCASIONAL COMMENTS



By "IXION"

Combustibles by Post.

I HAVE had a slight fracas with the Postmaster-General, resulting from the delivery at the office of a charred envelope which had threatened to ignite the mails. Upon examination it proved that the contents of the letter were so vituperative that spontaneous combustion had almost occurred; probably the paper would have begun to smoulder if the letter had remained unopened another day. It was from a reader who went out for a long ride on a beautiful sunny day. *En route* he paused to adjust his clutch cable, and the next four hours were devoted to attempts to restart his engine. Finally, a good Samaritan showed him that the clutch cable in its new position was shorting his sparking plug.

Some Queries Answered.

MR. EVANS asks how I knew the names of the cars which dazzled me with their head lights on a recent night ride. Answer: the Rolls belongs to my tailor, and the Vauxhall to my grocer. "Petro" mocks at the reader whose machine ran half a mile after the tank had been filled with the latest fuel "petreau," *i.e.*, half and half water and petrol; I do not consider my correspondent's story quite impossible—a small engine will run a long way on the small amount of petrol contained by the carburetter and feed pipe, and his "half-mile" does not imply a measured 880 yards. Another reader does not believe that any dancer ever trod his partner's skirt off her waist. He must be young—there was a time when flying frocks created a barrage 6ft. in diameter round any waltzing couple; but I should explain that I live in the country, and patronise balls held at the village club, where the local censors deprecate the exhibition of too much leg. I quite agree that such a *contretemps* probably has not occurred at Murray's since 1914.

A Ford Motor Bicycle.

IN pre-war days I used to annoy the trade and render my Editor tremulous by prating about the possibilities of a "Ford" motor bicycle at £25 or so. Production costs have risen since then, and markets have narrowed, so that I dropped the fancy, which I supposed to have fallen on deaf ears. Now I find that great minds think alike. H. G. Hawker and T. O. M. Sopwith are firm believers in the ultimate application of the Ford policy to motor cycles. They are now busy on the cheap little two-stroke which bears the former's name, and which, it may be remembered, was described in the issue for Dec. 30th last.

It is a gross blunder to imagine the Ford is cheap and nasty. It may not do as much as a 30-98 h.p. Vauxhall, but it keeps on doing what it can do. There isn't an ounce of bad stuff in it, and its low price has no foundations in inferior material or second-rate workmanship. It is designed from stem to stern to absorb a minimum amount of first-class material and a minimum amount of labour. The Hawker baby two-stroke is planned on the same lines. Certain technicalities of design would not interest half our readers, but if I say that the tool box is a duplicate of the silencer, except that it is welded to the carrier instead of being jointed to the exhaust pipe, every reader will grasp that some ingenuity has been spent on securing economy without sacrificing efficiency.

On the Road.

RECENTLY I was able to try one of these urchins on the road, and found that its strongest point was the engine balance, which is quite unusually good. Forty miles an hour is probably its limit on top gear, but it climbs ordinary hills well at 30 m.p.h. and does not object to unlimited revving on low gear. I almost failed to coax it into four-stroking, but half throttle down a fair gradient occasionally interrupted the perfection of its firing, though never in the violent and obtrusive fashion familiar with some baby two-strokes. Accurate lubrication, a good carburetter, and a dose of brains in transfer design come near sounding the knell of the four-stroking nuisance.

Not Quite a Ford.

I HAVE devoted much space to this little machine because it is the first honest attempt I have encountered to translate Henry Ford's maxim into motor cycle terms. Of course, no baby two-stroke, however excellent, quite satisfies the typical motor cyclist. He wants 3½ h.p. and a sidecar. Still, a high-class £60 solo tourist machine, if not our long desired "everybody's machine," is a milestone on the road towards it.

The Long Exhaust Pipe.

I RATHER agree in principle with the magistrate who refused to be convinced by Mr. Howells on the subject of long exhaust pipes. As readers know, I have never seen eye to eye with those who clamour for inaudible motor cycles, but there are obvious limits to the amount of noise which we can reasonably make. In actual practice the average motor cycle equipped with a long exhaust pipe in lieu of the more usual expansion box and short exit pipe is not noticeably more noisy than the standard type, though notorious exceptions exist. Last year I owned a T.T. Norton with a long exhaust, which was no noisier than the average. But the trouble may come to a head this year, for quite a number of car manufacturers are fitting their sports models with silencers

Ixion's "MOTOR CYCLE REMINISCENCES" have lately been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

less outside exhausts; and these engines are tremendously barky when their throttles are opened. A member of *The Autocar* staff owns a 1921 car of this description, which is quite ladylike in traffic on top gear; but I should hate to take it up a steep street under the nose of a really alert constable. If such cars become common, some of them are sure to be carelessly handled, and their noisiness may develop into a public nuisance, especially at night. New regulations would then be forced upon the Government.

Soap Leaves.

VARIOUS correspondents, mostly feminine, deride me for my ignorance of "soap leaves." In conjunction with a powder puff these commodities explain why the little darlings look so fresh at the end of a long journey by contrast with the soiled and jaded appearance of the mere male. You extract a leaf from your pocket book of Oatine soap leaves: moisten it with the tip of your dainty tongue; rub your face over; and there you are.

The Needle's Eye.

THERE is something in the Bible about its being easier for a camel to get through the eye of a needle than for a rich man to pass the golden gates. This used to make me very unhappy until I had successfully worked through my patrimony and graduated in the garrets of Grub Street. So needless, too, for I learnt too late that the "needle" was not the sort they make at Redditch, but a kind of wicket to the gate in a city wall, so that a camel of moderate appetite and great determination would have a sporting chance. Anyhow, what I set out to say was the text returned to my mind on Easter Monday when I attempted to view the racing at Brooklands. An *Autocar* colleague offered to convey me thither on his racing car; and hoping that such a distinguished vehicle at my gate might rehabilitate my local credit, I accepted. I should estimate that when the gates opened, some 15,000 cars were queued up in single file Byfleetwards, and that ours was about number 14,872.

Poor Benedict.

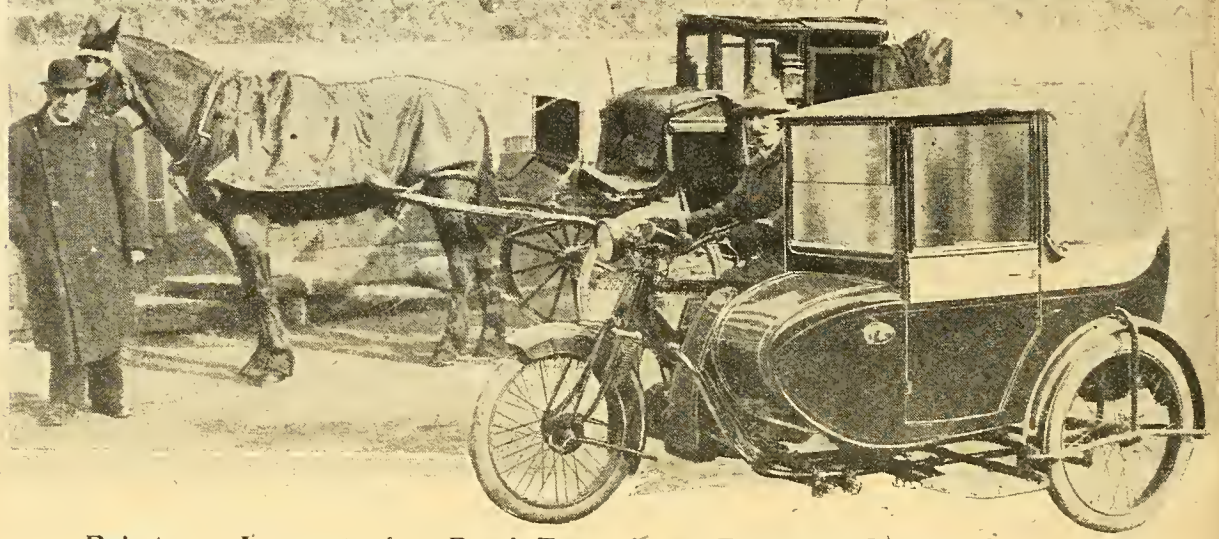
THE queue moved a few inches every four minutes till the gates were closed for the first race at noon, when we remained stationary for a prolonged period. I began by rejoicing muchly that I had come on my colleague's car. The unfortunates who had ridden over on motor cycles had either seized their engines long before this, or else had switched them off to prevent seizure, and had begun to push. Immediately in front of us was a very small, meek man with a very large wife, in an 8 h.p. outfit: providentially for him the pace of the queue was low, or he would have had to lighten the ship by jettisoning his dynamo, detachable wheels, etc.

However, my personal rejoicings were premature. I have said that my colleague's car was a racer. Now a compression of six atmospheres, no pump, and no fan, hardly suit a speed of about 1 m.p.h. Most of the cars in the queue began to boil furiously. Ours angrily spat a few drops of scalding water from its vertical steam escape pipe, and anon ejected the entire contents of its radiator in a magnificent imitation of a fire engine. So the driver despatched me to bring domestic utensils full of water from neighbouring cottages; and until such time as the painful queue disgorged itself on to the track, I had to stand at the starting-handle ready to start up when we made one of our periodic five yard advances. The entire engine being incandescent, gentle reader, you may imagine how it kicked. Long before I got into Brooklands I felt a mad envy of the meek little sidecarist.



In between the different sections of reliability trials there are many stretches of good roads through interesting country. Here are shown W. A. Fell-Smith (8 Rex sc.) and another competitor in the recent Victory Cup Trial descending from the British camp, near Malvern.

ROAD TESTS of NEW MODELS



Being an Account of a Road Test of the Excelsior Sidecar Taxi under Touring Conditions.

SPECIFICATION.		
ENGINE: 85×88 mm. (998 c.c.) twin Blackburne.	*CARBURETTER:* Amac or Senspray	*FORKS:* Druid.
LUBRICATION: Drip feed.	*GEAR BOX:* Three-speed Burman.	*FRAME:* Rigid.
MAGNETO: M-L.	*TRANSMISSION:* ⅜in. chains	*WEIGHT:* 328 lb. solo
	WHEELS: 28×3in.	*PRICE:* £258.

THE prohibition of sidecar taxis in the Metropolitan area has caused considerable comment amongst all who are interested in economical forms of travel, and it would appear that the real reasons for the veto are yet to be explained. On the question of safety, at any rate, there is little to be said against the modern sidecar taxi.

As an outcome of a discussion on sidecar topics we gladly accepted Mr. Carson's offer of a day out on one of the latest Excelsior sidecar taxis, as accepted by the authorities of various provincial centres. On the day appointed Mr. J. W. Walker, one of the directors of the manufacturers, arrived with a luxurious outfit and, led by Mr. W. J. Carson on a standard 8 h.p. Excelsior sidecar outfit, we set out for Edge Hill.

Hill-climbing Capabilities.

Our object was to test the comfort, handiness, ease of stopping and general reliability of the taxi under strenuous conditions, and it was decided that mere traffic test were not sufficient to satisfy all demands.

Therefore Carson set a hot pace, with the result that the summit of Edge Hill was reached from Coventry in a fraction over the hour. Friz Hill was taken with ease on middle gear, and, though the low gear was needed on Edge Hill, the ascent was made at a good round pace.

In order to make the test more complete, the driver of the standard outfit was pressed into service as a second passenger, and without waiting to cool off, the hill was descended and climbed again with full load, a performance well within the power of the engine.

Braking.

From Edge Hill to Stratford-on-Avon we occupied the saddle, and the change from the luxurious interior of the roomy draughtless body to a raw blustering exterior was not appreciated. The descent of Sunrising offered ample opportunities for testing the brakes. A large internal expanding brake is now fitted to the front wheel, and in future will also be fitted to the sidecar wheel. The front brake is foot operated, and either front or rear brake will easily hold the outfit on the steep descent, while if both brakes are used simultaneously the machine can be brought up "all standing" in a remarkably short distance.

A strong headwind now caught the two-seated cabriolet body, and for the next ten miles the engine

Road Tests of New Models.—

had hard work and plenty of throttle; nevertheless, the 8 h.p. Blackburne seems to enjoy this sort of load, and was not a whit the worse for its gruelling. We found the Burman gear box to be quiet and easy to handle, and the clutch worked smoothly and sweetly.

Handling the machine is ridiculously easy, the steering is light, and there is no chance of turning over such a weighty sidecar on left-hand corners.

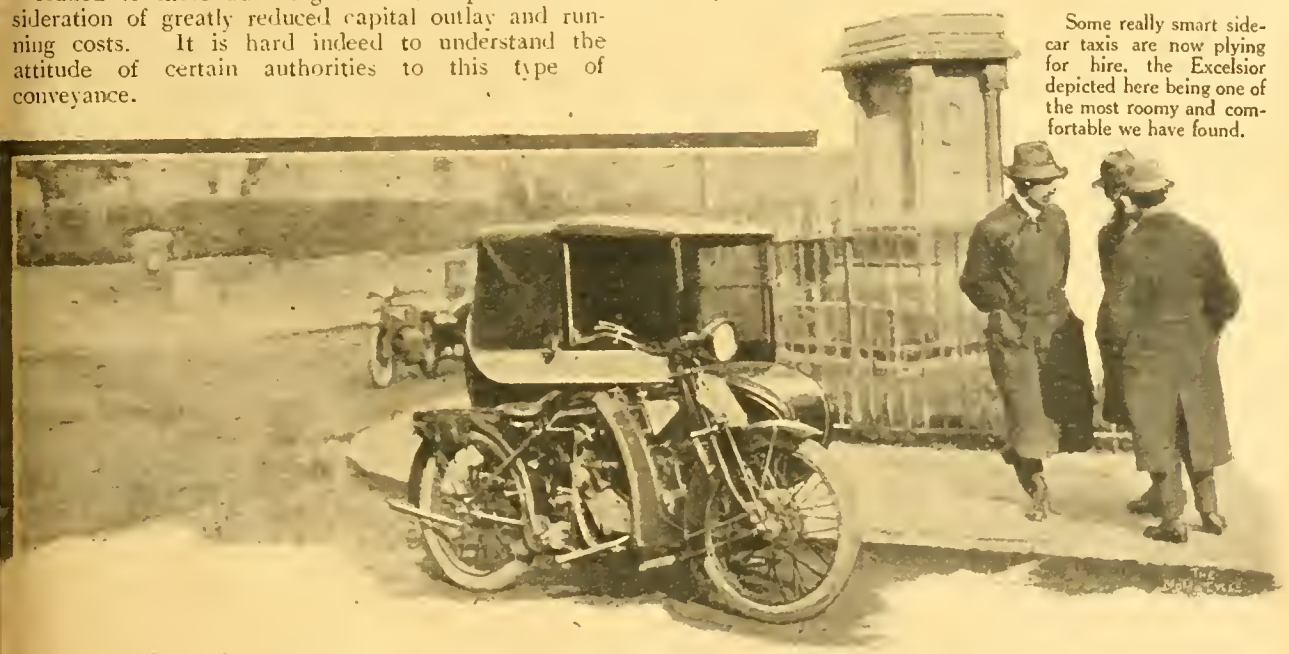
Where the Sidecar Taxi Scores.

Birmingham traffic showed off the handiness of such an outfit to its best advantage, and it can be said that the sidecar taxi is as safe as and more "nippy" than its four-wheeled prototype, both in traffic and on the open road.

Added to these advantages is the important consideration of greatly reduced capital outlay and running costs. It is hard indeed to understand the attitude of certain authorities to this type of conveyance.

With regard to comfort. The canoelet body is certainly more comfortable with the weight of two passengers on board than with one only. It is, however, reasonably well sprung under all circumstances. There is head room for a tall man, access to the interior is easy, and the body is singularly free from rattles and draughts. The family man who wishes to provide luxurious riding for his wife and children might do much worse than consider the merits of an Excelsior and canoelet sidecar taxi as a touring proposition, since it is admirably adapted for all ordinary work.

At the conclusion of our run we were able to examine the manufacturing methods and the sturdy construction of Excelsior machines throughout, and incidentally to try the paces of a new sporting two-stroke on the company's miniature track.



Some really smart sidecar taxis are now plying for hire, the Excelsior depicted here being one of the most roomy and comfortable we have found.

THE 2¾ h.p. DIAMOND-JAP.

On the Road with a Small but Efficient Four-stroke.

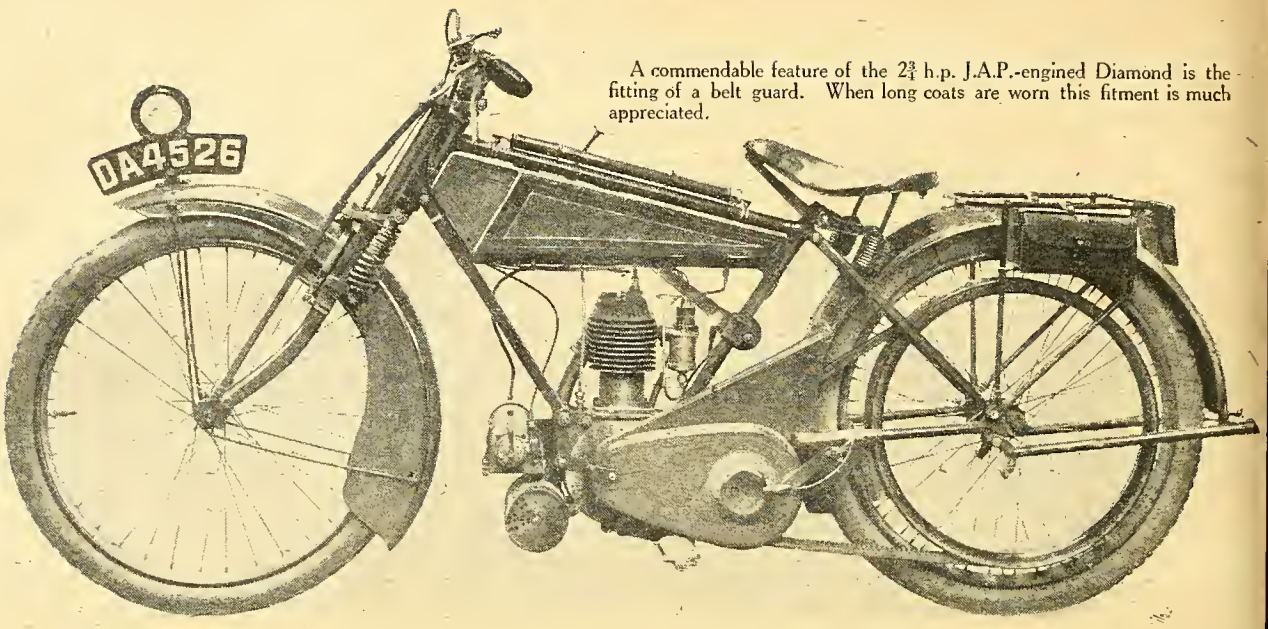
SPECIFICATION.

ENGINE: 70 × 76 mm. = 293 c.c. single cylinder J.A.P.	*TRANSMISSION: ½ × 3/16 in. chains and ¾ in. belt.*	*TYRES: 26 × 2¼ in.*
CARBURETTER: Amac.	*GEAR BOX: Two-speed Sturmey with clutch and k.s.*	*FORKS: Druid*
MAGNETO: C.A.V.		*PRICE: £89 5s.*
		WEIGHT: 230 lb.

TWO-STROKES are so popular in the 200-300 c.c. classes that the four-stroke lightweight of corresponding capacity does not attract nearly the same amount of attention nowadays from the general public. Its performances and capabilities are, like those of its larger brother the 3½-4 h.p. single, simply taken for granted; that these qualities, if unassuming, are not negligible was amply proved on the occasion of a test quite recently of the 2¾ h.p. Diamond-Jap.

Although nominally 2¾ h.p., this little engine is only 70 × 70 mm (293 c.c.), and therefore is considerably smaller than the majority of similarly rated lightweights. Power output, however, seems to indicate that the rating is still on a modest basis. Indeed, on the road with a heavy driver and a 5 to 1 top gear, the Diamond gave that untiring service which we expect, and get, from any of the larger singles of to-day. Naturally, it has not the speed of a high efficiency "3½"; but a maximum of 40 m.p.h. must be considered very creditable for so small an engine, and with so low a petrol consumption.

This latter point, in fact, is where the Diamond scores most pronouncedly; and although a considerable



A commendable feature of the 2¾ h.p. J.A.P.-engined Diamond is the fitting of a belt guard. When long coats are worn this fitment is much appreciated.

number of ten and fifteen-mile runs were made on the machine by the writer, he never succeeded in running the large capacity petrol tank dry. Like the Biblical cruse of oil, the level seemed to remain almost constant. Thus, by reason of its very economy, we were unable to obtain exact consumption figures; but certainly everything pointed to a very satisfactory result.

Weather-proofing and Braking.

The general design of the Diamond is noticeably good; and every attention has been directed to making it a suitable all-weather mount for the busy man or the novice. Mudguarding is both extensive and securely carried out, and a combined front chain-guard and belt-shield is a most useful fitment for the rider who wishes to ride in his ordinary waterproof or overcoat. Braking is simple but effective, a long heel lever being connected directly to the rear brake shoe. Thus the action is literally direct.

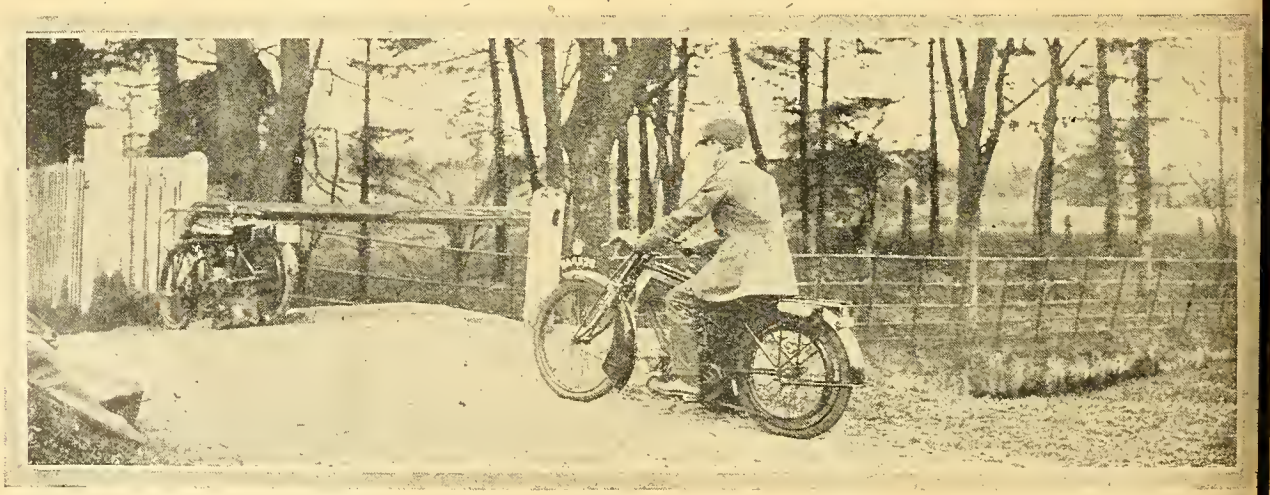
Druid forks and Sturmey two-speed gear box are too well known to call for much comment, although it must be stated that "closer" ratios would have served our purpose admirably.

Gradient and Gear Ratio.

This is often the case, however, on two-speed machines; and, actually, it is complimentary to the engine that we should regard it as undergeared on low.

Other items worthy of note are the very large and good quality tool bags, the integral front number-plate and licence holder, and, finally, the built-up front portion of the frame, which replaces the conventional brazed-in single tube with a duplex arrangement secured by bolts to the steering head; this construction should do much to eliminate the possibility of front down-tube breakages.

Altogether, both in performance and finish, the Diamond lightweight strikes a high note—it combines sturdiness and reliability with economy and handiness.



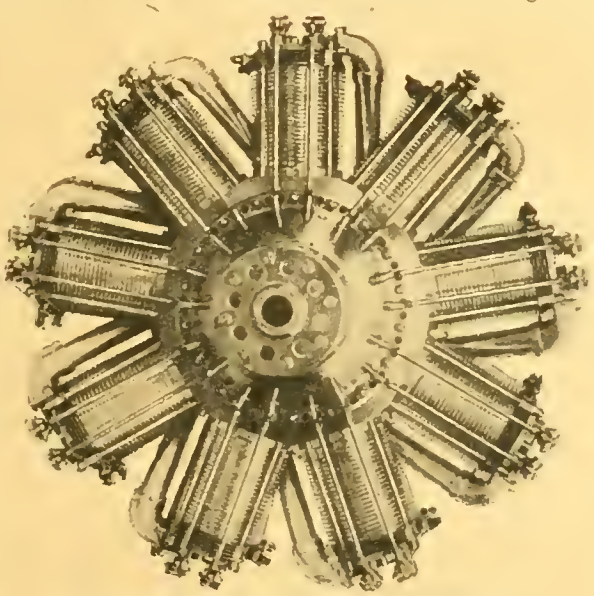
As an economical and handy little mount, the Diamond takes a front rank

IS AIR-COOLING ADEQUATE?

What has been Done and What is Needed in Practice.

By ROAD RIDER.

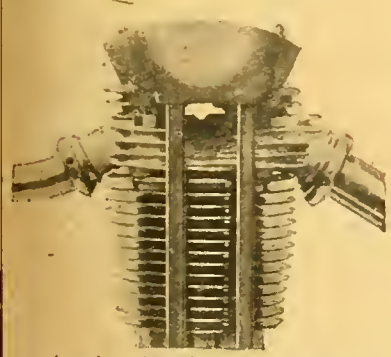
THE judges' report of the first post-war Six Days Trial (1919) went out of its way to suggest that motor cycle designers should reconsider the whole question of cooling. These magnates had been greatly impressed by the fine performance of the water-cooled Scotts over a very trying Welsh course; and they had been correspondingly disgusted by the hot, oily smell and the very audible conking which their test precipices wrung from some of the air-cooled entries. Since that date certain research data have been published, most of them emanating from what is known in the R.A.F. with either affection or derision as "the factory," *i.e.*, the Royal Aircraft establishment at Farnborough. These researches have wholly transformed the situation. You can still find men who prefer water-cooling for certain purposes, *e.g.*, a "heavy duty" two-stroke; but it is no longer possible to assemble a board of technical experts who consider water-cooling necessary, or even desirable, for the ordinary commercial motor cycle.



A 250 h.p. acro engine which is satisfactorily air-cooled. The production of such power units is necessarily expensive.

Under-cooled Engines Still Exist.

It is still a fact that some air-cooled engines sold to the public are under-cooled. Their existence is due to a variety of causes. For one thing, it is thought cheaper for a motor cycle manufacturer to make an engine than to buy a proprietary unit. In the past some very poorly qualified engineers have been given the job of designing an engine for firms who desired to enter the industry or to lower their costs. Friends of mine, who were little more than students, have received and fulfilled such commissions before now. With keener competition this atrocious practice is moribund. But every now and then a man who is ignorant of the latest principles tackles a job in which he cannot hope to succeed. Secondly, no commercial motor cycle need avail itself to the full of air-cooling possibilities. Certain designers can make, and have made, air-cooled engines capable of running under a good load for several hours inside a building from which all cooling draughts are excluded. Such a test is far more severe than any which roadwork in these islands can produce; commonsense permits such an engine to be cheapened and simplified for commercial purposes. But different makers have different standards. I suppose that if the Alps were situated in the immediate hinterland of Coventry, all our engines would prove under-cooled, and we should see marked changes in design. As Britain contains no hills which are both very steep and very long, the average designer wastes no money on over-cooling his engine. His very sensible standard is that it shall take a side-car up Sutton Bank in August with a duffer at the helm, and show no sign of conking in the process. So long as this standard is actually attained, what more do we want? The Farnborough ideal is that air-cooled cylinders of 50 h.p. apiece must withstand full load for many hours continuously without shedding any efficiency; even Brooklands makes no such demand of our little engines.



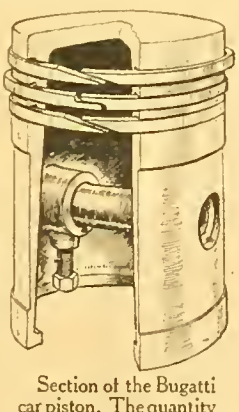
An adaptation of acro methods of construction to a motor cycle engine. The Metric unit has a bolted-on aluminium head with worm-driven overhead camshaft

Causes of Distortion.

It follows that the design of an air-cooled engine is, to a very large extent, like most elements in design, a matter of compromise.

Take distortion of the cylinder barrel as an example. A cylinder barrel may be "pulled out of round" by at least four factors:

1. Uneven thickness of the barrel (*e.g.*, an exhaust valve chest which makes its cross section lob-sided).
2. Unequal draught (the draught on the front and rear walls can be equalised by cowls or "wind shoots").
3. Unequal conduction of heat from the cylinder head (due to the exhaust valve being out of centre).



Section of the Bugatti car piston. The quantity of metal is so disposed as to give the greatest cooling effect to the head.

Is Air-cooling Adequate?—

4. A hot spot down one side (*e.g.*, the side exhaust valve).

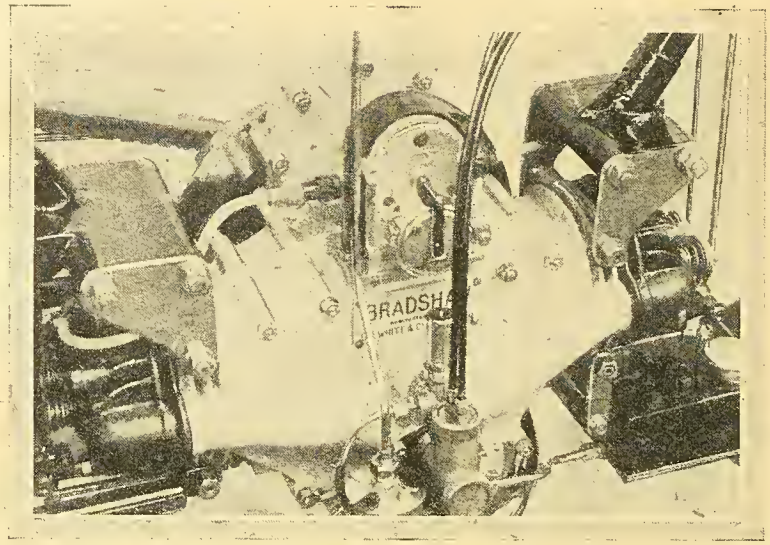
For R.A.F. purposes, where the cylinder bore must remain true under the most acute stresses, all these points must be safeguarded. The ideal R.A.F. cylinder barrel might therefore be:

1. Machined inside and out (very costly for application in a motor cycle factory).

2. Provided with cowls to equalise the draught (ugly and expensive on motor cycles).

3. Be fitted with a central exhaust valve or the Bradshaw aluminium washer at the head joint (to prevent the head from wrenching the barrel out of round).

4. Be fitted with overhead valves (which are awkward to accommodate on a big single-cylinder engine to suit a motor cycle frame).

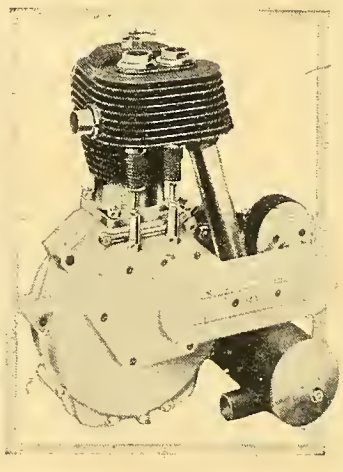


Air-cooling is not sought entirely in this Bradshaw engine (designed by the well-known aero engineer), for the crank case encloses the greater part of the cylinders, which are cooled by a large quantity of oil in circulation.

Since a motor cycle engine need not reach this lofty standard there is a far simpler way of equalising the cylinder temperature all round the barrel and avoiding distortion; it might not suffice for an aero engine, but it will keep a cylinder true on a sidecar outfit all the way up Applecross. Two types of heat conduction occur in a cylinder barrel; there is *external* conduction from the barrel to the air; and there is *internal* conduction or "heat circulation" between the atoms composing the metal. So if the cylinder walls and fins are made tolerably thick, the casting need not be machined on the outside; the valves need not be transferred to the overhead position; no cowls need be attached; and the cylinder will still remain true under all road tests. Obviously, this simpler method of construction is far cheaper than that of a special "stunt" engine.

Cylinder Head Construction.

Or take again the construction of the cylinder head. One fertile cause of conking is a hot spot in the cylinder head, which, needless to say, is always located round the exhaust valve. Various dodges for preventing deformation of the head have been devised; we must remember that an unequally heated head usually means an "out-of-round" cylinder. There are engines with Eiffel towers of special fins on the head; engines with central overhead exhaust valves; engines with the exhaust valve in front and the inlet valve behind; and so forth. But for motor cycle purposes a perfectly conk-proof engine may be obtained by using a good fat cylinder head, which gives good heat conduction inside the metal, so that the temperature at all points is as nearly equal as good practical results demand.



Standard motor cycle engine practice in a highly-developed form is exemplified by the single-cylinder Norton. The cylinder casting is heavy, and the radiating fins increase in area at the hottest points.

Once more the piston is intimately concerned in the matter; and the section of the Bugatti racing piston, reproduced, indicates how a thick head, tapering off gradually into the skirt, will carry away the excess heat from the crown.

Possibilities of the Future.

To sum up, by utilising all the known dodges, it is possible to design an air-cooled engine which will stand harder duty than any water-cooled engine. In the latter case, the boiling point of water—212° Centigrade—is the absolute temperature limit, while a stunt air-cooled engine will function perfectly up to temperatures at which the lubricating oil ceases to lubricate and begins to "crack," or separate into its constituent parts—petrol, wax, and the like. Therefore, if a 1921 motor cycle engine overheats and conks, the user may decide between several alternatives somewhat as follows:

1. The engine is badly designed.
2. The engine is mechanically amiss.
3. The engine is being subjected to stresses for which no sane designer would cater.

But in no case will the A.C.U. judges of 1921 recommend the trade to abandon air for water.

It has taken a long time for motor cycle designers to appreciate the fact that much of the experimental work carried out during the period of the war is at their disposal for future reference, but some there are who, realising the facts, are beginning to make use of their opportunities. Most interesting and instructive lectures have been given before the Institution of Automobile Engineers, which in certain cases would have been of more use to motor cycle than car designers had they been attended by responsible members of the drawing office staff. Just a few concerns have arrived at first-class results by the lengthy and wasteful process of hit and miss, when a short cut to the same ends might have been used by the employment of available data

FOUR DAYS ON THE ROAD.

Being the Week-end Ride of One of "The Motor Cycle" Staff engaged on the London-Land's End Run.

GOOD Friday was meteorologically a very good Friday—in the Midlands, anyhow—and my leather coat and field boots seemed most unfashionable as I sped down the Stratford-on-Avon road past hatless joy-riders with "river-girl" types up behind.

Everything seemed in favour of an uneventful run to the south, but on entering Shakespeare's old home town it became necessary, for some forgotten reason, to declutch. Performing the action correctly, nothing happened. I knew just which inaccessible locking-ring had come unscrewed, for the same trouble had happened before. (It is not a Sturmey nor the gear box made by the manufacturers of my trusty W.D. Triumph.) I turned into a near-by garage to have things put right. A veil may be drawn over the next two hours; I did the job myself, and so many times did I get the clutch nut on cross-threaded—the spring had to be compressed at least threequarters of an inch—that eventually I came away with the nut only half-way on, but seemingly immovable either way. So it proved; it has not been touched since.

Fourteen miles further on two energetic, if slow, policemen were holding up a string of motoring holiday-makers while compiling voluminous notes, in very longhand, regarding licences, vehicle, and driving. I was presented with a "ticket of leave," which I promptly lost. However, at each further hold-up—and there were many—I simply fumbled with a gloved hand in my breast pocket, mentioned the ticket, and was waved on, generally before stopping the road wheels.



WATCHING FOR LATE ARRIVALS AT LAND'S END.
Competitors bearing the earlier numbers waiting for others to finish their strenuous ride.

Good Going.

After Moreton-in-the-Marsh the route lay for twenty miles down the old Fosseway to Cirencester. Without dangerous "blinding," these twenty miles took just thirty-five minutes.

Replenishing both "W.D." and myself at Cirencester, good, if dusty, running was made through Malmesbury and Chippenham to Bath, and onwards through some nice country to Wells. It was only four when we reached the square in front of the Cathedral, and, therefore, although not greatly interested in archæology, I made the official tour of that edifice, then washed the dust down with some tea at the Swan, and generally lazed away nearly ninety minutes amongst a typical summer-holiday-like crowd of motorists and tourists.

Bridgwater was reached in good time, and arrangements made for a lamentably early start on the morrow. An important local rugger match and various camp-followers of the M.C.C. trial made things unusually lively that night. Some of us went for a moonlight walk and made vain prophesies regarding weather conditions on the hills.

Under Difficulties.

Next morning, as everybody knows, it rained, and even before I reached Porlock—and I came along with the "teens"—the roads were just as wet as they could be. What the surface was like on that dread acclivity itself, I confess, I cannot say. My ascent must have been rather amusing—for the spectators: although I still hope that the rain was heavy enough to obscure me completely. It certainly obscured my vision; and as I wear glasses. I stopped and cleaned them at the foot, but so heavy was the shower that it did not help for long. Before I realised it I was rounding—or should have been rounding!—the first bend. Actually I ran into the ditch. I rather think I was still in second gear then: and probably it was instinct which made me declutch before I had charged the bank, or the engine had stopped. Fortunately the engine did not stop, and willing hands helped me to get away, on low gear this time.

For about a mile I went up well, and only a conking, on repeated attempts to get into top, caused me to realise that the climb was not yet over. (I would remind the reader that I could not even see the sides of the road, and was quite unable to judge as to the gradient.)

At the summit it was clearer, and presently the rain stopped. My journey to Lynmouth was speedy and skid-less, and, greatly to my relief, Lynton proved ridiculously easy. I made a perfectly clean ascent, and leaving my mount at the top walked down to the hairpin to report to a colleague. It was most soothing balm to my pride, somewhat hurt on Porlock, to see so many make a mess of things here!

Lynton and After.

Lynton must be the finest hill in England from the spectator's point of view: almost all the comedies or thrills are staged within view of the grandstand—the bank on the inside of the bend. I should like to have stayed until the last car came along, but duty called, and, tramping up the 1 in 4—hard work—I

Four Days on the Road.—

was soon *en route* once more with the competitors for the lunch stop at Launceston.

Bideford was the next name to stamp itself indelibly in the memory of all—not for any special feature about the village or the villagers, who turned out in great force, but because here the road took a serious turn for the worse. Right on to Holsworthy there were stretches which only possessed a narrow rideable track in the centre. Tired solo competitors, perhaps shaken by Porlock or Lynton, found great difficulty in keeping upright on this section, and many spills resulted. Incidentally, I was forced to the conclusion that the 28 × 3in. rear tyre I have fitted to the Triumph is a preventive of skidding, for this section was survived without a fall.

Both roads and scenery changed after Launceston, the former very much for the better. Indeed, so good were they now that I had some difficulty in restraining "W.D." from catching up and passing No. 1. The competitors themselves went very warily, expecting another secret check before the finish. It came just before Penzance; and after Penzance 20 m.p.h. was about the safe maximum for the road anyhow.

Even twenty proved deadly to one promising young cockerel near the finish; he could not quite touch twenty across the road, and the wheel that wrung his neck was not doing more.

Land's End is a lovely spot, but on Saturday night was rather cold. Those who had not booked up were quickly on their homeward way; incidentally, there was considerable grumbling about the regulation (strictly enforced) requiring the removal or reversal of the official metal number-plates before moving off. Personally, I made capital out of someone's misfortune, for I secured the room of a car driver who had not arrived.

TWO FAMOUS WEST COUNTRY HILLS WHERE THE AWARDS WERE LOST OR WON.



Three-wheelers did well throughout the London-Land's End Trial. Here are depicted the familiar Morgan and the Coventry Premier on the lower portion of Lynton Hill. (Circle) A Coulson B between the bends on Porlock.

Four Days on the Road.—

Sunday morning dawned breezy but fresh, and an intended very early start was actually made at 10.30. Much to my dismay I discovered before starting that all my tools had gone the day before from an insecurely locked tool-bag; worse still my front tyre went down just beyond Penzance. Buying tyre levers and a spanner from various sources, however, I carried on, pumping up every twenty miles—being too lazy to mend it. I took a more southerly route on the return than on the outward journey, through Lostwithiel and Liskeard to Tavistock, passing and being passed by returning competitors every few miles. At Tavistock lunch was obtained easily, but food for the machine took a good deal more finding; eventually an obliging hotel hand broke into somebody's garage and supplied an overflowing gallon. It was needed; for on across glorious Dartmoor *via* Two Bridges to Ashburton there is no profusion of petrol stand pipes.

Welcome Aid from the A.A.

Nearing Exeter the miracle happened: I came across an A.A. "mechanical first-aid" sidecar, and on production of my membership card the patrol got busy with the tyre. It is most satisfactory to watch another mend one's puncture!

Tea at Exeter was a gathering of nearly twenty who had come from "the End" by almost as many varied routes. Faces that we dare not wash and eyes that were red and sore must have made the good people of Exeter quote Shakespeare regarding mortals and fools. But everybody was happy, so what matter?

That night I stayed at Taunton, and next morning at Glastonbury rejoined my outward route. I also struck rain and with it a sticky contact breaker. An inadequate tool kit enforced a continuance of the journey without getting to the root of the trouble. At Cirencester the ignition became still worse, but a rapid mental calculation showed that if I only averaged fifteen I could still reach Coventry with two hours to spare in which to deliver to the Editor those notes I had travelled so far to obtain.

Still Wanted—a Hoseable Machine.

Actually I averaged twenty on this final section.

And so finished a 600 mile journey, more than half that distance with only two pedal cycle tyre levers and one weak and wobbly pedal cycle spanner. One must be fairly confident of the machine to venture such a ride with such a tool kit. Regarding the machine, an hour's work will fix it up in splendid tune once more: but—it will take days to clean. When Porlock and Lynton are tar-macadamed, and the M.C.C. only comes out in fine weather, "London-Land's End" will be the perfect Easter holiday.

Speaking generally of my impressions of the trial, there are one or two points that I should like to emphasise. I consider that it is much too severe for lady sidecar passengers; one lady fainted, and all must have felt worn out at Land's End. The return journey, too, is just as long! On the hills, and on Lynton in particular, many big, hefty machines came to a standstill owing to too much throttle on low gear. A big twin in particular should go up on a mere whiff over the worst portions, only opening out when the surface improves and the gradient eases. It also seemed to me that more awards were lost through bad driving than through any mechanical faults. On Lynton, particularly, it was evident that many competitors got "flustered;" and did not "use their heads." Finally, touring handle-bars on solo machines should be suppressed by a special regulation. A.Mc.L.



A Zenith rider at Staxton hill-climb, W. C. Brown in racing form. He secured second place in Class 5. The results of the hill-climb were given last week.

PARIS-NICE STATISTICS.

ACCORDING to statistics published by a French contemporary, forty-one French machines started and twenty-eight finished the journey in the recent Paris-Nice Trial. Nineteen lost no marks.

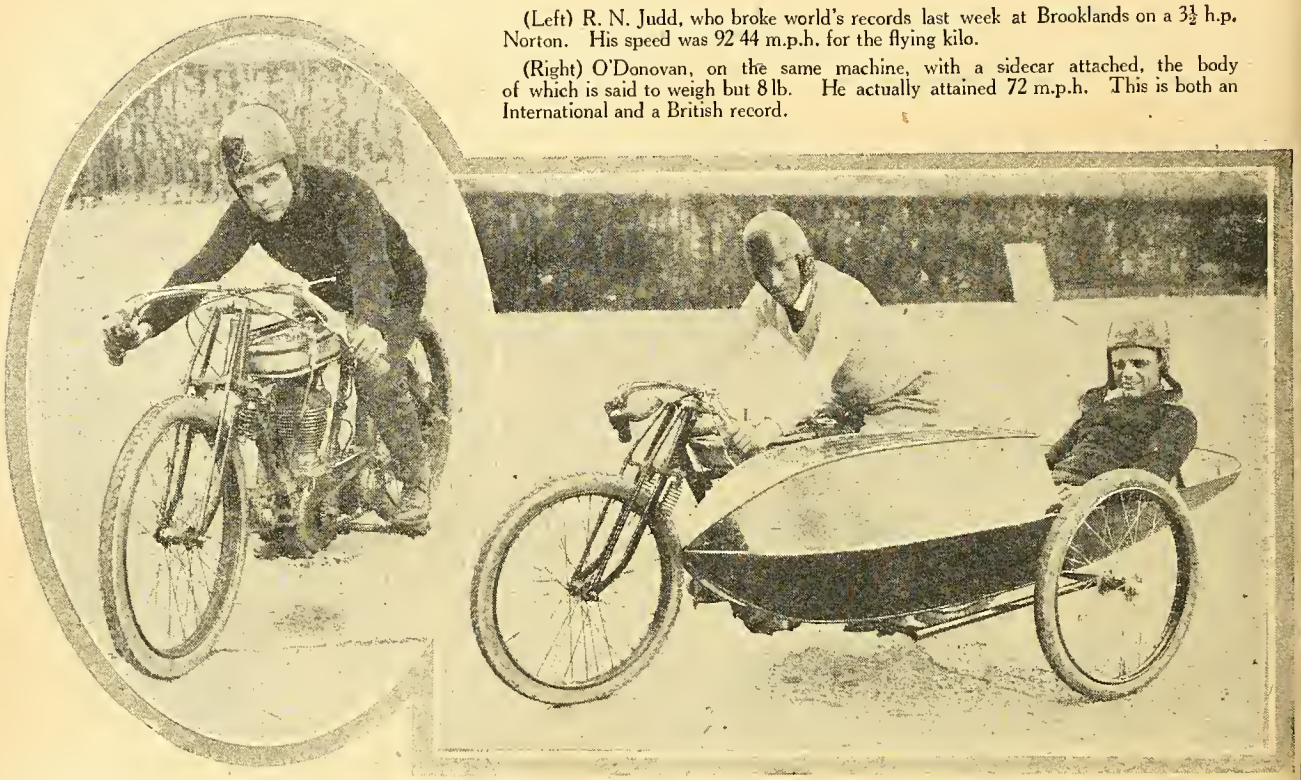
As regards the British machines, twenty-seven started, twenty-four finished the course, eighteen lost no marks, and six were penalised.

Twelve American machines started, eight finished the course, four lost no marks, and four were penalised.

Of the Swiss machines three started, two finished, of which one lost no marks and the other was penalised. The Belgian team of three machines finished complete, and lost no marks. Two Italian machines started, one of which lost no marks and the other was penalised.

OVER 92 M.P.H. WITH A "3½."

R. N. Judd beats International Records at Brooklands on a 3½ h.p. Norton.



(Left) R. N. Judd, who broke world's records last week at Brooklands on a 3½ h.p. Norton. His speed was 92.44 m.p.h. for the flying kilo.

(Right) O'Donovan, on the same machine, with a sidecar attached, the body of which is said to weigh but 8 lb. He actually attained 72 m.p.h. This is both an International and a British record.

SOME startling performances were made on Brooklands Track by R. N. Judd on a standard Model 16 H Norton on Wednesday of last week. The track was wet, it was raining somewhat at the time, and a cold south-westerly wind was blowing. Notwithstanding these adverse conditions he covered the flying kilometre in 24.2s., which equals a speed of 92.44 m.p.h. (148.76 k.p.h.), which is a British record. The average time was 25.9s., 86.37 m.p.h. (138.99 k.p.h.), which is an international world's record. Judd's best time for the mile was 41.2s., 87.38 m.p.h. (140.62 k.p.h.), his average for the two times being 43.1s., equalling a speed of 83.53 m.p.h. (134.42 k.p.h.), and is an international world's record.

The importance of Judd's performances is that they beat the American Class C records standing previously in the name of E. Walker, made on April 15th, 1920, on Daytona Beach. Walker covered the flying kilometre on a one-cylinder Indian, 82.5 mm. × 93 mm., 497 c.c., in 27.21s., being a speed of 82.21 m.p.h., and the flying mile on a similar machine in 43.85s., equalling 82.09 m.p.h.

Judd used Pratt's petrol, Speedwell oil, and Dunlop tyres.

On the following day, and under more favourable weather conditions, D. R. O'Donovan, riding the same machine, but having a sidecar attached, succeeded in breaking further records as follows: Flying kilometre—speed 30.8s. = 72.63 m.p.h. (116.88 k.p.h.); mean speed (both ways) 31.4s. = 71.24 m.p.h. (114.65 k.p.h.), thus beating H. R. Davies (2¾ A.J.S.-sc.), whose record, made at Brooklands in October, 1920, stood at 62.84 m.p.h. (101.12 k.p.h.).

THE FIRST MIDLAND OPEN TRIAL.

IF the entry lists of the closed Midland Centre events are any criterion, all records should be broken on the occasion of the first open Midland reliability trial, which takes place on Saturday, April 23rd. Excepting the team prizes (trade and club or private riders) there are no special awards; gold centre medals will be awarded to all who gain full marks, silver to those who gain 90% marks, and bronze for 75% marks. The event is open to motor cycles and sidecar outfits of any size and weight, and three and four-wheeled runabouts up to 1,100 c.c. engine capacity, and 8 cwt. unladen weight.

With a view to affording entrants a knowledge of how their performances compare with others a fully detailed schedule of every rider's performance will, after the trial, be sent to each entrant. This appears to be an excellent idea, and one that should be more freely adopted by other bodies.

Entries must reach Mr. E. Boydell, 93 John Bright Street, Birmingham, by the 11th inst.

NEW B.M.C.R.C. RULES.

AT a recent meeting of the committee of the British Motor Cycle Racing Club, held at the Auto Cycle Union offices, the proposed new racing rules were finally adopted. These are seventy-six in number, and should prove a model of what such rules should be. Outstanding among the new regulations is one requiring that all motor cycles entered for contest at Brooklands track shall have their engines registered before they can compete. This should definitely bar the possibility of any objectionable practices, and should add to the general interest of observing the performance of the machines. One may easily imagine that, to the closer and more enthusiastic observers at any rate, particular engines will eventually become famous, by reason of their long record of successes or other outstanding performances. Such a scheme will imply, of course, that all vital alterations made to an engine during the season will have to be certified.

A TRIAL IN SOUTH WALES.

Neath and District M.C.C. Reliability Trial to Llandovery and Back.



Although fairly deep watersplashes were included, they gave very little trouble to competitors. Ivor Church (3½ Sunbeam) negotiating Caio watersplash.



Alex Thom taking the bend on Porthrydd Hill on his Harley-Davidson sidecar.

'HE announcement that a really handsome challenge cup had been given as the premier award for the Neath ub's Easter Reliability Trial by Mr. an Williams, a well-known sportsman, ed as a good stimulant to the members the South Wales clubs; and, although t favoured with brilliant sunshine, the ather was sufficiently good to make the thoroughly enjoyable for competitors, porters, and onlookers.

At 10 a.m. the first man Thomas Triumph) left Neath. Some good main d hills were covered, and at twenty-ee miles (the first check) most competitors thought they were in for a joy le. The well-known Caio Hill had not en considered sufficiently severe to be served.

Caio water-splash caused some fun the spectators), No. 13 providing tertainment by trying submarine ethods, but most of the competitors t through without trouble.

The tit-bit of the trial was the climb Porthrydd mountain, of which, after t weather, the first 200 yards were almost unclimbable, being just a mountain lane, partly covered in by trees. The best ascents were made by Idwell Jones (3½ Sunbeam) and Thomas (4 Triumph). A very plucky attempt was made by Lewis (2¼ Levis). All sidecars failed, but White (7-9 Harley-Davidson sc.) had exceedingly hard luck with wheel slip.

Amongst the Mountains.

On the rough, rocky surface over the crest of the mountain, Idwell Jones (Sunbeam) punctured badly, and retired after excellent going. Castle Hotel, Llandovery, was then reached, where the host had an excellent lunch awaiting.

After lunch, competitors were checked at Senny Bridge Station, after which came some cross-country running to a magnificent climb at Moel-Senny (1,468ft.). This hill has two hairpins, really good surface, and provided an excellent engine test. Some of the most gorgeous scenery is available from here.

Excellent solo climbs were made by Thomas (4 Triumph), Lewis (Levis), and Church (Sunbeam); and among the sidecars Thom (7-9 Harley-Davidson) was very fast, and White (7-9 Harley-Davidson sc.), Thomas (3½ Norton sc.), and Mitchell (7-9 Indian), all climbed well. Stewart (3½ Sunbeam) was steady but sure.

Several miles of mountain road, with numerous cross ruts, severely testing front forks and sidecar chassis, were then encountered; but joining the main road at Glyneath, eleven miles from home, enabled a little lost time to be wiped out.

Great credit is due to the Neath officials for the excellent arrangements. The course was marked with blue dye and arrows, which gave universal satisfaction.

Several members of the Carmarthen M.C.C. helped at the checks.

The results were: 1, winner of Challenge Cup, Ivor Thomas (4 Triumph), no marks lost; 2, Jack Thomas (3½ Norton sc.), five marks lost; 3, — Stewart (3½ Sunbeam sc.), nine marks lost.

A NON-STOP TRIAL IN FRANCE.

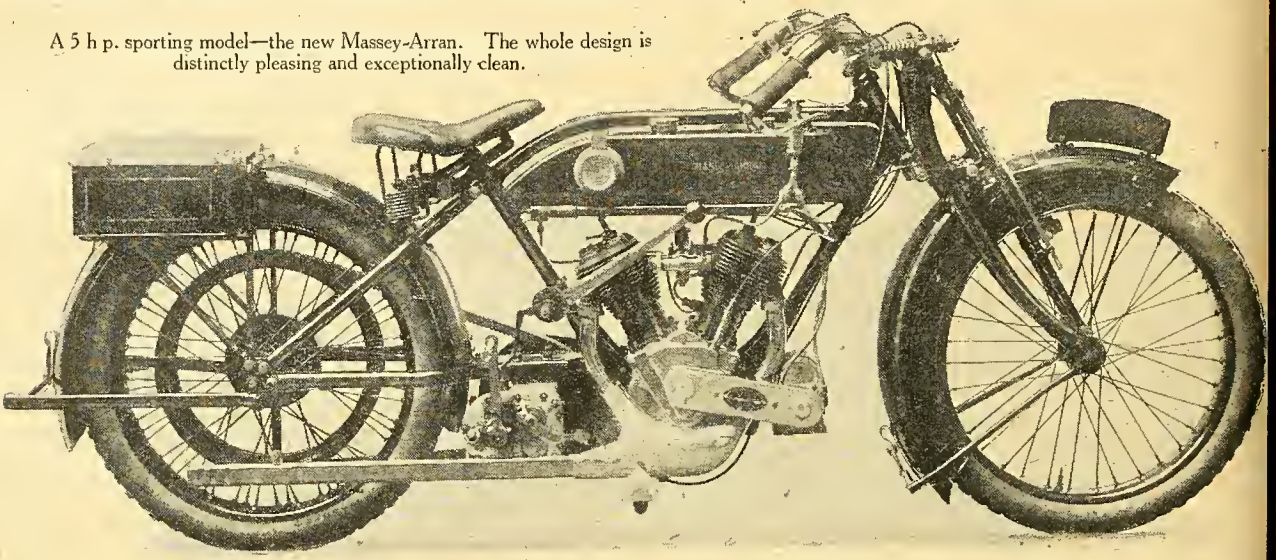
'RENCH motor cyclists will have their first experience of a non-stop test on the 24th inst. in the neighbourod of Paris. When the sporting calenr was drawn up several months ago the nion Motorcycliste reserved this date a touring competition, without, hower, indicating the nature of the event. has now been decided to make this a liability non-stop test, and to hold it on a short course, if possible, about six miles round, somewhere in the neighbourhood of Paris. The course has not yet been decided on, although several places have been examined. The desire of the U.M.F. is to get a set of roads on which there is very little traffic, and which present the maximum difficulties.

The total distance will be roughly 150 miles, which distance will have to be covered at the average speed of 18½ m.p.h. Although the detailed rules have not yet appeared, it is understood that penalisations will be applied for every stoppage of the engine, whether this should be accidental, in order to carry out mechanical repairs, or by reason of tyre troubles. The only difference is that the number of points deducted will be smaller for tyres than for other causes of stoppage.

A Refined Twin Solo Mount.

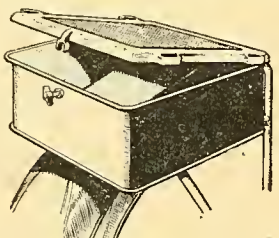
The Latest Model of the Massey-Arran Range. Detail Refinements and Exceptional Finish.

A 5 h.p. sporting model—the new Massey-Arran. The whole design is distinctly pleasing and exceptionally clean.

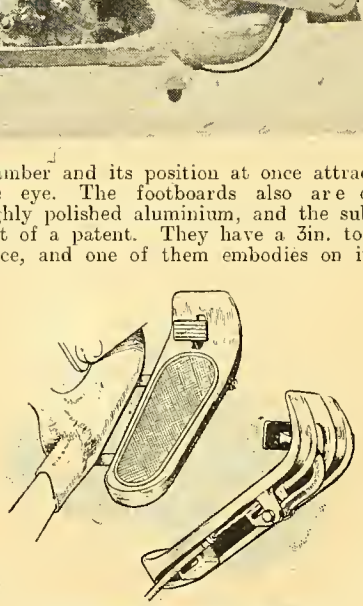


IN these days when price is such an important factor in the marketing of a new motor cycle, it is interesting to learn that at least one firm retains confidence in that section of the public to whom quality and finish count first. This is the Massey-Arran Co., of Bellbarn Road, Birmingham, whose range of models attracted considerable attention at the last Olympia Show on account of their several refinements.

Recently we were afforded an opportunity of inspecting closely a new 5 h.p. model which embodies features introduced since the Show and illustrated on this page. As will be seen from the large illustration, the 5 h.p. Massey-Arran presents a distinctive and pleasing appearance, due to the fact that it is a designed rather than an assembled machine. The shape of the expansion chamber and its position at once attract the eye. The footboards also are of highly polished aluminium, and the subject of a patent. They have a 3in. toepiece, and one of them embodies on its underside the brake-operating mechanism which brings the pedal into the centre of the plate instead of the more usual position at the side or above it.



The metal tool-box fitted pannier fashion on the carrier.

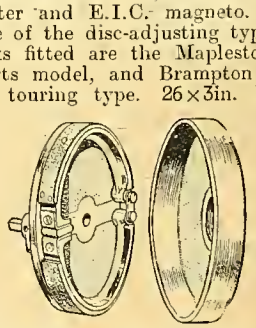


The brake pedal is operated through the footboard, an unusual innovation.

Another point in connection with this combined footplate and brake mechanism is that it can be fitted on either side of the machine, thus facilitating matters for those partially disabled.

From the pedal the rear brake is operated by heavy Bowden cable, while the brake itself is of the internal expanding type lined with Ferodo.

The engine fitted is the 1921 type 5 h.p. J.A.P., which has a bore and stroke of 70 and 88 mm. respectively, and i equipment includes Amac or B. and carburetter and E.I.C. magneto. Th hubs are of the disc-adjusting type, an the forks fitted are the Maplestone fo the sports model, and Brampton Bifle for the touring type. 26×3in. Dunlo



Rear brake assembly of the Massey-Arran

tyres, Sturmey-Archer gear box, and handsome tank of 2 gals. 1 qt. capacit form part of the equipment.

One of the most distinctive features the Massey-Arran is its saddle type too box which takes the place of the carrie It has a polished cast aluminium lid wit pyramid matting to match the foo boards. £145 is the price of eith model solo, and £185 for the sidecar ou fit. £26 extra is charged for Luc dynamo lighting set.

Incidentally, the managing director the Massey-Arran Motor Co. is M Robert W. Vaughan, who for many yea was associated with Canoelet sidecars.

POINTS FOR MOTOR TOURISTS.

A POINT to be borne in mind, particularly by those who are comparatively new to the roads (says *The Autocar*) is that others as well as themselves desire to travel in comfort and safety. The time-worn slogan "Safety First" loses none of its force by iteration, for there are always those who by thoughtlessness, or worse, endanger their fellows. Their rashness, often indulged in with the self-conscious idea of suggesting their own cleverness, may wreck the pleasure of a whole family's holiday. The advice, in this sense, is unnecessary to veterans of the road, but even these need to be always on their guard against the possibility of encountering the man w drives with a disregard for other us of the road. Nor is it alone in the mat of driving that care is needed. The should be carefully looked over bef setting out on tour, so that the risk involuntary stoppage or brake failure m he reduced to a minimum.

NEW MODELS AND NAMES.

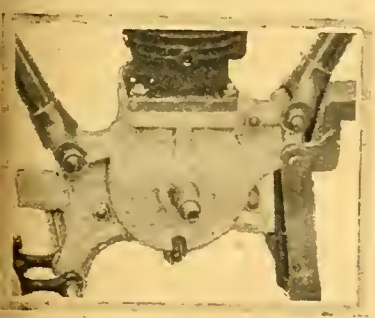
Further Additions to 1921 Lightweights.

Federation and Federal.

ALTHOUGH quite a new machine the Federation is beginning to show up well in Midland competitions. The aim of the makers has been to make a utility weatherproof lightweight while embodying standard and well-tried components. A 2¾ h.p. J.A.P. engine and Sturmey two-speed gear box with clutch and kick-starter are used, while the ample mudguarding, neat chain and belt guard, and very deep toolbags are points that will at once appeal to the average rider. Brampton Biflex forks and a choice of T.T. or touring handle-bars are offered; footboards are standard. This model sells at £84. The makers, the Co-operative Wholesale Society, Ltd., Tyseley, Birmingham, also market a two-stroke Villiers-engined lightweight, which they call the Federal, at £50.

Changes in the Paragon.

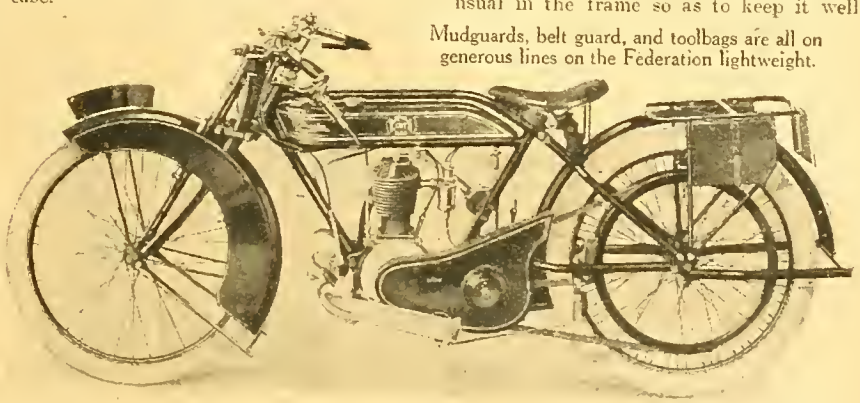
LAST year the Paragon had gear box and engine in one unit, but on the latest model a standard Albion box has been adopted. This mount, however, retains several distinctive points.



Engine plates cast integrally with the crank case on the Paragon two-stroke.

The two-stroke engine of 75 mm. × 79 mm. (349 c.c.) is of the "four-port" variety, having a port in the piston registering with the transfer port, while to this latter a ball valve is fitted, the object of which is to facilitate the separation of the fresh mixture from the burnt gases by scavenging the cylinder by means of an inrush of pure air. Lubrication is by suction from the crank case, the oil passing through a sight drip feed, which is provided with a tap to guard against any leakage when the machine is at rest.

No engine plates are employed for the attachment of the engine to the frame, as lugs are cast integrally with the crank case.

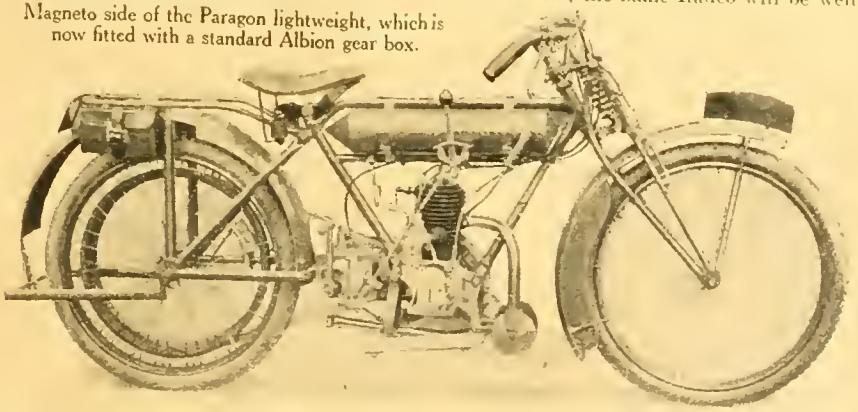


Mudguards, belt guard, and toolbags are all on generous lines on the Federation lightweight.

The C.A.V. magneto is carried on a neat platform attached to the offside of the crank case, and is driven by means of a simple and efficiently designed coupling off the main shaft. A B. and B. carburetter is fitted.

Regarding the spring frame, two vertical tubes run from the rear fork ends and the luggage carrier, and in these are plungers (to which lugs are attached) through which the rear wheel spindle passes. These plungers work against two pairs of compression springs. The front portion of the frame is suspended on Maplestone spring forks.

It must be mentioned that the Albion two-speed gear box, which incorporates a kick-starter, is carried higher than usual in the frame so as to keep it well away from the mud thrown up by the wheels. It is made by the Motor Works, Cressing Road, Braintree, Essex.

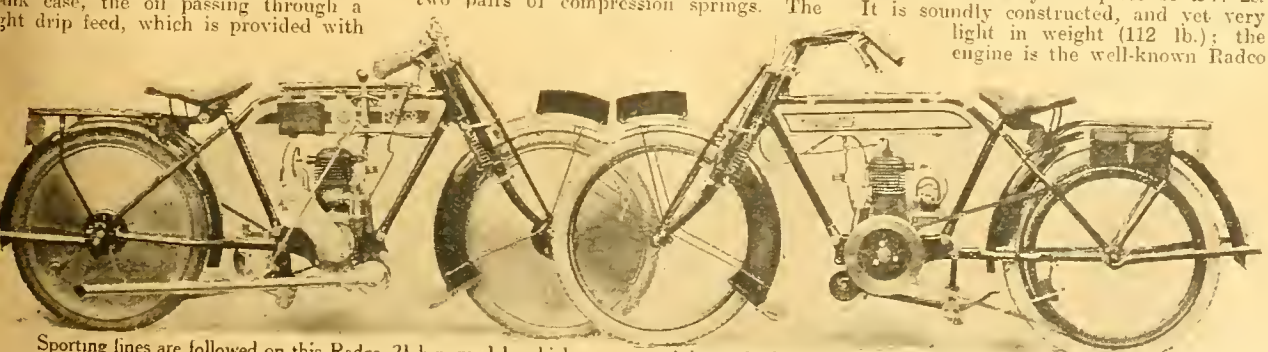


Magneto side of the Paragon lightweight, which is now fitted with a standard Albion gear box.

Radco Sporting and Fixed Gear Models.

LONG associated with a leading position in the world of lightweight two-strokes, the name Radco will be well upheld by two models specially prepared for the 1921 market.

The first is a fixed gear model selling at the remarkably low price of £44 2s. It is soundly constructed, and yet very light in weight (112 lb.); the engine is the well-known Radco



Sporting lines are followed on this Radco 2½ h.p. model, which is equipped with disc wheels, knee pads, and rubber grips at an inclusive price.

A low-priced two-stroke machine, the 2¼ h.p. Radco No. 2, sold with fixed gear at forty-two guineas.

New Models and Names.—

unit of 211 c.c. capacity (62×70 mm.) fitted with a chain-driven Fellows magneto situated behind the cylinder on a bracket cast with the crank case. Lubrication is by the petroil system.

For riders who favour a sporting lay-out the new two-speed disc wheel model at £66 10s. will make a special appeal. In this case the engine has a bore and stroke of 67×70 mm. (247 c.c.), but it follows the general lines of the smaller engine, but has the refinement of the exhaust release being led through a duct in the cylinder casting to the exhaust port. The frame has a pleasing appearance, and very wide back stays are used.

Baron Two and Four-stroke Lightweights.

BLACKBURNE and Villiers-engined lightweights are the two main models made by the Baron Cycle Co., 42-44, Summer Row, Birmingham; these are again sub-divided according to gear box arrangements. The 2¾ h.p. machine may be obtained with an Albion gear box either with or without clutch and kick-starter; in the same way the two-stroke may be fitted with an Albion box or single-geared. Prices range from £52 to £84, and weights from 150 lb. to 205 lb. We should imagine that the latter figure could be brought down five pounds without the makers' assistance. Excellent finish characterises all four models, and the larger machine in particular possesses a very sporting and neat appearance.

The British Standard.

BRITISH Standard motor cycles are not newcomers, and for 1921 are made in five models: A 2¾ h.p. two-stroke in three types (single gear £53, plain two-speed £60, and clutch and kick-starter £64), a 2¾ h.p. Blackburne with two-speed clutch and kick-starter at £85, and a 4 h.p. Blackburne with Sturmey-Archer three-speed at £118. Brampton forks are used on most of the models, and the tyres on all but the largest machine are 26×2¼in. The saddle height is given as 27in., and the weights of the lightweights are from 135 lb. to 175 lb. The makers are the British Standard, 41, Newtown Row, Birmingham.

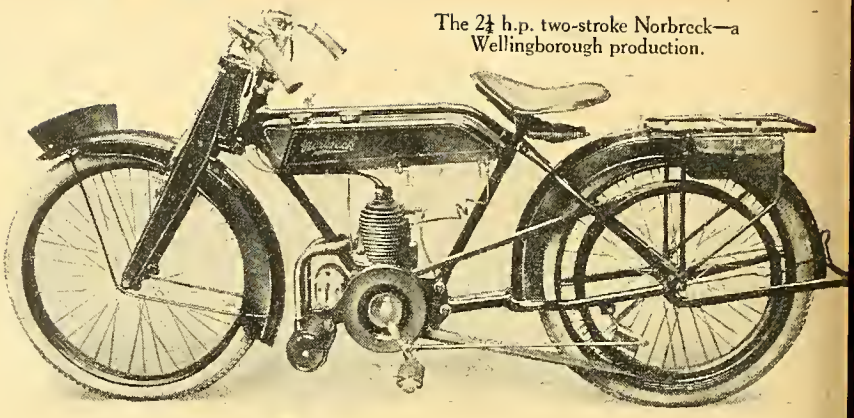
Another New Name.

ALTHOUGH embodying components found on perhaps fifty other makes, there is something about the Pax motor cycle that immediately strikes a distinctive note. Closer examination confirms this impression. For example, the footrests are just where they ought to be, *i.e.*, low down underneath the rider. As may be seen in the picture, a downward extension of the rear engine plate forms a secure housing for the footrest bar. The front engine-plates are continued to the rear to form a cradle for the crank case.

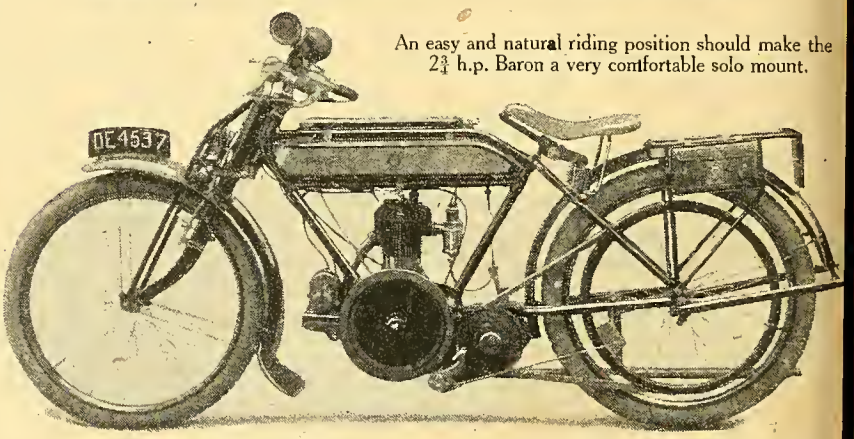
Three models are available—a 4 h.p. Blackburne-engined machine, with a three-speed Sturmey gear box; a 2¾ h.p. Blackburne similarly geared; and, thirdly, a 2¾ h.p. Blackburne model, with a Sturmey two-speed gear box, which comes under the 200 lb. taxation limit.

The address of the Pax Engineering Co. is Station Road, Acock's Green, Birmingham.

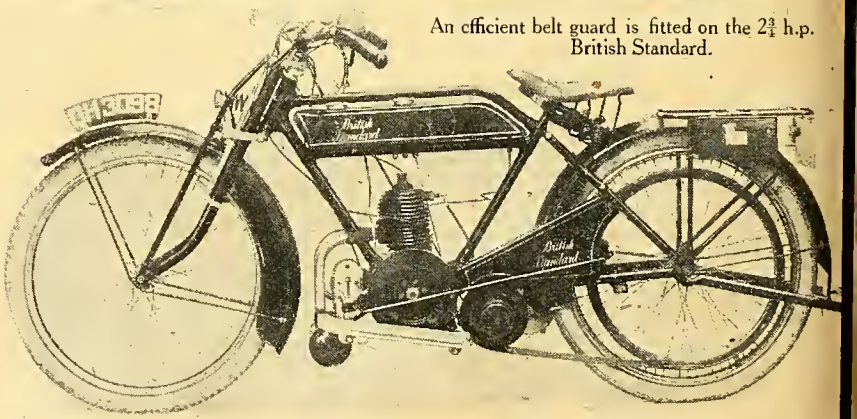
The 2¼ h.p. two-stroke Norbreck—a Wellingborough production.

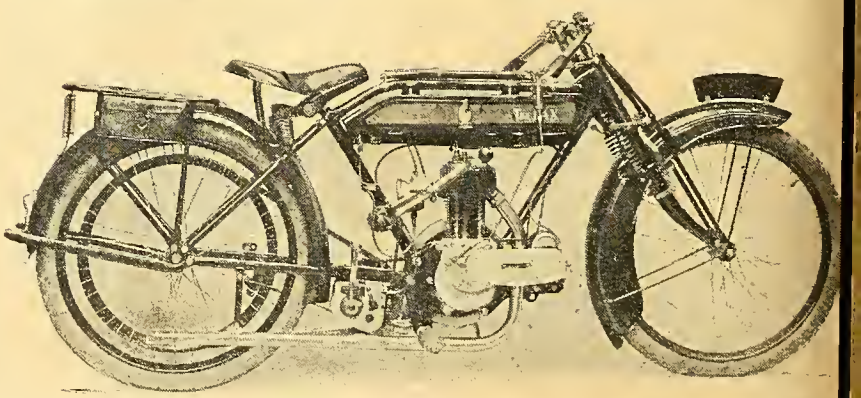


An easy and natural riding position should make the 2¾ h.p. Baron a very comfortable solo mount.



An efficient belt guard is fitted on the 2¾ h.p. British Standard.





Just under the 200 lb. taxation limit—the 2¾ h.p. Pax lightweight.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

AMERICAN V. BRITISH SPEEDS.

Sir,—Regarding Mr. L. W. G. Hartley's explanation of motor cycles attaining higher speeds in America than this country, and the two criticisms of "Gunner" and "D.D.B.B.Sc.," I notice that while both these readers very rightly upset the first theory, neither of them have put forward an alternative one. "D.D.B.B.Sc.'s" remarks, *re* concentrating on high-power engines, rather misses the point, as I believe Mr. Hartley stated that one machine tried in both countries gave a marked difference in speed results. I would suggest that vaporised petrol mixed with damp air would explode less spontaneously than if mixed with dry air, and so cause a slight loss of power. MC 6890.

Rugby.

Sir,—I should like to point out to "Disappointed," who writes in a recent issue of *The Motor Cycle* that, though he may be correct with regard to the relative maximum speeds of the mounts to which he presumably alludes, yet I think he will find that after an average season's mileage the British engine to which he refers will be at its prime, whilst the American will require far more attention to its engine and cycle moving parts. Apart from this, he appears to be exceedingly unlucky in being unable to get more than just over fifty out of his machine. Either it is much below par or his speedometer (unlike most of its kind) lies on the low side. D.M.R.

Oxford.

Sir,—*Re* the correspondence on the above subject in your issue of the 10th inst., I again venture to offer a few criticisms.

The chemical equation quoted by "Chemist" is obviously incorrect; probably a printer's error. It should read:

$$2\ C_6H_6 + 15\ O_2 = 12\ CO_2 + 6\ H_2O.$$

That is to say, two parts by volume of benzene vapour require fifteen parts by volume of oxygen for their complete combustion, or, since the ratio $\frac{\text{air}}{\text{oxygen}}$ by volume is $\frac{100}{21}$, two parts of benzene require 71.4 parts by volume of pure air. Hence, if, as suggested by "Chemist," we take a cylinder containing 1,000 c.c. of pure dry air, we shall require 28 c.c. of benzene vapour for complete combustion, and not 31 c.c., as he states.

Furthermore, on adding the molecular weights in the equation, we find that 156 parts by weight of benzene require 240 parts by weight of oxygen; and since the ratio $\frac{\text{air}}{\text{oxygen}}$ by weight is $\frac{100}{23}$, we find that 156 parts by weight of benzene need 1,041 parts by weight of pure dry air, and not 1,030, as given by "Chemist." As regards his other figures, I must confess I am unable to follow him, and I should be interested to see his method of working.

Personally, I find that at 20° C. a saturated mixture of air and water vapour at normal pressure is capable of sustaining about 2½% of water. Since this water vapour primarily acts merely as a diluent, the effect is to enrich the charge, other things being equal. It has been found that the ratio air/fuel can be varied either way a considerable degree without affecting the maximum power produced. Hence the slight enrichment of the mixture referred to above can have no appreciable effect. A very slight loss may occur through the loss of heat needed to raise the water vapour to the explosion pressure; but it has been found that in some engines the presence of water vapour is actually of service in the production of maximum power.

Regarding the suggestions of "N.S.D.," the average barometric pressure in U.S.A. is nothing like 2in. higher than our own mean pressure. Probably 0.75in. is nearer the mark. This would correspond to a gain in power of about 3.8%. The fact that aeroplanes make their greatest speed at low levels is due not only to the better volumetric efficiency of the engine, but also to the fact that the propeller functions more efficiently, with less slip, in the denser medium.

Altitude, as met with on roads in this country can have no appreciable effect on the power produced by the average motor cycle engine—two-stroke or otherwise. Even on roads 1,500 feet above sea level only about 2½% loss would occur.

Lastly, the fact that the air on the tracks in America is hotter than in this country would operate *against* any increase of power, but not to any appreciable extent.

Croydon. D.D.B.

HOW LONG DOES THE OIL LAST?

Sir,—After reading the various comments *re* naked driving chains, I thought a little tip would not be out of the way for some of your contributors. Simply fix an ordinary paint brush on to a clip from some suitable part of the frame, allowing the brush to rest on the chain with a slight pressure. This in use keeps the chain quite clean, free from grit and mud. All that is necessary is a few squirts of oil on the brush from time to time. HENRY EVANS.

Cardiff.

THE PERSONAL ELEMENT IN TRIALS.

Sir,—The time is now here when manufacturers and certain well-to-do private owners will be furbishing up their mounts ready for the various reliability trials. From this a question arises, particularly as regards trade entries, another, namely, who does more to win the "gold," rider or machine?

It is, I think, correct to assume that trade teams are entered solely for advertisement purposes, and that the machines are ridden by men who are experts both in the art of competition riding and the use of the internal combustion engines. These men are, generally speaking, capable of winning a premier award on almost any make.

If one follows the reports of the various A.C.U. trials, one will notice that no sooner has a particular make of machine secured a "gold" than its manufacturer booms this fact for all it is worth as proving the reliability of his product; but was it the machine or the rider? In other words, if this same machine had been ridden by an average motor cyclist, would it have performed the same doughty deeds? I think not. Yet it is to these average motor cyclists that the vast majority of sales are made, and to whom the advertisements are addressed, and who, no doubt, feel a certain sense of disappointment when their machines fail to climb some hill on which they were advertised as having gained "bonus marks."

Should any manufacturer be bold enough to allow and advertise the fact that his machines were to be ridden by men culled from the ranks of the average motor cyclists—men unknown to the regular trials riders—I am certain that the public, as representing prospective buyers, would take a far greater interest. BASIL S. ANDERSON.



Something unusual in war memorials. A 15in. shell in the tiny Gloucestershire village of Weston-sub-Edge. It is not the only one of its kind in the smaller villages. The machine in the foreground is a Scott, with Henderson spring-framed sidecar.

CANDID CRITICISM.

Sir,—As a fairly constant reader of your paper, and one who has owned a large number of motor cycles during the last fourteen years, I hope you will allow me to make a few remarks on my latest purchase.

Towards the end of last year I purchased one of the "best" twin-cylinder sidecar outfits, the price of which, with dynamo lighting, was nearly £250. I had never owned a machine of this make before, and decided to purchase because of the exceedingly good reputation and second-hand value of this particular outfit.

I felt that, having paid what, I think, is obviously an absurd price, I might reasonably expect a first-class article. The following notes are, I think, a fair comment on what I actually got:

Distance covered, 1,000 miles, mostly town work. Time in my possession, nine weeks.

ENGINE.—This gave no trouble whatever, with the exception of sticky valves. It was over-oiled and required decarbonising.

CARBURETTER.—Single lever. This proved very convenient for traffic. Petrol consumption, about 60 m.p.g. The starting was bad, and on cold, misty days the throttle piston froze up. Obviously, there should have been some heating device.

MAGNETO.—No trouble.

LUBRICATION.—Simple hand pump.

INJECTING TAPS.—These were very bad. No "off" stop was fitted, and quite frequently one found petrol dripping on to the cylinders.

GEAR BOX.—This worked well; but the operating mechanism was poor. The gears were noisy. The engine chain was, as usual, adjusted by sliding the gear box. Very awkward. Since improved, I believe, by using a screw arrangement. Surely this was an obvious necessity from the beginning.

CLUTCH.—Hand-controlled. Quite good; but too "heavy."

CHAINS AND CASES.—Usual adjustments necessary, and the cases ensured the chains always running in a mud-oil mixture. Lubricating plugs fitted to the cases, with instructions to "Oil every day." Why not fit proper lubricators?

BRAKES.—Rear, internal expanding. Usual front farce. The brake was excellent as far as stopping the wheel was concerned; but almost useless for stopping the outfit, except on perfectly dry roads. Why not an interconnected sidecar brake? The Rover used to have one. Mine worked well.

WHEELS.—Detachable. Never used them. The usual trouble with hub races. Are these ever up to the work? By way of assistance, no tool was provided for adjusting.

SPRING FORKS.—These were the worst I have ever had, except on another machine fitted with the same pattern. They are misnamed "spring." They simply do not, except sideways! There are, I think, ten places to oil, only two of which are fitted with lubricators. The other places are simply holes filled up with paint.

SPRING SEAT-PILLAR.—This worked quite as well as the spring forks. I weigh about 12 st.

STEERING HEAD.—Adjusted twice.

CONTROLS GENERALLY.—The designer must have loved Bowden wire. There were six separate "wires," each adjustable, and nothing in the tool-kit smaller than a full size King Dick, and it was not even a genuine one.

TOOL-KIT.—Scandalous; the finishing touch being a push bicycle 3½d. tin oil-can.

SIDECAR.—This was comfortable; but the finish was poor, and the quality of the material worse. The attachment to the machine was at three points, and very flexible. Cornering was accordingly unpleasant. The springing was good. Instructions say lubricate the spring "shackles," but there are no lubricators!

ENAMELLING (GENERAL).—Atrocious. It came off—where there was anything to come—in sheets.

PLATING.—This was as bad as only motor cycle plating can be. Fortunately, there was not much of it; but why any?

ACCESSIBILITY.—Why, when a machine has been developed for years for sidecar work, and is generally sold with one fitted, should the chains be *both* on the near side?

Now, my object in writing is to show that in 1920 one of the best outfits on the market was in many ways wanting, and that there is room for real and necessary improvement without going in for over-refinement. There are elementary faults to be rectified.

I think that, if one excepts the development of the gear box, the A.B.C. is the only machine which shows any material advance in design on a 1907 single. Of course, the A.B.C. has faults, but it has the following advantages:

1. Great comfort.
2. Excellent torque and engine balance.
3. Beautiful gear change.
4. Mechanism neatly arranged.
5. Protection from mud.
6. Sensible finish.

Is there any other machine of which the same may be said? There is no need for manufacturers to be original. Mr. Bradshaw has saved them the trouble. Give us an A.B.C. without its faults. C. H. STEPHENSON.

FOR THE ODD CORNERS.

Sir,—I examined with profound admiration the photograph of the unusually equipped Harley-Davidson sidecar outfit appearing in your issue of February 3rd. However, it would appear that the compass can be of little use, as its reading will be rendered extremely inaccurate by the presence of steel in immediate proximity. To be of any real use, it should be enclosed in a magnetic screen. After such a promising beginning, I am somewhat surprised that the owner has omitted many other useful, nay indispensable, instruments. For example, as a suggestion, I would say, a theodolite, having both an altitude and azimuth circle; a sextant; and perhaps, as a luxury, a spectroscope. For these his passenger would possess the means, whilst her escort is changing a sooted plug, of delving lightly into the sciences of astrophysics, have the inexpressible pleasure of watching the antics of the asteroids and "cœlum empyreum," or, alternatively, possess the wherewithal of indulging in geodetic operations. E.W.G.

Chester.

AN UNCOMMON TROUBLE.

Sir,—I should like to encroach upon a little of your valuable space in order to inform your readers of a very peculiar and deceptive trouble which overtook me late one evening last summer.

I was returning from Birmingham on a single geared, clutchless machine when the power suddenly fell off in an alarming manner. With throttle fully open I bumped along at about 4 m.p.h. There was no sign of misfiring and no unusual noise from the engine, except that the exhaust denoted that it was labouring heavily. Naturally, I immediately stopped and made an examination of my machine, but this left me no wiser, for the engine seemed perfectly free, and I knew that the lubrication was not stinted in any way. I let it cool and essayed another start. When I dropped the exhaust the engine fired twice and then stopped dead. I found there was a good spark at the plug, and that the carburetter was in perfect order.

Again I tried to start, and again the engine fired twice only. Just as I was conjuring up visions of a long push my eye rested on the pulley, which appeared to be slightly loose on its shaft. I removed it and found the cause of my trouble.

The pulley screwed on to a right-hand thread on the shaft, and the locking nut screwed on to a left-hand thread. The pulley was prevented from screwing up too far by a gun-metal washer abutting on a shoulder on the shaft. This washer had become compressed, and when the engine fired the pulley screwed up till it touched the crank case and thus acted as a powerful brake. When I ran the bicycle to start, the pulley, of course, unscrewed as far as the lock nut, and the engine seemed quite free, but after two explosions the pulley reached the crank case and stopped the engine. I got home by packing up the washer with another one.

Coventry. CONK.

DISADVANTAGES OF DISCS—SOLO.

Sir,—In several numbers of your excellent journal lately I have read letters from various aspirants to the honour of having discovered disc wheels. In my humble opinion they should be only too anxious to hide their lights under bushels. The first disc-wheeled machine I rode was a racing Rudge. While riding at a reasonable speed down the Queensferry-Edinburgh road a chance gust caused me to try conclusions with a wall, with which this road is nearly all bounded. I lost a good deal of skin and temper, and many gadgets from the bars. This year my fancy was taken by a 2¾ h.p. J.A.P.-engined machine. Discs of a peculiar malignant order were the only drawback to this really fine machine. I bought the machine determining to remove the discs forthwith. In a week or so I did this; in the interval having nearly crashed on several occasions on exposed roads. The removal of the discs I will pass over lightly. The rear one was inextricably entangled with belt rim and spokes. When at last I had the wheel clear of the offending things, I found five broken spokes in the front wheel and seven behind. All the others on the outside of the hub rim were worn thin. This necessitated rebuilding both wheels. I accounted for this by reasoning that when a bumpy road was encountered the spokes whipped and the discs chafed over them, not because the discs were loose. They were not. Also I had to renew the wheel bearings. The hub oilers were quite unreachable with discs.

Wheels of the Michelin detachable type now supplied for cars are admirable, of course. They are easy to clean and have no spokes to break. For a four or three-wheeled machine a pressed steel disc wheel is the real goods. I think the only soloists who have discs nowadays and enjoy them are the enthusiasts with baby two-strokes, long exhaust, and T.T. bars. For me, I cannot afford insurance premiums, and if I want to sail before the wind I take my disc-less machine down to Brighton and hire a dinghy.

Rudgwick. G.A.W.

OVERSIZE TYRES.

Sir,—The letters referring to 3in. tyres on the Cleveland have roused me to make a few remarks.

I have long felt that the majority of motor cycles are undertyred. My present mount, a Triumph and sidecar, excellent in most respects, has tyres which are barely large enough for solo work, and absurd for sidecaring. I am going to try 28×3in. tyres, but I am afraid the rims are too narrow to support the big tyres satisfactorily.

I cannot see what advantage is gained by fitting tyres smaller than 26×2½in. to even the lightest machines, in view of your readers' remarks about the Cleveland.

All this leads us to another point. We have recently been given new standard rim sizes. An excellent thing to have them standardised, but why the multiplicity of sizes? I am informed that the new standard 26×3in. rim (C.C.1) will take four sizes of tyres, viz., 26×3in., 27×3½in., 650×65 mm., and 700×80 mm. I found it hard to believe, and have not verified it, but I am assured that it is so.

Then why have any other size of rim? Even if the millimetre sizes will not fit—and on the face of it one would imagine that they would not—the Cleveland shows that 26×3in. is not too large for a lightweight, and 27×3½in. is apparently big enough for the Henderson, which, I believe, is this year the heaviest and most powerful machine on the British market.

A great advantage of having only one size of rim would be that dealers would not have to carry such large stocks; and even if a garage were out of one size, a traveller stranded with a bad burst could fit any other of the above four sizes. In conclusion, will someone who has tried both say how 26×3in. tyres compare with 28×2½in.? and if 27×3½in. tyres are better than 28×3in.? Would 26×4in. be better still! F. A. LEWIS.

SUMMARY OF CORRESPONDENCE.

"LO 1871" does not agree with "Insurance Man's" suggestion, in a recent letter, that it is often advisable to bear one's self the first £2 10s. or £5 claim on a policy. He describes his own experiences of the difficulties attending the settlement of a small claim.

Several letters touching on the British and American speeds controversy continue to reach us. "J.C.D.," for example, quite reasonably asks an explanation of the contradiction between "Chemist's" theory and the claims of various devices for *damping* the mixture to obtain an increase of power.

"Biz" draws attention to the similarity of the Wooler gear to the under-geared countershaft mount that "Ixion" recently referred to.

"Somerset" echoes the question recently asked by a reader as to why there are, so often, no prices given in displayed advertisements.

An echo of the London-Land's End run reaches us from a Taunton correspondent signing himself "Another Norton." He complains somewhat bitterly, but with justification, of two bad instances of "swanking," and consequent hanlking, on Porlock by non-competing riders of a Henderson and a Norton.

Mr. C. E. Hubbard has had the unusual experience of being told by his insurance company that his burnt sidecar outfit was *underinsured*. This generous company, who paid up the full amount and handed over the salvage as well, is the North and South Insurance Corporation, 1, Albemarle Street, London, W.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	Book post.
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Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

CLUB NEWS.

Forthcoming Club Events.

April 9.—Ivy M.C.C. (Wolverhampton). Club Run.
April 9.—West Birmingham M.C.C. Captain's Run.
April 9.—Ilkeston and District M.C.C. Club Run.
April 9.—North Lindsay A.C. Hill-climb.
April 9.—Bournemouth and District M.C. and L.C.C. Social Evening.
April 9.—Wolverhampton M.C.C. Reliability Trial.
April 9.—Surbiton and District M.C.C. Dale Cup Trial.
April 9.—Kidderminster M.C.C. Paperchase.
April 9.—North London M.C.C. Petrol Consumption Test.
April 9.—Dewsbury and District M.C.C. Competition and Picnic.
April 9.—Leeds and District M.C. Knock-out Hill-climb.
April 10.—Portsmouth and District M.C. and L.C.C. Club Run.
April 10.—Halifax and District M.C.C. Somerville Reliability Trial.
April 10.—Northern M.C. Social Run.
April 10.—Berwick and District M.C. Non-stop Trial.
April 10.—Sheffield M.C.C. Club Run.
April 10.—West Kent M.C. Club Run.
April 10.—Harrogate and District M.C.C. Social Run.
April 10.—Banbury and District M.C.C. Opening Run.
April 13.—Reigate, Redhill, and District M.C.C. Petrol Consumption Trial.

IMPORTANT club and OPEN events are tabulated on the "Questions and Replies" page.

Chorlton-cum-Hardy M.C.C.

Mr. Dudley R. Hardy, 5, Edge Lane, Chorlton-cum-Hardy, is the hon. secretary of a new club in this neighbourhood.

Marlow and District M.C.C.

At Easter the club spent the week-end at Bournemouth, and had an extremely enjoyable time. It is hoped to repeat the run later on in the season.

North-west London M.C.C.

A challenge cup has been presented by the vice-presidents (Messrs. Williams, F. Thomas, and Pooley) to be awarded to the most successful lady competitor in club competitions each year.

Sheffield M.C.C.

Entries for a sporting reliability trial on the 16th April must reach the secretary, Mr. C. E. Henderson, 22, Wales Road, Upperthorpe, Sheffield, by the 14th April. Entry fees are only 6d.

Weston-super-Mare and District M.C.C.

Another meeting of this club, which was formally started a fortnight ago, was held on the 4th inst., at the Elm Tree Hotel. Mr. D. Read, Orchard Street, is the hon. secretary.

Wallington and District M.C. and L.C.C.

On Saturday, the 16th inst., the club is holding a reliability trial over a fifty-mile course in Surrey, starting from the Triangle, Wallington, and finishing at Burford Bridge. This is open only to members, and entries close on April 9th.

Eastern Valley M.C.C.

Fine weather favoured the opening run on Good Friday, and quite a number of enthusiasts left the Clarence Hotel at 11 a.m. and travelled *via* Usk and Raglan to Monmouth. After lunch, the party went on to Tintern.

Redditch and District M.C.C.

The opening event in connection with this club will be a flexibility trial on Saturday, April 9th, starting at 3 p.m. Five classes have been arranged for motor cycles and one for four-wheelers of any make or power. Full particulars may be obtained from the hon. secretary, Mr. P. C. English, Easemore Road, Redditch.

Herts M.C. and L.C.C.

The opening rally of this newly formed club has been fixed for April 9th, at the Bridgewater Arms, Little Gaddesdon, near Berkhampstead, Herts. Members will "go as they please," and are urged to bring friends; all motor cyclists will be cordially welcomed. Tea will be at 4.30, and will be followed by a concert in the lounge.

Doncaster and District M.C.C.

On Easter Monday a speed-judging contest on the Great North Road resulted as follows: 1, A. Moate (4 Triumph sc.), 89%; 2, C. W. T. Clarke (4 Blackburne), 84%; 3, H. Christian (2¾ Douglas), 83%.

One hundred and twenty members and friends spent a most enjoyable evening at the annual dance on April 1st.

Dorchester M.C. and L.C.C.

Major J. Gundry, J.P., the president, took the chair at a well-attended general meeting; it was decided to hold the opening run on April 7th to Lyme Regis.

Skipton and District M.C. and L.C.C.

Although only formed four weeks ago, there are now over sixty members on the books. Headquarters have been secured at the Black Horse Hotel. Runs took place on Good Friday to Richmond, and Easter Monday to Wetherby. Application for membership should be made to the secretary, Mr. J. Wilkinson, 10, Granville Street, Skipton.

Beith and District M.C.C.

All particulars of this new Ayrshire club may be obtained from the hon. secretary, Mr. John L. Cochram, 24, The Cross, Beith.

North Cheshire M.C.C.

Starting from the Trafford Hotel, Alderley Edge, the opening run was held on the 3rd inst. Mr. H. Broderick, Somerby, Winslow, is the secretary of this club.

Northern M.C.

On Easter Monday there was a social run, and many of the club members journeyed to Kendal to witness the hill-climb organised by the Westmorland Motor Club.

Central London M.C.C.

With the object chiefly of catering for the social side of the pastime a club has been formed for those resident right in the Metropolis. The hon. secretary is Mr. Marcel Clement, 19, Sicilian Avenue, London, W.2.

Worcester and District M.C.C.

At the headquarters a further interesting series of lectures was delivered on the 21st March by Mr. D. S. F. Rayner, who very kindly consented to come from the Birmingham University to lecture on the Diesel engine.

Buxton and District M.C.

At a meeting attended by a representative number of motorists on Monday, March 21st, it was decided to form a motor club with the above title. Mr Herbert Frood was elected president, with Mr. T. B. Harrison as hon. sec. and Mr. G. F. Harlow as assistant hon. sec.



In spite of the heavy downpour at the Stockport Open Hill-climb, quite a big crowd gathered. J. V. Prestwich (2¼ h.p. J.A.P.) starting in the 250 c.c. solo class

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d. stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

BELT SLIP.

Can you assist me to prevent belt slip in rain on a single-geared direct drive two-stroke lightweight? I have written to the makers of my present machine who tell me that I should have no trouble in wet weather, and that the belt slip is due to slack belt, greasy belt, or worn pulley. This is not the case, and motoring acquaintances state that it is due to the small pulley, and is a common fault with machines of this type. I have possessed several similar machines and have always had the same trouble. The machines have always refused to mount an ordinary hill in rain. Is there any cure, partial or complete?—W.W.

Provided the belt is reasonably tight, it should not slip unduly. We would suggest that you fit an under shield and front guard to prevent water splashing on to the belt.

BALANCING A TWIN.

A 5-6 h.p. Precision twin which I have vibrates very badly at speeds above 20 m.p.h. I have often cured this on aero engines by carburetter adjustment, but can do nothing on this one. I have rigged up a special stand with rods for balancing flywheels, and by taking just half the reciprocating masses, which is 2¼ lb., and hanging them the other side of the shaft, I can make these flywheels stop anywhere. I should say it is impossible to balance a 50° twin with only 1½in. throw on the crank, as the width of two pistons and weight of reciprocating masses overhang, with the result that they bind. Can you suggest another way of balancing by dismantling the flywheels and connecting rods? This engine has a fork and floating bush. What difference would it make if I drilled a ½in. hole right through the flywheels?—H.C.

We are rather at a loss to understand exactly your trouble. The usual method of balancing a twin engine is to take the weight of one piston and connecting rod, plus the weight of big ends, crank pin, and its bearings, and balance this by an equal weight directly opposite the crank pin and at the same mean radius, *i.e.*, rotating masses plus half reciprocating masses. From your description, this appears to have been done already. Later research, however, tends to show that with connecting rods of average motor cycle length (as compared with length of stroke) the balance weight should more nearly approach rotating masses plus .6 of the reciprocating parts.

FAILURE TO RESTART.

Will you kindly give me your advice in getting my old pattern Bradbury motor cycle to run properly? I have the exhaust valve timed as follows: Valve closes when the piston reaches top centre, and the spark occurs when the piston is on top of the compression stroke. When trying it the engine fires vigorously for about 200 yards, and then stops suddenly, and is bad to start again, and sometimes cannot be restarted until the engine is quite cold. The compression is very good, and there is no stoppage in the petrol supply. The carburetter appears to be in good condition. I have also fitted a stronger inlet valve spring (it is automatic). There is always a good fat spark.—H.S.H.

If the engine will start and continue to run for 200 yards there is apparently only some slight defect which prevents it continuing to do so. This may be either an obstruction in the petrol supply, or it may be caused by the sparking plug becoming overheated. You say that the spark occurs when the piston is on the top of the compression stroke, but you do not say whether this is with the control fully advanced or fully retarded. As a matter of fact, this timing is correct only if the ignition control is two-thirds retarded. It would be advisable to notice whether the exhaust valve stretches when heated, after running a short distance, as if the tappet clearance is very small this may prevent the valve closing.

BUILDING A CYCLE CAR.

Having decided to try building a lightweight cycle car, I am wondering if it is possible to use a 2¾ h.p. two-stroke engine for driving a two-seater. My idea is a tandem-seater no wider than a sidecar; with engine in front, and belt drive on to two back wheels, or single belt drive on to live back axle. I should use a wood chassis covered with either aluminium or canvas. The only thing I am in doubt about is the steering. I should like your opinion of the cable and bobbin. Is it a practical arrangement? If two cables are used together, I think it should prove safe against any likely failure of steering gear. Do you consider a three-wheeler would be safe with a track 3ft. wide and about 7ft. long?—G.A.G.

A small three or four-wheeler might be propelled by a 2¾ h.p. two-stroke engine, but you would not find its climbing abilities very great. Probably such a vehicle can be constructed so as to weigh less than the average sidecar outfit, especially if you use a light wooden chassis with canvas covering, on aeroplane lines. The cable and bobbin system is quite satisfactory on a very light vehicle, and is used with success. A four-wheeler would be much more simple to design and build. A track of 3ft., with wheelbase of 7ft., would be satisfactory in a small four-wheeler, but the track would need to be considerably wider, for safety, with a three-wheeler.



Although there have been many detractors of sidecar taxis, these handy machines are definitely taking their place among public hire vehicles. Here is a fleet of B.S.A. Canoelet outfits supplied by the County Cycle and Motor Co. to Col. H. Hoskins, Brighton, one of many owners who are confident of a bright future for the sidecar taxi.

TIMING AND TAPPET CLEARANCE.

Could you please let me know the valve clearances and timing of a 5-6 h.p. Harley-Davidson single-cylinder 1916 model?—W.S.

The tappet clearances should be about $\frac{4}{1000}$ths when warm, and you can time the engine as follows: Rotate the shaft until the piston reaches the top dead centre, and insert the cam wheels so that the exhaust valve is just closing and the inlet just commencing to open. You can then disregard the opening points of the exhaust valve and the closing point of the inlet valve.

THE JUGGERNAUT.

Recently I sustained an accident, and am anxious to have your advice, and to know whether you think I could prosecute successfully. I was driving a motor cycle and sidecar in the direction of the Great North Road, at a place where there was a fair amount of traffic. I was well on my own side of the road as was all other traffic, but when within about, say, thirty or forty yards of an oncoming cyclist, he, for some unknown reason, fell. A char-à-banc was about the same distance behind him, as I was, and as I came up to where the cyclist was (now picking himself up and just about to withdraw his bicycle), the char-à-banc swerved on to his wrong side of the road in order to avoid the cyclist, with the result that to avoid a collision I left the road for the green alongside; but this was rough and uneven, and a mound brought me to a standstill, reversed my direction, and slowly turned the outfit over, throwing my passenger out and pinning me beneath. Fortunately no serious personal damage was done, and to the best of my knowledge nothing beyond a badly buckled wheel, torn apron, bent toolbags, etc., resulted to the machine. However, I feel that I ought not even to bear the expense of these repairs, but naturally do not want to pay law cost in addition. I fully expected the char-à-banc (being a following vehicle) would pull up. Is not this the recognised law? The char-à-banc proprietors disclaim all responsibilities, but I must say it was in no way due to care on their driver's part that he did not hit me (had I not adopted the course I did I fear I should not now be asking your advice). I have two favourable witnesses; of course the char-à-banc proprietors may take the attitude that I lost my head and left the road unnecessarily; they maintain there was ample room.—H.T.B.

While it is of course impossible to state definitely that you will succeed, we think that you have every justification for instituting proceedings against the proprietors of the char-à-banc. We presume that the cyclist was on his own side of the road when he fell, and as the char-à-banc was overtaking him it was the driver's duty to stop, as you on your own side of the road coming in the opposite direction clearly had the right of way.

EXPERIENCES WANTED.

"P.S." (Paris).—Model K Henderson.

"R.H.C." (Farnborough).—Any type of English carburetter on 7-9 h.p. Harley.

RECOMMENDED ROUTES

WREXHAM TO KING'S LYNN.—T.R.V.

Wrexham, Bangor, Whitchurch, Fernhill, Market Drayton, Broughton, Eccleshall, Stone, Uttoxeter, Sudbury, Derby, Spondon, Borrowash, Nottingham, Bingham, Bottesford, Grantham, Somerby, Corby, Edenham, Bourne, Spalding, Holbeach, Long Sutton, King's Lynn.

SWANLEY JUNCTION TO CHESHAM.—C.H.H.

Swanley Junction, St. Mary Cray, Orpington, Locks Bottom, West Wickham Common, Addington, Coombe Lane Station, Waddon Station, Wallington, Carshalton, Sutton, Cheam, Cheam Common, Worcester Park Station, New Malden, Norbiton Church, Kingston-on-Thames, Hampton Court, Hampton, Sunbury Common, Staines, Windsor, Eton, Salthill, Farnham Royal, Farnham Common, Beaconsfield, Amersham, Chesham. Approximately 58½ miles.

PLUMSTEAD TO RUGBY.—W.E.P.

Plumstead, Woolwich, Woolwich Manorway, East Ham Manorway, Aldersbrook Road, Wanstead High Street, Snaresbrook, Woodford Green, Chingford Green, South Street (Ponders End), Enfield Town Station, Chase Farm Station, Potters Bar, South Mimms Church, St. Albans, Redbourn, Markyate, Dunstable, Hockliffe, Woburn, Newport Pagnell, Gayhurst Stoke Goldington, Hackleton, Northampton, Harlestone, West Haddon, Chirk, Rugby. Approximately 95 miles.

Important Dates.

Fri., April 8th, and Sat., April 9th—Western Centre A.C.U. Two-day Open Trial.

Sat., April 16th—Yorkshire Centre A.C.U. Open Hill-climb at Sutton Bank

Sat., April 23rd—Midland Centre A.C.U Open Reliability Trial.

Wed., April 27th—A.C.U One-day Trial

Fri., April 29th, and Sat., April 30th—Ealing and District M.C.C. London-Holyhead Open Reliability Trial.

Sat., April 30th—Newcastle and District M.C. Travers Challenge Trophy Open Reliability Trial.

Sat., April 30th—Surbiton and District M.C.C. Open Inter-Team Trial (Private Owners only).

Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.

Sat., May 21st—Western Centre A.C.U. Open Hill Climb.

Wed., May 25th—A.C.U. Silencer Trial at Brooklands.

Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.

Tues., June 14th—Junior T.T. Race

Thurs. June 16th—Senior T.T. Race.

Sat., June 25th—M.C.C Inter-team Trial for "The Motor Cycle" Cup

Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.

Sat., July 9th—St. Andrews Speed Trials

Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.

Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.

Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

SPARKLETS

Tyre Price Reduction.

Following many recent examples the makers of Beldam tyres are reducing their prices by 20%.

New Scale Prices.

An all-round reduction of the prices of New Scale machines is announced by Roberts and Hibbs, of Droylsden, Manchester. The 4 h.p. (Blackburne) model is reduced from £126 to £100, and the 3½ h.p. two-stroke from £94 10s. to £80. Sidecar models from £160 to £133 and £123 to £108 respectively.

Chain Knowledge.

All owners of chain-driven machines should write to Brampton Bros., Ltd., Oliver Street, Birmingham, for "Chat on Chain," an invaluable little handbook on the correct use of chain transmission on motor cycles; it is undoubtedly one of the most useful trade pamphlets we have seen.

A New Gloucester Agency.

That well-known motor cyclist and competition rider, W. B. Gibb, has recently greatly improved his premises at 100, Northgate Street, Gloucester, where he carries on a highly successful motor cycle agency. An amusing handbill announcing the change has reached us, in which Mr. Gibb says that his "only reason for opening new premises is to see what on earth will happen next"!

Catalogues Received.

Jenson and Nicholson, Ltd., Stratford, London, E.15: A re-issue of the instructional leaflet dealing with the re-enamelling of motor cycles and sidecars by means of Robbialac preparations.

Wessex Garage Co., Ltd., Exeter. A well-produced little booklet describing machines for which the company holds agencies, written in an entertaining and discursive way.

The Wulfruna Engineering Co., Ltd., Great Brickkiln Street, Wolverhampton. Describing the various Wolf motor cycles: Model D with the 4 h.p. Blackburne engine, Model A with the 2¾ h.p. Blackburne engine, Model B the two-stroke two-speed gear model with Villiers engine, and Model C the 2¾ h.p. J.A.P. engined model.

The J.E.S. Motor Works, Gloucester. Booklet devoted to the J.E.S. 2 h.p. two-stroke motor cycle; one of the lightest machines made (88 lb.), and occupying a unique position on the British market. It is a thoroughly well designed and well made motor cycle in miniature.

H. Reed and Co., Ellesmere Street, Hulme, Manchester: A catalogue of the complete range of Dot motor cycles. One of the most interesting of these is the 3½ h.p. twin sporting model, which weighs under 200 lb., thus bringing it within the lightweight tax. A certificate is attached to every machine when leaving the works, giving the correct weight unladen.

CURRENT HAT

Times to Light Lamps.

April	7th	... ...	8.9 p.m.
,,	9th	... ...	8.13 ,,
,,	11th	... ...	8.16 ,,
,,	13th	... ...	8.20 ,,

Inter-'Varsity Speed Trials.

Oxford and Cambridge will hold an inter-'Varsity speed event on Harling Common, near Thetford, on May 1st.

Police Motor Cycle Night Patrol.

Armed plain clothes police on motor cycles are said to be scouring the country roads at night around London in search of farm incendiaries.

The English Bridge, Shrewsbury.

The Borough Council of Shrewsbury has recently made a byelaw preventing vehicles overtaking one another on the bridge which is situated on the main Holyhead road entering Shrewsbury from London. This byelaw has been necessitated by the narrowness of the roadway, the steepness of the incline to the crest of the bridge, and the large amount of traffic passing over it. The Borough Council earnestly enjoins all motorists strictly to observe the terms of the byelaw.

British Motor Cycles in Italy.

Road racing is very popular in Italy just now, and we are able to announce further successes for British machines, this time in the Circuit of Cicagna. The 1,000 c.c. class was won by Vernoni Nino on an 8 h.p. New Imperial. A Scott won the 750 c.c. class.

Argenteuil Hill-climb.

Argenteuil hill-climb, near Paris, which has not been run since the war, will be revived on the 10th inst. The hill is about one and a half miles in length, and has one sharp and one easy bend. This event, which is organised by the Moto Club of France, is open to all classes of motor cycles, as well as scooters and cycle cars.

Inter-University Speed Trials.

The officials of the Leeds University M.C.C. are anxious to organise a speed trial this year which shall be open to the members of any university motor cycle club. The use of a suitable course within five miles of Leeds has been offered, and the event should be a successful one if the necessary support is forthcoming. Secretaries of eligible clubs should write to Mr. B. Boynton, University M.C.C., Leeds.

Special Features.

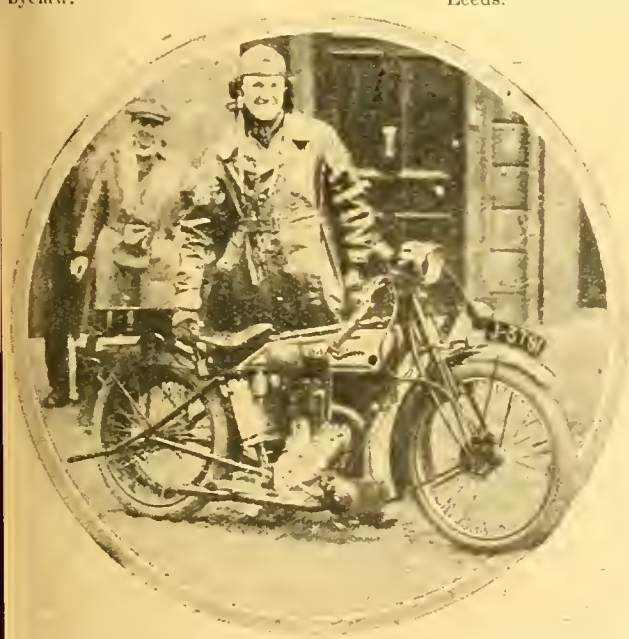
IS AIR-COOLING ADEQUATE?
ROAD TESTS OF NEW MODELS.
FOUR DAYS ON THE ROAD.

A New Radial-engined Motor Cycle.

The British Radial Engine Co. have bought the manufacturing rights of the Redrup radial-engined motor cycles, and will manufacture these machines at their works at Lacland Place, 429b, King's Road, Chelsea, London, S.W.10.

Spring Number of "The Autocar."

Our parent journal *The Autocar* will next week publish a Special Spring Number and Illustrated Buyers' Guide of cars on the British market. So many price reductions have occurred since the Olympia Show that a modern guide to prices will prove particularly useful at this juncture. This issue of *The Autocar*, dated April 16th, will be considerably enlarged, and contain many special articles and illustrations of absorbing interest. Motor cyclists interested in four-wheelers of any kind will be well advised to place a definite order with a newsagent for a copy of *The Autocar* Spring Number.





PAINSTAKING RIDERS REWARDED.

Out of 1,100 machines at the annual Richmond (Yorks) Good Friday meeting, G. Dawson (1916 3½ Rudge) received the Mayor's prize for the best kept machine. The other picture shows the judges deciding to award *The Motor Cycle* prize, for the most ingenious amateur improvement, to C. Cockran (8 Clyno sc.), who had fitted a most complete tool drawer on his luggage grid.

CII

B.M.C.R.C. First Open Meeting.

A very interesting programme is being arranged for the first open meeting of the British Motor Cycle Racing Club to be held on Brooklands Track on Saturday, May 7th. Cars, cycle cars, and motor cycles will each be provided for, and the provisional programme drawn up by the committee promises an excellent day's sport.

Death of a Two-stroke Pioneer.

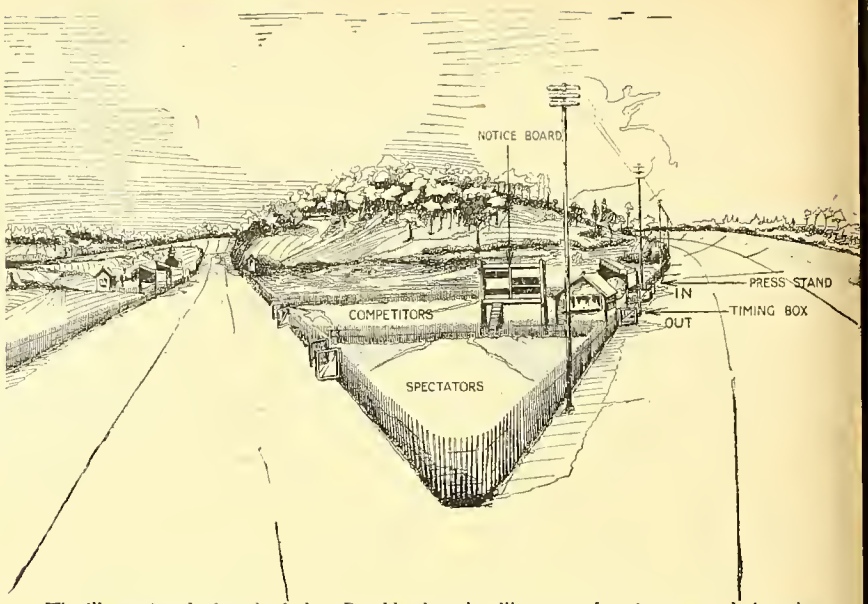
The death of Mr. W. Murphy on Friday morning last as the result of a sidecar collision is an event which is recorded with regret. Mr. Murphy was a pioneer of the motor cycle two-stroke engine, especially devoting himself to large capacity singles. For many years he has had a 500 c.c. machine running as a sidecar mount with great success.

Northern Centre, A.C.U.

A meeting of the various clubs in Cumberland and Westmorland which form the Northern A.C.U. Centre was held last week-end. Several hundred motor cyclists attended, and after Mr. S. Rutherford explained the objects of the centre it was unanimously resolved to proceed with the formation of the centre. Mr. J. Morton, jun., Warwick Road, Carlisle, has been elected secretary.

Improvements at Brooklands.

Alterations to Brooklands Track are contemplated by the British Motor Cycle Racing Club. These will include a new motor cycle paddock at the Fork, where most of the B.M.C.R.C. races start and finish, a new judges' and timekeepers' box, a special press stand, notice boards, etc. Mr. A. V. Ebblewhite has been elected chairman, and Mr. A. G. Reynolds vice-chairman, for the ensuing year.



The illustration depicts the fork at Brooklands as it will appear after the proposed alterations planned to improve facilities for spectators at motor cycle events.

Further Price Reductions.

We are able to announce that Messrs. Lea and Francis, following the general trend, have made a substantial reduction of £20 on both their 3½ h.p. and 5 h.p. models. The price of the former is now £125, and the latter £145.

90 m.p.g. WITH SMALL FOUR-WHEELERS.

EXCELLENT weather conditions prevailed on the occasion of the Junior Car Club's fuel consumption trial on Saturday last. Several of the vehicles entered were of the type with which many readers of this journal are interested, and their performances are well worthy of record. It must, however, be borne in mind that in a trial of this kind the method of driving employed is by no means normal, the driver usually starving his carburetter and engine so that the best fuel consumption results are obtained, and driving in a manner which no one would attempt under normal circumstances.

The trial started from Stanmore Station, where all the cycle cars had their tanks filled right up to the brim. The course was a triangular one—through Stanmore, up the Edgware-St. Albans road, up Brockley Hill, and through Elstree and Radlett, along the narrow undulating and winding road to St. Stephens on the outskirts of St. Albans, and then to Watford, Rickmansworth, up the somewhat steep Betchworth Hill after the latter town, then down to Norwood, and back to Stanmore.

The road from Watford to Northwood and beyond was bad and dusty.

Two of the G.N.'s distinguished themselves. Mundy's tied with one of the Deemsters in covering the course with most miles to the gallon to its credit—90.6 m.p.g. and 55.3 ton-miles to the gallon, while the Hon. V. A. Bruce's cycle car of this make did 89 m.p.g. and 55.4 ton-miles to the gallon.

C 2

SUTTON COLDFIELD A.C. DINNER.

ON Friday last, under the chairmanship of Mr. T. Allday, a most successful dinner was held by the above club. Some seventy members and guests were present on this occasion, which was the eighth annual dinner of the club. Valuable trophies, including the Colmore Cup, were presented after dinner by Mrs. Allday, and an excellent amateur musical programme was enjoyed. Mr. G. F. Pearson (Mayor of Sutton Coldfield) was present, and many well-known faces in the motor cycle world were to be seen.

The Colmore Cup Trial was the first open trial ever held, and, in spite of the fact that the 1921 event was not open, has become a classic, always drawing very large entries. The Sutton Coldfield Club was one of the earliest organisations to encourage lightweight machines. One speaker urged that similar encouragement should be given to cleanly motor cycles, and it is not improbable that both these desirable types will receive the club's very special attention in the future. Undoubtedly the president, officials, and members of the Sutton Coldfield Club are to be congratulated on their far-sighted policy and their excellent organisation.

SECOND-HAND MACHINES AT THE CRYSTAL PALACE.

THE immense popularity of the motor cycle, as evidenced by the apparent reluctance of owners to offer their machines for sale, was the first thing to strike the visitor on Saturday last, when the Second-hand Car and Motor Cycle Show at the Crystal Palace was thrown open to the public. Three hours after the doors were opened there were but sixteen exhibits staged in the motor cycle section, but we were informed that a good many more were undergoing the road trial and examination to which all machines were subjected by Mr. Rex Mundy before they could be placed on sale.

It is not perhaps generally known that exhibits may be accepted up to Saturday next. The entry fees are 5% on the first £40 on motor bicycles and on the first £60 on sidecar outfits, the balance being 1¼%.

WESTERN M.C.C., GLASGOW.

THE result of the Spring Holiday Trial reflects the severity of the road and weather conditions during the event. Out of thirty-four starters who left Glasgow on the Saturday, only nine survived to the end of the trial, and less than half of these qualified for gold medals. The results are as follows:

Mrs. Duncan Bell (7 A.J.S. sc.) wins the A.J.S. Trophy and gold medal.
W. Morton (3½ James), the Hutchinson Trophy and gold medal.
J. Lilliewood (6 A.J.S. sc.), gold medal and special prize for private owner and club member
D. Q. Bell (7 A.J.S. sc.), gold medal.
Murdoch Frazer (7 A.J.S. sc.), silver medal.
W. Pethybridge (A.B.C. light car), silver medal.
Allen Neilston (7 A.J.S. sc.), bronze medal.
R. J. MacEwan (Richardson light car), bronze medal.
R. M. Wilson (2¾ Hobart), bronze medal.

The Western Centre Two Day Trial.

DESPITE the fact that officially the trade is not supporting the event, just one hundred entries have been received for the A.C.U. Western Centre Two Day Open Trial. This event is due to start to-morrow (Friday), but at the time of going to press it is not certain what effect the coal strike will have upon road trials of this nature.

In *The Motor Cycle* of March 24th (page 383) we published a detailed map of the course showing observed hills; therefore, now we need only recapitulate the chief points of interest *en route*.

Timetable.

FIRST DAY.—Start Hereford control 8.30 a.m., Bronllys check 9.54 a.m., Upper Chapel check 10.45 a.m., Builth Wells 11.6 a.m., Rhayader check 11.45 a.m., Devil's Bridge control (arrive) 12.45 p.m., Devil's Bridge control (depart) 2.15 p.m., Machynlleth check 3.35 p.m., Llanidloes check 4.35 p.m., Aberystwyth control (arrive) 6.6 p.m.

SECOND DAY.—Aberystwyth control (depart) 8.30 a.m., Llanrhystyd 8.57 a.m., Lampeter (quarter mile outside) 9.37 a.m., Llangybi check 9.51 a.m., Pumpsaint 10.23 a.m., Cynghordy Post Office check 11.0 a.m., Builth Wells 11.59 a.m., Llandrindod control (arrive) 12.21 p.m., Llandrindod control (depart) 1.51 p.m., Builth Wells 2.13 p.m., Brecon check 3.5 p.m., Beaufort 3.57 p.m., Gilwern check 4.12 p.m., Hay check 5.18 p.m., Hereford control (finish) 6.33 p.m.

Times at foot of observed hills:

FIRST DAY.—Mynydd Eppynt 10.49 a.m., Plinlimmon 3.55 p.m.

SECOND DAY.—Llangybi 9.52 a.m., Sarn Helen 9.55 a.m., Caio 10.27 a.m., Llanddewfi Cwm 2.20 p.m., Black Rock 3.37 p.m., Tre Fadoc 5.22 p.m.

Below is given a list of competitors:

J. R. Fellows (3½ Sunbeam).
H. Stringer (3½ Scott).
G. J. Baragwanath (3½ Sunbeam).
J. G. Walker (2¾ Edmund).
B. L. Bird (4¼ B.S.A.).
L. L. Sealey (4¼ B.S.A.).
H. Poole (4¼ B.S.A.).
H. F. Brockbank (8 Blackburne).
J. Knowles (4 Triumph).
F. S. Barnes (3½ Sunbeam).
E. Griffiths (3½ Norton).
A. L. Homer (4¼ James).
R. Fellows (3½ Sunbeam).
N. B. Williams (4 Triumph).
J. Lee (7 Indian).
W. Edwards (4 Triumph).
J. A. Carvill (4 Triumph).
A. W. G. Martin (4 Triumph).
A. R. Naylor (4 Triumph).
A. Lindsay (3½ Norton).
G. W. T. Hartwell (3½ Norton).
F. H. Wallis (3½ Rover).
C. Dickins (3½ Dene).
L. Paynter (3½ Norton).
S. A. Such (2½ Connaught).
F. A. Dickins (7 Harley).
J. W. Bevers (3½ Blackburne).
G. W. Shepherd (2¾ Blackburne).
N. W. Smith (4 Triumph).
F. Davies (3 A.B.C.).
A. E. Taylor (6 B.S.A.).
A. R. Passey (3½ Norton).
E. Kickham (3½ Douglas).
R. O. Goldsmith (4 Blackburne).
H. J. Willis (3½ Norton).
L. Crisp (4½ Humber).
E. F. G. Jellyman (3½ Norton).
W. Brandish (4½ Humber).
D. A. Atkin (5 Rover).
G. L. White (5 Rover).
M. Hartland (2¾ Velocette).
H. W. Spencer (4 Omega).
E. Colmer (2¼ Levis).
W. Howarth (2¾ Dalton).
J. E. J. Whitaker (4¼ B.S.A.).
T. H. Richards (4 Triumph).
E. R. Maio (8 Zenith).
W. G. Church (2¼ Velocette).
W. I. Thomas (3¾ Scott).
T. B. G. Vale (2¾ Beardmore).
A. White (3 Neal-Dalm).
J. Allen (3 Neal-Dalm).
S. W. Lewis (4 Hoskisoo).
S. M. Greening (3½ Sunbeam).
A. A. Prestwich (2¾ New Imperial).
W. Lord (3½ Sunbeam).
W. B. Gibb (3½ Douglas).
C. F. Townley (3½ Norton).
J. H. Watson (3 Beardmore).
G. W. Wilkin (4 Wilkin).
H. M. Harveyson (4 Indian).
O. Lewis (3½ Norton).
N. A. Brain (3½ Sunbeam).
P. W. White (8 Sunbeam sc.).
W. Swiffen (3½ Norton sc.).
C. D. Michaelis (7 Harley sc.).
Hugh Gibson (8 Royal Ruby sc.).
L. R. J. Blick (7 Harley sc.).
W. P. Brandon (4 Triumph sc.).
B. Bladder (8 New Imperial sc.).
G. H. Tucker (4 Norton sc.).
W. Reg. Brown (3½ Sunbeam sc.).
E. G. Fery (8 Sunbeam sc.).
S. T. Tessier (8 Bat sc.).
Eric Williams (7 A.J.S. sc.).
T. C. de la Haye (3½ Sunbeam sc.).
A. C. Shephard (3½ Sunbeam sc.).
H. J. Stretton-Ward (8 Excelsior sc.).
C. C. Beavis (7 Indian sc.).
T. Silver (4 Quadrant sc.).
H. D. Oxenham (8 Zenith sc.).
G. Packman (8 Matchless sc.).
R. I. Davies (6 A.J.S. sc.).
Eli Clark, Jun. (6 Douglas sc.).
D. G. Prentice (8 Morgan).
H. F. S. Morgan (8 Morgan).
W. A. Carr (8 Morgan).

NOMINATIONS FOR CLUB TEAM PRIZES.

BRISTOL M.C.C.
A. R. Passey (3½ Norton).
G. H. Tucker (4 Norton sc.).
E. Kickham (3½ Douglas).

REDDITCH AND DISTRICT M.C.C.
B. L. Bird (4¼ B.S.A.).
H. Poole (4¼ B.S.A.).
L. L. Sealey (4¼ B.S.A.).

STOURBRIDGE M.C.C.
R. Fellows (3½ Sunbeam).
E. Griffiths (3½ Norton).
J. R. Fellows (3½ Sunbeam).

NORTH WALES M.C.C.
Hugh Gibson (8 Royal Ruby sc.).
J. Lee (7 Indian).
T. B. Williams (4 Triumph).

CHELTENHAM M.C.C. AND L.C.C.
L. Paynter (3½ Norton).
C. H. Dickins (3½ Dene).
S. A. Such (2½ Connaught).

NEATH AND YSTALYFERA M.C.C.
Alexander Lindsay (3½ Norton).
W. Church (2¼ Velocette).
W. I. Thomas (3¾ Scott).

COVENTRY AND WARWICKSHIRE M.C.
G. L. White (5 Rover).
D. Atkin (5 Rover).
W. Brandish (4½ Humber)

MALVERN M.C.C.
D. G. Prentice (8 Morgan).
W. A. Carr (8 Morgan).
H. F. S. Morgan (8 Morgan).

WORCESTER AND DISTRICT M.C.C.
B. Bladder (8 New Imperial sc.).
E. Williams (7 A.J.S. sc.).
T. C. de la Haye (3½ Sunbeam sc.).

BATH AND WEST OF ENGLAND M.C.C. AND L.C.C.
E. Colmer (2¼ Levis).
A. C. Shephard (3½ Sunbeam sc.)
E. W. Spencer (4 Omega).

STROUD M.C.C.
L. Blick (7 Harley sc.).
C. Beavis (7 Indian sc.).
N. Smith (4 Triumph).

WORCESTERSHIRE M.C.
A. W. Brittain (10 Calthorpe car).
Rex Mundy (11 Deemster car).
G. S. Boston (11 Morris-Cowley).

ESSEX M.C.
S. N. Greening (3½ Sunbeam).
A. A. Prestwich (2¾ New Imperial).
H. R. Harveyson (——).

GLOUCESTER M.C.C.
W. B. Gibbs (——)
—— (——).
—— (——).

MOTOR CYCLING CLUB.
P. W. White (8 Sunbeam).
A. W. Martin (4 Triumph).
C. D. Michaelis (7 Harley sc.).

NOTTINGHAM M.C.C.
J. H. Watson (3 Beardmore).
G. W. Hartwell (3½ Norton).
F. H. Wallis (3½ Rover).

HEREFORD M.C.C.
T. B. Vale (2¾ Beardmore).
Reg. Brown (3½ Sunbeam sc.)
N. A. Brain (3½ Sunbeam).

92 ENTRIES FOR T.T. RACES TO DATE.

BELOW we are able to give lists of entries for the Junior and Senior T.T. Races, which will be held on June 14th and 16th respectively. Many riders have yet to be nominated, while several firms which, it is known, intend to compete are not yet in the lists.

JUNIOR RACE.

TRADE ENTRIES.

	Entrant.	Rider.	Machine.
3.	Douglas Motors, Ltd.		2¾ Douglas
1.	Alexander and Co.	J. R. Alexander	2¾ Douglas
1.	S. A. Newman and Co.		3 Ivy
1.	J. Blake and Co.		3 Ivy
2.	Maudes' Motor Mart		3 Ivy
6.	A. J. Stevens and Co.		A.J.S.
1.	A. H. Haden and Co.	A. H. Haden	2¾ New Comet
3.	Burney and Blackburne, Ltd.	R. Carey	2¾ Blackburne
4.	New Imperial Cycles, Ltd.		New Imperial
2.	G. A. Miller and Co.		2¾ and 2¾ Martin
4.	Butterfields, Ltd.	G. S. Davison	2¾ Levis
1.	Frank Whitworth, Ltd.		
1.	Massey Arran Motor Co.		2¾ Massey Arran
1.	The Braddon Motor and Cycle Depot	Frank Wood	2¾ Blackburne
1.	Norman Rud. Barrett Co., Ltd.	Jack Holroyd	2¾ Blackburne

PRIVATE OWNERS.

Tudor Thompson	Entrant	2¾ Douglas
Dr. C. Hopwood	Entrant	
H. F. Brockbank	Entrant	2¾ Blackburne
R. W. Loughton and Co.	Ralph Loughton	2¾ N.U.T.
C. F. Edwards	Entrant	
J. Joynson	Entrant	2¾ N.U.T.
R. Humphreys	Entrant	2¾ Velocette
Roberts and Hibbs		
*Reg. Lucas	Entrant	

*Unsettled as to whether Junior or Senior Race.

SENIOR RACE.

TRADE ENTRIES.

	Entrant.	Rider.	Machine.
5.	Norton Motors, Ltd.		3½ Norton
1.	Alexander and Co.	D. S. Alexander	3½ Norton
1.	Burney and Blackburne, Ltd.		3½ Blackburne
4.	John Marston, Ltd.		3½ Sunbeam
3.	Douglas Motors, Ltd.		3½ Douglas
1.	Frank Whitworth		
6.	Birmingham Small Arms Co., Ltd.		B.S.A.
2.	A. J. Stevens and Co.		A.J.S.
3.	Triumph Cycle Co.		Triumph
3.	James Cycle Co., Ltd.	J. F. Lidstone	3½ James
		G. E. Stobart	3½ James
		G. Strange	3½ James
4.	Hendee Manufacturing Co.		3½ Indian
2.	G. A. Miller and Co.		3½ Martin
1.	Eric Williams and Co.	Eric Williams	3½ Sunbeam
3.	Zenith Motors	J. L. Emerson	499 c.c. Zenith
		K. Don	499 c.c. Zenith
		F. Townshend	499 c.c. Zenith

PRIVATE OWNERS.

W. Royle	Entrant	3½ Norton
H. Minton	Entrant	3½ Norton
Hubert Mason	Entrant	3½ Norton
W. Hollowell	Entrant	3½ Norton
T. Mallon	Entrant	3½ Sunbeam
Vivian Olsson	Entrant	3½ Sunbeam
Tommy Thompson	Entrant	3½ Rudge Multi
Flight-Lieut. J. O. Groves	Entrant	3½ Rudge Multi
J. Mitchell	Entrant	
H. Pattinson	Entrant	3½ Triumph
Jack Thomas	Entrant	3½ Norton
R. Carey	Entrant	3½ Blackburne

HIGH SPEEDS ON KOP HILL.

165 Entries in the Essex M.C. Hill-climb near Princes Risborough.



H. Thorpe at speed on a 3½ h.p. Sports Model Douglas.

WERE records for hills easily recorded, and always authenticated, there is no doubt that previous best times for Kop hill would have proved well beaten on Saturday. The event was the open hill-climb of the Essex M.C., and glorious weather and a large entry, including a positive galaxy of experts, combined to produce very keen riding.



T. C. De la Hay who made fastest time of the day on an overhead valve 3½ h.p. Sunbeam. This machine recently put up some phenomenal performances.

Never has it been our pleasure to witness more expeditious organisation in a hill-climb. Synchronised watches and a field telephone allowed one competitor to be despatched before the man in front was much more than half way up the hill. Therefore the 165 entries and nineteen events in the motor cycle and three-wheeled cycle car class passed off with lightning-like rapidity.

Sidecar Classes First

The two sidecar classes started the ball rolling, and some very fine ascents by Riddock (8 Zenith sc.), O'Sullivan (7-9 Harley-Davidson sc.), and E. A. Bridgman (7-9 Indian sc.), were made in the 1,000 c.c. class.

Some very fast lightweights were in evidence in the next two classes. G. S. Davidson (2½ Levis) was unfortunate in stopping for some unexplained reason on the top bend: thus the Diamonds and New Imperials had things almost all their own way. Newey (on a Levis), however, made a very fast ascent in the open 250 c.c. class.

Things began to hum when the 500 c.c. machines came along, and it was evident that it was going to be a close tussle between De la Hay's Sunbeam, Thorpe's Sporting Douglas, and H. Petty's and G. A. Vandervell's Nortons. The Sunbeam was afterwards disqualified in all the "touring" classes; it was the new overhead-valved machine with which De la Hay will defend his T.T. title. Petty did well to make fastest time in his class on his first ascent of the hill.

Vandervell, who rode in a hair-raising manner, and who was later successful in piloting a Talbot car up in under 39s., took the honours in the class for 750 c.c. machines.

In the unlimited touring class, Le Vack's Indian and Riddock's Zenith had



The light four-wheelers made very steady and fast climbs. W. F. Davenport (A.V.) overhauling A. Knight on an old type Carden.

High Speeds at Kop Hill—

a close tussle. Le Vack got it, however, in the very fine time of 32.4s.

Classes F and G were for *any* motor cycle, and thus De la Hay's Sunbeam was eligible. His ascent in Class F at 30.4s. stands as fastest time of the day. In Class G, however, his engine was "missing," and honours again went to Le Vack.

CLASS A.—TOURING SOLO NOT EXCEEDING 250 C.C.

Event 1 (Open). On Formula.—1, J. V. Prestwich (2½ Diamond-Jap); 2, J. Lidstone (2¼ James); 3, Kaye Don (2½ Diamond-Jap). Fastest time: H. Newey (2¼ Levis).

Event 2 (Members). On Formula.—1, J. V. Prestwich (2½ Diamond-Jap); 2, J. Lidstone (2¼ James); 3, Kaye Don (2½ Diamond-Jap). Fastest time: J. V. Prestwich (2½ Diamond-Jap).

CLASS B.—TOURING SOLO MACHINES NOT EXCEEDING 350 C.C.

Event 3 (Open). On Time.—1, Albert E. Swan (2¾ New Imperial-Jap), 47.8s.

Event 4 (Members). On Time.—1, J. V. Prestwich (2½ Diamond-Jap), 49.6s.

CLASS C.—TOURING SOLO MACHINES NOT EXCEEDING 500 C.C.

Event 5 (Open). On Time.—1, H. Petty (3½ Norton), 36.4s.

Event 6 (Members). On Time.—1, H. Petty (3½ Norton), 36.4s.

CLASS D.—TOURING SOLO MACHINES NOT EXCEEDING 750 C.C.

Event 7 (Open). On Time (formula results not verified yet).—1, G. A. Vandervell (3½ Norton) and G. Strange (3½ James) tied, 38.4s.

Event 8 (Members).—1, G. A. Vandervell (3½ Norton) and G. Strange (3½ James) tied, 38.4s.

CLASS E.—TOURING SOLO MACHINES NOT EXCEEDING 1,000 C.C.

Event 9 (Open). On Formula.—1, G. S. Davison (2½ Levis); 2, G. A. Vandervell (3½ Norton); 3, H. Thorpe (3½ Douglas). Fastest time: H. le Vack (7-9 Indian), 32.4s.

Event 10 (Members). On Formula.—1, G. A. Vandervell (3½ Norton); 2, H. Thorpe (3½ Douglas); 3, G. Strange (3½ James). Fastest time: H. le Vack (7-9 Indian), 32.4s.

CLASS F.—ANY SOLO MACHINES NOT EXCEEDING 500 C.C.

Event 11 (Open). On Time.—1, T. C. de la Hay (3½ Sunbeam), 30.4s.

Event 12 (Members). On Time.—1, T. C. de la Hay (3½ Sunbeam), 30.4s.

CLASS G.—ANY SOLO MACHINES NOT EXCEEDING 1,000 C.C.

Event 13 (Open). On Time.—1, H. le Vack (7-9 Indian), 33s.

Event 14 (Members). On Time.—1, H. le Vack (7-9 Indian), 33s.

CLASS H.—TOURING PASSENGER MACHINES NOT EXCEEDING 500 C.C.

Event 15 (Open).—1, R. C. Chawner (3½ Sunbeam sc.), 71.4s. Walk-over.

Event 16 (Members).—No runners.

CLASS J.—TOURING PASSENGER MACHINES NOT EXCEEDING 1,000 C.C.

Event 17 (Open). On Time.—1, J. P. Riddock (8 Zenith sc.), 44s.

Event 18 (Members). On Time.—1, J. P. Riddock (8 Zenith sc.), 44s.

CLASS K.—TOURING THREE-WHEELED CYCLE CARS NOT EXCEEDING 1,110 C.C.

Event 19 (Open). On Time.—1, E. B. Ware (10 Morgan), 45.6s.

Event 20 (Members). On Time.—1, E. B. Ware (10 Morgan), 45.6s.

LONDON-LAND'S END RESULTS.

Four Premier Awards won by a 3½ h.p. Ariel, a 7 h.p. A.J.S. Sidecar, a 10 h.p. Morgan, and a 12 h.p. A.B.C. Car respectively.

72 motor bicycles started, 56 finished, 37 gold medals, 14 silver medals, 2 disqualified, 2 no award, 1 held over.
60 sidecars started, 44 finished, 25 gold medals, 13 silver medals, 6 disqualified.
8 three-wheel runabouts started, 5 finished, 4 gold medals, 1 silver medal.
56 cars started, 42 finished, 23 gold medals, 16 silver medals. (See "The Autocar.")

PREMIER AWARDS.

JARROTT CUP: 1.—F. A. Longman (3½ Ariel), time on Porlock 9 min. 0 1/5 sec.
2.—P. W. Moffatt (3½ Douglas), 8 min. 59 1/5 sec.
3.—F. W. Applebee (2¼ Levis), 9 min. 1 sec.

CAPTAIN'S CUP for best performance by a sidecar: 1.—F. W. Giles (7 A.J.S. sc.), 9 min. 1 4/5 sec.
2.—A. P. McGowran (4 Triumph sc.), 9 min. 2 3/5 sec.

ELCE CUP for three-wheeled cycle cars: S. A. McCarthy (10 Morgan), 9 min. 3 sec.

ARIEL.
F. A. Longman (3½). **Jarrott Cup.**
E. Atkins (3½). *Gold medal.*
C. Bourlet (3½). *Gold medal.*
F. J. Watson (6-7 sc.). *Gold medal.*

A.J.S.
F. W. Giles (7 sc.). **Captain's Cup.**
W. C. Hemy (7 sc.). *Gold medal.*
R. Rayner (6 sc.). *Retired.*

BROUGH SUPERIOR.
H. Karslake (8). *Gold medal.*
S. W. Ratcliffe (8). *Silver medal.**
G. Brough (8 sc.). *Silver medal.**

BROUGH.
W. E. Brough (5 sc.). *Silver medal.**

BLACKBURNE.
R. Carey (8 sc.). *Silver medal.*

BEAUMONT.
G. W. Shepherd (2¾). *Gold medal.*

BAT.
S. T. Tessier (8 sc.). *Gold medal.*

B.S.A.
V. Pentlow (4¼ sc.). *Silver medal.**
M. A. Newnham (4¼ sc.). *Retired.*
R. J. Andrews (4¼ sc.). *Retired.*

COVENTRY PREMIER.
R. Croucher (8-10). *Gold medal.*

COULSON-B.
R. B. Clark (2¾). *Gold medal.*
H. F. Fellowes (4). *Gold medal.*
C. F. Alcock (2¾). *Silver medal.**

CEDOS.
A. G. Wall (2¼). *Retired.*

CONNAUGHT.
J. Harrison (2¾). *No award.*
S. T. Ashby (2¾). *No award.*

DOUGLAS.
P. W. Moffatt (3½). *Gold medal.*
E. Kickham (3½). *Gold medal.*
E. Clark, jun. (2¾). *Retired.*
E. Clark, sen. (4 sc.). *Retired.*
G. B. Betteridge (4 sc.). *Retired.*
A. H. S. Love (2¾). *Retired.*

DALTON.
A. S. Guthrie (2¾). *Silver medal.*
F. Begley (4 sc.). *Retired.*

DUNELT.
A. P. H. Pehrson (4½). *Silver medal.**

DIAMOND.
E. A. Wright (2¾). *Gold medal.*
H. V. Bateman (2¾). *No award.*
F. G. Price (2¾). *Held over.*

HUMBER.
S. Julian (4 sc.). *Disqualified.§*

HARLEY-DAVIDSON.
C. A. McKeand (4). *Gold medal.*
G. H. Morgan (4). *Gold medal.*
R. G. Spikins (7). *Gold medal.*
J. A. O'Sullivan (4). *Gold medal.*
W. G. Sykes (7). *Gold medal.*
W. Julian (7 sc.). *Gold medal.*
S. C. Tait (7 sc.). *Gold medal.*
J. Caslake (7 sc.). *Gold medal.*
B. S. Allen (7 sc.). *Gold medal.*
J. S. Morgan (7 sc.). *Gold medal.*
E. J. L. Strong (7 sc.). *Gold medal.*
R. Newitt (7 sc.). *Retired.*
C. D. Michaelis (7 sc.). *Retired.*
G. E. Toombs (7 sc.). *Retired.*
J. A. Masters (7 sc.). *Retired.*
J. C. Watson (7 sc.). *Retired.*

INDIAN.
T. S. Sharratt (4). *Gold medal.*
H. R. Harveyson (4). *Gold medal.*
W. J. Simpson (7 sc.). *Gold medal.*
A. M. Knoll (4). *Silver medal.*
C. C. Labin (4). *Silver medal.†*
H. Le Vack (7 sc.). *Retired.*

JAMES.
H. H. Saddington (6 sc.). *Gold medal.*

LEVIS.
F. W. Applebee (2¼). *Gold medal.*
B. G. Bays (2¼). *Retired.*

LEA-FRANCIS.
J. Richardson (3½). *Gold medal.*

METRO-TYLER.
G. E. Coffe (2½). *Silver medal.**
G. F. Ammon (2½). *Retired.*

MARTINSYDE.
J. T. Bashall (6 sc.). *Gold medal.*
W. H. Bashall (6 sc.). *Gold medal.*

M.B.
S. Warne (2¼). *Retired.*

MORGAN.
S. A. McCarthy (10). **Elce Cup**
A. E. Hartfall (10). *Gold medal.*
H. W. Holmes (10). *Silver medal.†*
W. H. Elce (10). *Retired.*
H. E. K. Sawtell (10). *Retired.*
C. E. Bennett (10). *Retired.*

MATCHLESS.
T. J. Ross (7 sc.). *Gold medal.*
F. J. Ellis (7 sc.). *Gold medal.*
G. Nott (7 sc.). *Gold medal.*
D. S. Parsons (7 sc.). *Gold medal.*
G. Packman (8 sc.). *Gold medal.*
W. F. Guiver (8 sc.). *Silver medal.**
G. D. Hardee (7 sc.). *Disqualified.*

NEW IMPERIAL.
A. A. Prestwich (2¾). *Disqualified.‡*
R. A. Lucking (8 sc.). *Disqualified.§*

NORTON.
H. K. Knight (3½). *Gold medal.*
R. M. Knowles (3½). *Gold medal.*
J. G. Goodenough (3½). *Gold medal.*
R. H. Attwood (4 sc.). *Gold medal.*

N.U.T.
R. T. Leather (3½). *Gold medal.*
A. C. Rhodes (3½). *Gold medal.*
W. Bray (3½). *Silver medal.**
H. S. Eaton (3). *Disqualified.‡*

OMEGA.
S. G. Wooldridge (4). *Silver medal.*

OLYMPIC.
D. J. Stone (2½). *Retired.*

P. AND M.
P. Cunningham (3½). *Gold medal.*

QUADRANT.
C. Wilson (4½). *Silver medal.*

REX.
J. A. Watson-Bourne (4). *Gold medal.*
W. A. Fell Smith (8 sc.). *Silver medal.**
H. W. Glendinning (8 sc.). *Silver medal.**
J. D. Marvin (8 sc.). *Silver medal.†*

ROVER.
J. C. Sandford (6 sc.). *Silver medal.**

READING-STANDARD.
J. Wallis (8). *Gold medal.*
C. K. Gibbs (8). *Gold medal.*

ROYAL RUBY.
H. Gibson (8 sc.). *Gold medal.*
L. A. Apsey (8 sc.). *Gold medal.*
H. Dale (8 sc.). *Disqualified.§*

SCALE.
H. J. Scale (4). *Gold medal.*

SUNBEAM.
N. S. Brooker (3½). *Gold medal.*
L. Keevil (3½). *Gold medal.*
P. Street (3½). *Silver medal.*
P. W. White (8 sc.). *Disqualified.*
E. C. Lunniss (8 sc.). *Disqualified.*
V. Olsson (3½). *Retired.*

SCOTT.
J. A. Hoult (3½). *Gold medal.*
E. J. Anderson (3¼). *No award.*

TRIUMPH.
T. A. Slann (4.) *Gold medal.*
T. Morgan (4). *Gold medal.*
T. Francis (4). *Gold medal.*
R. B. Roberts (4). *Gold medal.*
A. P. McGowran (4 sc.). *Gold medal.**
G. R. Claridge (4 sc.). *Silver medal.**
E. Pond (4). *Silver medal.*
F. Notari (4.) *Silver medal.**
B. J. Sims (4). *Silver medal.*
C. F. Plowman (4). *No award.*
A. G. Battley (4). *Retired.*
W. P. Brandon (4 sc.). *Retired.*
C. F. Edwards (4 sc.). *Retired.*
E. Hilliary (4 sc.). *Retired.*

T.B.
F. S. Spouse (10). *Gold medal.*

VERUS.
S. Dunford (2¾). *Gold medal.*
G. E. Stacey (2¾). *Silver medal.*

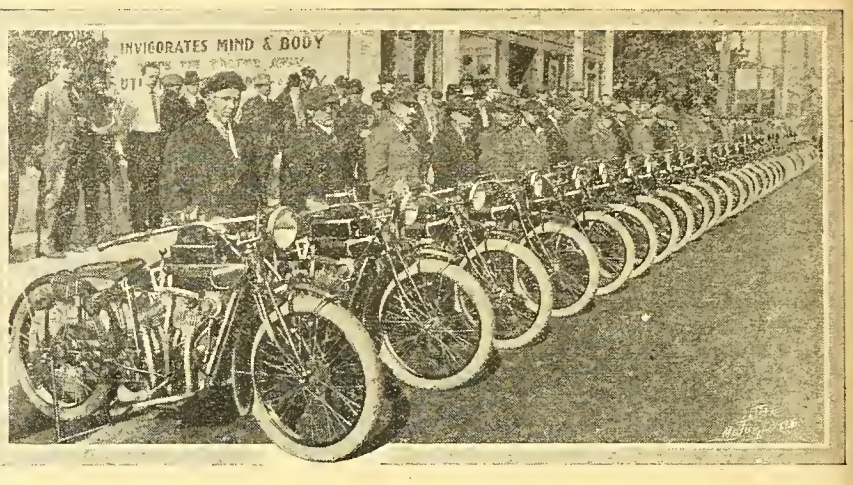
ZENITH.
K. Don (6 sc.). *Gold medal.*
A. Ellison (6). *Gold medal.*
J. F. Perrin (6 sc.) *Silver medal.*
H. R. Milling (8). *Silver medal.**
R. Charlesworth (8 sc.). *Silver medal.**
R. F. Overbury (8 sc.). *Retired.*
D. Crawford (5). *Retired.*

* Too slow on Porlock section.
† Late at check.
‡ Too early.
§ Passenger on carrier.

MOTOR CYCLES FOR POLICE WORK.

The Advantages of the Modern Motor-Cycle appreciated by Scotland Yard.

Sidecar Outfits to be used in Metropolitan Area.



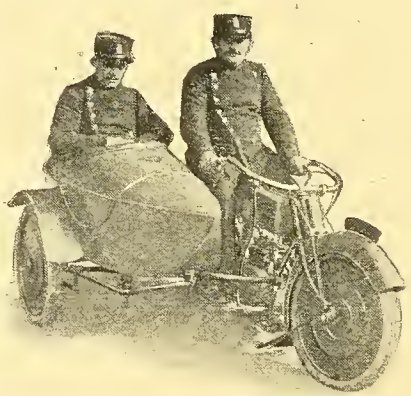
At Los Angeles, in California, as in the majority of American cities, a large force of motor cycle police is maintained. The illustration depicts the plain clothes section.

THE Commissioner of Metropolitan Police has decided more extensively to employ motor cycles for the control of traffic. This fact has been eagerly seized by the daily press as material for startling headlines.

"Scorchers to be Chased" was one eye-compelling headline, and in the context one found that Fleet Street's conception of the duties of such a force will be to give chase to offenders against the speed limit.

Cinema Stunts.

Those of our readers who are cinema-goers know how such methods work in America. A motorist in a hurry after the "heavy lead" passes a motor cyclist policeman who promptly sets off in pursuit. After an exciting chase, during which the lives of innocent pedestrians are in jeopardy, the 7-9 h.p. Indian or Harley draws ahead and the offender is brought to a stop, sometimes at the point of a revolver. This is not actually what happens in the land of freedom; nevertheless, almost every city in U.S.A. employs large squads of motor cycle police, and the lot of the speedman is not altogether a happy one. In addition to motor cycle patrols many cities have a corps of plain clothes officers who mingle with the traffic, and, so it is contended, are not above tempting motor cyclists for a speed burst in order to obtain a "case."



The Paris police authorities long ago realised the necessity of the motor cycle in upholding the law.

Not for Chasing Purposes.

Probably our Fleet Street journalists had taken the U.S.A. police as a pattern when making guesses at the duties of the officers forming the London squad; but, from an interview we had with the authorities at Scotland Yard, we can say that they guessed wrong. At present, at all events, there is no intention of utilising the motor cycle police for chasing motor cyclists whose rear lamps have jolted out, or those who are suspected of exceeding the speed limit. In all probability the speed limit will be sufficiently increased to render such patrols unnecessary by the time the new squad has completed its experiments, which lie in an entirely different direction from that suggested by the daily papers.



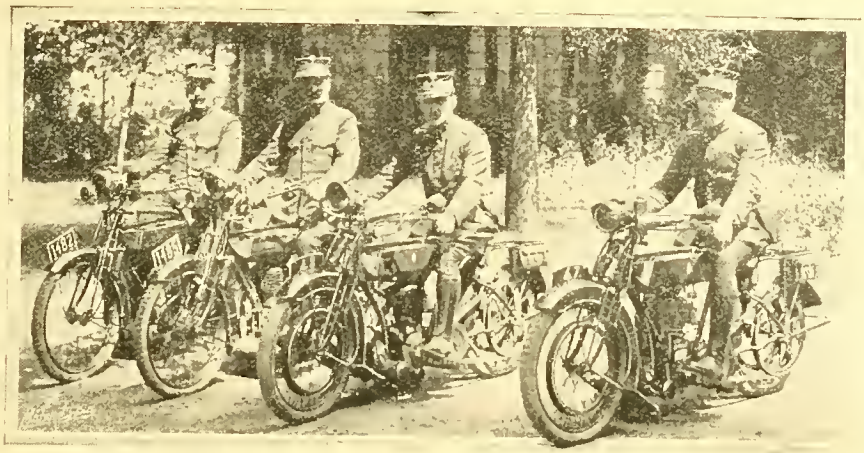
A motor cycle squad of the Sultan of Egypt's Police with their Douglas mounts.

Traffic Regulation.

Ten Triumph-Gloria outfits are to be put into commission, and they will be sent out with two officers each to assist in regulating traffic as necessity arises. Chiefly their duties will be on main arteries where a large amount of traffic is expected, such as on Derby Day and similar events which attract to one point an extraordinary number of vehicles.

Everything considered, the British police have been tardy in adapting modern motor cycles to their use, and we have many times urged the authorities to give consideration to

the undoubted advantages of such machines for many duties. Almost every progressive country in the world has its motor cycle police force, and the illustrations given on this and the preceding page depict men in the police forces of Egypt, Belgium, France, Canada, and U.S.A.



The Belgian Motor Cycle Police shown mounted on British machines—James and B.S.A.

In Liverpool the police have realised the value of the motor cycle, and only recently we gave an illustration of the Beardmore-Precision mounted men in the Liverpool force. Brighton, too, has sufficient motor cyclists in the police to muster a squad when needed, and on many recent royal visits to the provinces motor cycle specials have acted as escort to the royal carriage, and so proved their utility.

We feel sure that the Metropolitan Police will find their new venture an asset to their organisation, and we expect before long to see the motor cycle section of the force very considerably extended.



The smart and serviceable uniform of the officers of the Regina Police, Canada, is of special interest.



Uniformed New York Police. A squad ready for special parade duty.

CLUB NEWS. (Continued from page 434.)

Leeds and District M.C.

There was an excellent muster of members for the run to Burnsall on the 3rd inst. An *al fresco* picnic on the riverside was enjoyed by all.

Bedford and District M.C.

For the Pater, Holland, Rhodes, and Hebblewaite prizes a petrol consumption test, held on Easter Monday, resulted as follows: Class B.—C. F. Plowman. Class C.—Miss L. Luddington. Class D.—N. M. Bligh. Class E.—A. Bristowe.

North-west London M.C.C.

On Sunday last the official opening run took place starting from Hampstead Heath, through St. Albans, and the lesser known Hertford lanes to Hemel Hempstead and Iving hoe for lunch, forty members sharing the meal. Members of the party then organised an impromptu hill-climb, the object being the summit of Iving hoe Beacon by the "direct" route over the grass. Tea at Little Gaddesdon, and a saunter home in the delightful spring evening, completed a most enjoyable day.

Stockport and District M.C.

All the classes that were uncompleted in the open hill-climb on the 12th ult. will be run off on April 16th.

Eastern Centre A.C.U.

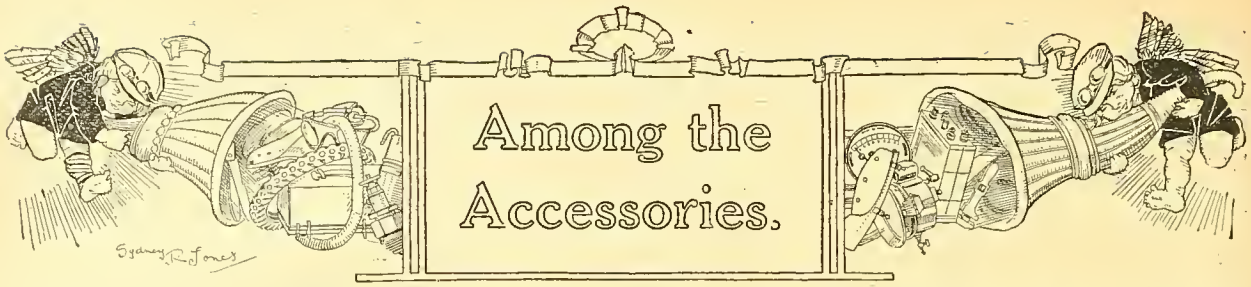
At the Blue Boar Hotel, Cambridge, on Wednesday, March 23rd, a meeting was held for the purpose of forming an Eastern local centre, and the following clubs have made application to the A.C.U. to form this centre: The Cambridge and County M.C.C., the Eastern Counties M.C.C., the Essex Motor Club, the Ipswich and District M.C.C., the Norfolk M.C. and Light Car Club, the Southend-on-Sea and District A.C., and the Romford and District M.C.C. In addition, several other clubs have expressed a desire to belong to the centre. The following officers were elected: President, Mr. H. H. Burrows (Southend); chairman, Mr. E. J. Bass (Essex); vice-chairmen, Messrs. W. W. R. Spelman (Norfolk) and T. Bunnet (Cambs.); and hon. treasurer, Mr. H. S. Wallis (Cambs.). The hon. secretary is Mr. Douglas Stuart, Algers Road, Loughton.

East Lancs M.C.C.

Eighteen members competed for the Hornby Cup on Good Friday over a course through Slaidburn, Buckhaw Brow, and Ingleton, then returning to Ribchester. Results: H. Walsh (3½ Scott), winner of cup; W. H. Shuttleworth (3 A.B.C.) and R. Jacks (3½ Norton), certificates.

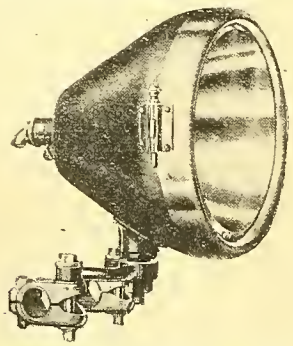
Worcester and District M.C.C. and Worcestershire M.C.

The club held its official opening run on the 3rd inst. to the British Camp Hotel, Malvern. Here the members were joined by contingents of the Bristol, Gloucester, Cheltenham, Stourbridge, and Malvern motor cycle clubs. There was a right royal turnout, the number of vehicles totalling nearly three hundred, amongst which was noticeable a large number of new mounts. The feeling of friendship existing between the clubs named, which all belong with others to the A.C.U. Western Centre, was very marked. After tea some impromptu hill-climbing took place up the sheep tracks on the Malvern hills.



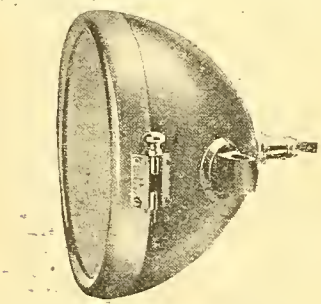
Two New C.A.V. Head Lamps.

FEW firms have been more successful in the construction of powerful electric head lamps than Messrs. C. A. Vandervell and Co., Ltd., Acton, London, W.3, who are, perhaps, the pioneer automobile electric lighting firm.



Model E.C. head lamp, complete with central pillar handle-bar fittings, sold by Messrs. C. B. Vandervell, of Acton.

Model E C, the smaller of the two lamps illustrated, has a 5¾in. glass, and is supplied complete with central pillar bracket fixing and clip. The method of fixing is highly substantial, and should be very satisfactory. It is intended to be run on six volts.



A 6¾in. electric head lamp by Messrs. C. B. Vandervell.

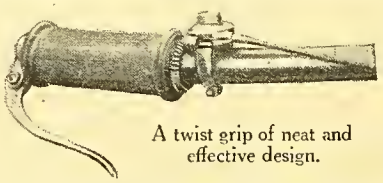
The D H model, of which the front glass is 6¾in. across, having been primarily intended for head lights on cycle cars, makes a very excellent super lamp for those who require particularly good illumination. It should, therefore, be suitable for the heavier type of side-car outfit. It is built on the same principle as the C.A.V. car head lights. It is also intended to carry six volt bulbs.

Both lamps are excellently made, and present a very handsome and clean appearance.

C22

Twist Grips for British Motor Cycles.

WHATEVER the disadvantages of twist grip control, centainly it shows a great advantage in wintry weather, when thick gloves impede the operation of small levers, or thinly clad fingers are numbed with the cold. The grips illustrated have been made and patented by Mr. George Cumming, 19, Rose Street, Aberdeen, who retains Bowden wires. We understand that a 125° movement has been found the best for touring work. As will be seen by the illustration, the device is exceptionally neat.

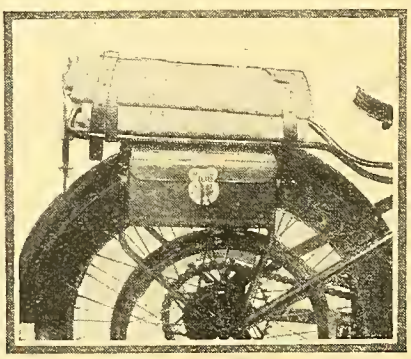


A twist grip of neat and effective design.

A "Garage" on the Carrier.

SINCE we last referred to the Howard motor cycle cover it has undergone one small but important improvement. In the forward portion are eyelets which enable a rustproof chain to be inserted through the cover, over the front wheel, and round the forks, and allowing the padlock to remain outside. Thus a considerable obstacle is placed in the way of a thief who wishes to steal either the cover or the motor cycle, or both.

For those who are undertaking long journeys where garage room is difficult to obtain, this motor cycle cover, in conjunction with a lock, renders it perfectly safe if it is wished to leave the machine in the open at night.



Folded up on the carrier, the Howard cover makes a good pillion cushion.

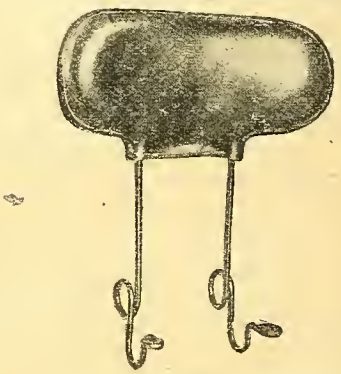
The cover is made by the Howard Car and Cycle Cover Co., 71, High Holborn, London, W.C.1.



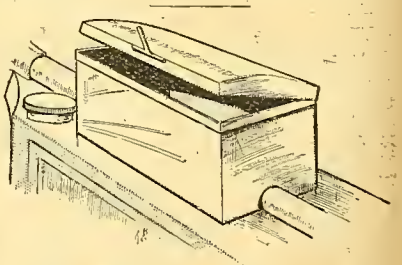
The Howard motor cycle cover.

A Useful Backrest.

THERE is little doubt that on long journeys a support for the back is extremely welcome. A simple form of back rest is illustrated. The rest can be easily attached by being fastened by the screws underneath the saddle and has lately been placed on the market by Messrs. James Grose, Ltd., 4, Old Jewry, London, E.C.1.



A backrest produced by Messrs. Jas. Grose, Ltd.



Designed to carry tools in the most protected position — an aluminium top-rail tool-box sold at 20/- by Reg. Samson, Ladywood Road, Birmingham.

Over 100 miles per hour

1	mile	107·78 m.p.h.
10	,,	103·44 ,,
15	,,	104·37 ,,
50	,,	101·43 ,,



Four World's Records

Four new records were made at Fresno, California, on 22nd February, 1921, by Otto Walker riding a 7-9 h.p. Harley-Davidson Motor Cycle fitted with standard

Renold Chains

Experienced riders the world over insist on fitting Renold's—proof of their reliability and consistently good performance under the most strenuous conditions.

Hans Renold Ltd., Manchester.

THE NUT NEWCASTLE UPON TYNE

MOTOR CYCLES

THE NUT NEWCASTLE UPON TYNE

The manufacture of the famous N.U.T. Motor Cycles, previously carried on by the late NEWCASTLE-UPON-TYNE MOTOR CO., LTD., has now been taken over by

HUGH MASON & Co. LTD.

3½ h.p.	STANDARD "V" TWIN Lucas Dynamo Lighting Set, 20 Guineas extra.	125 Guineas
5 h.p.	DUAL PURPOSE "V" TWIN Lucas Dynamo Lighting Set, 20 Guineas extra.	130 Guineas
3½ h.p.	6 VALVE O.H. "V" TWIN T.T. MODEL	135 Guineas

The above prices include **FREE DELIVERY** to nearest Railway Station in Great Britain, and we also guarantee that any reduction in price before June 1st, 1921, will be refunded to every purchaser after March 1st, 1921, on proof of purchase direct from us or through a recognised Agent.

HUGH MASON & CO., LTD., N.U.T. Works, St. Thomas' Street, **NEWCASTLE-UPON-TYNE**

Telegrams: "NUTS, NEWCASTLE." Telephone: 869 CENTRAL

Deliveries have commenced
of our new form of the 6-8 h.p. Twin

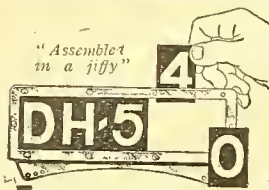
L.M.C. Combination £160

This is without doubt the most astounding value on the market: Specification includes All-chain Drive, Shock Absorber, Internal Expanding Rear Brake, STURMEY THREE-SPEED GEAR BOX, Kick-starter, 650 x 65 Tyres, Millford Sidecar.

Fuller details on application to

CAN ALSO BE SUPPLIED FITTED WITH CHAIN-CUM-BELT DRIVE **£150**

THE LLOYD MOTOR ENGINEERING CO., LTD., 132, Monument Road, Birmingham



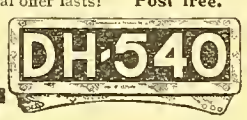
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NOTE:—An IGNA Sparking Plug given free with each pair. Order now, whilst this special offer lasts! **11/6** per pair Post free.

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An expensive outfit is surely worth a shilling or two spent on keeping it smart and saleable.

Rust Proof Dope



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HOWSE'S, The Rust-Preventer Firm,
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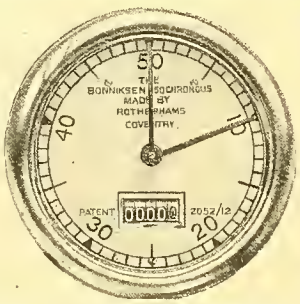
THE BONNIKSEN ISOCHRONOUS SPEEDOMETER.

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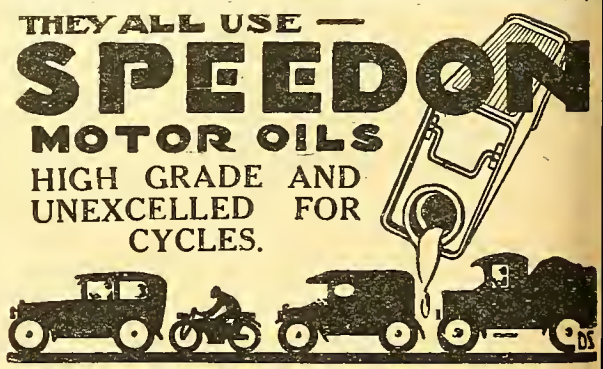


ACCURATE AT ALL SPEEDS.

PRICES—
Motor Cycle Type:
Trip, £6 5 0
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Rotherham & Sons, Coventry. 'Phone—752 & 753 'Grams—"Rotherhams, Coventry."

THEY ALL USE —
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MOTOR OILS
HIGH GRADE AND UNEXCELLED FOR CYCLES.

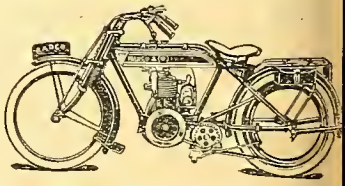


John S. Morris & Son (Oils) Ltd., Cross Lane Oil Works, Manchester

Radco
THE KING OF LIGHTWEIGHTS.

Illustrated Booklet upon application.
E. A. RADNALL & CO.,
Dartmouth Street, BIRMINGHAM.

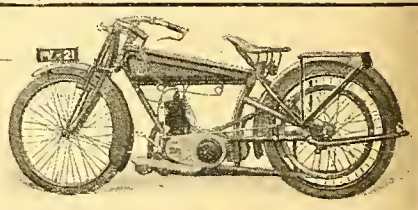
The 'Radco'		Radco No. 2'
Standard Model	£52 0 0	42 Guineas.
Two-speed ,,	£60 10 0	50 ,,
Kick-starter ,,	£66 10 0	57 12 0
Sporting ,,	£66 10 0	.....



THE P.V. SPRING FRAME LIGHTWEIGHT.
You cannot find a finer Motor Cycle in the World.
One isn't made. See one and judge for yourself.

Two-stroke, Two speed, **£75** Lady's, **£81** Four-stroke, Two-speed, **£84**

P.V. Motor Cycles, Ltd., Forest Hill, London, S.E.23.



MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable & Co. to ILIFFE & SONS Ltd., and crossed Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, ½ %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited. The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, good order, no great mileage; £85.—Hour, Nether Wallop, Hants. [9609

A.B.C., new models, from stock, 1920; best cash offer entertained.—A. J. Young and Co., Ltd., Newmarket [1057

A.B.C. 1920 3h.p., Swan sporting sidecar; £180, or exchange solo.—Philip Hedger, 3, Cumberland Gate, Kew. [1416

1920 A.B.C., Lucas dynamo lighting, Cowey horn, speedometer, tax-paid; £123.—Pinkerton, South Norwood Hill, S.E. [9508

GET IT AT

TAYLORS

Sole London and District Agents for A.J.S. and British Excelsior Motor Cycles.

Our large well-equipped South Kensington Show Rooms are situated within 100 Yards of South Kensington Station — District, Met., or Tubes.

1921 COMBINATIONS

7 h.p. A.J.S., comb...	£215 0 0
Lucas Acetylene equipment	8 7 6
Lucas Dynamo lighting	28 0 0
8 h.p. EXCELSIOR, combination de Luxe, hood, spare wheel etc., and dynamo lighting	243 0 0
5 h.p. EXCELSIOR comb. 3-speed Chain-cum-belt	160 0 0
8 h.p. ZENITH combination ...	204 0 0
5-6 h.p. RALEIGH, combination...	204 15 0
8 h.p. MATCHLESS, comb. only run 20 miles	195 0 0
3½ h.p. ARIEL, comb., 3-speed ...	157 10 0
3½ h.p. P. & M., comb., 2-speed ...	165 0 0
8 h.p. ENFIELD, combination ...	160 0 0
Extra Dynamo Lighting	22 0 0
4 h.p. B.S.A. 11-2, combination ...	152 0 0

1921 SOLO MOUNTS

2¼ h.p. EXCELSIOR - BLACKBURNE, 2-speed, clutch, and kick-starter.	£96 0 0
3½ h.p. SCOTT, 2-speed...	130 0 0
2¾ h.p. O.K., single-speed	50 8 0
2½ h.p. O.K., 2-speed..	59 17 0
2½ h.p. EXCELSIOR, single speed, open frame model..	49 10 0
2¼ h.p. ENFIELD, 2-speed	65 0 0
3½ h.p. SUNBEAM, 3-speed... ...	155 8 0

SHOP-SOILED & USED MOUNTS

4 h.p. 1921 TRIUMPH, combination, chain drive	£175 0 0
6 h.p. A.J.S., comb,. 1920, Lucas acetylene lamps, speedometer, horn, and spare wheel, in perfect condition	168 0 0
6 h.p. A.J.S., combination, acetylene equipment, hood, 1920 ..	175 0 0
6 h.p. A.J.S., combination, m/m. electric equipment, 1918 model	145 0 0
7-9 h.p. AMERICAN EXCELSIOR, combination, acetylene equipment, hardly used, 1921 ..	150 0 0
7-9 h.p. INDIAN, combination, 1920 special, electric equipment, Eastings, speedometer, etc., guaranteed	172 10 0
TRIUMPH, W.D.B. and Watsonian Sidecar, unused	120 0 0
HARLEY-DAVIDSON; 7-9 h.p., 1920, acetylene equipped, not run 500 miles	149 0 0
Or with new Watsonian Sidecar to match	170 0 0

Any machine supplied for cash or payment out of income

H. TAYLOR & CO., LTD.

Showrooms—
Motor Cycles and Cars.
52-53, Sussex Place, South Kensington
Accessories, Spare Parts and Repairs.
21a, Store St., Tottenham Court Road, W.C.1
Wholesale—
38 Alfred Place, W.C.1.
Garage: Tottenham Court Road, W.1
'Phones: Accessories and Repairs Museum 1240.
Motor Cycles and Cars, Kensington 726).
Telegrams: "Dynametro, Westcent, Lond n.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., brand new, unused, £98; combination, £128.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kens. 3709. [1627

A.B.C. Motor Cycle, absolutely new, fully equipped, Lucas accessories and kick start; £110.—54, St. James' St., Ashted, Birmingham. [X0729

1920 T.T. A.B.C., mileage 2,000, electric lighting, Klaxon, tax paid; £89, or older machine part.—3, Cliff Terrace, St. John's, S.E.8. [9789

A.B.C., 1921, dynamo, speedometer, horn, small mileage, perfect; trial; £113, offers; exchange A.V.—Lea n, 53, Willows Rd., Cannon Hill, Birmingham. [X0584

Abingdon.

ABINGDON King Dick, perfect condition, 2¾h.p.; £25.—Lawrence Aisby, Corringham, Gainsborough. [9553

ABINGDON King Dick 4h.p., lately overhauled, new carburettor, belt, tyre, and toolbox, in excellent condition; nearest to £40 secures.—East Tilmstead Motor Garage. [9522

Acme.

1920 Acme Combination, run 2,000 miles, detachable and spare wheels, lamps, horn, etc.; cost £213; best offer over £115.—King, 13, Hope St., Cambridge. [X0533

NEW Unused 1921 8h.p. Acme Twin-cyl. Combination, taken by owner in part exchange, who does not require same, immediate cash sale; will accept £169.—Box 3,089, c/o *The Motor Cycle*. [9395

A WONDERFUL Bargain.—Brand new 1920 8h.p. Acme combination, J.A.P. engine, detachable wheels, spare wheel, luxurious sidecar, with cantilever springing; list price £213, reduced to £170 spot cash, first cheque secures.—The Premier Motor Co., Aston Rd., Birmingham. [8882

A.J.S

ARE You Requiring a new combination for Easter?

JULIAN'S, of Reading have 1921 A.J.S. in stock.

SECURE One Early, otherwise you may be disappointed. [0477

JULIANS of Reading have 1921 A.J.S. in stock. [0532

DAN GUY, Weymouth.—1921 A.J.S. in stock; £215. [0549

A.J.S. New 6h.p. Combination; £195.—Jones, Garage, Droitwich. [4680

PICKERING, Shrewsbury.—A.J.S. models in stock; exchanges arranged. [X0748

LONGMAN, of Salisbury.—A.J.S. combinations and 2¾h.p., 1921 models. [1748

A.J.S. Brand New 1921 7h.p. Combination, in stock; no waiting.—Moss, Wem. [X0724

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [4887

BRIGHTON, Hove, and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

NEW 6h.p. A.J.S. with Lucas dynamo lighting set, in stock; £216.—Cross, Agent, Rotherham. [X0654

1914 A.J.S. Combination, equipped, tax paid; 88 gns.—Ramsdens, 8, Maybell Av., Blackpool. [9325

A.J.S. Combination, new condition, tax paid; £95.—Seen at 30, Canterbury Rd., Kilburn, N.W.6. [1656

1921 A.J.S., all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X0828

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

DAN GUY, Weymouth.—A.J.S agent for Dorset; earliest deliveries new 2¾h.p., provisional price £100. [0557

A.J.S. 2¾h.p., 1915, accessories, tools and spares, good running order; £65, or offer.—Beveridge, Pitteavie, Dunfermline. [9315

CYRIL WILLIAMS for immediate delivery of 1921 A.J.S. combinations.—Chapel Ash Depot, Wolverhampton. [X9609

WALCHOPE'S, 9, Shoe Lane, London, E.C.4.—A.J.S. combination, 7h.p., dynamo lighting model; price £245/15. [1623

1920 A.J.S., like new, expensively equipped; £175; no offers.—38, Knights Hill, West Norwood, Streatham 1676. [9703

DAN GUY, Weymouth.—A.J.S. 6h.p. combination, 1917, recently re-enamelled, splendid condition throughout; £120. [0558

1921 A.J.S. 7h.p., cost a few weeks ago £244; accept £210.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X0736

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. C29

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. C.B. Combination, 95 gns., speedometer, screen, lamps, interchangeable wheels.—10, Elaine Grove, Hampstead, N.W.5. [9778

A.J.S. 1915 No. 5 Gloria Combination, thoroughly overhauled and equipped; £125, or offer.—86, Bromley Rd., Catford. [9953

90 GNS.; 1915 6h.p. A.J.S. combination, spare wheel, accessories, trial; private owner.—Cranleigh, College Slip, Bromley, Kent. [1135

6h.p. A.J.S. Combination, 4 interchangeable wheels, 2 lockers, screen, grid, overhauled, tax paid, £115; 4h.p. part.—35, Rosemary Rd., Clacton-on-Sea. [9615

£45.—A.J.S. 3½h.p., 2-speed, kick starter, 1917, perfect condition, Lucas lamps, tyres as new; owner must sell.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [9762

1920 A.J.S. Combination, dynamo lighting, Cowey speedometer, spare wheel, hood, tax paid, 900 miles, as new; £190.—Builders' Arms, Southfields, S.W.18. [9552

A.J.S., new 1921 model, 7h.p., spare wheel, etc., £215, in stock; one only as above, slightly soiled, £200, licence paid.—Marston, Bridge St., Chester. [1723

A.J.S. Combination, 6h.p., 1913, recently overhauled by makers, excellent condition, all accessories; what offers?— St. Keyna Motor Works, Keynsham, Somerset [1093

A.J.S. 1921 6h.p. Combination, brand new, not shop-soiled, complete with interchangeable wheels and spare; £195.—P. J. Evans, 81-91, John Bright St., Birmingham. [X0670

A.J.S., 1920 mileage 2,000, lamps, speedometer, hood, as new; offers; would consider exchange for cheaper combination and cash; Somerset.—Box 422, c/o *The Motor Cycle*. [1472

1919 A.J.S. Combination, mileage 2,000, speedometer, electric lights, horn, tools, screen, spare wheel, excellent condition; £160, nearest.—Salsbury, Birchwood, Sydney Rd., Guildford. [9313

A.J.S. 1920 Combination, spare wheel, lamps, horn, spring seat, perfect condition, mileage 2,700, tax paid; £169.—Write, 50, Grove Park Gardens, Chiswick. 'Phone: Chiswick 1652. [1322

1920 A.J.S., Lucas Magdyno outfit, special hood, etc., fully licenced, in perfect order, engine very powerful; can be seen and tried in the Midlands; 185 gns.—Box 363, c/o *The Motor Cycle*. [X9927

1915 A.J.S., 6h.p., recently overhauled, new mag., spring seat pillar, apron, speedometer, lamps, horn, spare wheel, etc.; price £105, includes tax.—K., 8, Fieldhouse Rd., Balham, London. [X0783

1918 M.M. 6h.p. A.J.S., B.S.A. sidecar, hood, screen, electric lamps, horn, spare wheel, mileage 4,000, splendid condition, licensed; bargain, £135. —Revesby, Bramber Rd., North Finchley. [9954

1920 A.J.S. Combination, engine No. 12776, F.R.S. electric lighting, new Palmer back tyre, guaranteed perfect working order, mileage 3,000, tax paid; £165.—Bolsover, Solicitor, Stockton-on-Tees. [9613

F.O.C.H. have a brand new A.J.S. combination, almost new, completely equipped; £125.—5, Heath St., Hampstead (or. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours, 9-7, including Saturdays. [9744

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

1914 A.J.S. Combination, 2-seater, electric lighting, Dunlops 700×80, Easting, mechanically sound, hut enamel poor; £78, or offer; tax paid; appointment. —19, Werrington St., Euston. 'Phone: Museum 1980. [9334

A.J.S. 7h.p. Brand New 1921 Model Combination, complete with interchangeable wheels and spare, actually in stock for immediate delivery; £215; ready to drive away.—Wilkins, Simpson (opposite Olympia), London. [1510

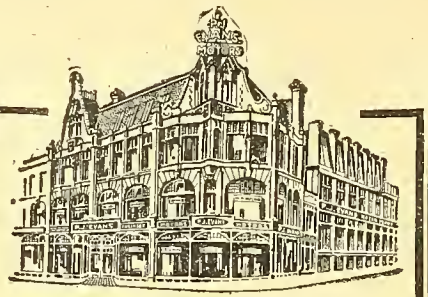
A.J.S. 1921 7h.p. Combination, hood, special side screen and curtain, Cowey trip speedometer, Lucas lamps and horn, new shields, spare wheel and spares, little used; cost £250; sacrifice £220.—695, Coventry Rd., Birmingham. [X0739

A.J.S., Dec., 1914, and Henderson sidecar chassis, Binks 3-jet carburetter, new driving chains, three 3in. tyres, Cowey speedometer; £85; seen by appointment.—Peat (sole owner since machine left works new), Evesham Rd., Reigate. [1503

LATE 1919 A.J.S. Combination, 7h.p., all lighting set, wind screen, interchangeable wheels; spare wheel, speedometer, tax paid, several spares, in very good condition throughout; £125.—H. Mason, Ivy House, Thomas St., King's Lynn. [1571

A.J.S., 2¾h.p., 1916, 3-speed, clutch, kick starter, detachable wheel, electric lighting, horn, tools, engine and other spares, new tyres, just overhauled ready for season, but now received combination.—S., Cranbrook, Christchurch Rd., Sidcup. [8547

1920 A.J.S. Combination, indistinguishable from new, fitted with Lucas electric set, horn, screen, etc., tax paid, mileage under 1,000, spare wheel unused; genuine bargain, £175.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd., S.E.1. Hop 210. [1710



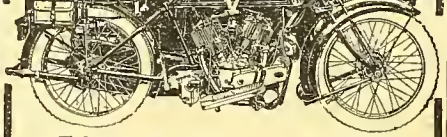
'Phone: Mid. 2910. 'Grams: "Lytcar, B'ham."

THE BIRMINGHAM HOUSE FOR MOTORISTS.

P. J. EVANS

A comprehensive range of popular and reliable

1921 Models.



7 h.p. A.J.S. - - £215

6 h.p. A.J.S. - - £195

Combinations.

8 h.p.	**ROYAL ENFIELD**	£160	0
7 h.p.	**INDIAN,** elec. eqüipp'd	£226	0
5-6 h.p.	**ROVER**	£195	0
4 h.p.	**NORTON,** de Luxe S/c.	£177	0
4 h.p.	**NORTON,** Family S/c..	£180	0
8 h.p.	**NEW IMPERIAL**	£187	0
4 h.p.	**TRIUMPH** from	£153	0
7 h.p.	**JAMES**	£195	0
4¼ h.p.	**JAMES**	£170	0

Solo Machines.

4 h.p.	**INDIAN** Scout	£157	0
4 h.p.	**TRIUMPH**	£127	10
4 h.p.	**BLACKBURNE**	£127	10
3⅜ h.p.	**NORTON**	£132	0
3½ h.p.	**ROVER**	£135	0
4½ h.p.	**HUMBER**	£140	0
2¾ h.p.	**NEW IMPERIAL**	£89	5
2¾ h.p.	**EDMUND-JAP**	£95	0
2⅞ h.p.	**MASSEY-ARRAN,** Blackburne engine	£99	15
2¼ h.p.	**ENFIELD**	£65	0
2¼ h.p.	**TRIUMPH**	£75	0
2¼ h.p.	**JAMES**	£75	0
4 h.p.	**TRIUMPH** (renovated)	£90	0

Cash. Exchanges. Deferred Payments.

Special Bargains.

1920 Shop-soiled Models.

3½ h.p.	**ROVER,** 3-speed	£120	0
4 h.p.	**BLACKBURNE,** 3-sp....	£110	0
3½ h.p.	**ROVER,** T.T.	£95	0
2¼ h.p.	**ENFIELD,** 2-speed....	£62	0
2¾ h.p.	**CALTHORPE-JAP,** 2-sp,	£63	0
2⅞ h.p.	**CALTHORPE,** 2-st., 2-sp.	£58	0
2¾ h.p.	**METRO-TYLER,** 2-sp...	£70	0
2½ h.p.	**CONNAUGHT,** 2-speed	£58	0
2½ h.p.	**CONNAUGHT,** single sp.	£50	0

Also a few Shop-soiled Sidecars at reduced prices.

81-91, JOHN BRIGHT ST.

MOTOR CYCLES FOR SALE.

A.J.S.

1916 (March) 2¾h.p. A.J.S., 3-speed, clutch, K.S. patent detachable rear wheel, internal-expanding rear brake, stored two years, never used winter, mileage under 2,000, perfect mechanical condition, unscratched as new, any examination, tax paid; £75.—Farmer, Yew House, Newent, Glos. [9477

Alecto.

ALECTO, 2-speed, clutch, K.S., fully equipped, mile age 600, appearance, condition excellent, tax paid £65.—48, Derwentwater Rd., Acton. [1000

Alldays.

PICKERING, Shrewsbury.—Agent for Alldays Allon exchanges arranged. [X0747

E. KICKHAM for Allon, sole agent for Bristo and district.—Stokes Croft, Bristol. [3357

ALLDAYS Allon 2¾h.p., splendid condition, tax paid nearest £45.—22, Vicars Hill, Lewisham. [9507

ALLDAYS Allon, all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone 200. [X0827

ALLDAYS Allon, 2-speed, late 1917, excellent con dition, tax paid; £45; seen any time.—209, Be size Rd., Kilburn. [1687

ALLON 1916 (Nov.), 2-speed, excellent condition small mileage; £45.—Whittington, 61, Turne Rd., Dulwich, S.E. [1297

1920 Alldays Allon, lamps, horn, speedometer, mud shields, tax paid; £55.—59, Palfrey Place, Do set Rd., Clapham Rd., S.W.8. [1497

ALLDAYS Matchless, 3½h.p., 2 speeds, handle star good condition, tax paid; £37, or near offer. 20, Disraeli Rd., Ealing, W.5. [1277

FIRST £68 gets 1920 2¾h.p. Allon de Luxe, ta paid, equipped, little used, like new.—Godsav Flint House, Clatford, Andover. [1167

ALLDAYS Allon 2¾h.p., 2-speed, clutch, lamps, hor accessories, perfect condition; £48; tax paid; att 6.—76, Honeybrook Rd., Balham, S.W. [9737

ALLON 1916 2¾h.p., new Roc 2-speed, fully equippe tax paid, spares, excellent condition; £45. Wri for appointment to try.—R.L.G., 2, Gunton Rd., E. [9357

ALLON, 2-speed, clutch, replated, splendid cond tion, seen by appointment; £48.—'Phone: Ce tral 481. Giblin, 148, Crossbrook St., Waltham Cros [1057

1920 Allon 2¾h.p., clutch, kick start, 2-speed, Cowe horn, lamps, usual accessories, run 800, new co ditioo, tax paid, cost £92; take £65.—6, Yerbury Rd Tufnell Park, N. [9647

ALLDAYS-VILLIERS, lamps, Lucas horn, discs, le shields, toolbag, good tyres, tax paid, perfect co dition; £38.—Arlington Lodge, Wanless Rd., Loug borough Junction. [9517

ALLDAYS Allon, 1919 (late), 2-speed, clutch, kic starter, fully equipped, and Tan-Sad, spare bel etc., overauled during winter; £55, no offers.—6 Croham Rd., South Croydon. [1107

F.O.C.H. have a brand new Allon, shop-soiled; £73 cash; exchanges or easy payments arranged. 5, Heath St., Hampstead (near Hampstead Tube Station 'Phone: Hampstead 3752. Hours 9-7, including Satu days. [9747

ALLDAYS Allon 1920 2¾h.p., 2-speed, kick-starte perfect condition, fully equipped, tax paid, n ridden 500 miles, owner ordered abroad; bargain, £ nearest.—Major Normand, Homefield, Shoeburyne View, Fowler's Garage, Shoeburyness. [9397

American X

AMERICAN X Combination, 7-9h.p., accessorie very fast, as new; £178.—Taylors, Ltd., 5 Sussex Place, S.W.7. 'Phone: Kensington 7260. [0417

AMERICAN X, 1920, 7-9h.p., Montgomery S.C Easting screen, lamps, horn, etc., only 800 mile £165, or offer.—Seen and trial, 198, Gt. Portland St W.1. [9877

AMERICAN X Motor Cycles.—All models in sto for immediate delivery.—Early application a vised by Edinburgh Pioneer Motors, 50, Grindlay S Edinburgh. [7817

8-10h.p. American X, new large 2-seater sidecar, lar Triplex, sprung wheel, electrically equipped, magnificent outfit, very fast; genuine bargain, 150 gn —35, Park Rd., Ilford. [1187

A WONDERFUL Bargain.—Brand new 1921 Amer can X, standard model, 7-9h.p., 3-speed, wi Millford de luxe sidecar, 27×3½in. tyres; list pri £217, offered as slightly shop-soiled at £170.—T Premier Motor Co., Aston Rd., Birmingham. [8887

Ariel.

JULIANS of Reading have 1921 Ariel in stock. [0537

DAN GUY, Weymouth.—Ariel agent; early delive dates. [0557

1914 3½h.p. T.T. Ariel, very fast; £39.—Ross, 8 High Rd., Lee, S.E. [1377

LONGMAN, of Salisbury.—Ariels, solo and com binations, 1921 models. [1747

1920 3½h.p. Ariel Combination, like new; £115. Ross, 86, High Rd., Lee, S.E. [1377

MOTOR CYCLES FOR SALE.

B.S.A.

1919 (Sept.) B.S.A. Combination, lamps, horn, hood, screen, tools, etc., tax paid, absolutely new condition and guaranteed; £115, or nearest offer.—6, Bath Passage, Kingston-on-Thames. [1422

B.S.A., 1919 (July), 4¼h.p., Model K, large coach-built bulbous backed sidecar, wind screen, lamps, Klaxon, tools, tax paid, excellent condition; £115.—23, Melfort Rd., Thornton Heath. [9491

B.S.A. 1921 6-7h.p. Twin Combination, complete with spare wheel, luggage grid, and screen; cash, or extended payments.—Taylors, Ltd., 52 and 53, Sussex Place, S.W. 'Phone: Kensington 7260. [0492

B.S.A., 1919½, Millford sidecar, green, leg-shields, Cameo wind screen, Lucas lamps (large), licensed, absolutely perfect, smart; £110; consider exchange higher power.—Jugger, Claughton St., Kidderminster. [1326

B.S.A. 1916 4¼h.p., all chain, 3-speed, K.S., clutch, lamps, horn, discs, etc., fast, powerful, guaranteed, mechanically perfect, 85-90 m.p.g.; 75 gns., or nearest.—Wheeler, The Cottage, Freshwater, I.O.W. [9288

1920 B.S.A. All-chain Combination, Watford, Easting, fully equipped, tax and insurance paid, electric lighting, mileage 600, bought August; a bargain, £140, or best offer.—James, Albany Villa, Ross. [1180

IMMEDIATE Delivery of any B.S.A. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0501

1913 B.S.A. Coachbuilt Combination, chain drive, 2-speed, K.S., all lights, tyres excellent, in splendid condition and running order; £65, or exchange for 2-seater about same price.—456, Barking Rd., Plaistow, E.13. [1466

1919 B.S.A. 4¼h.p. Combination, 3 lamps, Kloxon, little used and exceptionally fine condition, mechanically perfect, insurance and tax paid, any trial; reasonable offer considered.—Dickeson, Clifden Raglan Gardens, Wembley Park, Middlesex. [1292

1915 B.S.A. Coachbuilt Combination, not W.D., 3-speed C.S., kick start, clutch, lamps, horn, speedometer, Easting, tools, spares, 2 tyres unpunctured, tax paid; any examination; £85, no offers.—4, Highbridge St., Waltham Abbey. [1162

B.S.A., new 1921 models, 7h.p. twin and sidecar, £175; 4¼h.p. all-chain, £110; chain and belt, 107; Sandum coachbuilt sidecar, £24/10; B.S.A. o. 3 sidecar, £42; immediate delivery; liberal exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. [1531

B.S.A.—A motor cycle worthy of its name is the B.S.A. We have always in stock at least three models, Model K, Model H, and 6-7h.p. twin, immediate delivery; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0379

B.S.A. 1921 6-7h.p. Twin Model A with B.S.A. No. 1 sidecar, Magdyno lighting, speedometer, spare wheel with tyre, tyre cover, luggage grid; immediate delivery from stock at makers' latest price, £217/10; easy payments arranged, inspection invited.—Wilkins, Simpson, opposite Olympia, London. [9639

Calthorpe.

1920 Calthorpe 2-stroke, shop-soiled; £60.—Pickering, Shrewsbury. [X0744

C. PICKERING, Shrewsbury.—Calthorpes in stock; exchanges arranged. [X0751

CALTHORPE 1920 2¾h.p., under 250, perfect; what offers?—243, Wightman Rd., Hornsey. [9514

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. Calthorpe, 2-speed, 1920; £47/10. [1615

CALTHORPE, all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X0832

1½h.p. Calthorpe-Precision, 2-speed, good as new, tax paid; £38, or nearest.—Powell, 113, Ash Rd., Aldershot. [9425

3½h.p. 1916 Calthorpe 2-stroke; great bargain; licensed; £31.—Shaw, Park St., Wellington, Salop. [X0711

4h.p. Calthorpe Coachbuilt Combination, 2-speed, countershaft, lamps, etc.; £35.—Rayner, Cloverley Rd., Ongar. [9810

1½h.p. Calthorpe Junior, 2-speed, tax paid; any trial; £29, or exchange 2-stroke.—Fox, 301, Cornsey Rd., N.19. [9834

1916-17 Calthorpe-Jap 2¾h.p., Enfield 2-speed, clutch, lamps, horn, tools; £38/10.—9, Earlsmall Rd., Eltham, S.E. [9801

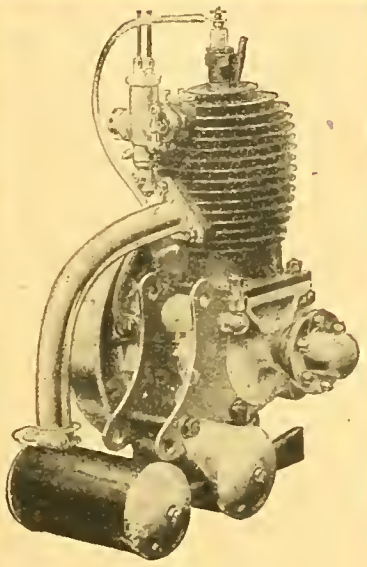
1916 Calthorpe, 2-stroke, 2-speed (countershaft), lamp set, etc., tax paid, good condition; £35.—282, St. Alban's Rd., Watford, Herts. [9824

CALTHORPE-J.A.P., 2¾h.p., Enfield gear, free engine, lamps, Klaxon, excellent order; £28.—68, Gloucester Rd., Camden Town. [1199

CALTHORPE 2¾h.p. 2-stroke 1920 Model, Enfield 2-speed gear; £58, shop-soiled only.—P. J. Evans, 1-91, John Bright St., Birmingham. [X0667

1917 Calthorpe, 2½h.p. J.A.P., 2 speeds, Enfield gear, accessories, splendid condition; trial; £35.—143, Ravensbury Rd., Earlsfield, S.W. [1259

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£37.—1915-16 Calthorpe-Jap 2¾h.p., Enfield 2-speed, new heavy Dunlops, lamps, horn, tax paid; genuine bargain.—Spencer, Potter St., Bishops Stortford. [9298

CALTHORPE-PRECISION 3½h.p., 2-stroke, Enfield gear, all as new; bargain, £60; tax paid.—Billingsley, 140, Gt. Western Rd., Westbourne Park. [1156

CALTHORPE 2¼h.p. Precision, 2-speed, B. and B., overhauled, splendid condition, all accessories, tax paid; £33; after 6 p.m.—6/30, Bramham Gardens, Earl's Court. [9671

CALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon; all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

CALTHORPE, 1921, 2¾h.p., J.A.P. engine, Enfield 2-speed gear; 70 gns.; extended terms arranged.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5543. [0072

CALTHORPE-J.A.P., 2¾h.p., Enfield 2-speed gear, lamps, horn, pump, tools, good condition, reliable, economical, licensed; £42/10.—Davies, Rock Villa, Bisley Rd., Stroud, Glos. [1307

CALTHORPE 1921 Combination, actually in stock for immediate delivery; cash or deferred terms; place your orders with the Calthorpe specialists.—Burlington Motors, Ltd., Clapham Common, S.W.4. 'Phone: Brixton 2417. [0509

Campion.

CAMPION-VILLIERS, 2-speed, replated and enamelled, Dunlop tyres; £38.—135, Essex Rd., Leyton. [9449

1919 4h.p. Twin Campion Combination, countershaft, accessories, perfect order; 85 gns.; or lightweight part.—Roberts, Stantoa-by-Bridge, Derby. [X0763

CAMPION-J.A.P. 8h.p. Combination, purchased August, 1920, all chain, Sturmey 3-speed, hand clutch, Bosch, P. and H., coachbuilt car, accessories, B. and B., tax and insurance paid, all as new; £160; obliged to sell.—50, Holcombe St., Derby. [X0715

1916 8h.p. Campion-Jap Combination, overhauled at cost of £9, besides new gears costing £12, countershaft, underslung Campion sidecar, original enamel, handle start, waterproof Bosch, B. and B., tyres as new, all chain drive, in very good order, guaranteed; 68 gns.—Ogden, 11, Thomas St., King's Lynn. [1570

Carfield.

LOOK.—1920 Carfield 2¼h.p., 2-speed, 2-stroke, little used with lamps, horn, Tan-Sad, legshields, knee grips, fully licensed; a great bargain; must sell.—Craddock, Orchard Cottage, Evesham. [9628

Cedos.

E. KICKHAM for Cedos, sole agent for Bristol and district.—Stokes Croft, Bristol. [3357

CEDOS, 1921 sports model, 247 c.c., 2-speed, brand new, unregistered, black and gold finish; list price £74/11, offers.—Box 3,102, c/o *The Motor Cycle*. [9518

CEDOS Late 1920 2¾h.p., 2-speeds, fully equipped, indistinguishable from new; £60.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X0682

CEDOS 2-stroke, the finest lightweight reaching the public, earliest deliveries, particulars on application.—Largest London Agents: Fowler and Brigden, 130, Euston Rd., London, N.W.1. 'Phone: Museum 4827. [0469

Chater-Lea.

3½h.p. Chater-Lea Combination, 3-speed, tax paid, lamps, horn; £35.—6, Frederic Mews, Kinnerton St., Wilton Place, S.W.1. [9490

CHATER-LEA 8h.p. Coachbuilt Combination, clutch, handle start, 3-speed, chain drive, Bosch, tyres good, (tax £4) paid, accessories, splendid condition; trial; £80.—W. Hutter, 69, Astonville St., Southfields. [1432

1920 Chater-Lea, 2-speed, 2-stroke, licensed, equipped, absolutely faultless, unscratched, mechanically perfect, spare tyre, aluminium footboards, legshields, mileage 460; genuine bargain at £49; approval willingly.—Collis, 199, Unthank, Norwich. [1635

Chater-Lea-Fafnir.

£22.—Chater-Lea-Fafnir 3h.p., repainted, new tyres; ride 30 miles to purchaser.—Bartlett, Saffron Walden, Essex. [9604

Chater-Lea-Jap.

CHATER-J.A.P. 6h.p. Combination, equipped, 1920 Bulbous, tax paid, perfect; any time; about 70 gns.—534, Kingston Rd., Raynes Park. [9982

£30, or offers.—4h.p. Chater-Lea-Jap, o.h.v. engine, overhauled by makers at cost of £8, good tyres, etc.—27, Ladbroke Rd., Redhill. [1546

UNUSUAL Bargain.—Chater-Lea-Jap 8h.p. combination, 3-speed, new frame and overhaul 1919 (cost £54), recently new chains, clutch plates, Binks carburetter, valves, etc., engine rebushed regardless expense for hill-climbing and reliability, now neuritis prohibits riding; price £85.—59, Eden St., Kingston-on-Thames. [9384

Chater-Lea-Villiers.

1919 Chater-Lea, Villiers 2½h.p. 2-stroke, 2-speed, all on, spare belt, tax paid, excellent condition; £53.—41, Larch Rd., N.W.2. [1360

MOTOR CYCLES FOR SALE.

Cleveland.

CLEVELAND 1920 2-stroke, 3h.p., new, 2 speeds, kick starter, hand clutch, weight 175 lbs., petrol consumption approx. 100 miles to gallon, has been used as demonstration model, only done 100 miles; price £70.—Apply, North Western Motors, Ltd., 35, Norton St., Liverpool. [X0089

Clyno.

DAN GUY, Weymouth. — 1921 8h.p. Clyno combination, small mileage, as new; cash offers wanted. [0551

CLYNO Countershaft 5-6h.p. Solo, 1918; £75.—Thompson, 32, Clarance Rd., Kentish Town, N.W. [9344

1914 Clyno Combination, spare wheel, ready for road; £100.—Ross, 86, High Rd., Lee, S.E. [1380

1920 Clyno 2¼h.p., 2-speed, clutch, all accessories, insurance, new condition; £47/10.—1, Othello St., Liverpool. [1329

CLYNO 5-6h.p., W.D. model, renovated, enamelled, plated, 3-speed, kick start, as new; £60.—272, Green St., Forest Gate, E.7. [7747

CLYNO Combination, 3-speed, kick start, fine turnout, any trial; £88; take lower power part.—57, Kenbury St., Camberwell, London. [9502

DOOLEY.—1916-17-18 5-6h.p. Clyno motor cycles, unassembled, with mag. and carburetter; bargains, £42/10 each. Write or call for particulars.—Below.

DOOLEY.—1916-17 5-6h.p. Clynos, W.D. models, K.S., clutch, renovated, £65 each, with new magneto and carburetter. I have eight of these left, but plenty of machines as above. Please look to my advertisement under Miscellaneous for Clyno spares, etc., etc.—Please apply for above to J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [9991

CLYNO 1921 Models, immediate delivery; 1920 lightweights, shop-soiled, £63; list price, £75.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0434

CLYNO Lightweight, 1920, very little used, lamps, mechanical horn; 50 gns.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., New Bond St., W.1. [0511

6h.p. Clyno Combination, any trial, new tyres, 3-speed, kick start; £68, or exchange lightweight; ride 30 miles to customer.—Millard, High St., Shepton Mallet. [9685

CLYNO 5-6h.p. 1918 Twin Combination, 3 speeds, clutch, kick start, enclosed chains, new tyres, 4 detachable wheels; £90.—1, Townley Rd., E. Dulwich, S.E.22. [1353

CLYNO 2-stroke, 2-speed, clutch, Xmas, 1919, lamps, licence, and all accessories; bargain, 50 gns.—Apply at Bailey's Garage, Manor Rd., Wallington, Surrey. [1224

5-6h.p. Clyno, with new sidecar body, renovated, re-enamelled, replated, guaranteed 3 months; £27 down and 12 instalments of £8/5.—Anto Traders, Ltd., 84, Jermyn St., London. [1254

CLYNO 8h.p. J.A.P. 1919 Combination, lamps, speedometer, all accessories, 4 interchangeable wheels, small mileage; any trial; snip, £110.—Williams, 63, Wightman Rd., Harringay, N. [1468

CLYNO 8h.p. J.A.P. 1920 Combination, enamelling and plating new, perfect condition; only wants seeing; given for debt; £120.—Brag, 20, Farlton Rd., Earlsfield, S.W.18. After 6 o'clock. [9294

CLYNO 1916 6h.p. 3-speed Combination, good tyres and running order, all on, accumulator lighting, just overhauled, enamelled, plated, tax paid; £105.—91, Grove Park, Denmark Hill, S.E.5. [1435

1917 Clyno 5-6h.p. Combination, re-enamelled and plated, 1921 colours, 3-speed, K.S., spare wheel, 26×3 tyres, Lucas lamps and horn, perfect throughout, any trial given; £110.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [9905

CLYNO Lightweight, Jan., 1920, 2-speed clutch, Lucas lamps, Cowey horn, spare new inner tube, pump, and tools, insured and tax paid, small mileage, lovely condition, smart; cost £85, accept £60.—Corrick, 89, Eldon St., Darlington. [9304

CLYNO 5-6h.p. Combination, 1916-17 models, rebuilt, replated, enamelled grey or black, 3 speeds, kick start, foot clutch, new carburetters, magnetos, interchangeable wheels, enclosed chain drive, sidecars rebuilt, painted to choice, as new; solo £75, combinations £100.—Hearn Bros., 117, Loughborough Park, Brixton, S.W.9. 'Phone: Brixton 2888. [6596

Connaught.

PICKERING, Shrewsbury.—Agent for Connaught; exchanges arranged. [X0752

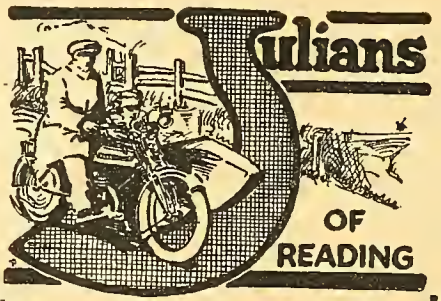
CONNAUGHT, all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X0833

CONNAUGHT 1920 2¼h.p., single speed, as new, all accessories; £45.—Sculpher, 13, Bellenden Rd., Peckham. [9428

CONNAUGHT 1921 Models, immediate delivery.—Note address: S.E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [4128

CONNAUGHT 2¼h.p., 1920 model, single-speed, shop-soiled only, £50; 2-speed model, £58.—P. J. Evans, 81-91, John Bright St., Birmingham. [X0668

1921 Connaught, T.T. Model, brand new, just arrived; £47/10; easy payment accepted.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [1595



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Coulson.

1920 Coulson B, 4h.p., as new, all accessories 79 gns.—40, Aynhoe Rd., W.14. [929

COULSON B, 4h.p. Blackburne engine, 2-speed; £90 brand new.—Motor Cycle Mart, Fair Row, Chatham. [958

COULSON B, 2¾h.p., good, equipped, seen Sussex or London; £65. — Adeney, 39, Gnilford St., W.C. [149

1920 Coulson-Blackburne, 2¾h.p., spring frame, little used; bargain, £75.—Daw, 114, Brixton Hill, S.W.2. [104

COULSON.—R. B. Clark and Co. specialise in these machines; immediate delivery.—7, Exhibition Rd., S.W.7. [157

COULSON B 1921 Models in Stock.—Sole Wiltshire Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [500

1920 2¾h.p. Coulson-B, 2-speed, spring frame, condition perfect, lamps, horn, licence paid; £70.—Milner, The Firs, Hawes, Yorks. [962

1920 Coulson B. 2¾h.p., 2-speed, been stored, small mileage, fully equipped, speedometer, spare guaranteed as new; £80.—28, Gloucester St., S.W.1. [931

NEW 1921 2¾h.p. and 4h.p. Coulson-B, 3-speed, kick start; list prices, £117/10 and £126; exchange entertained.—Bambers', Eastbank St., Southport. Tel. 607. [X063

COULSON B.—We are sole agents for Wolverhampton, Stourbridge, Dudley, Walsall, and district; good deliveries; private and trade enquiries invited. The Molineux Garage Co., Ltd., Wolverhampton. Tel. 1160. [345

F.O.C.H. are Coulson B agents. New machines in stock. Exchanges or easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [975

COULSON B, 4h.p., 120 gns.; an ideal solo or sidecar mount, as low and handy as a Levis; in stock.—Sole agents for Leeds and 15 miles radius, excluding Bradford, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [049

Coventry Eagle.

PICKERING, Shrewsbury.—Coventry Eagles in stock; exchanges arranged. [X075

F.O.C.H. have a brand new Coventry Eagle, 2¾h.p., kick starter, shop-soiled, £84 cash; exchanges; easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [974

COVENTRY EAGLE Combination, 3½h.p., 3-speed, new September, mileage 900, powerful, fast, best Lucas lamps, Smith speedometer, horn, apron, and wind screen on car, tools, many spares, tyres unpunctured, tax paid; sacrifice, £105, cost £170; evening or week-end.—13, Grenfell Rd., Notting Hill, W.11. [122

Coventry Victor.

COVENTRY Victor, the perfect flat twin engine, 5-7h.p.; these famous engines, and all fittings for assembling the complete motor cycle, now available from stock; highest specification throughout; send for our special offer of demonstration machine.—Coventry Victor Motor Co., Ltd., Coventry. [05

Diamond.

DIAMOND, brand new 1920 Villiers engine; £50.—Clark, 7, Exhibition Rd., S.W.7. [91

£25.—Diamond 2-stroke, good tyres, belt, E.I.C. magneto horn.—King, Egrove Farm, Oxford. [X07

1920 Diamond, equal new, licence paid, complete; please inspect.—Pickering, Shrewsbury. [X07

E. KICKHAM for Diamond, sole agent for Bristol and Bath districts.—Stokes Croft, Bristol. [33

DIAMOND 2-stroke, 1918; £38.—Urquhart, 37, Earlsfield Rd., Earlsfield, S.W. (15 mins. Waterloo). [97

DIAMOND 2-stroke, 1919, not driven 500 miles; guaranteed; £42/10; approval.—Gibb, Gloucester. 'Phone: 852. [04

DIAMOND-J.A.P. 1920 Model 2¾h.p., 2-speed, complete with lamps, practically new; £62/10.—Hopkins, New St., Ledbury. [05

DIAMOND-VILLIERS, 1920, kick starter model, fully equipped, excellent condition; £60, or would exchange countershaft 4-stroke.—Usher, 15, Colville St., Middlesbrough. [99

DIAMOND 2-stroke, Villiers, about 1919, all accessories, lighting set, tax paid, perfect running order; £32/10.—Willetts, Rookery, Lanesfield, Ettingshall, Wolverhampton. [X05

1919 Diamond-Jap 2¾h.p., equal new, low mileage, stored 14 months; real bargain; Enfield 2-speed lamps, horn, tax paid, insurance to May; £59.—13, Grosvenor Terrace, Camberwell, S.E.5. [98

1920 Competition 2¾h.p. Diamond-Jap, 2-speed gear, Binks carburetter, special engine and gears, winner of Southend Speed Trials, perfect condition, accessories; offers.—N. A. Lowe, 92, High St., Southend-on-Sea. [14

MOTOR CYCLES FOR SALE.

Douglas.

1917 4h.p. Douglas Combinations, less bodies, thoroughly overhauled, re-enamelled and plated like new; £90.—Eton and Co., Ltd., 260-266, Balham High Rd. 'Phone: Latchmere 4714. [9596

DOUGLAS 2¾h.p., 1915, 2-speed, lamps and accessories, speedometer tax paid, good tyres, splendid condition and mechanically perfect; 49 gns.—18, Marlborough Rd., Old Kent Rd., S.E.1. [9481

1920 2¾h.p. Douglas, 3-speed, engine No. 45315, P. and H. lamps, horn, tools, tax paid, as new throughout, mileage under 1,000; £80. — Green, Chemist, Brackley, Northamptonshire. [9794

DOUGLAS 2¾h.p., 1915, Binks 1921 carburetter, lamps, tyres, tubes, and mechanical condition faultless; trial any evening; £45; buying combination. —Howard, Broad St., Chesham, Bucks. [9303

DOUGLAS, 45 gns.; 2¾h.p., 1915, licenced, new P. and H. lamp set, Bosch mag., new tyres, in excellent order.—Smiths, 86, Chalk Farm Rd., Opposite Chalk Farm Tube Station, N.W. [0491

GROVE.—2¾h.p. Douglas machines, overhauled and plated, 1919, £55; 4h.p. combinations, ditto, £105; these are ready for the road.—Grove Motor Co., 34, Hereford Rd., Westbourne Grove, W. [9730

DOUGLAS, sidecar, 1919, 3-speed, 4h.p., kick start, clutch, horn, etc., appearance as new, in splendid condition throughout; £90, or offer.—Walker, 769, Romford Rd., Manor Park, London, E. [9742

DOUGLAS 2¾h.p., 1916, 2-speed, excellent condition, absolutely reliable, Bonnikeen speedometer, electric lighting, tools, licensed, owner going abroad; £60. —Lieut. Galpin, Whale Island, Portsmouth. [9676

DOUGLAS, brand new, slightly soiled, usual price £100; sacrifice, £85; secure now and save £15; this offer cannot be repeated, inspection invited.—Wilkins, Simpson, opposite Olympia, London. [9640

1919 4h.p. Douglas Combination, absolutely unscratched, indistinguishable from new, mechanically perfect, £94; solo, £76; exchange lightweight and cash.—Dawson, 34, Ampthill Rd., Bedford. [9837

DOUGLAS 4h.p. Combination, 1918, 3-speed, and kick start, discs, very smart lot, latest sidecar, recently enamelled and plated; £80; trial by appointment —Snow, 91, Mapledene Rd., Dalston, E.8. [1673

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—All Douglas models, 2¾h.p., 4h.p., and new improved W.D. from stock; supplied on the easiest of easy terms; all fully equipped; no extra charge. [1620

F.O.C.H. have a 1920 Douglas combination, almost new, completely equipped; £135.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9743

1918 4h.p. Douglas Combination, 3-speed, clutch, and kick start, appearance and condition as new; any trial or examination; bargain, £95.—Knight, 13, Whitby St., Church St., Shoreditch, London, E.2. [1192

IMMEDIATE Delivery of any Douglas Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0505

DOUGLAS Late 1919 4h.p. Combination, all lamps, accessories, etc., Easting wind screen, enamel and plating as new; any trial; tax paid; £100; exchange lightweight.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E.3155. [9826

DOUGLAS-WILLIAMSON 4h.p. Combination, June, 1917, kick start, clutch, 3-speed gear, lighting, mechanical horn, selling owing ill-health, insured, tax paid; £105, offers.—48 Werner Place, Hackney Rd., London [1757

2¾h.p. Douglas 2-speed Colonial Model, not W.D., fully equipped, Lucas accessories, tools, spares, little used, plating, enamel as new, very sweet running; any trial; £53.—436, Whitehorse Rd., Thornton Heath, S.E. [9888

2¾h.p. Douglas, £17 down and 12 instalments of 4 gns.; 4h.p., with new sidecar body, £25 down and 12 instalments of £7/10; renovated, re-enamelled, replated, guaranteed 3 months.—Auto Traders, Ltd., 84, Jermyn St., London. [1260

EXTRA Special Racing 4h.p. Douglas, 1917, not W.D., 3-speed, kick start, clutch, racing Claudel-Hobson carburetter, mechanical horn, discs, etc., tax paid, specially tuned for speed, reliable; £70.—Harris, 117, London Rd., Twickenham. [1347

DOUGLAS Motor Cycle, 2¾h.p., 3-speed and clutch, 1920, for sale, has only run 1,500 miles, condition good as new, with speedometer, lamps, horn, legshields, special saddle, spare belt, collapsible box for luggage; price £95.—Apply, F.E.D., Eastington, Upton-on-Severn. [1758

1920 4h.p. Douglas Combination, electric lighting, Cowey speedometer, Stewart horn, Easting wind screen, watch, case, muffs, Pedley grips, tax paid, spares —chain, belt, 2 tyres (one new), 2 tubes, glass, plugs, globes; £130, no offers.—Dentist, 194, Tunnell Park Rd., Holloway. [9462

4h.p. Douglas Combination, renovated, absolutely as new, guaranteed faultless, new sidecar body, mag., tyres, £30 of new parts, equal in appearance and condition to new machine, £100; solo, £85; inspection invited.—Banister and Botten, 341, Upper St., N.1. 'Phone: 2480 North. [1470

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,,	Bates Special Heavy	39/6	72/-
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,,	Clincher de luxe Ex. Hy.	39/-	68/6
,,	Kempshall Anti-skid	37/6	75/-
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Douglas.

MOTOR Cycle, Douglas 4h.p. combination, late 1919, 1920 equipment, Boniksen speedometer, electric lighting, mahogany finished sidecar, Perfect wind screen, disc wheels, licence paid, splendid condition, mechanically perfect; £120, or near offer.—Colonial Motors, 104a, Finchley Rd. Hampstead 7822. [1702

Edmund.

EDMUND-J.A.P., 1920, brand new, Enfield gears; £65.—Clark, 7, Exhibition Rd., S.W.7. [9168

1920 Edmund, 2¾h.p. J.A.P., clutch, kick start, brand new, unused; £68.—Edwards, 50, Harrington Rd., South Kensington. [9256

1917 Edmund-Jap 2¾h.p., Enfield gear, tyres excellent, accessories, ride 100 miles to purchaser; £50.—Golding, Alexandra Drive, St. Helens. [9862

EDMUND-J.A.P., spring frame, 2-speed, kick starter, clutch, disc wheels, 1921 model, absolutely new; £85.—Marston, Bridge St., Chester. [1723

Enfield.

JULIANS of Reading have 1921 Enfields in stock. [0478

IN Stock, Enfield 2-stroke; £65.—Tilleys, Esplanade, Weymouth. [9399

LONGMAN, of Salisbury.—Enfield combinations and 2¼h.p., 1921 models. [1751

1921 Enfield Magdyno Combination, mileage 300; £168.—Edwards (below).

1920 Enfield 2¼h.p., lamps, horn, licensed, absolutely perfect, mileage 400; £50.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kens. 3709. [1626

ENFIELD 2¼h.p. 2-stroke, new machine, only ridden 50 miles; £59.—134, Bargery Rd., Catford. [9031

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¼h.p. Royal Enfield, 2-speed, 1919; £55. [1618

ENFIELD 3h.p. 1916 Twin, lamps, horn, perfect running order; £45.—Cook, Kings Longley. [X0630

1919 Enfield Lightweight, 2-speed, tax paid, perfect; 44 gns.—Fersfield, Westbury Rd., New Malden. [1411

£15.—Twin Enfield, good tyres, belt, Bosch, B. and B., running order.—King, Egrove Farm, Oxford. [X0787

1919 Enfield 2¾h.p. 2-stroke, 2-speed, all-chain drive, tax paid; £50.—33, The Parade, Golders Green, N.W.4. [9866

ENFIELD 6h.p. Combination, first-class condition, hood, screen, etc.; £70.—'Phone: 2257 Tottenham. [1657

1921 Royal Enfield Combinations.—Delivery of all models from stock.—Stacey, 12, Ecclesall Rd., Sheffield. [0575

ENFIELD 1921, all models for immediate delivery —Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0432

ENFIELD 1919 Combination, electric lighting, Easting, tax paid; £110.—Frazer, 163, Stafford Rd., Wallington. [9515

1916* 6h.p. Enfield Combination, fully equipped; £79.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [9309

SALE, 6h.p. enfield combination, excellent throughout; best over £80; trial.—7, Thompson's Lane, Cambridge. [9281

1920 8h.p. Enfield Combination, new; £152/10.—Shepherd, Enfield Highway, Enfield. Tel.: Waltham X31. [0340

ENFIELD Combination, fully equipped, perfect condition; £140, or exchange runabout.—23, Sotheby Rd., Highbury. [1677

ENFIELD Combination, 1919 (Nov.); £150; accessories, perfect as new; before 6.—12. Farzedown Market, Tooting. [9829

1917 Enfield Combination, 6h.p., excellent condition; £105, or near offer.—93, Henley Rd., Caversham, Reading. [9808

1916 Enfield 3h.p. Twin, kick start, Lucas accessories, new Dunlops; genuine bargain, 48 gns.—20, Derby Rd., Croydon. [1449

1921 Royal Enfields.—8h.p. combination, £160; 2¼h.p. 2-stroke 2-speed, £65.—Stacey, 12, Ecclesall Rd., Sheffield. [0573

1920 Royal Enfield, Lucas Magdyno, combination, condition as new, small mileage; £165.—Stacey, 12, Ecclesall Rd., Sheffield. [0578

£60.—Enfield 3½h.p. twin, perfect, tyres as new, all fittings; a real bargain.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [9765

NEW 1921 8h.p. Enfield Combination; list price £160; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [X0632

ENFIELD 6h.p. Combination, recently overhauled by makers, late 1913, fully equipped; £70.—Wray Park Garage, Reigate. [1263

DECEMBER, 1919, Enfield 8h.p. combination, lamps, Easting, very little used; £150, or nearest offer.—Barrett, Villa Rd., Oldham. [1014

1920 2¼ Enfield, guaranteed sound, electric lighting, comprehensive transferable policy; £53.—Noden, Seafield, Hoylake, Cheshire. [1038

MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD Combination, 1920, nearly new, full equipment, Easting, D.A.; £160, or near offer.—O.B., 61, Station Rd., Harlesden, N.W.10. [9689

1920 Royal Enfield Combination, complete with lamps, horn, etc., in perfect condition; £125.—Stacey, 12, Ecclesall Rd., Sheffield. [0576

1917 Enfield Lightweight, 2-speed, fully equipped, tax paid, appearance and condition perfect; £45 cash.—162, The Grove, Hammersmith. [1423

1919 3h.p. Enfield Twin, economical, speedy, equipped, licensed, excellent order; £65.—Ponter, 70, Devonport Rd., Shepherd's Bush, W. [1320

ENFIELD Combination, Lucas dynamo, Easting, speedometer, Klaxon, licensed, perfect order; £112.—Clark, 7, Exhibition Rd., S.W.7. [1580

ENFIELD Combination, Lucas lamps, very nice condition; £97, or exchange lightweight.—4913 Hop.—Edwardes, 277, Camberwell Rd., S.E.5. [1229

PULLING'S Garage for Enfield. Spare parts and repairs a speciality.—Sole Croydon and District agent, London Rd., Croydon. 'Phone: 1619. [1694

1918 Enfield Combination, 6h.p., fully equipped, in splendid condition; £115; owner buying car.—5, Harold Rd., Upper Norwood, S.E.19. [1457

ENFIELD Combination, 6h.p., 1917, complete with all lamps, sidecar screen, several spares; £115, offers.—Lt. Richardson, c/o Dan Guy, Weymouth. [0563

ENFIELD 6h.p. Combination, dissolved acetylene lighting, fully equipped, exceptionally fine engine, tax paid; £85.—Parkdene, Knoll Rd., Bexley. [9573

BRAND New Enfield Lightweight in stock for immediate delivery; £65.—Broom and Whitehead, Ltd., Authorised Agents, 88, Gt. Portland St., W.1. [9241

1915 6h.p. Enfield Combination, all accessories, wind screen, perfect, licensed; £95; exchange lightweight and cash.—Plaistowe, South Rd., Southall. [1316

ENFIELD 2¼h.p., 2-stroke, with lamps and horn, done 1,200 miles, good; £60.—Enfield agent, Pulling's Garage, London Rd., Croydon. 'Phone: 1619. [1696

ENFIELD Combination, 1916, electric lamps, hood, speedometer, etc., just overhauled at cost of £30; £135.—15, Oberstein Rd., Clapham Junction, S.W. [1051

1921 Enfield Combination, dynamo lighting, with or without dynamo; in stock, immediate delivery; list price.—J.-Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

ENFIELD Combination, 1920, Magdyno, as new, Easting, spares, insurance, tax paid, perfect; trial; £155, or offer.—Hill, 60, Marchmont St., Russell Sq., London. [9355

ENFIELD 6h.p. Combination, hood, screen, speedometer, in perfect running order, tax paid; bargain, £90, or near offer.—28, Bridport Rd., Thornton Heath. [1035

1919 (Oct.) 8h.p. Enfield Combination, 700×80 tyres, untouched Lucas lamps and horn, wind screen, leg shields, mileage 2,000; £128.—19, Albany Rd., Coventry. [X0855

£55.—3h.p. twin Enfield, equipped, licensed, fast, powerful, 1916, stored 3 years, as new; bought combination.—Capt. Wallace, 5, Lancaster Place, Richmond, Surrey. [1008

ENFIELD 2¼h.p. Lightweight, tax paid, perfect condition throughout, complete with lamps, horn, and handle-bar muffs; £55.—P. J. Evans, 81-91, John Bright St., Birmingham. [X0671

ENFIELD 8h.p. Combination, dynamo lighting, Easting, perfect, £110, tradesman's sidecar given, or exchange lighter; 2 speedometer heads, new, 40/-.—8, Noel Rd., Birmingham. [X0673

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Royal Enfield models from stock, combinations and lightweights, from £66; supplied on our easiest of easy payment system. [1622

1913 Enfield 6h.p. Combination, speedometer, lamps, horn, and accessories, first-class mechanical condition, re-enamelled and varnished, tax paid; £75.—4, May Terrace, Sandgate, Kent. [1303

FOR Sale, 6h.p. Royal Enfield-Jap, 1912, wicker sidecar, laid up during war, total mileage 5,400, engine very good, tools, spares, overalls.—Offers to Captain Curtis, Uplands, Ledbury. [9458

ROYAL Enfield Combination, 1918, 6-8h.p., Lucas dynamo lighting, wind screen, hood, speedometer, condition, appearance perfect.—Halt Motor Co., Kilburn Lane, W.10. Willesden 1341. [1335

1920 8h.p. Enfield Combination, wind screen, side curtains, all lamps, horn, etc., splendid condition throughout, tax paid; £150.—Harrison, 4, Glenwood Shrubbery, Weston-super-Mare. [9413

ENFIELD 3h.p. Twin, 1915, 2-speed, clutch, lamps, speedometer, just overhauled, insured, licensed; £48, or nearest.—L., c/o Sanderstead Motor Works, Broomhall Rd., Sanderstead, Surrey. [9971

8h.p. Royal Enfield, with new sidecar body, renovated, replated, re-enamelled, guaranteed 3 months; £28 down and 12 instalments of £8/10.—Auto Traders, Ltd., 84, Jermyn St., London. [1253

ENFIELD Combination, 6-8h.p., Cameo wind screen, P. and H. head lamp, side and rear lamps, horn, Stewart speedometer, luggage grid, tools, spare tubes, perfect condition, enamel unscratched, tax paid; seen in London; 105 gns.—St. Helier, South Mimms, Barnet. [1453

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Each of the above machines is rebuilt in our own extensive up-to-date works with a great proportion of new parts. In appearance they are almost indistinguishable from new, and we are prepared to give a signed guarantee with each machine. We are in the best position in the trade to give satisfaction with our rebuilt machines, being closely associated with the private syndicate which purchased the whole of the surplus W.D. motor cycles from the Slough Trading Co., and having always a tremendous stock of new "DOUGLAS" parts.

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ENFIELD 6h.p. Combination, 1916 (Dec.), electric lighting, Lucas horn, speedometer, pillion seat, hood, screen, apron, luggage grid, good condition, tax paid, insurance to October transferred; £105; appointment.—C.F., 34, McLeod Rd., Abbey Wood, S.E.2. [9933

A. F. PULLING will sell his hot stuff 6h.p. Enfield combination, Lucas dynamo lighting set, horn, mirror, and Ocwey speedometer; will accept £145 for this gold medal winner.—Pulling's Garage, sole Croydon and district agent, London Rd. 'Phone: 1619. [1695

ENFIELDS.—The cheapest twin on the road. We are North London agents, and can supply from stock standard models £160, electric £182, cash, or deferred payments. All spares in stock. Trade supplied.—Jones' Garage, Muswell Hill, and at Woodside Parade, N. Finchley. [0380

ENFIELD 6h.p. Twin J.A.P. Combination, August, 1919, Lucas dynamo lighting set, hood, speedometer, electric, bulb, and mechanical horns, Vade-Mecum tan seat, thoroughly overhauled, tax paid, perfect condition; £140; bought car.—24, Lakehouse Rd., Wanstead, E.11. [1566

ENFIELD 1916 3h.p. Twin, 2-speed, clutch, T.T. model, Thomson-Bennett mag., Amac carburetter, all-chain, very fast, tyres very good, perfect condition mechanically, very smart appearance, done very small mileage; any trial; £40, bargain.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. [9851

Excelsior.

1920 British Excelsior Combination; gift, 98 gns.—Ramsdens, 8, Maybell Av., Blackpool. [9324

BRITISH Excelsior, all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X0834

EXCELSIOR, 3½h.p., Bosch, B. and B., adjustable pulley, lamps, horn; £25; ride away.—3, Rayleigh Rd., S.W.19. [1247

1921 British Excelsior, new, 2-stroke, 2-speed, clutch, kick starter, models just arrived.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich. [5634

NEW 1920 Excelsior 4½h.p. Big Single Combination, luxurious sidecar; list price £160, offered at £135 spot cash.—The Premier Motor Co., Aston Rd., Birmingham. [8886

F.N.

F.N. 4-cyl. Combination; call, have trial run.—Grimes and Co., 18, Bruton Place, Bond St., W. [7645

F.N. 4-cyl., recently overhauled, ready to ride away; £25; Wimbledon.—Box 398, c/o *The Motor Cycle* [X0516

F.N. 1921 Models, now arriving.—Send enquiries to S.E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [4129

F.N. Combinations in stock; call for a trial run.—Grimes and Co., 18, Bruton Place, Bond St., W. Mayfair 4792. [7645

F.N. 4-cyl. Combination, 2-speed, low frame, footboards, Easting wind screen, lamps, speedometer, licenced; £45.—Betts, St. John St., Lichfield. [9693

DAN GUY, Weymouth.—F.N., 4-cyl., 3-speed, clutch, and sidecar, Easting screen, tax paid, absolutely as new, mileage about 400; cash offers. [0568

1921 F.N. 2½h.p., 2 speeds, clutch, and kick-starter, brand new, in stock for immediate delivery; £84; exchanges or easy payments.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [1596

IMMEDIATE Delivery of any F.N. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0500

Francis-Barnett.

JULIANS, of Reading, have 1921 Francis-Barnett in stock. [0479

1921 2-stroke Francis-Barnett, 2-speed, kick starter, licences paid, only run 200 miles; £79.—West, Garthside, Rugby Rd., Leamington. [X0649

FRANCIS-BARNETT 1920, 2¾h.p. J.A.P., 2-speed, clutch, K.S., indistinguishable from new, mechanically perfect; £67.—Inglesby, Stoneleigh Av., Earlsdon, Coventry. [X0703

Gamage.

£40.—Gamage-Villiers 1919, 2 speeds, everything on, tax paid, T.T. bars, open copper exhaust, very fast.—Taylor, Scaltworth, Bawtry. [9560

Glen.

GLEN-BLACKBURNE T.T. 2¾h.p., August, 1920, 2-speed, kick start, fully equipped, licensed, small mileage; first cheque for £67/10 secures.—Hobbs, Tower House, Gillingham, Dorset. [1536

Harley-Davidson.

PICKERING, Shrewsbury.—Shropshire agent Harley-Davidsons; exchanges arranged. [X0755

HARLEY Sports, brand new, equipped; £145.—Clark, 7, Exhibition Rd., S.W.7. [9175

4h.p. Sports Harley-Davidson, licence paid 1921, new condition; £120.—Bradley, Albion Rd., Margate. [1163

1920 4h.p. Harley Combination, sporting sidecar, full accessories; £150.—Ross, 86, High Rd., Lee, S.E. [1382

MOTOR CYCLES FOR SALE.

Harley-Davidson.

1918 7-9h.p. Harley, new, coach sidecar to match; £110.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [9310

MIDLANDERS!—For Harley-Davidson motor cycles go straight to the Colmore Depot, 31, Colmore Row, Birmingham. [X0646

HARLEY Combination, 1915, 7-9h.p., in perfect order, electric lights and horn.—4, Passmore St., Sloane Sq., S.W. [1350

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross 86, High Rd., Lee. [5669

1919 Harley-Davidson Combination, very fully equipped, fine condition; offers.—12, Lancaster Rd., West Norwood. [9944

IN Stock.—1917, 1919, and 1920 Harley-Davidson combinations; from £120 to £200.—Stacey, 12, Ecclesall Rd., Sheffield. [0577

HARLEY, 1919, thoroughly overhauled, perfect, lamps, accessories, new tyres.—Wingate, Warwick Park, Crowhill, S. Devon. [9444

BARGAIN, £175.—Harley-Davidson 1920 electric de luxe combination, complete.—18, Hestercombe Av., Fulham, London. [1671

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', Southport, Lancashire. Tel.: 607. [5009

HARLEY 1920 Electric Model, C.B. sidecar, speedometer, licensed and insured, lovely condition; 150 gns.—54, Coval Rd., Mortlake. X0867a

HARLEY 1919 7-9h.p. Combination, Langford picnic sidecar (1920), as new throughout; £140.—1, Townley Rd., E. Dulwich, S.E.22. [1351

1920 Harley, dynamo lighting, large sidecar, hood, screen, discs, speedometer; £175; tax paid; seen any time.—110, Woodgrange Rd., Forest Gate. [1281

1920 Harley-Davidson 7-9h.p., unused, acetylene lights, dynamo, kick start, 3-speed, free wheel, solo; price £150.—S. Kirchner, 21, Sunnyside Rd., Ilford. [9648

HARLEY, late 1919, overhauled, plated and enamelled, indistinguishable from new, with new Canoelet sidecar; snip at £130.—322, Whitehorse Rd., Croydon. [1548

1920 Harley Electric Combination, discs, speedometer, excellent condition; £160.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [9259

HARLEY 1917 Electric Model, oversize tyres, hood, screen, luggage grid, mechanically perfect, decoratively fair; any trial; £95.—97, Angell Rd., Brixton, S.W.9. [1501

£90.—Harley combination, 7-9h.p., fully equipped, newly painted, smart outfit, must be sold; cash wanted.—85, Shirland Rd., Paddington, W.9. 'Phone: Padd. 3889. [9551

1920 7-9h.p. Harley, dynamo lighting, speedometer, Montgomery sidecar, Triplex screen, hood, mileage 2,000, licensed; £170.—12, Leaside Av., Muswell Hill, N.10. [1311

HARLEY-DAVIDSON Sports Model, speedometer, electric lighting, guaranteed perfect; £110; ride to intending purchaser.—Humphryes, 33, Preston Av., Newport, Mon. [9844

LATE 1917 Harley-Davidson Combination, hood and screen, electric, fully equipped, just been completely overhauled; £125.—A. J. Young and Co., Ltd., Newmarket. [1064

HARLEY-DAVIDSON 1920 4h.p. Model, Swan sporting sidecar, electric lighting, in good condition, as new; £185.—Parker's, Brodshawgate, Bolton, and 245, Deansgate, Manchester. [X0680

1920 7-9h.p. Harley Combination (mag. model), discs, speedometer, lighting by Harley, mileage 1,600, practically new; 160 gns.; sell or exchange Triumph.—19, Strentley Rd., Brondesbury. [1402

£190.—Harley-Davidson combination, late 1919, only done 1,300 miles, guaranteed perfect, tools, Remy lighting set, as new; a real bargain.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond [9764

1920 Harley-Davidson Combination, 7-9h.p., mileage 1,457, lamps, speedometer, horn, wind screen, hood, guaranteed; lowest £165.—106, Barlow Moor Rd., West Didsbury, Manchester. [1333

HARLEY Combination, late 1919, not W.D., mag., bulbous sidecar, discs, Easting, Tan-Sad, side and tail electric, spare valves, chains, tubes; £150, or exchange car.—Box 3,165, c/o *The Motor Cycle* [1633

HARLEY-DAVIDSON 1920 (Aug.) 7-9h.p. Combination, as new, hood, triplex screen, speedometer Klaxon, electric lighting, cost £265; accept £190, tax paid.—Lieut. Whiting, 68, Leigham Vale, Tulse Hill. [1295

HARLEY Combination, tax paid, insurance, electric, late 1920, hood, screen, grid, Tan-Sad, discs, just overhauled by makers, stored all winter; cost £265, sacrifice £220, or near offer.—'Phone: Everden, Battersea 1730. [9761

1919 Harley-Davidson, Mead and Deakin special coachbuilt sidecar, thoroughly overhauled, really smart lot, like new; £130.—Gyer, 1, Chichester Mews, Chichester Rd., nr. Royal Oak Station (Met.), Paddington. [1708

SPECIAL OFFER
OF
120
2¾ H.P. TWO-SPEED
DOUGLAS
MOTOR CYCLES
at **£55** each.

Fully renovated and overhauled machines at above exceptional price, in order to reduce our —— tremendous stock. ——

THE ENGINE is the famous 2¾ h.p. twin-cylinder "DOUGLAS," overhauled and fitted with many new parts.

GEAR BOX is two speeds, with free position, also overhauled.

CARBURETTER is the two lever AMAC, handle-bar controls.

MAGNETO is new C.A.V., or Thomson-Bennett, with handle-bar control.

THE FRAME, FORKS, MUDGUARDS, etc., are newly stoved in black enamel.

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HARLEY 7-9h.p., 1915, double sidecar, Tan-sad, carries 3 adults 2 children, perfect family machine, Bosch magneto, all accessories, just completely overhauled by makers, tax paid; £130.—Tinson, 26, Inglis Rd., Colchester. [9807

HARLEY-DAVIDSONS.—1919 combinations £125, 1918 combinations £115. These are renovated and ready to ride away. We have a few 1918 unrenovated machines but in running order; £80 each.—Owen, 59, Scholefield Rd., Upper Holloway. [X0785

LATE 1920 Harley-Davidson Combination, C. and M. car, cost £96, with disappearing hood and Triplex screen, leg shields, outfit luxuriously equipped, unscratched, tax paid; cost £315, accept £185; exchanges.—60, Wallingford Av., North Kensington. [1442

1920 7-9h.p. Harley-Davidson, not done 1,600, Henderson de luxe sidecar, electric lighting, speedometer, 46 m.p.g., finest outfit obtainable, buying car, any trial; best offer over £200 secures; appointment anywhere centre Kent.—Rayner, Sanatorium, Lenham, Kent. [9035

Hazlewood.

£20.—Financial difficulty prevents gentleman taking ordered Hazelwood combination (new); sacrifice above to any buyer.—Box 3,178, c/o *The Motor Cycle.* [1734

Henderson.

E. KICKHAM for Henderson, sole agent for Bristol and Bath districts.—Stokes Croft, Bristol. [3354

HENDERSON Combination, 3-speed, electrically equipped.—Searle, Ivy Villa, Carshalton Rd., Sutton. [8877

1920 Henderson Combination, speedometer, lamp, luxurious outfit, tax paid; 175.—Daw, 114, Brixton Hill, S.W.2. [1040

HENDERSON 4-cyl. 8-10h.p., 2-speed, clutch, handle start, guaranteed; £95 cash.—106, Barlow Moor Rd., West Didsbury, Manchester. [1334

10h.p. Henderson, 1917, 2-speed, handle starter, lamps, horn, fitted sidecar, screen, apron, tax paid; nearest £110, or exchange.—Swaby, Ashtead, Surrey. [8660

10h.p. Henderson and Swan de Luxe Sidecar, new Sept., 1920, low mileage, good condition, Easting screen, lamps; £175.—Woolard, 54, Walkern Rd., Stevenage. [1054

HENDERSON 4-cyl., the world's leading 4-cyl. motor cycle; all models in stock for immediate delivery; prices from £210.—Edinburgh Pioneer Motors, 50 Grindlay St., Edinburgh. [7820

LATE 1920 Henderson Combination, as new, luxurious sidecar, discs, Tan-Sad, electric lights, specially tuned and overhauled; £190, or near.—Write, Meadows, 17, Hemstal Rd., N.W.6. [1408

10h.p. Henderson 1916 Sporting Combination, electric lights, discs, wind screen, etc., perfect condition, less than 5,000 miles; £110.—Gill, 1, Red Lion St., Wandsworth, S.W. [1693

NEW 1921 Model Henderson, the most highly developed motor cycle ever built; now in stock for immediate delivery; liberal exchanges.—The Premier Motor Co., Aston Rd., Birmingham. [8887

1920 Henderson with Large Bulbous Sidecar to Match, hood, screen, luggage carrier, electric lighting (battery) in beautiful order; £190.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [1597

HENDERSON, 1920, £45 bulbous back Fulliford sidecar, folding screen, hood, speedometer, dynamo; cost £250 Sept., tax and insurance paid, perfect; £200, or near.—Williams, 135, King's Av., Clapham. [9599

HENDERSON 4-cyl. Combination, electric head and side lamps, Watford speedometer, Cowey horn, Pillion seat, luggage grid, in good condition; bargain, £110.—Dickinson, 73, Claremont Rd., Luton. [9818

10h.p. Henderson, 2-speed and clutch, coachbuilt sidecar, all lamps, horn, etc., mechanically perfect, tax paid; £95.—Milliner, 6, Cavendish Parade, Clapham, S.W.4. [1025

THORNTON HEATH.—Henderson combination, 10h.p., dynamo lighting, hood, screen, capacious lockers and luggage grid, the ace of luxury, comfort, and reliability; £140; take lower power in part.—22, Buller Rd. [1164

1920 (Dec.) 10h.p. 4-cyl. Henderson Combination, electric lighting, hood and screen, £30 worth of accessories, licence paid, no smarter lot on the road, cost £300, done 1,900 miles, absolutely as new, owner buying 4-seater car, any trial; offers.—89, Emmanuel Rd., Streatham Hill. 'Phone: Streatham 97. [1133

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HOBART 2½h.p., 2-stroke, good order and tyres, all lamps, tax paid; £25.—Allison, 113, Park Lane, Carshalton. [1145

HOBART 2½h.p., 1914, 2-stroke, perfect condition; £28.—Shepherd, 7, Pretoria Cottages, Kingston Rd., Leatherhead. [9511

1916-17 2¾h.p. Hobart-Villiers, 2-speed, M-L, Amac, Druids, heavy Dunlops, lamps, accessories, practically new; £50; exchange, 2¾h.p. Douglas preferred.—63, Solon Rd., Brixton, S.W. [1029

HOBART, 1921, the new sporting model with specially tuned engines as ridden by our Mr. W. J. Lord, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X0836

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HOSKINSON, 2¾h.p. Union engine, 2-speed gear, clutch, kick starter, brand new, will take a sidecar; £67.—Motor Cycle Mart, Fair Row, Chatham. [9586

1920 (July) Hoskison 2¾h.p., 2-speed, clutch, K.S., tax paid, condition as new, P.H. lamps, all accessories; £70.—Custerson, 13, Brookdale Rd., Walthamstow. [9649

Humber.

1921 Humber in stock; list price.—Cross, Agent, Rotherham. [X0655

IN Stock, 4½h.p. Humber flat twin; £140.—Tilleys, Esplanade, Weymouth. [9404

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3½h.p. Humber, 2 speeds, clutch, all on, nice condition; £30; after 6.30.—49, Graham Rd., Dalston, E.8. [9657

HUMBER 3½h.p. Twin, B. and B., Druids, lamps, horn, adjustable pulley, tax paid; £24.—Pearson, Ingham, Lincoln. [9627

1911 2h.p. Humber, with new engine, perfect running order; 14 gns.—Croft, 11, Belvedere Terrace, Paignton. [1498

HUMBER 3½h.p. Combination, 2-speed, 1920, C.B. sidecar, accessories, tax paid, perfect; £68.—49, Salterford Rd., Tooting. [1105

HUMBER 3½h.p., 2-speed, thoroughly overhauled, exceptional climber, perfect; £35.—277, Charles Rd., Small Heath, Birmingham. [X0651

HUMBER 3½h.p., 2-speed, 1911, stored 4 years, good condition, tax paid; what offers.—Clement, Ty Coch, Ystradgynlais. [X0517

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HUMBER 3½h.p., N.S.U. 2-speed, perfect, take sidecar, weighs under 200 lb.; £28, exchange.—187, Elm Rd., New Malden. [9960

HUMBER 2¾h.p., hub speed gear, taken in part payment; bargain, £20.—R. F. Fuggle, Ltd., Bushey Heath, Edgware, and Elstree. [1587

HUMBER 3½h.p., 2-speed, clutch, Bosch, B. and B., Dunlops, tip-top condition, licence paid; £32, or exchange P. and M.—16, Richmond Rd., Leytonstone. [9987

HUMBER 1917 6h.p., water-cooled, recently overhauled, new tyres, Millford sidecar, complete; £130 net; owner going abroad.—158, Norwood Rd., West Norwood, S.E.27. [9600

HUMBER Combination, 4h.p. flat 1920, electric lamps all round, Lucas horn, sidecar screen, speedometer, condition as new; £155, close offer.—Lt. Burton, c/o Dan Guy, Weymouth. [0564

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HURLE, 4h.p., single speed, Mabon hand clutch, Rudhardt, Senspray, new belt, tyre, tubes, lamps, all accessories, tax paid, ride away; £30; ceasing motor cycling.—Fennell, 6, Oakley Crescent, Chelsea. [9950

Indian.

INDIAN 7-9h.p. Clutch Model; £36, sidecar £6.—17, Heaton Rd., Mitcham. [9496

INDIANS.—1921 models now ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2437

E. KICKHAM for Indian, sole agent for Bristol and district.—Stokes Croft, Bristol. [3353

INDIAN Coachbuilt Combination, 7-9h.p., 2-speed, clutch; £49.—17, Heaton Rd., Mitcham. [9495

INDIAN, 1919, Powerplus, as new; quick sale, £80.—95, Grosvenor Rd., Highbury, London. [1215

1911 7-9h.p. Clutch Model Indian, disc wheels; bargain, £31.—Ross, 86, High Rd., Lee, S.E. [1383

INDIAN 7-9h.p., 1919, 3 speeds, foot and hand clutch, spring frame, as new; £75.—Davis, 26, Muswell Hill. [9339

7-9h.p. Indian 1915 2-speed Combination, good condition; £50.—42, Coombe Rd., New Malden, Kingston. [1427

£117.—1919 Indian Combination, complete, luxurious, sporting; cash needed; registered.—33, Kingston Rd., Staines. [9660

INDIAN 1916 7-9h.p., clutch, 3-speed, kick start, perfect condition; £60, or near.—Leith House, Oakdale Rd., Weybridge. [9985

65 GNS.—Powerplus 1616-17 Indian, 3 speede, etc., tax paid, guarantee; cash needed.—Box 3,162, c/o *The Motor Cycle*. [1630

INDIAN 1919 Powerplus, low mileage, indistinguishable from new, tax paid; £75.—25, St. James's Rd., Tunbridge Wells. [1069

1920 Indian Scout, speedometer, horn, spare chain, in fine condition; £115.—Lord, Whitley Villa, London Rd., Coventry. [X0850

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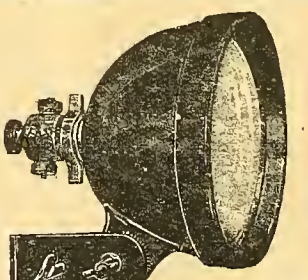
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INDIAN, 1919, 7-9h.p., 3 speeds, clutch, indistinguishable from new; £61. — 35, St. Clement's Mansions, Lillie Rd., Fulham. [1099

INDIAN, 1921 models.—We offer special terms to buyers of these machines.—Coventry Motor Mart, London Rd., Coventry. 'Phone 200. [X0838

INDIAN 7-9h.p. Coachbuilt Combination, 2-speeds, perfect order; offers invited; appointment.—Northfield, Manor Estate, Hemel Hempstead. [9595

INDIAN 7-9h.p. 3-speed Combination, as new throughout; £78; private; Douglas or Triumph wanted.—Marks, College Slip, Bromley, Kent. [1136

7-9h.p. Indian, under 500 miles, best discs, 3-speed, K.S., spring frame, Lucas lamps, Klaxon, splendid machine; £95.—18, Northbrook Rd., Lee, S.E.13. [1565

1916 5-6h.p. Indian Combination, 3-speed, clutch, and necessary spares, good going order, tax paid; £85.—Field, The Bungalow, North Town, Aldershot. [9424

1914 Indian 7-9h.p. Combination, just overhauled; costing £35, excellent condition, all accessories, tax paid; £80.—Oak Cottage, Brighton Rd., Coulsdon. [1697

INDIAN 1916 7-9h.p., spring frame, 3 speeds, clutch, kick start, good condition; £65.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X0685

POWERPLUS Indian, spring frame, 3-speed, T.T. bars, electric horn, lighting, 1920 sidecar; £120, or separately.—Elmdale, Ravensbourne Rd., Bromley, Kent. [1055

INDIAN 1920 Model Powerplus Combination, dynamo lighting, etc., as new; any trial; £155; exchange lower power.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E.3155. [9827

7-9h.p. Indian Combination, 1915, 3 speeds, K.S., clutch, in fine condition, go anywhere; £70 for quick sale; tax paid.—Apply, A.W., 7, Beverley Rd., New Calden. [9925

1916 7-9h.p. Indian Combination, 3-speed, electric light, new tyres, cylinders ground, new pistons; exchange for lightweight, or sell £90.—H. Kelsey, Bell Green, Coventry. [X0741

1920 Indian Scout 4h.p., Lucas lamps, speedometer, horn, knee grips, spares and tools, fast and reliable, splendid condition; £140.—9, Somerfield Rd., Finsbury Park, N.4. [1073

BARGAIN.—7-9h.p. Indian C.B. combination, 3-speed, kick start, spring frame, tax and insurance (12 months) paid; must sell; £76.—J.W., 27, Norman's Buildings, Old St., E.C.1. [1339

1912 7-9h.p. Blue Indian Clutch Model, with wicker sidecar (canoe), fully equipped, good running order, licence paid; £65; stamped envelope for reply.—Ellis, Hastings St., Luton. [9787

INDIAN 5-6h.p., 1916, 3-speed countershaft coach combination, just overhauled, good tyres, hood, screen, lamps, tax paid; £80; near offer.—Allison, 113, Park Lane, Carshalton. [1146

1920 Indian (7-9h.p. Powerplus) and Henderson Elite sidecar, dynamo lighting, etc., Binks carburetter, discs; what offers? Must sell.—W. S. Cattell, Bank Chambers, High St., Kettering. [1397

1920 (September) 7-9h.p. Powerplus Indian, dynamo electric model, fully equipped, new tyres, speedometer, Tan-Sad, all tax paid; £120.—Gardesco, 117, Cromwell Rd., South Kensington. [9420

SPLENDID Indian 7-9h.p. Combination, electrically equipped, £95; new unregistered 2¾h.p. lightweight, beauty, £48; first cash offer of £120 both: must sell.—28, Ionic Rd., Liverpool. [1234

INDIAN 7-9h.p. Combination, 1920, electrically equipped, speedometer, practically no running, perfect condition; genuine bargain, £140.—57, Great George St., Liverpool. 'Phone: 1092 Royal. [9989

1920 Indian Combination, dynamo lighting, Easting wind screen, spare chain, splendid condition; £150; exchange light car, no rubbish.—Chipperfield, 58, High Rd., Willesden Green, N.W.10. [9675

INDIAN 7-9h.p. 1920 Combination, in splendid order, unscratched and mechanically perfect, electrically equipped; first offer over £185 secures; any trial; owner buying car.—5, Didsbury Rd., Stockport. [1549

1916 5-6h.p. Indian Combination, 3-speed, hand and foot clutch, K.S., Swan sporting sidecar, new extra heavy Dunlops, fully equipped, any trial; £98; tax paid.—92, Beulah Rd., Thornton Heath. [9651

1919 Indian Combination, 3-speed and kick start, electric lighting, bulbous back sidecar, mechanically perfect, condition as new, mileage 2,000, tax paid; £125.—Kiaer, 8, Granville St., W.C. [1686

NO Reasonable Offer Refused.—Brand new 1921 7h.p. Powerplus Indian combination, N.E.21, electrically equipped throughout, speedometer; list price £226; must sell.—Lewin, Grange Rd., Kettering. [9832

1920 Powerplus Indian, luxurious sidecar, electric model, speedometer, Easting, fully equipped, and extras, splendid machine, as new; cost £226; what offers?—Carn Brea, Lion Lane, Haslemere. [1503

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Indian.

9h.p. Indian, 1914, engine No. 79F794, 2-speed, clutch, spring frame, horn, and lamps, with sidecar, all in splendid condition, tax paid; bargain.—Tilley, Pine Cottage, Weybridge. [1342

16 Indian, 5-6h.p., 3 speeds, clutch, and kick starter, all lamps, Bonniksen speedometer, guaranteed; £80; exchanges.—Homac's 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [1590

15 Indian 3½h.p. Twin, 3 speeds, clutch, and kick-starter, all accessories, tax paid, overhauled and guaranteed in Feb. at cost £24; £65; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [1599

20 Indian Powerplus, Milliford bulbous sidecar, dynamo lighting, speedometer, Easting screen, tax paid, perfect order throughout; £155.—Cram, 2, Phoenix Place, Addison Av., Holland Park. [9957

16 7-9h.p. Indian Combination, 3 speeds, clutch, kick start, spring frame, electric lights, hood and screen, spares, tax paid, overhauled, splendid condition; any trial; £95.—Dyer, 31, Upper Tooting Park, S.W.17. [1246

ABSOLUTE Snip, £65.—Indian, 1918-1919, specially selected Powerplus Indians, practically unused as new, 3-speed K.S., sold elsewhere at £85; free trial; satisfaction guaranteed.—84, Earl St., Maryleb one. [1280

19 Powerplus Indian, nursed like a baby, in first-class condition, no accessories; £95 or nearest offer; would consider taking smaller power in part change.—Croft c/o Shakespeare House, Welholme , Grimsby. [9924

145, a real bargain.—Powerplus Indian combination, 1920, electrically equipped, speedometer, gage grid, tyres and condition excellent, low mileage, tax paid.—198, Sheen Lane, East Sheen, S.W. one: Richmond 1112. [1107

100.—Powerplus Indian 1916-1917, spring frame combination, 3-speed, hand and foot clutch, dynamo ting, disc wheels, wind screen, numerous spares, dition equal to new, only used 18 months.—33, Elsie Rd., Winchmore Hill. [9813

16 Indian Combination, 7-9h.p., 3-speed, dual clutch, 3 lamps, large generator, Tan-Sad, speedter, spares, tools, luggage grid, new bearings tu tue, overhauled throughout, done 9,000; £125.— , Whippendell Rd., Watford. [1425

16 Indian Combination, 5-6h.p., 3-speed, K.S., electric lighting, Klaxon, muffs, hood, special d screen, just overhauled, tax paid, ready to ride y; £77 10, no offers.—Kerr, 111, Grosvenor Rd., lico (entrance Glasgow Terrace). [1298

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19 (late) 7-9h.p. Indian Powerplus Combination, electric model, speedometer, mileage under 5,000, front and back tyres and spare, new chain and tp, other spares, tools, special mud shields, perfect dition.—Banister, Heathbank, Vine St., Kersal, Manster. [8773

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'Y, 1920, single speed model, soiled, leg shields, horn, etc.; £45.—Marston, Bridge St., Chester. [1729

ATE 1919 Ivy, 2-stroke, 2-speed, lamps and horn, tax paid; £50.—Silvey, Epney, Gloucestershire. [1243

'Y 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: [5006

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1919 Ivy, 2½h.p., 2-speed, lamps, horn, tools, licence, insurance, going well; £50, or near.—Gould, 4, Bedford Place, London, W.C.1. [1169

IVY 2¾h.p. 2-speed Light Delivery Combination, new condition, smart, suit any trade; photo; £50.—Decourcy, Frankfort St., Birmingham. [9432

1920 Ivy 2-stroke, 2-speed, Klaxon, speedometer, perfect, run 800, tax paid; £50.—Willetts, Rookery, Lanesfield, Ettingshall, Wolverhampton. [X0525

LATE 1920 Ivy, fully equipped with first-class accessories, and licence paid, condition as new throughout; £55.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X0735

James.

DAN GUY, Weymouth.—James agent, early delivery dates given. [0552

J. C. PICKERING, Shrewsbury.—Agent for James; exchanges arranged. [X0756

JAMES 1920 2-stroke, 2-speed, all on, pillion, splendid condition; £65, or near offer.—18, Elm Rd., Leytonstone. [1299

JAMES 1920 3½h.p. Twin, 3-speed, mileage 800, perfect condition, like new; £95.—Write 29, Beechmead Av., S.W.16. [9340

JAMES 5-6h.p. Combination, fully equipped, including licence; £100.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X0737

JAMES 4½h.p. Combination, 3-speed countershaft, clutch, kick starter, all chain; trial; tax paid; 65 gns.—Milkin, Longnor, Buxton. [X0857

JAMES Twin Combination, coachbuilt sidecar, excellent condition, kick starter, complete; £145; trial.—Loves, Walton-on-Thames. [9796

1920 James 4½h.p. Combination, all-chain drive, 3-speed countershaft, electrically equipped.—33, The Parade, Gobiers Green, N.W.4. [9868

1919 James 4½h.p., 3-speed, countershaft gear box, kick starter, horn, and lamps, licence paid; £60.—Munt, Eastcheap, Letchworth. [1455

JAMES 5-6h.p. Combination, 1920, used only for rural runs, fully equipped; £170.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0423

JAMES 5-6h.p. De Luxe Combination, 1919, in splendid condition, tax paid, all on; £135, or accept lightweight part exchange.—17, King St., Watford. [9469

4½h.p. James Coachbuilt Combination, 1914, 3-4 speed hub, new lamps, tyres, belt, good running order; nearest to 65 gns.—Ashley, Willingham, Gainsboro'. [1046

JAMES 4½h.p. Combination, end 1919, Cameo, lamps, Klaxon, spares, excellent condition and appearance; £130, tax paid.—15, Sandringham Rd., Tuebrook, Liverpool. [X0770

JAMES Aug., 1920, 5-6h.p. Combination, Watford trip, horn, luggage grid, leg shields, electric lighting, full tax paid, perfect condition; £160.—Box 3,154, c/o *The Motor Cycle*. [9886

NEW 1920 6h.p. 3-speed James Combination, model de luxe sidecar; list price £190, offered at £165 spot cash; write for clearance bargain list.—The Premier Motor Co., Aston Rd., Birmingham. [8888

DAN GUY, Weymouth.—1920 5-6h.p. James combination, complete, Lucas head lamp, Lucas horn, Lucas sidecar lamp, tail lamp, speedometer, Easting screen, mileage 1,195 only, as new; cash offers wanted. [0553

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JAMES 5-6h.p. Combination, 1920 model, complete with lamps and horn, hood, and screen, perfect condition throughout, £130; also one 1919 model, complete with Easting screen, lamps, etc., £110.—P. J. Evans, 81-91, John Bright St., Birmingham. [X0665

JAMES 1919 4½h.p. Combination, 3-speed, kick start, 3 lamps, horn, and tools, new tube and retread on rear wheel, mileage about 2,500, recently overhauled, in excellent condition, licence paid; £90, or nearest.—50, Forest Drive West, Leytonstone, E.11. [9986

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J.E.S. 1921 Models from stock.—Gibb, Gloucester 'Phone: 852. [0441

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J.E.S. 1½h.p., 1920, excellent condition, electric lamps, carrier, tools, horn; £30.—Rice, Amwell, Ware. [9306

Kingsbury.

KINGSBURY 1921, unused, 2 speeds, tax paid; 49 gns.—31, Devonport Mews, Close Paddington. [1414

LOOK!—Brand new 2¾h.p. Kingsbury 2-stroke, Enfield 2-speed, all-chain, Senspray, C.A.V., tools, perfect; £48/10; list £64.—4, Wilmot Place, King's Rd., N.W.1. [1370

KINGSBURY 1920, 2-speed, 2-strokes, new, all-chain, fine and fast machines; £60; deferred payments if desired.—Colonial Motors, 104a, Finchley Rd. Hampstead 7822. [1705

Lea-Francis.

LEA-FRANCIS 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2436

LEA-FRANCIS 1920, as new, mag.; 100 gns., cost £138.—Tree, 14, Courtfield Gardens, Kensington. [8241

LEA-FRANCIS, all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X0835

1914 3½h.p. Twin Lea-Francis Cancelet Combination, speedometer, lamps, etc.; £80.—Daw, 114, Brixton Hill, S.W.2. [1043

1920 3½h.p. Lea-Francis Solo, mileage 100, list price £130; our price £110.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [1651

LEA-FRANCIS, 1920, first-class condition, little used, fast, complete with all accessories, licence paid; £110.—Steven, The Beacon, Woking. [1070

1920 Lea-Francis 3½h.p. M.A.G. engine, guaranteed perfect condition, mileage 800, tax paid; £95.—Palmer, c/o Hucklebridge, 133, Sloane St., London, S.W.1. [X0720

LEA-FRANCIS, 1920, shop-soiled only; list price £130, our price £115; orders now accepted for 1921 models.—Ratcliffe Bros., 200, Gt. Portland St., W. Laugham 1704. [0431

LEA-FRANCIS, brand new, 3½h.p. twin M.A.G. engine; list price £130, offered at special cash price £100.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0065

£80.—1920 Lea-Francis, 3½h.p. J.A.P. engine, overhauled at makers' works, small mileage; another similar, but £4 sidecar tax paid, same price; two real bargains.—The Premier Motor Co., Aston Rd., Birmingham. [8889

Levis.

JULIANS, of Reading, have 1921 Levis in stock. [0483

GIBB, Gloucester.—1921 Levis from stock.—'Phone: 852. [0442

DAN GUY, Weymouth.—Levis 1921 models in stock; £60. [0554

1921 Levis, Model S, 2-speed; £68.—A. J. Young and Co., Ltd., Newmarket. [1065

1915 Levis, perfect condition, lamps, horn, etc., tax paid; £30.—5, Downman Rd., Well Hall, S.E.9. [1177

LEVIS, 2½h.p., splendid condition, fully equipped, registered; £27/10.—Montenotte, Marsh Rd., Leagrave, Beds. [X0794

LEVIS 2¼h.p., 1916 (late), 2-speed, splendid order, fully equipped, tax, spares; £42.—16, Bleaheim Rd., Egremont, Ches. [9863

LEVIS 2½h.p., 2-speed, Bosch mag., Senspray, tax paid, accessories; £40.—Burch, 43, Beulah Rd., Thornton Heath, Surrey. [9734

LEVIS 2¼h.p., 1920, engine No. 8473, fully equipped, spare bars, fitted lamp, brackets, insured, licensed; £47.—82, Meadvale Rd., Ealing. [1266

LEVIS 2½h.p., thoroughly overhauled, mechanism and tyres as new (less brake), perfect; £22.—Post Office, High St., Hornchurch. 'Phone: Romford 168. [1294

LEVIS 1920, Smith speedometer, lamps, Klaxon horn, tax paid, fully insured to 1922, mileage 800; £50.—Address, 10, College Court, Hammersmith, W.6. [9839

LEVIS 2¼h.p., 2-speed (licence paid), little used, lamps, horn, speedometer, etc.; absolute bargain, 52 gns.—Sole district agents, Hove Engineering Works, Davigdor Rd., Hove. [9773

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Matchless.

ATCHLESS 1920 Model H, run 300 miles; £175; take older combination and cash.—136, Lambeth s, S.E. [9877

21 Matchless Combination, owner cannot accept delivery; will sacrifice for £195.—Coryn, Horn-ch, Essex. [9387

15 7h.p. Matchless Combination, lamps, horn, speedometer; £105.—Mason's Garage, Letch-h, Herts. [1082

19 8h.p. Matchless Combination, spare wheel, hood, screen, lamps, licence; £135.—Tilleys, anade, Weymouth. [9407

ATCHLESS, 1920, H model, 2-seater sidecar, Magdyno, all accessories; £200, or offers.—dene, Sheen Rd., Richmond. [1459

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ALWAYS Have in Stock several second-hand Model H. Matchless combinations from £160.—J. Tasseli, Bloomfield Rd., Plumstead. [6553

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20 Matchless Combination, lighting and all acces-sories, perfect condition, owner abroad; what ?—Osborne, 21, Stanley Av., Birkdale. [9695

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ATCHLESS 1921, double-seater sidecar, 2 screens, only done 20 miles, dynamo lighting; £220; tax —25, Davisville Rd., Shepherd's Bush. [9699

20 (September) Matchless-M.A.G. Combination, absolutely new, unsoiled, many extras, tax paid; —29 Montford Place, Kennington, S.E.11. [1151

20 Matchless H Combination, Magdyno, speedo-meter, hood, etc., very little used, tax paid; fice, £180.—Daw, 114, Brixton Hill, S.W.2. [1041

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ATCHLESS 5-6h.p. Combination, just overhauled, tax paid, new tyres, wind screen, speedometer, s, spare tyres and belt; £90.—195, Longley Rd., ing. [8858

ATCHLESS. Matchless. Matchless.—Latest 1921 model 8h.p. combination, for immediate de-y.—Vivian Hardie and Lane, Ltd., 23 and 24 dstock St., W 1. [0418

20 Model H Matchless Combination, Magdyno lighting, hood, screen, speedometer, spare wheel, aid; £165; little used.—Spurling, 8, Courthope Rd., pstead, N.W.3. [9371

ATCHLESS Combinations; immediate delivery.—Agents, R. B. Clark and Co., 7, Exhibition Rd., . Exchanges arranged. 'Phone for quotation. ington 4096. [1581

ATCHLESS 1913 Combination, 3-speed, 4h.p. twin wind screen, excellent condition, just overhauled, aid, 70 m.p.g.; £65.—Robinson, 404, Uxbridge Shepherd's Bush. [9631

ATCHLESS Combination, Oct., 1920, M.A.G. engine, hood, screen, leg shields, detachable all as new; £175; owner buying car.—Wray Garage, Reigate. [1262

21 Matchless, Magdyno, M.A.G. engine, complete with speedometer, dynamo lighting, leg-shields, side wings, and wind screen; £215.—Packman, House, Rochester. [9510

ATCHLESS Model H, complete, lamps, hood, special screen, leg shields, etc., low mileage, ex-t condition; accept £170, quick sale.—Alva Cot-Ashford, Middlesex. [1363

TCHLESS Model H Combination, 1920, Magdyno, hood, screen, legshields, Tan-Sad seat, Klaxon, , excellent condition; any trial; £180.—G., c/o 's Garages, Felixstowe. [8907

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1921 Matchless, M.A.G., Lucas Magdyno, rear drive speedometer, with separate illumination, Lucas horn, hood, side curtains, screen, spare wheel, etc., tyres unpunctured, as new, purchased Feb.; £212.—51, Upper Richmond Rd., Putney, S.W. [9964

MATCHLESS 1921 Models, delivery from stock; standard, £205; 2-seater, £212/10; dynamo lighting, £25 extra; extended term arranged.—City Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

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MATCHLESS 8h.p. Combination, Victory model, wind screen, hood, spare wheel, horn, spares, powerful head lamp, rear and sidecar lamps, insured, tax paid, first-class condition, full tool kit; £165, or offer.—Welland, Hillside, Egerton Rd., South Norwood, S.E.25. [9608

MATCHLESS 1921 H2 Combination, M.A.G. engine, Magdyno lighting, mileage 2,000, tyres unpunctured, equipped with electric and bulb horns, speedometer, hood, screen, and every possible accessory, better than new; £240.—Myhill, 197, London Rd., Croydon. [1553

MATCHLESS M.A.G. (Aug. 1920) Model H, electric horn and lighting, discs, hood, screen, step, special exhaust, mileage 1,200, unpunctured, all on, tax paid, perfect, view may time, trial 6 p.m., cash required immediately; £174.—252, St. Ann's Rd., Tottenham. [1692

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MATCHLESS Service Depot, Greenwich. 'Phone: 751. Our record Easter sales of 1921 models. Once again no score. Why? Satisfied clients. To ensure delivery and personal attention to every detail, send your orders along to the firm that are agents only for high-class makes and guarantee satisfaction.—Note address: Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [1732

Maxim

MAXIM-DALM 1921 3h.p. 2-stroke, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, absolutely new; £52.—224, Pentonville Rd., London. [4012

Metro.

METRO-TYLER 1920 Model, 2-speed, very little used, complete with lamps, etc.; £45.—Hopkins, New St., Ledbury. [0536

METRO-TYLER, late 1919, 2½h.p., 2-speed, countershaft, disc, horn, lamps, any trial; £45.—13, Lea Rd., Hoddesdon, Herts. [1103

METRO-TYLER, shop-soiled, 1920 model, new and unused, 2-speed model with enclosed gear box and magneto drive; bargain, £70; reduced from £95.—P. J. Evans 81-91, John Bright St., Birmingham. [X0669

1919 (Nov.) Metro-Tyler 2½h.p., 2-speed, Sterling shields, electric lighting, front cover and belt new, recently overhauled, splendid condition; £65, or offers.—C/o Mrs. Cooper, Screpter Lane, Tutbury, Burton-on-Trent. [9858

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£25.—3½h.p. modernised Minerva, lamps, Klaxon, tax paid, very fast.—King, Egrove Farm, Oxford. [X0788

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MOTO-REVE Twin, B.B. mag., good tyres, in nice condition; a gift, £15/10.—456, Barking Rd., Plaistow, E.13. [1465

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MOTOSACOCHE 1¾h.p., beautiful 'bus, climb anywhere, all accessories; trial; £18 cash; call Saturday, or write.—Atkins, 34, Mallinson Rd., Clapham Junction. [7039

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1913-14 3½h.p. 3-speed New Hudson; £35.—Ross, 86, High Rd., Lee, S.E. [1384

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IN Stock, New Hudson 2-stroke, 2 speeds; £68/5.—Tilleys, Esplanade, Weymouth. [9400

1919 4h.p. New Hudson, Henderson sidecar, new; 88 gns.—Ramsdens, 8, Maybell Av., Blackpool. [9327

NEW HUDSON 2-stroke 2¼h.p., splendid condition, tax paid; £38.—70, Parkhurst Rd., Holloway, N.7. [9607

1920 New Hudson 2¼h.p., fully equipped, new condition; £65, offers.—97, Nightingale Rd., Wood Green. [9777

BIG Six New Hudson Combination, 3-speed countershaft, K.S.; bargain, £85.—Rowe, 89, Well Hall Rd., Eltham. [9802

NEW HUDSON 3½h.p., 3 speeds, clutch, K.S., accessories, perfect; £35.—1, Townley Rd., E. Dulwich, S.E.22. [1354

NEW HUDSON 3½h.p., clutch, as new, tax paid; too fast for owner; £35.—A. L. Firstbrook, 21, Albemarle Rd., Beckenham. [9351

NEW HUDSON Ace Racer, 2-speed, brand new, not done 50 miles and not soiled, tax paid; £68.—A. Waite, 18, Wallbridge, Stroud, Glos. [9681

NEW HUDSON Combination, 3-speed, kick start, clutch, countershaft gear; £78; take lightweight part.—57, Kenbury St., Camberwell, London. [9504

NEW HUDSON Combination, 4h.p., 1919, accessories, little used; bargain, £95.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0412

NEW HUDSON Coachbuilt Combination, 4h.p., 3-speed, kick start, lamps, splendid condition, tax paid; any trial; £70.—Hairdresser, 5, Artillery Row, Westminster. [1463

1920 6h.p. New Hudson Combination, speedometer, Eastiug screen, F.R.S. lamps, spare belt, spare parts, tools, splendid condition; £150.—78, Locksley St., Poplar, E.14. [9594

1919 4h.p. New Hudson 3-speed Countershaft Combination, done 4,000, just overhauled, accessories, legshields, licence; £60, or offer.—6, Cleveland Mews, Lancaster Gate, W. [1202

NEW HUDSON Late 1914 4h.p. C.B. Combination, 3 lamps, speedometer, Klaxon, new tyres and belt, tax paid; £65, or near offer.—Spencer Works, Harhut Rd., St. John's Hill, S.W. [1430

NEW HUDSON 1914 3½h.p. C.B. Combination, 3-speed, Bosch, B. and B., electric light, tax paid, just overhauled and re-enamelled; £60, or near; any trial, appointment only.—B., 177, Amesbury Av., Streatham Hill, S.W.2. [1233

NEW HUDSON Lightweights, all models, on view: Popular, 50 gns.; de luxe, 65 gns.; Ace, 75 gns. Spares for 2¼h.p., 3½h.p., and 6h.p. machines stocked. Catalogues and any information by return. —New Hudson Depot, 45, Gray's Inn Rd., Holborn, W.C.2 [1658

New Imperial.

JULIANS, of Reading, have 1921 New Imperial in stock. [0485

IN Stock, 8h.p. New Imperial combination; £186/18. —Tilleys, Esplanade, Weymouth. [9402

NEW IMPERIALS, all models, from stock.—Coventry Motor Mart, London Rd., Coventry. [X0839

1921 New Imperial 2¼h.p., 2-speed, 250 miles; £65. —Collier's Motories, Horton St., Halifax. [9723

NEW IMPERIAL Agents.—Lightweights and spare parts in stock.—Crow Bros., Guildford. [4709

1916 New Imperial, 2-speed, with M.A.G. engine, good order, little used; £38.—Surridge, Ongar, Essex. [9902

1920-21 New Imperial, Binks, perfect condition, T.T. bars, low mileage; £72.—Enderley Grange Drive, N.21. [9785

NEW IMPERIAL Combination, 8h.p., fully equipped, perfect condition; £150.—9, Mountville, Beauchief, Sheffield. [9700

NEW IMPERIAL 8h.p. Combination, fully equipped, beautiful condition, any trial; £115.—37, Rye Hill Park, Peckham Rye. [1110

NEW IMPERIAL 2¾h.p., 1917, 2-speed, electric lighting, equipped, good condition; £45.—46, Duppas Hill Lane, Croydon. [1237

NEW IMPERIAL 1917 2¾h.p. o.b.v. J.A.P., 2 speeds, clutch, kick starter, sporty; £60. See Wanted.—50, George St., Luton [9669

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, lamps, horn, licence paid, splendid condition; £42.—Seen 2, Hogarth Rd., Earl's Court, London. [X0740

NEW IMPERIAL 8h.p. Combination, W.D., brand new, makers' colours; a gift, £135; easy payments. —Bartlett's, 93, Gt. Portland St., London. [1608

NEW IMPERIAL 8h.p. 1919 C.B. Outfit, fully equipped, Tan-Sad, tyres and condition generally as new; £112/10.—54, Coval Rd., Mortlake. [X0866

NEW IMPERIAL Combination, 8h.p. J.A.P., new tyres, lamps, speedometer, toolkit, genuinely sound offer; £130, or near offer.—8, Binden Rd., Shepherd's Bush, W.12. [1176

1918 New Imperial, fitted 1920 sidecar, first used 1919, 8h.p. J.A.P. engine, 3 speeds, chain drive, first-class order, accessories; £110.—Mrs. Dixon, 77, Buckland Av., Dover. [1482



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NEW IMPERIAL 2¾h.p., 2-speed, clutch and starter; 85 gns.; extended payments arranged Elce and Co., 15-16, Bishopsgate Av., Camomile E.C.3. 'Phone: Avenue 5548. [0

NEW IMPERIAL 8h.p. Combination, smart ol black and gold, large sidecar, Easting, elec as new; £135, cost £209; side door.—Banks Princess Rd., West Kilburn, N.W.6. [

NEW IMPERIAL 8h.p., W.D., new 1919, can minor sidecar, speedometer, and all access new chains, splendid condition, licence paid; £ Collier, Blatchborough, Bradworthy, Holsworthy. [

NEW IMPERIAL Combination, 8h.p., W.D. n delivered Oct., 1919, 1,500 miles, good run order, hood, screen, lamps, accessories, tax paid; £110.—Pearson, 14, Hammelton Rd., Bromley, [

IMMEDIATE Delivery of any New Imperial M cash or deferred payments; book your order and avoid disappointment later.—Burlington Mo Ltd., South Side, Clapham Common, S.W.4. 'Ph Brixton 2417. [

F.O.C.H. have a brand new New Imperial, 2¾h.p. starter, shop-soiled; £78 cash; exchanges or payments arranged.—5, Heath St., Hampstead Hampstead Tube Station). 'Phone: 3752. Hours including Saturdays. [

NEW IMPERIAL W.D. 8h.p., Mills-Fulford sid new May, 1919, mileage 2,500 (about), exc condition; £95; no offer. Garaged at 48, Bolsover W.1.—Enquiries, E. J. McL., 3, Aberdeen Te Blackheath, S.E.3.

1919 New Imperial-Jap 2¾h.p., 2 speeds, cl lamps, Stewart horn, original belt, tyre, s extras, excellent condition; £65; stamp, further ticulars; trial willingly by appointment; tax p Pickett, Jun., 8, Court Rd., Tunbridge Wells. [

WE have every model of New Imperials in stoc immediate delivery; combination £18 lightweight Model 1 £80/17, Model 2 £89/5; exch or easy payments arranged.—Official Agents, Hor 243, Lower Clapton Rd., N.E. 'Phone: Dalston

New Ryder.

1921 New Ryder de Luxe, brand new; sacrifi gns; complete kick starter, 2-speed, hand co clutch; would consider modern piano as part pay —119, Rotton Park Rd., Edgbaston, Birmingham

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NEW Scale Motor Cycle; original price, £85; sa £62/10; shop-soiled, less kick starter Bishopsgate, London.

SCALE. 3½h.p. Precision, £80; 4h.p. Blackb £100; motor cycles you will hear more abo have always a stock of each model; trade suppl Davies, 229, Deansgate, Manchester. 536 Centra

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£50; Norbreck 2½h.p. 2-stroke, new, econo lightweight.—Lewis, 35, Cambridge Parade, mond.

Norton.

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GIBB, Gloucester, can deliver 1921 Nortons stock. 'Phone: 852.

PREMIER Motor Co. for 1921 Nortons.

WE Can Deliver to your address within 24 new 1921 type 16H 3½h.p. 3-speed Norton, Big Four solo, £135; Big Four with family sid wind screen, child's dickey seat, £184/10; writ catalogue, or call for trial run.—The Premier Co., Aston Rd., Birmingham.

PICKERING, Shrewsbury.—Agent for Norton models from stock. [

DAN GUY, Weymouth.—Norton official agent. combination in stock.

WESTON-SUPER-MARE.—Jack Pruen, Oxfor for Nortons.—'Phone: 440.

NORTON T.T. 3½h.p., brand new; £98.—Bar 93, Gt. Portland St., London.

BIG Four Norton, late 1919, Corvette sidecar paid; £120.—Pearse, Staplehurst.

NORTON Motor Cycles.—Can deliver anywhere; dates.—Kelly, Bachelor's Walk, Dublin.

NORTON 1915 Sports, perfect condition; Owner, 3, Wallingford Av., North Kensing

1920½ Norton 4h.p. Combination, perfect, screen, etc.; £155.—Carder, Corsham, W [

NORTON, all models, from the Coventry Mart, London Rd., Coventry. 'Phone: 2 [

1917 Sports Model Norton, 3-speed counte fully equipped; £75.—37, Arlington Rd., Sur

NORTON 1921 Models.—Sole district agents, Motors, Ltd., 60, Catherine St., Sali 'Phone: 72.

NORTON 1919-20 Big Four Model, fully equ £110.—Parker's, Bradshawgate, Bolton, and Deansgate, Manchester. [

MOTOR CYCLES FOR SALE.

Norton.

NORTON Big Four, chain drive, lamps, and horn, mileage 1,000; £100, or nearest offer.—Pyke, Heritage, Netley Abbey. [1079

N.T. Norton (July, 1920), mileage 600, lamps, etc., perfect condition; £90, or near.—Rudd, 174, Ansden Rd., Balham. [9939

SACRIFICE!—3½h.p. Norton sports combination, 1921, lamps, tax, insurance, mileage 200; £162.—Mrs.—26, Cardiff Rd., Luton. [1479

NORTON 1920 Sports Model, Norton de Luxe sidecar, mileage 2,000; best over £100.—Write 36, Ellington Rd., St. John's Wood, N.W.8. [9605

NORTON 1921 Motor Cycles, brand new, all models in stock, immediate delivery.—Palin, Sole Agent, Burne St. (nr. Spot), Osmaston Rd., Derby. [3181

NORTON Motor Cycles, all models for immediate delivery; also sidecars supplied separately if desired.—Frank Whitworth, Ltd., 159, New St., Birmingham. [X0731

NEW 1921 3½h.p. Norton, 3-speed, kick start, 16H model, in stock; list price £132; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: [X0631

NORTON 1919-20 Big Four, de Luxe sidecar, speedometer, all lamps, perfect condition, licensed for 21; £135.—Mattock Motor Co., Mattock Lane, Ealing, W.5. [1191

NORTON 1920 Big Four Model, canoelet sidecar, fully equipped, low mileage, indistinguishable from new; £55.—Parker's Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X0681

DAVIES, of Manchester, can deliver 1921 Nortons from stock; the machine you will eventually buy; spares stocked, prompt attention.—229, Deansgate, Phone: 536 Central. [2432

NORTON Agents.—Motor cyclists in or near Oldham call. Onr Mr. Mitchell will demonstrate to you the finest machine in the world.—Bullonghs Motors, Waterloo St., Oldham. [2050

NORTON Nov., 1920, Big Four Combination, Lucas lighting, Cowey horn, De Luxe sidecar, wind screen, 500 miles, splendid condition; what offers?—Mr. Boobyer, Lees, Stoke Saint Gregory, Taunton. [9112

1917 Big Four Norton De Luxe Combination, 3 speed, all-chain drive, all lamps, 2 horns, speedometer mirror, tools, etc., new rear tyre, licensed, splendid condition, trial; £100, or offer.—Stansfield, The Dene, Clevedeys, Blackpool. [9622

N.R.S. Norton, 1916 (Brooklands certificate), No. 161229, winner open scratch race Brooklands October 2nd, 1920, 73 for lap, winner of 20 firsts in hill-climbs, etc., during 1920, and other Brooklands awards, special piston, valves, etc., machine rebuilt, new tyre, tank, handle-bars, mudguards, saddle, footrests, etc., guaranteed perfect: £85.—Kennedy, Hascombe, Surrey. [9975

N.S.U.

N.S.U., m.o.v., mag., dropped; sacrifice, £15/10, first cash secures.—Neal, 38, Bridge St., Derby. [9879

N.S.U. 6h.p. Twin, 2-speed, Bosch mag.; £15.—Anthony, 1, Townshend Cottages, St. John's

N.S.U. 3½h.p., 2-speed, fine condition, fast, overhauled, tax paid, fully insured; £33.—F. Vyse, Hastead Abbotts, Herts. [9577

3h.p. N.S.U., B.B. mag., chain and belt drive, 4 good tyres, in good order; a bargain, £15/10.—6, Barking Rd., Plaistow, E.13. [1464

N.U.T.

N.U.T. Twin, unused, Lucas Magdyno; £150, carriage paid.—Christie Brothers, St. Andrews. [9667

N.U.T., 1920, 3-speed, Magdyno lighting, splendid condition; £112.—30, Crystal Palace Park Rd., Sydenham. [1139

N.U.T., new Dec., 1920, mileage about 1,000; £135.—Full particulars from A. Roberts, 33, Torwood St., Torquay. [7072

N.U.T. 1920 3½h.p., Magdyno model, mileage 2,000, condition perfect; £118; appointment after 6.—D., 23, Collingham Place, Earl's Court. [9978

1920 N.U.T. 3½h.p. Twin, 3-speed, Lucas Magdyno, licence and insurance paid, as new; trial; £125.—Gambling, Stodman St., Newark, Notts. [9461

N.U.T.-J.A.P. 4-5h.p. Twin, 3-speed, K.S., all on, excellent condition; 52 gns.; exchange Rudge similar.—48, Wellington Buildings, Bow, E.3. [1460

N.U.T. 3½h.p. Twin, 1920 Magdyno, Lucas, beautiful condition; £115; exchange late Douglas and cash.—Ayers, Old Barracks, Kensington Palace. 'Phone: ark 86. [9370

PORTING o.h.v. N.U.T.-J.A.P., 2⅝h.p. twin, 1916, special bars, long exhausts, aluminium discs, speedometer, lamps, horn, new Binks, saddle and toolbags, top le condition, done 60, tax paid; trial; £80, nearest, consider exchange Norton, I.O.M. Rudge Multi, etc. Oller, 4, Roseford Terrace, Shepherd's Bush. [9426

O.K.

JULIANS of Reading have 1921 O.K. in stock [0481

LONGMAN, of Salisbury. — O.K. Juniors, 1921 models. [1752

O.K.-JUNIOR 2¾h.p., quite new; £43; must be sold.—Marston, Bridge St., Chester. [1724

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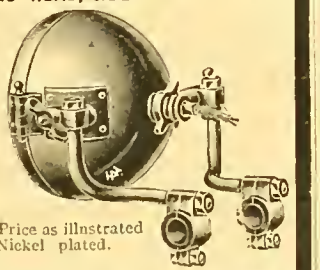
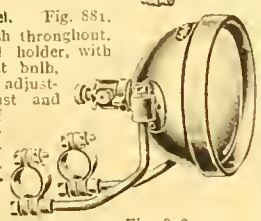


Fig. 895. Best quality finish throughout. Very massive and strong. Adjustable focus. Adjustable brackets. Special dust and weather-proof front. Price as illustrated 72/6 each. Nickel plated.

Medium Size Model. Fig. 881. Best quality finish throughout. Totally insulated holder, with switch and 4-volt bulb, adjustable focus, adjustable brackets, dust and weather-proof front. As illustrated. Nickel-plated, 43/- each. Black-plated, 47/- each.



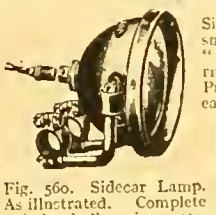


Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. Price as illustrated, 55/- each, black-plated.



Fig. 560. Sidecar Lamp. As illustrated. Complete switch, bulb, wire, nuts, washers, etc. Price 8/6 each.



Fig. 573. Shows red danger signal, lights No. plate. Complete with switch, bulb, wire, clip, etc. Price 9/6 each. "Force" Hellesen Battery, 9/11

386. Special metal case for "Force," 10/6. Complete rear set, 29/6.

'Speedolite' H.A.H Patent Speedometer Lamp.





Fig. 428. Lighting switch, screw action. ½in. or 1in clip, 3/6 each.

Fig. 429 ditto, dash type 3/6 each.

Fig. 347. Spring clip switch wire, coloured bulb, etc. complete 7/6 each.

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DAVIES, of Manchester, can deliver 1921 O.K.'s from stock.—229, Deansgate. 'Phone: 536 Central. [2435

2-SPEED O.K., latest model, from stock; at list price.—A. J. Young and Co., Ltd., Newmarket. [1059

1920 O.K., Villiers 2¾h.p., 2-speed, brand new, shop-soiled only; £55.—Tippen, Marden, Kent. [1120

O.K., 1917, 2¾h.p. J.A.P., 2-speed, horn, lamps, accessories, licensed; £45.—4, Cedar Rd., Tottenham. [9936

O.K. 1918, 2¾h.p. J.A.P., 4-stroke, 2-speed, tax paid; £40, or nearest; after 6.—342, Hanworth Rd., Hounslow. [9788

1919 O.K.-Union, in good condition, lamps, horn, tools, tyres good; nearest £40.—H. Deerin, Forrestfield, by Airdrie, Scotland. [9416

2¾h.p. O.K.-Union, single speed, 1920 model, shop-soiled; list price £50/8, my price £43.—Davies, 229, Deansgate, Manchester. [0528

1920 O.K.-Union 2¾h.p., as new, unscratched, mileage about 200, lamps, horn, pump, tools, spares; seen and tried any time; 43 gns.—Elsden, Sutton, Elv. [9864

F.O.C.H. have a brand new O.K., 2-speed, shop-soiled; £59 cash; exchanges or easy payments arranged.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9746

Omega.

OMEGAS from the Coventry Motor Mart, London Rd., Coventry. [X0841

LONGMAN, of Salisbury.—Omegas; £50 to £170; 1921 models. [1753

OMEGA 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2433

1920 Omega-Jap 2¾h.p., 2-speed, tax paid; £50, no offers.—Beech House, Brinnington, Stockport. [X0590

LATE 1920 Omega-Jap 2¾h.p., 2-speed, done 1,200 only; nearest £55.—Seen 195a, Albany St., W.1, after 6. [1015

OMEGA.—Immediate delivery of all models.—The Rochester Auto Supply Co., Corporation St., Rochester. [0465

OMEGA-J.A.P., 2¾h.p., 1919, 2-speed, fully equipped and licensed, any trial or examination; £50.—Evans, 130, Thurleigh Rd., Clapham Common, S.W. [X0726

OMEGA-J.A.P. 2¾h.p., late 1919, M.L. mag., B. and B. carburetter, Albion 2-speed gear, Brooks saddle, excellent condition; £55.—Box 3,167, c/o *The Motor Cycle*. [1638

F.O.C.H. have a brand new Omega 2¾h.p., kick-starter, shop-soiled; £73/10 cash; exchanges or easy payments arranged.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9747

1920 (Sept.) 2¾h.p. Omega-Jap, 2-speed, clutch, K.S., tax paid, mileage 1,324, tyres unpunctured, Cowey speedometer, special tool kit, knee grips, large P. and H. head lamp, Lucas rear lamp, separate generator, expert examination; any trial; £75, offers.—Welch, Claremont, Coronation Rd., Cheltenham. [9561

P. and M.

JULIANS, of Reading, have 1921 P. and M. in stock [0488

P. and M., 2-speed, good running order; £25.—17, Ashley Rd., N.19. [9716

P. and M. 1920, under 50 miles; £94.—Clark, 7, Exhibition Rd., S.W.7. [9166

P. and M., all models, from the Coventry Motor Mart, London Rd., Coventry. [X0842

1920 P. and M., as new, mileage 200; sacrifice £99, tax paid.—Tyrrell, Horton Rd., Gloucester. [9662

50 GNS.—P. and M., 1918, 2-speed, first-class condition; any trial.—24, Church Walk, Hampstead. [1666

P. and M., new Nov., 1919, good condition, lamps, horn, 5,000 miles; £75.—Morton, Red House, Matlock. [9547

P. and M. 1919 Combination, as new, condition perfect; £80.—35, St. Clements Mansions, Lillie Rd., Fulham. [9498

P. and M., 1918, 3½h.p., as new, minus small parts; £32.—35, St. Clement's Mansions, Lillie Rd., Fulham. [1100

P. and M. and Sidecar, 3½h.p., 2-speed, K.S., good condition, tax paid; £50.—Briant, 71, Sheen Rd., Richmond. [1097

P. and M. Combination, 1918, lamps, wind screen, splendid condition; nearest £80; after 7 p.m.—82, Doggett Rd., Catford. [9292

1917-18 P. and M.'s, for renovation minus small parts; £35; with new mag. and carburetter, £39.—1, Othello St., Liverpool. [1332

P. and M., W.D., renovated, in good running order, 1917-18, £48 and £55; combination, £60.—272, Green St., Forest Gate, E.7. [7750

MIDLANDERS!—P. and M., 1921, the perfected motor cycle, in stock, immediate deliveries; £125.—Colmore Depot, 51, Colmore Row, Birmingham. [X0645

MOTOR CYCLES FOR SALE.

P. and M.

3½h.p. P. and M., brand new condition, magnificent machine, mileage 900, Lucas lamps; bargain, £82.—31, Claremont Rd., Alexandra Park, Manchester. [X0767

1918 P. and M., thoroughly overhauled, enamelled, lined, plated, good tyres, Bosch, Amac, bear any inspection; £70.—135, Essex Rd., Leyton. [9448 Wood. [9454

OCT. (1919 guaranteed) P. and M. and Canoelet side-car, overhauled, perfect mechanical order; any trial; £75 (tax paid).—Newton, 7, Boord St., E. Greenwich. [9282

P. and M. 1919 Combination, excellent condition, tax and insurance paid, lamps, tools, and spares complete; £85.—Heath, 54, Cumming St., King's Cross. [1159

£53.—1919 3½h.p. P. and M. (engine No. 54275), E.I.C. mag., Seospray carburetter, good tyres and chains, fast and reliable, tax paid.—Rae, 245, Hammersmith Rd., W.6. [9486

1920 P. and M. Combination, Lucas lamps, horn, spares, tax paid, excellent condition; £100.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [9268

P. and M. Combination, 1919, electric light, plating and enamel unscratched, beautiful machine; £95, or offer; medical reasons for selling.—Berryman, 5, Stamford Brook Av., W.4. [9592

P. and M. Combination, 1918, renovated 1920 colours, in splendid condition, lamps, etc.; 78 gns.; after 5.30 or letter.—Richards, 14, Arragon Gardens, Streatham, S.W. [1150

1920 P. and M. Combination, in perfect order, lamps, Klaxon, gradometer, speedometer; £120, or would exchange for A.V. and cash.—Fry, 39, Wallis-cote Rd., Weston-super-Mare. [9684

P. and M. 3½h.p., 2-speed, reconstructed R.A.F. model, new tyres, thoroughly overhauled and in splendid order; £65.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0070

P. and M. Combination, R.A.F., completely overhauled, new chains all round, new E.I.C. mag., new Amac, tank enamelled, sidecar repainted, guaranteed; £80.—Colonial Motors, 104a, Finchley Rd. Hampstead 7822. [1704

1918 P. and M., Douglas C.B. 4-point sidecar, luggage carrier, 3 Lucas large generators, horn, speedometer, tyres good, back nearly new, overhauled, splendid condition, not W.D., tax paid; £105.—Wormald, High St., Newmarket. [8029

3½h.p. P. and M., solo, £18 down and 12 instalments of 5 gns.; combination, with new sidecar body, £20 down and 12 instalments of £6/16/8; renovated, re-enamelled, replated, guaranteed 3 months. —Auto Traders, Ltd., 84, Jermyn St., London. [1251

P. and S.

P. and S., 2½h.p. Villiers engine, 2-speed, brand new; £63.—Motor Cycle Mart, Fair Row, Chatham. [9587

P. and S. 3½h.p. Combination, Dalm engine, clutch, 2-speed gear, kick starter, brand new; £90.—Motor Cycle Mart, Fair Row, Chatham. [9584

Paragon.

1920 Paragon, 2-speed, spring frame; £45.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [1489

1920 Paragon 2-stroke, 2-speed, spring frame, list price £70, only run 200 miles; price for quick sale £50; good as new.—Owner, 16, Mt. Ararat Rd., Richmond, Surrey. [9937

Precision.

MOTOR Bike, Precision, 2¾h.p., mag., and B.B., La Grande; £11/19/6.—Littleover Motories, Derby. [X0594

PRECISION 2½h.p., 3-speed, clutch, pedal start; 30 gns.—Smith, Ivy Villas, Thornton Rd., Potters Bar. [1424

PRECISION 1915 2½h.p., 2-speed, all accessories, tax paid; £25.—Write, J.W., or call Saturday, 4, Fairview Place, Upper Tulse Hill, Brixton, London. [1669

3½h.p. 1920 Precision 2-stroke Combination, 2-speed, kick start, clutch, perfect order, all accessories; £85.—Thomas, Solomans Passage, Peckham Rye, S.E. [1343.

Premier.

PREMIER 3½h.p. Countershaft and Sidecar; £50.—Pickering, Shrewsbury. [X0745

PREMIER 3h.p., overhauled, good tyres and belt, footboards, clutch, licensed; £35.—Betts, St. John St., Lichfield. [9694

2½h.p. Premier Lightweight, excellent running order; £21.—Halls, Bootmaker, Hill Lane, West Hampstead. [1575

PREMIER 3½h.p., Rover engine, mag., spring forks, almost new machine; £35.—Murray, 37a, Charles St., Hatton Garden, Holborn. [X0663

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PREMIER and Canoelet, 3½h.p., 3-speed, countershaft, kick, lamps, hood, Cameo screen, good tyres and condition; £70.—21, Heathwood Garden Charlton, S.E 7. [134

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£60.—4h.p. Premier combination, 2-speed countershaft gear box, clutch, starter, Dunhill undeslung sidecar, roomy, comfortable, Bosch, B. and heavy Dunlops, Druids, footboards, excellent condition; 2¾h.p. Douglas part.—63, Solon Rd., Brixton S.W. [103

P.V.

P.V., 3½h.p. Precision engine, 2-speed, brand new £85.—Motor Cycle Mart, Fair Row, Chatham. [958

P.V. Spring Frame Motor Cycle, perfectly vibrationless, single and 2-speed models, fitted J.A.P. ar Villiers.—Burts, 245, Hammersmith Rd., London, W. [164

Quadrant.

1920 4¼h.p. Quadrant Combination, like new; £9 Ross, 86, High Rd., Lee, S.E. [138

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4. 4h.p. Quadrant combination, 1920; £110. [161

1920 Quadrant Combination, electric lights; £7 —59, Palfrey Place, Dorset Rd., Clapham Rd S.W.8. [149

QUADRANT, all models, from the Coventry Mot Mart, London Rd., Coventry. 'Phone: 200. [X084

QUADRANT 3¼h.p., modernised, new tyres, lamp licensed, photo, stamp; £25.—Rose Villa, Oa ley, Hants. [107

QUADRANT Sole Distributors and Agents for Lo don, Southern and Eastern Counties, Clifford W son Mfg. Co., 177, Westminster Bridge Rd., S.E Hop. 210. All spares in stock. All models for ear delivery. [176

QUADRANT 1921 4½h.p. Combination, 3-speed chain drive, clutch and kick-starter; £125; livery from stock.—City Agents, Elce and Co., 15-1 Bishopsgate Av., Camomile St., E.C.3. 'Phone Avenue 5548. [006

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RADCO 2-stroke, 1915; exchange 7 push bicycle sell £35.—202, Munster Rd., Fulham. [99

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WE can deliver to your address within 24 hou the new Raleigh 5-6h.p. flat twin, spring fram chain drive; solo 155 gns., sidecar 195 gns.—Sole B mingham Agents, The Premier Motor Co., Aston R Birmingham. [88

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RALEIGH 5-6h.p. Flat Twin Combinations in stoc 195 gns. Catalogue on application.—Bennet Motor Works, Letchworth. 'Phone: 162. [87

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1919 Reading-Standard Combination, just been ov hauled, new spares fitted, splendid conditi £130.—Motor Cycle Mart, Fair Row, Chatham. [95

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1920 Regent, new, less engine and gear box, wi spare frame; £30, or would exchange.—T Motor Cycle Depot, 257, Cavendish Rd., Balha S.W.12. [98

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N Stock, Rover 6h.p.; £150.—Tilleys, Esplanade, Weymouth. [9398

22.—Rover, Bosch mag., lamps, Klaxon, tax paid.— King, Egrove Farm, Oxford. [X0789

15 Rover Combination, C.S. gear, nice condition; 70 gns.—Ross, 86, High Rd., Lee, S.E. [1386

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OVER 1919 T.T. Model, Philipson pulley, fully equipped, in excellent condition throughout; cheap £85, accept £75.—Cantrill, 172, Cross Rd., Coventry. [X0650

OVER 3½h.p. Combination, 3-speed, clutch, K.S., electric lights, sporting sidecar, all as new; £98. Captain Blow, 8, Trinity Sq., Richmond, Yorks. [9389

OVER 1918 T.T. 3½h.p., with Philipson, accessories, fast machine; £69 10; liberal exchanges. Newnham Motor Co., 223, Hammersmith Rd., W.6. [1534

OVER, 3½h.p., 3-speed, late 1919, small mileage, lamps, Klaxon, tools, licensed, perfect order; 85.—Rolliogs, 36, Milner Rd., Gillingham, Kent. [1493

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ROYAL RUBY 2-stroke, believed 1917, excellent condition; cash wanted; offers.—K.S., 53, Sterndale Rd., W.14. [9338

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ROYAL RUBY 2¾h.p. 1921 Sports Models, delivery from stock.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0542

ROYAL RUBY Combination, 8h.p., electric and bulb horns, Enstiag screen, lamps; £150.—Ivydene, Herne Grove, Dunstans Rd., East Dulwich, S.E. [9708

ROYAL RUBY 1919-20 8h.p. Combination, disc wheels, fine order, tax paid; bargain, £130; easy payments.—Bartlett's, 93, Gt. Portland St., London. [1607

ROYAL RUBY 8h.p. Combination, lamp, Klaxon, speedometer, Tan-Sad, wind screen, tax and insurance, guarantee perfect, new condition; £140.—Woodard, Brazil House, Marsh Lane, Taplow. [1410

Rudge.

19 12 3½h.p. Rudge, in fine order; £34.—Cross Agent, Rotherham. [X0660

IN Stock, 3½h.p. Rudge Multi, T.T.; £85.—Tilleys, Esplanade, Weymouth. [9402

RUDGE Multi, brand new, unused; £79.—Box 3,105 c/o *The Motor Cycle*. [9515

I.O.M. Rudge Multi, from stock; £85.—A. J. Young and Co., Ltd., Newmarket. [1066

RUDGE Multi, brand new, 3½h.p. I.O.M. model just arrived; £85.—Moss, Wem. [X0722

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.— 3½h.p. Rudge Multi, 1917-18; £65. [1617

19 19 3½h.p. Rudge Multi, excellent condition, taxed, must sell; £55.—Rectory, Weymouth. [1327

RUDGE Multi, T.T., 1916, guaranteed faultless; £55; exchanges.—150, Walsall St., West Bromwich. [X0718

RUDGE 3½h.p. T.T., fast, good condition, lamps, tools, spares; £50, offers.—Riverdale, Alfrestan, Sussex. [9630

RUDGE, 1921, models, at reduced prices, from Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X0844

RUDGE Multi, 1917, with new sidecar, all accessories, smart lot; £79 lowest.—35, Freegrove Rd., Holloway, N.7. [1356

RUDGE Multi 3½h.p., 3 years' wear, excellent condition; £31; 10 to 5.—Williams, 1, Sun St., Finsbury Square. [9956

RUDGE, 3½h.p., clutch, re-enamelled and plated, goes splendid, accessories; £36.—143, Ravensbury Rd., Earlsfield, S.W. [1258

BRAND New 3½h.p. Rudge, T.T., full guarantee; £85.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0543

19 16 T.T. Rudge Multi, 3½h.p., discs, new tyres, ready for summer; £59, or nearest.—Birkett, Wildeo, Stourport, Worcestershire. [X0593

5-6h.p. Rudge Combination, 1919, perfect, little used, privately owned, taxed; £100, bargain.—Booth's Garage, Frodsham, Cheshire. [9855

19 12 Rudge Combination, good running order, accessories, speedometer; £45.—Bradford, 43, Racton Rd., Fulham, London. [1154

RUDGE 1920 Combination, Millford, all accessories, tax paid, also insurance policy; quick sale, £100. —Barrow, 137, High St., Eton. [9672

19 20 5-6h.p. and 7-9h.p. Rudge Multi Combinations, new; £152 and £175.—Shepherd, Enfield Highway, Enfield. Tel.: Waltham X31. [0341

3½h.p. Rudge, hand clutch, splendid running order; trial given; seen mornings 10 to 12; £32.—19, Arthur St., New Oxford St., W.C. [9910

19 15 Rudge Multi 3½h.p. Combination, in excellent condition; £70; owner buying car.—5, Harold Rd., Upper Norwood, S.E.19. [1458

RUDGE Multi I.O.M. Touring Model, unscorched, mileage 50; £75; bought lightweight.—Spink, 52, Brodrick Rd., Wandsworth Common. [1446

19 20 I.O.M. Rudge, Lucas, lamps and horn, absolutely perfect; £79, or exchange with cash for lite combination.—20, Derby Rd., Croydon. [1448

19 19 Rudge Multi 3½h.p., Lucas lamps and horn, under 3,500 miles, quick sale; 49 gns.—Apply, Desouza, 4, Coliseum Terrace, Regent's Park. [1567

19 20 Rudge Multi (not I.O.M.), 3½h.p., mileage under 500, fully equipped, licensed; absolute bargain, £78, delivered.—H. Tent, Ancaster, Lincolnshire. [X0798

RUDGE Multi 3½h.p., 1920, perfect condition, mileage 500, unlicensed; nearest £80; must sell.—O. Gibson, 19, Queen's Gate, South Kensington. [9711

19 18 Rudge, T.T., with sporting sidecar to suit, all accessories; price £75; any trial given.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [9906

RUDGE Multi, standard touring model, not done 2,000 miles, enamel and plating as new; £70, bargain.—Richardson, Waller Av., Leagrave, Luton. [9819

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1920 Rudge, I.O.M., perfect condition, P. and H. front lamp, Lucas rear, Klaxon, knee-grips, tools; £65, no offers.—Piegrome, 247, Camden Rd., N.7. [9513

1920 I.O.M. Rudge, fully equipped, low mileage, guaranteed perfect; £85; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [1598

RUDGE Multi 1916 5-6h.p. and coachbuilt sidecar, good condition throughout, tank 1920 colours, tax paid; £85, or near offer.—Biodon, 80, Rushey Green, Catford. [9713

RUDGE Multi T.T. Model, 3½h.p., 1920 model, tax paid, excellent condition, lamps, full kit; any inspection; £70.—Apply, Davis, The Birches, Shaw Rd., Dudley. [1563

RUDGE Multi, 3½h.p., lamps, etc., thoroughly overhauled, re-enamelled and plated, tax paid; £58/10, no offers.—12, Constantine Rd., Hampstead, N.W.3. [9942

1920 Rudge Combination, 7-9h.p., F.R.S. electric lamps, very fast, guaranteed; £125; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [1593

7-9h.p. Rudge Multi with canoelet sidecar, all accessories, including speedometer and luggage carrier, late 1920 model; price £120.—Apply, Turner, 143, Bute St., Cardiff. [9643

1919 5-6h.p. Rudge Multi Combination, lamps, wind screen, all accessories, condition as new; £80; cost £175.—Willetts, Rookery, Lanesfield, Ettingshall, Wolverhampton. [X0524

RUDGE Multi, 1920, I.O.M., restoved blue, Bonniksen, Klaxon, electric lighting, knee and hand grips, mileage 2,600, perfect; £85.—25, St. James's Rd., Tunbridge Wells. [1068

RUDGE Multi 1921 3½h.p. Isle of Man Model, delivery from stock at the reduced price of £85.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0067

RUDGE Multi Combination, 1920, 3½h.p., Millford skiff sidecar, insured Oct., 1921, every risk, spare tyre, Klaxon, thigh overalls, licence paid.—Write E. Ellis, Parkside, Barking, Essex. £105 cash. [1123

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SUPER Rudge-Multi, late 1920, special engine, over 60 m.p.h., small mileage, £20 worth of accessories, almost brand new, insured, tax paid; cost over £135; accept £90; photo.—E. Wehrle, St. Andrew's St., Cambridge. [9833

RUDGE Multi 3½h.p. 1913 Combination, excellent condition, re-enamelled, speedometer, horn, complete, electric lighting, little used during war, owner disabled; £60, a bargain.—Tucker, 43, Spencer's Rd., Maidenhead. [1598

1920 5-6h.p. Rudge Multi Combination, Rudge sidecar, cost £42, with Easting wind screen, luggage carrier, not scratched, all Lucas lighting set, horn, and tools, in perfect order, as new; cost £175, sacrifice 95 gns.—W. Waldeu, jun., 1, Wisbech Rd., Kings' Lynn. [1572

Saltley.

SALTLEY 1920 2-stroke, 2-speed, electric lamps, all accessories, speedometer, done 40 miles, licensed, perfect condition; £57, or offer.—Hicks, 75, Danecroft Rd., Herne Hill, S.E.24. [9952

SALTLEY-VILLIERS, 2¾h.p., 2-stroke, 2-speed, licensed and insured, lamps, horn, and knee grips, done only 800 miles; real bargain, £45.—Stanley, 8, Warwick Sq. Mews, Clarendon St., Westminster. [1225

Scott.

GIBB, Gloucester, can deliver 1921 Scotts from stock. —'Phone: 852. [0445

£47.—Scott, 1916, mechanically perfect, appearance good.—Clarke, Turnham Green Terrace, W.4. [9948

SCOTT.—All models from stock.—Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X0845

1921 Scott, sports model; £130; for immediate delivery; easy payments accepted.—Scott agents (below).

1920 Scott Combination, Godfrey's electric lighting, Cowey speedometer, Lucas horn, Easting screen, mileage 1,067, tax paid; cost £209 last August, price £155; absolutely as new, guaranteed; exchanges.—Scott agents (below).

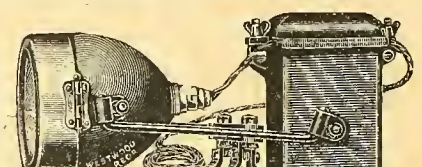
1920 Scott, with Rennoc sidecar, P. and H. lamps, Lucas horn, etc., magnificent condition, guaranteed perfect, tyres unscratched; £145; exchanges.—Scott agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [1594

SCOTT 1920 Sports, 2-speed, excellent condition; £105, or offer.—Deneholme, The Beeches, Carshalton. [1512

SCOTT Combination, 1919, lamps, Low generator, speedometer; £120.—Timewell, 61, South Castle St., Liverpool. [X0639

1920 Scott Combination, scarcely used, electric and gas lighting, many spares, tax paid; £135; appointment.—Bodley, 11, Beaufort Mansions, Chelsea. [9410

"DAYBEAM" Electric Solo Set



The Headlamp supplied with this set is our 5in. Daybeam, a very powerful light-giver. The brackets are of exceptionally strong and handsome design. They carry the headlamp and also the (die cast) aluminium case. The accumulator is specially made for motor cycle lighting, and will brilliantly illuminate the head and the rear lamp for 20 hours if used intermittently. The tail lamp (our torpedo S.B.C.) is exceptionally strong and well made, and has a very attractive appearance. Each lamp is fitted with a switch, and one lamp may be used independently of the other. The outfit is despatched completely assembled, and 4 volt bulbs are fitted. The finish is ebony black and nickel plate.

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(If tail lamp is not required, deduct 12/6).

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Write for List No. VI.



The set comprises Daybeam 5in. Headlamp, fdeal Sidecar Lamp, and Torpedo S.B.C Tail Lamp. Each lamp is fitted with an independent switch, and is finished in ebony black with nickel-plated relief. The Accumulator (capacity, 6 volt, 40 amp.) is specially made for motor cycle lighting and will give very satisfactory service in use. Many have now been in use two or three years, and are as efficient as when first purchased. **All our Accumulators are specially made to stand vibration.** Ordinary accumulators are never satisfactory for motor cycle work. The hard wood case supplied with this set is finished ebony black, and is specially treated to withstand acid. This outfit is despatched completely assembled with bulbs and all necessary wiring, etc.

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LAWDEN RD BORDESLEY BIRMINGHAM.

MOTOR CYCLES FOR SALE.

Scott.

SCOTT 1920 Sports Model, Binks, purple discs, low exhaust, low mileage, fully equipped, tax paid £110.—207, Norwood Rd., S.E.24. [126

SCOTT Combination, not done 500 miles; cost over £200; no reasonable offer refused.—Grimes, 14 Bruton Place, Bond St., W.1. [174

1920 Scott and Sidecar, horn, all lamps, tax paid usual acessories, little used; cost £180; £125.—Gardiner, New Lodge, Hyde Park, W.2. [145

SCOTT 1915 Combination, wind screen, Klaxon electric lighting, good condition, tax paid; £70 or nearest offer.—20, Denison Rd., Ealing. [104

SCOTT, 1920 sports model, horn, tools, very small mileage, enamel as new, plating fair, perfect order £100.—D. Lavin, Old House, Sonning, Berks. [935

SCOTT Squirrel, not done 200 miles, fitted with big F.R.S. head lamp, Lucas horn, rear lamp and generator, tax paid, guaranteed perfect condition £130.—Kinch, 21, Monarch Rd., Northampton. [136

SCOTT 1920, T.T. bars, Lucas head light, electric tail, speedometer, mechanical horn, tax paid, excellent condition; £100.—Knox, The Chase, Nuneaton. [X923

1920 Scott and Henderson lightweight sidecar, lamps horn, tools, excellent condition, small mileage licence; first reasonable offer.—Brown, Grocer, March Cambs. [840

SCOTT, 1910, special radiator jackets, engine complete overhaul at works, Bosch, Binks, all accessories tax paid, ride away; £40, or offers.—Sowerby, Beelsby Grimsby. [834

SCOTT, engine 2321, and sidecar, complete with accessories, spares, speedometer, ready to drive anywhere; tax paid; £85.—P. Bailey, King's Head Aylesbury. [981

SCOTT 1916 Combination, completely overhauled enamelled and plated, new tyres, chains, etc., condition and appearance as new; £95.—Mylam, 197, London Rd., Croydon. [155

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4 'Phone: Brixton 2417. [051

1914-15 Scott, engine just back from works, new Binks, chains and Dunlops, Bosch, Tim Wood bars, fast, tax paid; £66; offer.—Caunter, 25, Compton Terrace, Highbury, N. [131

SCOTT Combination, 1920, small mileage, splendid condition, Easting; £135; electric lighting and spares at valuation.—Voss, Malmsmead, Woodcote Lane Purley. 'Phone: Purley 98. [960

GREAT Sacrifice.—Brand new 1921 Scott, semi-T.T. bars, just delivered, unwrapped; advertiser having paid £30 deposit will sacrifice half deposit and accept £115 for same.—Box 3,085, c/o *The Motor Cycle*. [939

1920 Scott and Henderson Elite sidecar, complete with detachable disc wheel, wind screen, lamps speedometer, spares, in beautiful condition; owner buying car; £128.—Maltby, R.N.C., Greenwich, S.E.10. [960

SPORTING Scott, 1915, engine No. 2797, 1920 improvements, very fast, and in good order, lamps and horn, spares, including new sprocket, licensed; £75 offers.—Hardman, West Bank Hotel, near Lancaster. [944

1920 Scott Combination, Binks, Cowey speedometer and horn, Easting screen, luggage grid, electric lamps, accumulator, tax paid, condition as new, cost £200 April; buying car; accept best offer over £130.—Rev. Hardy, 20, Portland Place, Bath. [929

GRAY and Raynes have 1921 3¾h.p. Scott-Squirrel T.T. model, very fast and powerful, petrol consumption 75 to 80 m.p.g., lamps, tools, etc., tax paid all on, cost £147, only done about 300 miles, condition and appearance perfect; bargain, £120, or cheaper mount and cash; see our advts. in Triumph, Matchless, and Miscellaneous items columns.—8, Low Rd., Batley, Dorcaster. [989

Singer.

£20.—2½h.p. Singer, good tyres, waterproof Bosch fine running order.—King, Egrove Farm, Oxford [X079

1914 2¾h.p. T.T. Singer, 2-speed Albion, fast £26/10.—Shaw, Park St., Wellington, Salop. [X071

£25.—2¾h.p. Brooklands Singer, good order; as trials.—Hill, Smallwood, Sandbach, Cheshire. [143

SINGER Combination, 2-speed gear box, kick start lamps; £58.—13, Crooklog, Bexley Heath S.E. [937

SINGER Motor Cycle, 1914, smart and in good running order, a gift; £34; evenings.—Turner, 23 Roman Rd., Barnsbury, London. [979

SINGER 1914 4h.p., clutch model, good tyres, engine just been rebushed and overhauled, Binks carburetter, all on; £40.—Monk, 90, Alma Rd., Windsor. [115

3½h.p. Singer, splendid condition, just overhauled and re-enamelled, 4-speed countershaft, kick start and clutch; accept lightweight part exchange; £55.—Carters, Ibstock. [X065

Sparkbrook.

1916 2¾h.p. 2-speed Sparkbrook, nice condition £35.—Ross, 86, High Rd., Lee, S.E. [138

1921 2-speed Sparkbrook, from stock; £77/10.—A. J. Young and Co., Ltd., Newmarket. [106

MOTOR CYCLES FOR SALE.

Sparkbrook.

20 Sparkbrook 2¾h.p., not done 100 miles; any inspection; £70.—F. Sayer, Kirkby Stephen, Westmorland. [9554

20 2½h.p. Sparkbrook, 2-speed gear, shop-soiled only, excellent lightweight machine; £55.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [1715

20 2½h.p. Sparkbrook, 2-speed, lamps, horn, ridden 150 miles only, mechanically perfect, carefully used; £50.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [1716

Suo

SUN-VITESSE.—All models from stock.—Coventry Motor Mart, London Rd., Coventry. [X0849

16 Sun-Villiers, good tyres, ride away; £29; photo. —181, Newton Rd., Burton-on-Trent. [9451

3½h.p. Sun-Villiers, 1916, 2-speed, new tyres; £32/10.—Shaw, Park St., Wellington, Salop. [X0712

20 Sun-Vitesse, Sturmey-Archer clutch and kick starter 2-speed gear, lamps, horn, ridden 50 miles only; exceptional offer, £60.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [1717

Sunbeam.

SUNBEAM 8h.p., sidecar; £175, bargain.—Pickering, Shrewsbury. [X0746

21 3½h.p. Sunbeam in stock; £155/8.—Mason's Garage, Letchworth, Herts. [1085

KICKHAM for Sunbeam, sole agent for Bristol and district.—Stokes Croft, Bristol. [3352

3½h.p. 1920 Sunbeam, Lucas lamps, horn, tax paid; £130.—MacDowell, Dunella, Broughty Ferry. [9974

Stock, 8h.p. Sunbeam combination, Magdyno; makers' price.—Tilleys, Esplanade, Weymouth. [9401

18 8h.p. Sunbeam Combination, spare wheel, excellent condition; £165.—Ross, 86, High Rd., Lee. [1387

18 8h.p. Sunbeam Combination, equipped, tax paid; 110 gns.—Ramsdens, 8, Maybell Av., Blackheath. [9326

SUNBEAM (June, 1920), used 3 months only, condition excellent, equipped; £125.—Payne, Eccleston, Chester. [X0725

SUNBEAM 3½h.p. Combination, 1919, excellent condition, lamps, horn; £145; bought car.—22, Pinewood Rd., Bromley, Kent. 1684

21 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith & Co., 52-54, Hampstead Rd., N.W.1. [0353

20 3½h.p. Brand New Sunbeam and Sidecar, interchangeable wheels; at list price; from stock.—J. Young and Co., Ltd., Newmarket. [1061

ATE 1919 T.T. Sunbeam, black and gold finish, complete with all lamps, tools, etc., and quantity spares; £120.—16, Durham Rd., Wimbledon. [9565

14 Sunbeam 3½h.p., ic-engined makers 1919, K.S., clutch, lamps, horn, excellent condition; £80, near offer.—Mozley, Wiuterton, Scunthorpe, Lincs. [9571

NEW 1921 3½h.p. Sunbeam, 3-speed, kick start, clutch; list price £155/8; exchanges entertained. Numbers', Eastbank St., Southport. Tel.: 607. [X0634

SUNBEAM Combination, Sept., 1919, lamps, horn, speedometer, leg shields, screen, very fine order; £0; licence paid.—Marston, Bridge St., Chester. [1728

19 Sunbeam, Sunbeam sidecars, speedometer, lamps, excellent condition; £125.—Edwards, 50, Orrington Rd., South Kensington. Phone: Ken. 9. [9262

20 Sunbeam 3½h.p., new April, stored since August, 300 miles only, Lucas lamps, and horn, waterproof cover, Tan-Sad, goggles; £120.—W., 21, Marine Drive, Hove. [9471

20 3½h.p. Sporting Model Sunbeam, with accessories, perfect condition, small mileage, licensed; £5, or offers.—Macleod, Newton Manor, Gosforth, Northumberland. [X0591

SUNBEAM 1913 3½h.p. Model with Sidecar, complete with all necessories, excellent condition; £110.—Baxter's, Radshawgate, Bolton, and 245 Deansgate, Manchester. [X0683

15 6h.p. Sunbeam and sidecar, spare wheel (brand new tyre), electric lighting motor cycle, insurance, perfect condition; £130, or nearest.—Ward, 33, Cecil Rd., N.10. [9972

SUNBEAM Combination, 3½h.p., 1916, little used, excellent condition, mechanically perfect, Eastscreen, lamps, spares; £100.—G.C.H., 1, High St., Chichester. [1569

20 3½h.p. Sports Sunbeam and Sidecar, perfect condition, Lucas lamps, Klaxon, insurance, practically last engine, tax paid; £165.—Horn, Trefusis, Redruth. [1644

SUNBEAM.—We are Wolverhampton agents. Spare parts in stock. Repairs and overhauls. Estimates on request for re-enamelling and plating.—The Sheffield Garage Co., Ltd., Wolverhampton. Tel.: 3458 [3458

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MOTOR CYCLES FOR SALE.

Sunbeam.

SUNBEAM 8h.p. Combination, Aug., 1919, Lucas dynamo lighting, interchangeable and spare wheel, discs, leg shields; £170, bargain.—Wilcox, 33, Summer Lane, Birmingham. [X0738

1921 8h.p. Sunbeam Combination for sale, magnificent outfit, the one exhibited at Olympia Show; cost £294, what offers —Reply 81, London Rd., Croydon. 'Phone: 1087. [1562

1915 Sunbeam Combination, 6h.p., all new tyres, engine guaranteed perfect, large roomy sidecar; price £120, including lamps, tools; any trial.—Crapper, Pork Butcher, Goole. [9692

1919 8h.p. Sunbeam Combination, new Oct., 1919, mileage 3,700, as new, spare wheel, hood, screen, speedometer, lamps, Klaxon; any trial; £175.—77, High St., St. John's Wood. [1543

SUNBEAM 8h.p. Combination, overhauled and renovated by makers; delivery either from works or here; £150; could arrange terms.—Bunting's Motor Exchange, Wealdstone. [1529

SUNBEAM 3½h.p., late 1919, just overhauled, splendid condition, all accessories, spares, 2-seater sidecar optional; cost £176; must sell; what offers?—The Moorings, Canvey-on-Sea, Essex. [1404

3½h.p. Sunbeam (late 1914) and Sidecar, splendid condition, only needs seeing, tax paid; bought car; room needed; first reasonable offer. — Bovey, Farnborough, Orpington, Kent. [9935

1920 3½h.p. Sunbeam and Sporting Canoelet Sidecar, Lucas acetylene lighting, Lucas horn, leg shields, mileage 1,500, most excellent condition; £155. —Box 413, c/o *The Motor Cycle*. [X0784

1920 Sunbeam 3½h.p., Henderson sidecar, lamps, Cowey horn, speedometer, hood, wind screen, spares, perfect condition, tax paid; £165; seen by appointment.—Hocking, Royal Mint, E.1. [9337

1919 8h.p. Sunbeam Combination, lighting set, speedometer, licence, perfect order, £190; 1919 3½h.p. Sunbeam, Gloria sidecar, lamps and licence, £140.—Tilleys, Esplanade, Weymouth. [9406

SUNBEAM, French Military Model, 4h.p., 1919, overhauled and new bearings fitted by makers, unused since, excellent condition, spares and tools; £120, or offer.—Beveridge, Pitreavie, Dunfermline. [9314

1920 Sunbeam 3½h.p., Gloria sidecar, Easting screen, speedometer, Klaxon, leg shields, mileage 1,600, in absolutely first-class condition throughout; price £160. —East Grinstead Garage, East Grinstead. [9061

IMMEDIATE Disposal.—1921 8h.p. Sunbeam combination, dynamo lighting set; cost £294, fully equipped. This particular machine was exhibited at the Olympia. What offers?—81, London Rd., Croydon. 'Phone: 1087. [9527

SUNBEAM 3½h.p. 1921 Touring Model, absolutely brand new, Lucas Magdyno, licence paid for, just cost £189, will accept £155, or close offer; a genuine bargain.—67, Great George St., Liverpool. 'Phone: 1092 Royal. [9988

8h.p. Sunbeam Combination, full accessories, delivered end 1919, but stored considerable period, mileage 1,500 only, condition absolutely new; accept £190 quick sale.—Further particulars, Osborne, Sackville House, Littlefield Lane, Grimsby. [9368

3½h.p. Sunbeam, Milliord sidecar, new July, 1919, speedometer, lamps, horn, Low generator, spare cover, 2 tubes, puncture preventer, waterproof suit, mileage only 1,604, insured, tax paid, perfect; £130. —Redhead, 10, Crouch Hall Rd., Crouch End, N.8. [1367

3½h.p. Sunbeam Combination, 1920 sporting model, Binks carburetter, long plated exhaust pipe with muffler, plated tank, Lucas lamps, Cowey speedometer and horn, Swan sporting sidecar with fitments, many spares, including 2 Avon unused covers; this outfit is in excellent condition and as new; tap paid; £170.—Eadington, Alderley Edge. [X0628

Swift.

SWIFT 7-9h.p. Twin 2-seater, 4-speed, gate, 5 new tyres, perfect, reliable, go for ever; 100 gns.—54, Coval Rd., Mortlake. [X0870

T.D.C.

T.D.C., 2¾h.p., perfect condition, C.A.V., semi-T.T. long exhaust, black and gold; photo; £35.—20, Frankfort St., Birmingham. [1182

2¾h.p. T.D.C. de Luxe, 2-stroke, 2-speed, in running order, lamps, generator, toolbag; £27.—Apply, Crown Cottage, Leitrim Grove, Battersea. [9418

T.D.C. de Luxe 2-stroke, single-speed, 1920, perfect condition, running every day; £38; no cheques taken.—Haynes, Eastwood, nr. Ledbury, Herefordshire. [9682

T.D.C. 2¾h.p., 2-stroke, Albion 2-speed countershaft gear, new tyres, belt, Amac, lamps, horn, aluminium footboards, tax paid; £40.—Grove Cottage, Coptborne. (Or exchange.) [1337

Thor.

THOR and Rennoe Sndecar, electrically equipped, unpunctured, done 3,000 miles only, all on, Royal blue finish and new plating; sacrifice £100 for quick sale; any trial, Saturday afternoon or Sunday. —51, Brigstock Rd., Thornton Heath, S.E. [1235

MOTOR CYCLES FOR SALE.

Torpedo.

TORPEDO-PRECISION 2¾h.p., B. and B., Grado, excellent condition; best offer over £33.—79, Verulam Rd., St. Albans. [9575

Triumph.

PREMIER Motor Co. for 1921 Triumphs.

WE Can Deliver to Your Address within 24 hours: 2¼h.p. lightweight Triumph, £75; W.D.B. (renovated), £95; Type H 4h.p. 3-speed, £127/10; Type S.D., chain drive, £140; sidecars painted to match from £25 to £55; buy your machine direct from the Triumph specialists.—The Premier Motor Co., Aston Rd., Birmingham. [8895

JULIANS, of Reading, have 1921 Triumph in stock. [0487

ALL Model Triumphs from stock at list prices.—Cross, Agent, Rotherham. [X0659

TRIUMPH Gloria 1920 Combination; £125; licensed, perfect order.

TRIUMPH, W.D.B., left Triumph's Aug., 1920, ridden under 500 miles, full tools, equipped; £80; absolutely unscratched.—7, Exhibition Rd., S.W.7. [1582

TRIUMPH Combination, as new, all on; £105.—70, Baring Rd., Lee, Kent. [1268

TRIUMPH and C.B. Sidecar, fast, reliable, perfect; £50.—54, Coval Rd., Mortlake. [X0868

1920 Triumph Combination, very nice order; £110.—Ross, 86, High Rd., Lee, S.E. [1389

1915 Triumph Countershaft, very nice order; 70 gns.—Ross, 86, High Rd., Lee, S.E. [1390

NEW (not renovated) 1920 Triumph 4h.p., 3-speed; £105.—2, Chudleigh Rd., Ladywell. [1344

TRIUMPH 4h.p., late 1919, 3-speed, etc.; £75; bargain.—Marston, Bridge St., Chester. [1731

TRIUMPH Combination, 1919; £90; new, tax paid.—The Laurels, Brighton Rd., Purley. [9737

TRIUMPH, countershaft, re-enamelled and plated; £70.—272, Green St., Forest Gate, E.7. [7748

3½h.p. Triumph, good condition, new mag.; must sell; £25, nearest.—Sherlock, Fowley, Liphook. [9433

T.T. Triumph, not W.D., 1914 model, complete lamps; £42.—Cross, Agent, Rotherham. [X0657

1920 Triumph 4h.p. H Model, brand new; what offers?—Stanley Dorrington, Wistow, Hunts. [9704

DAN GUY, Weymouth.—1921 Triumph combination, £182/10; Trimmph 2-stroke, £75; in stock. [0555

TRIUMPH 3½h.p., clutch, Philipson, perfect order; cheap; permit refused.—King, Lismore, Ireland. [9696

1914 3-speed Triumph and Milford sidecar, complete, lamps, etc.; £63.—Cross, Agent, Rotherham. [X0658

TRIUMPH 4h.p. T.T. Model, W.D. handle-bars, decompressor, guaranteed perfect; £85.—Moss, Wem. [X0722

TRIUMPH 3½h.p. C.B. Combination, 3-speed, good order, tax paid; £58.—102, Kenyon St., Fulham. [1218

£35.—About 1912 clutch Triumph, re-enamelled, thoroughly overhauled.—King, Egrove Farm, Oxford. [X0791

BRAND New Triumph Model H., unsoiled; 105 gns.—Parker, Station Rd., St. Ives, Hunts. 'Phone: 15. [1561

3½h.p. Triumph, T.T., clutch model, unused 1914-19; reliable bargain, £36.—Mitchell, 239, Park Rd., Luton. [X0796

TRIUMPH 1913 3½h.p., clutch, all accessories, as new, tax paid; £35.—174, Leander Rd., Brixton, S.W.2. [1670

TRIUMPH Combination, 1918, all accessories, tax paid; £95.—Grimes, 18, Bruton Place, Bond St., W.1. [1741

1921 Triumphs, all models in stock, and Gloria sidecar.—Daw, 114, Brixton Hill, S.W.2. 'Phone: 1713. [1044

TRIUMPH 1920 4h.p., 3-speed, Lucas lamps, etc., excellent condition; £95.—Canon Back, Berkswell, Coventry. [X0595

1913 3½h.p. Triumph, clutch model, lamps, Klaxon, etc., perfect, tax paid; £35.—P.T.H., 276, Albany Rd., S.E.5. [9331

1917 4h.p. Triumph, countershaft 3-speed, tax paid, lamps, horn, etc., as new; £68.—41, Anerley Park, S.E. [1445

TRIUMPH; £105; 1919, 4h.p., Sunbeam 45 gn. sidecar, lamps, horn, tools, tax paid.—Sutton, Clacton-on-Sea. [1273

1921 Triumph, Gloria combination, brand new, unridden, tax paid.; £170.—44, Longfield St., Southfields, S.W.18. [9321

1920 Triumph, T.T., new condition, lamps, horn, tax paid, single gear, perfect; £80.—Shaw, Durkar, Wakefield. [9316

TRIUMPHS.—A fine selection of Triumphs in stock, fully guaranteed; inspection invited.—Ross, 86, High Rd., Lee. [5671

3½h.p. Triumph, single speed, drop frame, equipped, good condition, ride away; £40.—46, Balham High Rd., S.W.12. [9983



Examples of NEW 1921 Solo Models in Stock.

B.S.A., Model K.2, chain-cum-belt, 4¼ h.p.	£107
B.S.A., Model H.2, chain drive	£110
NORTON, No. 16H, 3-speed, sports models, 3½ h.p.	£132
NORTON, T.T. models, 3½ h.p.	£98
DIAMOND, Model E, 2-speed, 2¾ h.p.	£84
INDIAN, Scout Model, 4 h.p.	£157
HUMBER, flat twin model, 4¼ h.p.	£140
SCOTT, Squirrel Model, 3¾ h.p.	£130
RUDGE-MULTI, T.T. model, 3½ h.p.	£85
TRIUMPH, Model H	£115
TRIUMPH, chain drive model. 4 h.p.	£125
VELOCETTE, sports and standard models, 2¼ h.p.	£75
ZENITH, sports model, 5 h.p.	£123
ZENITH, sports models, 6 and 8 h.p.	£139

EXAMPLES OF SECOND-HAND SOLO MACHINES IN STOCK.

1921 **A.B.C.,** 4-speed, k/s; list price, £120; indistinguishable from new	£100 0
1921 **ENFIELD** Lightweight, 2-speed, and kick-start model; list price, £70; soiled only	£62 10
1921 **MARLOE,** 2¾ h.p. Blackburne, 2-speed, clutch, and kick-start, Roadster Model, soiled only	£85 0
1920 4 h.p. **TRIUMPH,** T.T. direct drive model, soiled only	£85 0
1920 **TRIUMPH,** Model H, 4 h.p., 3-speed, complete	£92 10
1920 **BLACKBURNE,** 4 h.p., completely equipped, soiled only	£105 0
1919 **NORTON** Big Four, 3-speed model, complete	£100 0
1920 **P. & M.** solo model, Lucas accessories, as new, mileage 300 only	£90 0
1919 **SUNBEAM,** 3½ h.p., 3-sp., Lucas lamps, speedometer, etc., excellent specimen of a high-class type	£120 0
1914 3½ h.p. **SUNBEAM,** 3-speed, stored 3 years, and complete with lamps and horn	£75 0
1920 **ZENITH,** 8 h.p., sports model, soiled only; list price, £139; special price	£110 0
1920 **ZENITH,** special 3 h.p. competition model, complete with Bonniksen speedometer and 1921 licence. (Winner of second place, one hour race, Brooklands)	£95 0
1920 **ROVER,** 3½ h.p., T.T. model, Philipson H.B. controlled pulley, speedometer, and all lamps, as new, very fast	£92 10
1920 **NORTON,** 3½ h.p., T.T. model, with Philipson pulley and speedometer, very fine condition, quite fast	£95 0
1920 **EDMUND-J.A.P.,** 2¾ h.p., 2-sp., spring frame, lamps, and horn, mileage 300 only	£62 10
1920 **COVENTRY EAGLE,** 2¾ h.p. J.A.P., 2-speed, clutch, and kick-start, with speedometer and Cowey horn, soiled only	£70 0
1920 **ALLDAYS ALLON,** 2-speed, clutch, and kick-start, Lucas lamps, and speedometer, almost new	£67 10
1920 **O.K.** Lightweight, single gear, complete with lamps, horn, and 1921 licence	£37 10

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MOTOR CYCLES FOR SALE.

Triumph.

1921 Triumph Combination; immediate deliv £165; Junior Triumph, £70.—Kemp's Ga Louth, Lincs. [X0

TRIUMPH, renovated, sidecar, unused, lamps, h Dunlops, tax; £123, or near.—Spencer, Colin House, Hendon. [9

TRIUMPH, 4h.p., countershaft, condition as late model; £70.—Handslip, Fire Station, S Parade, Chelsea. [

1921 All-chain Triumph, unused, licensed, a series; £130.—Capt., Ryeish Farm, Spen Wood, Reading. [

LATE 1920 Single-geared Triumph, small mile condition as new; £97.—Rudd, Stapenhill Burton-on-Trent. [

1914 Triumph 3½h.p., 3-speed hub, perfect or any trial; £45.—Snodgrass, 18, Junction Brentwood, Essex. [9

TRIUMPH 1913, 3-speed hub, lamps, accessories, cellent condition; £43.—Clarke, Tobacco Oundle, Peterborough. [9

TRIUMPH and Coach Sidecar, 2-speed, free, Bo conditiou and running splendid; £58.—63, Su Sq., Walworth, S.E. [1

3½h.p. Triumph, excellent condition, new engine fitted; £45, or near offer.—H.P., Lullings Castle, Eynsford, Kent. [9

3½h.p. Triumph, clutch, all accessories, Dunlops, hauled, powerful; £29; appointment.—Reeve, Poplar St., Romford. [9

TRIUMPH 4h.p. Model H Countershaft and Sun Gloria Sidecar, all new, unused; list £182 £170.—Moss, Wem. [X0

3½h.p. Triumph, 1912, tax paid, Bosch, Mabou cl pulley, lamps, mechanical horn; £37.—8, Th dean St., Earlsfield. [1

3½h.p. T.T. Triumph, clutch, lamps, horn, k grips, recently overhauled, fast; £48.—67, St., Southwark, S.E. [1

TRIUMPHS.—Can we help you to a new mo either cash or easy payment?—Bunting's M Exchange, Wealdstone. [1

1919 Triumph Combination, electric light, f equipped, spares, tax paid; what reasonable of —61, Argyle Rd., Ilford. [9

TRIUMPH, sporting model, just overhauled, licen equipped, £40; also Triumph sidecar, £10.— Gt. Knollys St., Reading. [9

1918 Triumph, C.B. sidecar, fully equipped and excellent order; £99/10; tax paid.—103, Mayd ton Rd., Bowes Park, N.22. [9

TRIUMPH Countershaft, late model, and accesso in good mechanical order; £80.—Bounds, 2 High Rd., Kilburn, N.W. [9

3½h.p. Triumph, 3-speed, clutch, enamelling platiug as new; any trial given; £48.—18, P Av., Golders Green, N.W.4. [9

£48.—4h.p. Triumph, 3-speed, foot clutch, new m stored during war, mechanicall- perfect, late 19 —31, Halford Rd., Fulham. [9

TRIUMPH 4h.p., with Henderson B1 sidecar, Cm wind screen, all lamps, horn, etc.; £105.—28, Lo Addiscombe Rd., East Croydon. [9

4h.p. Coachbuilt Triumph Combination, 3-spe clutch, lamps, horn, perfect running order; £ near offer.—St. Olaues, Chertsey. [1

TRIUMPH Combination, 3-speed, Canoelet sided lamps, speedometer, tools, etc.; £65.—East Vi Chase Court Gardens, Enfield. [1

TRIUMPH 1920 Montgomery Combination, equipp licensed, perfect order; £110.—Young, 114, Ash Rd., Hugglescote, Leicestershire. [X0

TRIUMPH C.B. Combination, 1913, clutch mod overhauled by makers, new tyres, belt; £36 68, Gloucester Rd., Camden Town. [1

1919 Countershaft Triumph Combination, lu equipped, condition perfect, any trial; £100 37, Rye Hill Park, Peckham Rye. [1

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4 3½h.p. Triumph, 1913, 3-speed gear, £50; Triumph, 1914, 3-speed model, £55. [1

TRIUMPH Coachbuilt Combination, 2-speed free, fully equipped, tax paid, perfect conditio £50.—214, Grange Rd., Bermondsey. [10

TRIUMPH, all models in stock, W.D., fully guar teed by makers; £105.—Ratcliffe Bros., 200, Portland St., W. Langham 1704. [0

1920 Triumph 4h.p., 3-speed. K.S., countershaft, lamps, Cowey speedometer, as new; £118.— The Parade, Golders Green, N.W.4. [9

COUNTERSHAFT Triumph, late gear change, fu equipped, tax paid, indistinguishable from ne £95.—Tustain, Regent St., Leamington. [X0

TRIUMPH 4h.p. C.B. Combination, new 1919, acc sories, tools, spares, licence paid; £80.—7, Cl don Rd., Highams Park, Chingford. [1

TRIUMPH 3-speed F.E. Combinatiou, Swan C sidecar, condition perfect; sacrifice first £8 Holborow, Chipping, Tetbury, Glos. [1

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH Sporting T.T., 3½h.p., recently overhauled, cylinder reground, new piston, discs, accessories; £40.—41, Arngask Rd., Catford, S.E.6. 1287

TRIUMPH, 1912, clutch, new belt, good tyres, accessories, good condition, licensed; £28; appointment.—Unmack, West Horsley, Surrey. [1278

1919 4h.p. Triumph, tax paid, 3-speed countershaft, splendid condition, accessories, etc.; £85.—Eastope, Sharp Bros.-Knight, Burton-on-Trent. [9570

TRIUMPH 3½h.p., adjustable pulley, good tyres, cylinder reground and new piston; £25.—Morris, ge, Watford Rd., Northwood, Middlesex. [1124

1919 Junior Triumph, lamps, accessories, complete, little used; £60, or near offer; view by appointment.—Weiler, 42, Eton Av., Hampstead. [1023

1919 Triumph, Model H, Mills-Fulford, Lucas lamps, tax paid, new condition; £110, or exchange solo.—The Poplars, Durkar, Wakefield. [1075

1920 T.T. Triumph, all accessories, perfect condition, very fast, with cash, for A.B.C. or similar, or sell; offers.—161, Alliance Av., Hull. [1349

LATE 1915 Triumph, only done 4,400, engine perfect, overhauled, Stewart speedometer, Lucas lamp, horn, etc.; £65.—Hillyard, Twyford, Winchester. [9602

1919 Triumph, 3-speed, K., licensed, equipped, new tyres, £80; 1913 ditto combination, 3-speed, beltbuilt, £50.—Shaw, Park St., Wellington, Salop. [X0707

TRIUMPH, 1920, Gloria sidecar, hood, lamps, screen, every accessory, perfect condition, insured, tax paid; £150, or near.—6, Park Rd., East Twickenham. [9738

TRIUMPH 1918 Combination, commercial box body, suit any trade, also pleasure body to fit, complete outfit; £97/10.—2, Station Rd., Egham, Surrey. [9767

1920 Triumph and Gloria Sidecar, 3-speed, wind screen, new June last, splendid condition; seen any time.—28, Osborne Rd., Earlsdon, Coventry. [X0827

TRIUMPH 1920 4h.p. Model, Triumph sidecar, Watford speedometer, equal to new; £160.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X0679

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, very small mileage; £65.—D. Lavin, Old House, Sonning, Berks. [9354

TRIUMPH, late 1914, 3-speed, just had £30 overhaul by makers, as new, £55, offer; new Tan-Sad. 5/-.—L.M., 1a, Carlton Mansions, Park Rd., N.8. [1399

1916 Triumph Gloria Combination, Lucas lamps, Klaxon, Easting, spring footboards, variable jet; 108.—205, Hampstead Way, Golders Green, N.W.11. [1434

1920 2¼h.p. Triumph, as new; £62/10; splendid condition.—Mason's Garage, Letchworth, Herts. [1084

1920 4h.p. Triumph, Gloria sidecar, hood, screen, Tan-Sad, Cowey horn, all lamps, spares, tools, splendid condition; £155.—78, Locksley St., Poplar. 14. 9593

TRIUMPH, 1918-19, 3-speed countershaft combination, bulbous sidecar, wind screen, Klaxon, 3 lamps, good condition; offer.—29, Cromwell Grove, W.6. [1048

TRIUMPH, countershaft, faultless condition, indistinguishable from new, fully equipped; 80 gns.—7, Longridge Rd., Earl's Court. 'Phone: Western 944. [1208

TRIUMPH-GLORIA Combination, 1919, fitted scoop and Triplex screen, lamps, horn, tax; £138; seen by appointment only.—Jeffryes, 39, Warren Rd., Wanstead. [1276

4h.p. Triumph C.S., Bosch mag., T.T. handle-bars; mechanically perfect, horn, lamps, 1920 C.B. sidecar, splendid outfit; £118/10.—H., 190, High St., Stokenewington. [9579

TRIUMPH Combination, 1918, not W.D., aluminium discs, good tyres and accessories; £100.—10, R.F.C. Quarters, Uxbridge Rd., South Farnborough. [1148

TRIUMPH Junior, 1920, perfect order and indistinguishable from new, complete with lamps, horn, all licence paid; £60, or nearest.—Tippen, High St., Marden, Kent. [1121

1914 Triumph, 3 speeds, clutch, wide sporty bars, excellent running order and condition, acetylene lamps; £58.—Apply, 246, Cambridge Rd., E.2 (bottom of Hackney Rd.). [8562

TRIUMPH 1920 4h.p., countershaft, Model H, in good condition, complete with lamps, horn, and licence paid; £95, or nearest offer.—J. Day, The Thorn Farm, Marden, Kent. [1119

CHAIN Drive 4h.p. Triumph, 1920, tax paid, overmatic tyre, special mudguards, electric lighting, enclosed spring fork, all spares; £115.—Tenge, Whitehouse, Kenilworth. [X0859

1916 Triumph, 3-speed, renovated by makers, fully equipped, new Dunlops, Tan-Sad, everything guaranteed perfect; £58.—Thomas Farmer, Inglewood, St. James's Rd., Sutton. [1170

TRIUMPH 4h.p. 1914, 3-speed, with coachbuilt sidecar, engine and gears perfect, re-enamelled, accessories; £60.—Wood, 330, Balham High Rd., S.W.17. Tel.: Latchmere 4368. [1362



Examples of NEW 1921 Combinations in Stock.

ENFIELD Magdyno Combination, 8 h.p. **£182**
ENFIELD Colonial Combination, 8 h.p. **£160**
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MATCHLESS-M.A.G. Combination, 8 h.p. **£205**
NORTON Combinations, 4 h.p. ..... —
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MOTOR CYCLES FOR SALE.

Triumph.

1919 Triumph Countershaft, lamps, speedometer, engine perfect, just overhauled, done 4,000; £85; seen any day by appointment.—E. J. Roney, 4, Southside, Wimbledon Common. [9295

CROYDON Agents for Triumph motor cycles. All models in stock, ready for immediate delivery.—Moore's Presto Motor Works, Ltd., 145, North End, Croydon. 'Phone: 2624. [1349

1920 Triumph Combination, Gloria special sidecar, electric light, Lucas horn, very little used, unscratched, tax paid; £150. — 40, Park Avenue South, Hornsey. [9940

1920 Triumph Combination, Montgomery sidecar new, Lucas accessories, licensed, guaranteed perfect, and not W.D.; £122; evenings or appointment.—97, Wantage Rd., Reading. [1275

TRIUMPH 4h.p., 1919, Oct., excellent condition; £100, or combination £115.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, S.W.2 (half minute Brixton Skating Rink). [9891

TRIUMPH, W.D.B., renovated by makers, in stock for immediate delivery, new tyres, £95; another £90; Montgomery sidecar to match, £25.—The Premier Motor Co., Aston Rd., Birmingham. [8896

1914 Triumph 4h.p., 3-speed and clutch, B. and B., Bosch, good tyres, not been run since renovated at cost of £10; price £70 with sidecar, and £65 without.—S. Cuckson, Firbeck, Rotherham. [9440

COUNTERSHAFT W.D. Model Triumph, renovated, replated, re-enamelled, guaranteed 3 months; £20 down and 12 instalments of £5/15/6.—Auto Traders, Ltd., 84, Jermyn St., London. [1252

3½h.p. Triumph, N.S.U. gear, excellent condition, recently overhauled and refinished, tyres as new, lamps, horn, leg shields, etc., tax paid; £35, no offers.—Beanmont Broadbottom, Manchester. [X0652

1920 4h.p. T.T. Triumph, single gear box, long exhaust, 2 lamps, 2 generators, Stewart horn, kneegrips, condition perfect, done 3,000 miles; £77, or offers.—Ivydene, Tichborne St., Leicester. [1488

1919 Triumph, engine 62903, lamps, tools, speedometer, etc., tax paid, new tyres, completely overhauled, not W.D.; £90.—Saturday after 4, or write, 10, Palace Rd., Streatham Hill, S.W.2. [1302

TRIUMPH Combination, 3-speed, electric light, fully equipped, £70; 4h.p. Douglas, 3-speed, kick starter, £60; 1916 2¾h.p. Douglas, £45.—13, Pindock Mews, Warwick Av., W.9. (Mornings.) [7702

TRIUMPHS. We are the North London agents, and can give immediate delivery; chain drive, chain-cum-belt, and renovated models.—Jones Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0382

TRIUMPH 4h.p. 1920 Combination, special Gloria sidecar, lamps, wind screen, mechanical horn, mirror, Tan-Sad, splendid condition, tax paid; £155.—11, Grove End House, St. John's Wood Rd., N.W. [9489

£40; Triumph, 1914, 3-speed and free engine, 4h.p., in fine condition, new piston, rebushed, new rocker arms, timing wheels, gold lines, a bargain; coachbuilt sidecar for £8.—34, Union St., Winchester. [1507

1921 Triumph H and Junior; also sidecars in stock; deferred payments, quarter down and 11 payments.—Lambs, 151, High St., Walthamstow; 387, Euston Rd., N.W.; 60, High Rd., Wood Green, N. [7868

TRIUMPH, late 1914, with Swan sidecar, in perfect condition, all accessories, spare tyres, tube, complete valve, front buttress and spring, tax paid; 75 gns.; after 6.—12, Radcliffe Av., Harlesden, N.W.10. [1186

LATE Model Countershaft Triumph and Coach Sidecar, 3-speed, hand clutch, kick-starter, engine No. 57747, lamps, 2 generators, horn, tax paid; any trial; £87; after 6.—69a, Hambalt Rd., Clapham Common. [1113

LATE 1919 Triumph Model H with coachbuilt sidecar, lamp, horn, speedometer, College shields, all spares, ridden 1,500, everything perfect and indistinguishable from new; £105.—Hosford, Magazine Rd., Cork. [9861

TRIUMPH 3½h.p., low Chater frame and bars, Bosch, B.B., Dunlops, good tyres and belt, hand enamelled, 2 lamps, horn, overhauled, ready for use; seen any time; £35, or nearest.—Troutt, Castle Garage, Rippleside, Barking. [9781

IMMEDIATE Delivery of any Triumph Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [C504

TRIUMPH 1921 Models in Stock for immediate delivery at current prices; exchanges arranged; also Triumph H. models, renovated by makers, as new, £90 and £95.—Eagles and Co., 275, High St., Acton, London. [1538

4h.p. Countershaft Triumph Combination, 1916, just overhauled, guaranteed mechanically perfect, roomy and comfortable bulbous back sidecar, lamps, horn, tools; £90.—Langford's 37, Cricklewood Broadway, N.W.2. [9380

1919 Triumph Combination, Easting, as new, tyres, all lamps, horn, new spare chain, valves, tools, spare belt, magnificent condition, absolutely perfect, tax paid; £105.—Limby, 9, Stanhope Mews South, Gloucester Rd., S.W.7. [9507

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MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1914 4h.p., 3-speed, clutch, Bosch, B. and B., low position, knee grips, complete lamps, new Dunlops, spare belt, complete tools, enamel good, mechanically sound, licence paid; £70.—Sawtell, Sherborne, Dorset. [1238

TRIUMPH 1914 Combination, Gloria sidecar, fully equipped, speedometer, wind screen, new piston, cylinder, tyres unpunctured, tax paid, splendid condition; £85, or offer.—Islip, 28, St. Mark's Rd., Maidenhead. [1325

F.O.C.H. are Triumph agents. New and second-hand machines in stock. Exchanges or easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9752

£55.—Posh Triumph, 1914, 3-speed, clutch, fast, lamp set, plating as new, new cover and belt, not W.D., just had £20 overhaul; any trial; written guarantee, no offers. After 5.—53, Gt. Cambridge St., Hackney Rd., Shoreditch. [1403

TRIUMPH (June) 1920 Model H, 3-speed, only ridden solo, excellent condition, small mileage, Cowey speedometer, mechanical horn, tax paid, seen by appointment; £110.—Lister, Glendale, Sandhurst Rd., Tunbridge Wells. [1078

BARGAINS.—Countershaft Triumphs, 1917-19; £70 to £80; guaranteed rebuilt with new parts, all accessories; open to any examination; appearance as new.—South Vale Garage, Upper Norwood, S.E.19 (5 mins. Crystal Palace). [1152

SPORTING Triumph, countershaft, late 1916, 3-speed, kick, clutch, large exhaust, kneegrips, Pedleys, many spares, tax paid, fast, perfect; experts welcomed; privately owned; £76.—Seen King Street Garage, Watford. [9949

1919 (Oct.) 4h.p. Triumph with Montgomery sidecar, lamps, horn, Easting, luggage grid, etc., nearly new Dunlops, excellent condition, driven present owner only, tax paid, trial by appointment; £105.—C. B. Coxwell, Admiralty, London. [9783

1921 Triumph H, delivered Jan. 20th, new wide bars, nickel-plated exhaust, aluminium footboards, lamps, horn (Lucas), tax paid, mileage 150, perfect order; £133, or nearest; Pembrokeshire.—Box 3,024, c/o *The Motor Cycle*. [8881

TRIUMPH 1914 3-speed and coachbuilt sidecar, private owner, engine and gears overhauled by makers, fully equipped, spares, tax paid, tyres nearly new, nice looking and sound outfit; any trial; £65.—E., 46, Wightman Rd., Harringay, N.4. [9830

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Triumphs, all models in stock, new chain drives, new chain-cum-belts, solos and combinations; also 4h.p. renovated models, £90 and £95; immediate delivery; supplied on easiest of easy terms. [1621

TRIUMPH Model H, 1919, 3-speed countershaft gear, with coachbuilt sidecar, excellent condition, £88; also a few Triumph models, entirely renovated, £78; Triumph Junior, with all accessories, £45.—Eagles and Co., 275, High St., Acton, London. [1537

TRIUMPH Model H, No. 58243, purchased brand new July, 1920, beautiful condition, tyres unpunctured, mileage guaranteed not exceeding 500 miles, licensed and fully insured; £90; evenings after 7 p.m. —3, Sutherland Av., Sunbury-on-Thames. [1450

TRIUMPH, W.D., 4h.p., new April, 1920, mileage under 1,000, 3-speed, kick start, fully equipped, complete accessories, tax paid, perfect mechanical condition and appearance; 100 gns.; St. John's Wood district.—Box 3,175, c/o *The Motor Cycle*. [1648

SUPER-SPORTING Triumph, T.T., 1919 (Nov.), Philipson pulley, lamps, horn, speedometer, 2½in., copper exhaust, tools, spares, 196 lbs., licensed; 90 gns.; exchange with cash late 16 L. Norton.—W. G. Worthington, Maple Hayes, Lichfield. [1461

F.O.C.H. have a 1920 4h.p. Countershaft Triumph and B.S.A. sidecar, all lamps, speedometer, tools, luggage grid, tax paid; £130, bargain.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9750

1919-20 4h.p. Triumph and Gloria, 3 speeds countershaft, in excellent order, speedometer, Lucas lamps, horn, mirror, footboards and leg shields, extra heavy Dunlops, 1 spare cover, 2 tubes, insurance to April 26th; £155.—Titt and Co., Woodcock Works, Warminster, Wilts. [8539

TRIUMPH 1921 4h.p., Model H, complete with Cancelet touring sidecar, lamps, horn, and 1921 licence, unused; cost £152/10; advertiser cannot retain for financial reasons; will accept £139 cash for quick sale; any examination or trial allowed.—Hills, 12, Woodstock Rd., Oxford. [X0863

F.O.C.H. have a new 1921 Triumph S.D. model, all chain, slight dent top of tank, £10 under list, cash or deferred terms; also good 3½h.p. model, Mabon clutch, tax paid, £35.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9751

1919 Triumph Combination; £118; Cancelet coach-built sidecar, new last September, acetylene, electric lamps, Cowey speedometer, new Easting wind screen, Tan-Sad, etc., other accessories, spares, very complete turnout, condition excellent throughout; trial given, fast and good climber, recently overhauled, owner buying car.—34, Malwood Rd., Balham Hill, S.W.12. [9653

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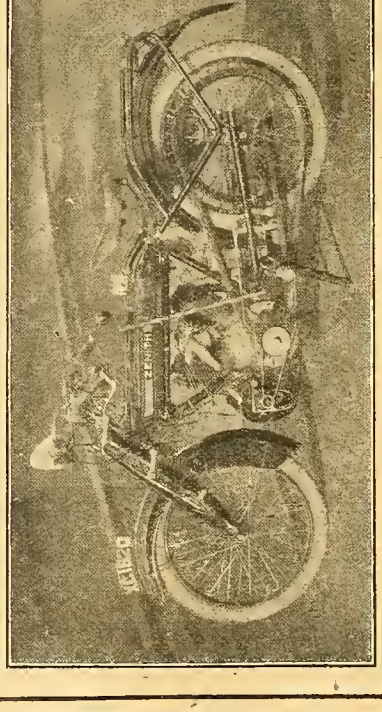
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MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH Combination, 4h.p., 3-speed, C.S., kick start, in excellent condition throughout, lamps, horns, wind screen, many spares, complete accessories, tax paid, macintosh overalls, and waterproof cover for machine; bargain, £110; seen any time by appointment.—F.H.S., 9, Savernake Rd., N.W.3. [949

TRIUMPH Countershaft Combination; the machine is unscratched and as new in every way; it is fitted with aluminium disc wheels, lamp, horn, and toolbox, the sidecar is brand new underslung fitted with disc wheels, luggage grid, wind screen, and locker at rear, tyres uncut, the whole outfit as new; price £11 including tax; seen and tried any time, not W.D.—10, Bonner Hill Rd., Kingston-on-Thames. [982

JUST been completely renovated, re-enamelled and replated by makers, privately-owned 4h.p. W.D. C.S. Triumph (latest decompressor), never had sidecar attached, now fitted with brand new polished 3-speed gear box, clutch and K.S., new 28×3 Palmer heavy cord, Lucas King of Road large head and Siemen's dry battery rear lamps, Cowey horn, licence paid, and F.R. holder, solo gears; any inspection; £88, no offers; Coventry.—Box 421, c/o *The Motor Cycle*. [X085

GRAY and Raynes have 4h.p. T.T. Triumph, late 1920 model, lamps, etc., tax paid, condition and appearance as new, total mileage about 200, for quick sale, £90; also 4 h.p. late 1920 countershaft Triumph and Henderson Elite sidecar, Cameo screen, discs and wheels, lamps, horn, etc., tax paid, lovely turnout, cost over £200 new, all tyres are good and original, a gift, £145; cheaper machines and cash considered, but must be reasonable; for cheap mounts, see our advts. Miscellaneous items, and Scott and Matchless columns.—8, Low Rd., Balby, Doncaster. [989

Velocette.

JULIANS, of Reading, have 1921 Velocette in stock [048

VELOCETTE, the super 2-stroke, from Coventry Motor Mart, London Rd., Coventry. 'Phone 200. [X084

VELOCETTE 1920, new, 2-speed, with lamps complete; £70.—Farrer, 1, Princes Parade, Church End, Finchley. [957

1920 Velocette 2¼h.p., 2-speed, Lucas lamps and horn, almost as new (unlicensed); £56.—Tozer, Headlands, Kettering. [954

1915 Velocette, 2-speed, all chain, new Amac, good tyres, ride away anywhere; £33.—Ewers, Newton Rd., Burton-on-Trent. [945

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [470

VELOCETTE 2¼h.p., 1916, 2-speed, all-chain drive, carefully used, perfect condition; £45; seen London, W.—A. E. R. Beacon, Chilwood Gate, East Grinstead. [970

IMMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¼h.p., 2-speed, all-chain drive; £75.—Agents, W. Sparrow, Ltd., Osborn Garage, Yeovil. [163

1921 Velocette, Model D3, 3-speed, £85; Model D, 2-speed, £75; Model DL2, lady's open frame, £78; all in stock for immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [89

1919½ Velocette 2-stroke, special handle-bar controlled 2-speed, automatic lubrication, Lewis sized tank, comfortable handle-bars, pneumatic grip, easy starter, does 110 per gallon, all-black finish, well lined, weight 125 lbs., chain drive, tax paid; £49.—Reg. Laver, Unthank, Norwich. [163

Verus.

VERUS-BLACKBURNE, 2-speed, kick start, brand new; £80; only one left.—Clark, 7, Exhibition Rd., S.W.7. [917

1920 Verus-Blackburne 2¾h.p., kick start, lamps, horn, tools, insurance; £85.—Turner, Duncton, Petworth, Sussex. [13

2¾h.p. 1920 Verus-Blackburne, excellent condition, 2-speed, clutch, and kick start, Miller lamps, Cowey horn; £95.—Spencer, The Lawn, Aylestone, Leicester. [947

VERUS 1920 2-stroke, hand clutch, 2-spjeed, kick start, semi-T.T. bars, tax paid; bargain, £5 liberal exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. [153

VERUS, late 1920, 2-stroke, 2½h.p., 2-speed, kick start, mileage 500, lamps, horn, £68; also Verus 2¼h.p. solo, late 1920, lamps, horn, hardly used, £48.—Virgo, 156, High St., Hounslow. Tel.: 125. [94

IMMEDIATE Delivery of any Verus Model; cash or deferred payments book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [050

VERUS-BLACKBURNE 4h.p., 1920 (Aug.), T.T. Sturmey-Archer 3-speed gear, special large tyre saddle and mudguards, 17T sprocket, long exhaust pipe, fully equipped, tax £3 paid, mileage 250, condition guaranteed perfect; £105, bargain.—66, Hawarden St., Bolton, Lancs. [94

Victoria.

VICTORIA 4¼h.p., overhauled, also accessories, genuine bargain.—Cuthbertson, Listowel, Co. Kerry. [94

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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The Transport Crisis.

AS we go to press the nation is faced with a crisis such as has never before confronted the country. Once more the Government appeals to patriotic motor cyclists to give assistance in the interests of the community, and we know that the large number of motor cyclists required in the event of a suspension of ordinary forms of transport will be forthcoming.

Both the A.C.U. and the A.A. are inviting motor cyclists to offer their services immediately, and, no doubt, by the time these words appear in print, the emergency organisations of the respective bodies will be in a position to advise the Government that loyal assistance of thousands of motor cyclists may be relied upon.

Both drivers and vehicles are required, and motor cyclists are asked to register with either the A.A. or the A.C.U., offering their services and the use of their machines in order that the community may not lack food and other necessaries, and to help the authorities to maintain an adequate road transport service for these purposes.

If the occasion arises, there will be one more opportunity to demonstrate to the Government and the country at large the great utilitarian value of the motor cycle, and we know that British motor cycles and British motor cyclists will again prove their worth as they have done in the past.

186,000 Motor Cycles Licensed.

UNTIL the present scheme of licensing road vehicles came into force there was no reliable means of defining the exact number of motor cycles on the road. The registration figures were distinctly misleading, as they included many motor cycles which had been either dismantled or were in a state which rendered them quite unfit for use.

Now that the licensing scheme has been in working order for some months, the authorities are able to disclose the fact that the number of motor cycles licensed to be used upon the road is 186,000, while they mention that they are bringing into the State the amount of £492,400. This refers to motor cycles including sidecar outfits and three-wheelers registered in the United Kingdom.

In March last year the Government estimated that the number of motor cycles would amount to 265,000 at Midsummer, 1920, and that they would bring in £850,000 to the licensing authorities. It will be seen therefore that the estimate is so far exceedingly wide of the mark.

Discussing the matter with the Secretary of the Auto-Cycle Union, he suggested to us that his original estimate of 200,000 was not very far wrong, and he imagined that some 14,000 or 15,000 had not been licensed at the present time. Undoubtedly there is a large number of motor cyclists who, only using their machines in the summer months, have not yet put them in commission, also there are quite a number who own more than one motor cycle, but so far have only licensed one. It would be interesting to know the proportion of sidecar outfits to motor bicycles in the figures mentioned, and also the number of three-wheelers.

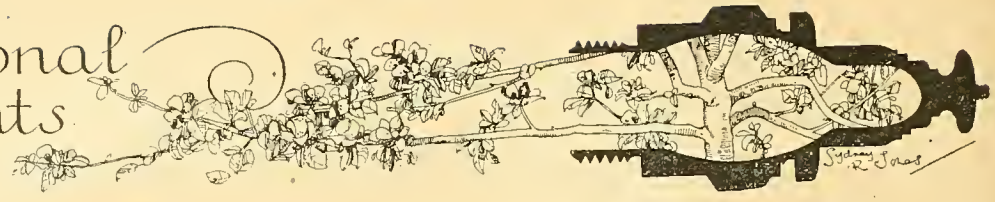
High Speed Trials.

IN this country where road racing is illegal, reliability trials may yet be turned into "races" by utilising a legal limit schedule over routes which involve roads not normally, or ordinarily capable of being, traversed at such a pace.

Last week-end the two day trial in Wales became a scramble; on the same roads a speed of 15 m.p.h. was scheduled over the difficult sections in the A.C.U. Six Days Trials of 1919, but in the event mentioned 20 m.p.h. was required throughout. The extra 5 m.p.h. turned the affair into a trial wherein the extreme danger to competitors and public was obscured by perfect weather conditions and splendid organisation. The hills throughout caused no trouble, and it is evident that modern trials make greater and greater demands on the skill and daring of the riders rather than upon the capabilities of their machines.

An Index to the advertisements in this issue will be found on the page facing the back cover.

Occasional Comments by "Ixion"



The B.T.H. Sparklight.

JUST at present I am trying out one of the new B.T.H. lighting outfits which taps the idle maximum of the magneto, and uses this surplus juice to light a pair of pretty little lamps. I had been warned by various croakers that the light was not good enough to beat a glow worm, but this is a foul libel. The outfit appears to be entirely reliable, and the illumination is plenty good enough for my 1921 baby two-stroke, which can do its 45 m.p.h. at a pinch. It is beautifully made, well fitted up, and the rustable surfaces are reduced to almost a minimum. I think I am going to like it extremely.

The Carden Cycle Car.

WHEN a £100 cycle car has the impudence to enter for a Land's End Trial, and moreover put up at least as good a show on Lynton Hill as any rival, the sidecar begins to feel the draught. Other very cheap vehicles also covered themselves with glory at various stages of the crack Easter trial—to wit, the Dunelt sidecar outfit on Lynton, and the little 8 h.p. Rover carettes on Porlock. Competition is going to be remarkably keen all summer in the cheap passenger lines, which represent enormous markets waiting to be secured by the firms who make good. One swallow does not make a summer, and we must wait for the Six Days to reveal the 'buses which have stamina as well as the capacity to put up brief stunts. But it is already clear that riders prepared to pay £200 or so in 1922 will expect a lot for their money.

'Ware Noise.

BROUGHT up from my cradle to regard the police as my natural enemies, I nevertheless feel a certain sympathy with them when they attempt to penalise excessively noisy motor cycles. After all, the bulk of the population of these islands live in small houses close to the road, and can never escape from the noise of local traffic as the rich man does with his secluded house standing in large grounds. Motors, to my mind, are steadily getting noisier, in the sense that, though one can buy a quieter car or cycle than ever before, the average touring motor cycle and the average sporting car have exhausts which would never have been tolerated a few years ago. I have just taken delivery of a mount which must rank as a potterer. It is only 2½ h.p., and weighs about 160 lb. But it makes the most abominable cackle, and, being designed for a high performance in proportion to its c.c., it will not run particularly slowly. Two of my 1920 machines erred in exactly the same way. These noisy exhausts bother elderly and invalid people by day; and at night they must be simply intolerable to nervous folk compelled to live in a small house close to a busy road. If we take wakeful babies, sick persons, and the aged into account, it is probable that a third of the population is adversely affected by noise at night. Also, seldom do motor cyclists venture down the lane on which my abode is situated, so that my remarks are prompted by the pure milk of human kindness.

£3 17s. 6d.

ON taking delivery of a new mount recently, I discovered that none of my acetylene lamp sets would fit, thanks to the special non-twist method of attaching the handle-bar. So I strolled into the local dealer's, sorted out a small black-finished lamp and generator outfit, suited to the trim lines of a small machine, worth at the outside 25s. in pre-war days. When I asked for the bill, it came to £3 17s. 6d. I mention the cost in no carping spirit—most of it is due to increased wages, and my own expenses have gone up so colossally that I grudge no mechanic a living wage. No! I only recount the incident for the benefit of other innocents, who, like myself, have bought no accessories since 1914, and have omitted to notice what gadgets cost nowadays. But I should have returned home with a better grace if the dealer had not fixed the lamp so low that it hit the front fork on the first pot-hole, and neatly decapitated the two oil helmets which adorn the top spindle thereof. Moreover, it was raining cats and dogs when I paused perforce to cant the bracket.

Too Many Levers?

I AM engaged in teaching a completely unmechanical person to ride a motor cycle, and the main difficulty centres round the bewildering variety of controls. The machine in question is not particularly complicated, but the unfortunate tyro has to master the use of the following:

(1.) Two carburetter levers.
(2.) One ignition lever.
(3.) One compression release.
(4.) One gear lever.
(5.) One oil control.
(6.) One kick-starter.
(7.) Two brake controls.
(8.) One clutch control.

The nett total is ten levers and pedals, not to speak of such minor items as odd taps and cocks. The multiplicity of these controls is further complicated by the fact that to a beginner several of them seem to serve roughly similar functions. For example, the throttle and the compression release both stop the engine, whilst the air lever will do the same on occasions. The clutch and the gear lever both disconnect the engine from the driving wheel. There seems to be room on the market for a duffer's machine equipped with a single-lever carburetter, a P. and M.

Ixion's "MOTOR CYCLE REMINISCENCES" have lately been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

type of gear-cum-clutch control, fixed ignition, automatic lubrication (*à la* Hawker two-stroke), etc. Most of our readers are sporting and technical; but there are many would-be motor cyclists who would appreciate a 'bus they could ride without prolonged tuition. One remembers that in the very early days when nobody knew anything about petrol engines, a single lever was used to operate gas, spark, compression release, and ignition switch; and that the Quadrant people annexed an excellent trade by thus bearing in mind the ignorance of many persons requiring cheap transport.

An A.J.S. Outfit.

RECENTLY a fine A.J.S. sidecar was at my gate, and I fell to comparing it mentally with a weird variety of cycle cars which have visited me of late. I selected three items in respect of which such luxurious sidecar outfits are still superior to the average cycle car. They are *substantial*—they do not wobble and flap and rattle like some of their would-be successors. They evince a higher standard of *reliability*, and do not shed oddments along the roadside. They are *nice-mannered*—not quite so raucous on full throttle, not so dithery and spit-and-bangy when running in free engine. Let the cycle car add these qualities to its already sound performance and its excellent weather protection. Then—and not till then—the sidecar will have to look to its laurels.



THAT EXTRA HOUR OF DAYLIGHT. The motor cyclist is not slow to take advantage of the daylight saving which came into force last week, and, combined with the beautiful weather which has characterised this spring, he is able to enjoy many evening runs. Incidentally, the picture shows that it is not always necessary to use the stand on a sporting solo Sunbeam.

Faithful and True.

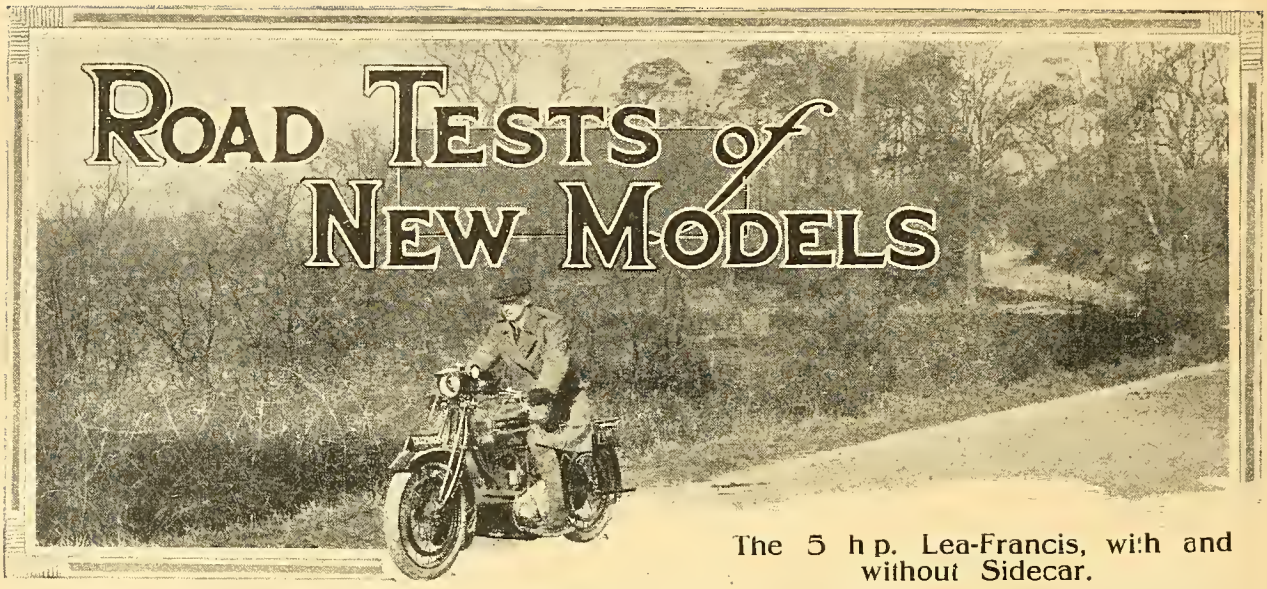
I PROVOKED a vituperative correspondence when I recently penned a jesting paragraph on my unfortunate experiences with a trade-loaned belt-driver, equipped with ancient belt tools. It is quite clear that the belt drive is still rightly beloved by a very large section of our readers. *Pour moi*, I would never drive anything else if it was not for the infernal trials which misguided clubs will persist in organising, thereby compelling poor pressmen to tackle country which no sane rider really wants to visit; and even at that I would still be a sportsman and take an I.O.M. Rudge trial riding, if it was not for the still more infernal weather, which so often puts a belt-driver right down the course. In sober fact, I *always* keep a belt-driver for what one may call normal riding-potters and scraps in the home zone. But trials take one into regions which can only be described as Heath Robinson's idea of a quarryman's hell. And there a belt-driver is generally out of place. Many thanks to those kindly correspondents who recommended sundry belt tools; I have quite a shrewd selection packed in my own toolbags.

Pity the Poor Journalist.

A TRADE 'bus arrived for trial. I examined the kit, and found there was not a tool of any sort on board. I keep a small pocket case for such emergencies, containing a tyre repair outfit, a belt punch, a small King Dick, and a screwdriver. Stuffing this in my pocket, I took the road. Ten miles from anywhere came a small misfire, followed by a complete engine stoppage. I dismounted with my mind evenly divided between a choked jet and a sooted plug. After a somewhat caustic glance at the carburetter, which was jammed up against the off side legshield in a manner which forbade all reasonable access, I decided to gamble on a sooted plug, and quick-marched round to the near side of the 'bus. Picture my agitation on discovering that the plug was snugly ensconced amongst a stockade of vertical fins, which made any spanner useless except a tube pattern 3in. long, *i.e.*, a tool which probably does not exist outside the factory where the 'bus is made. So I backed the second favourite, and took the carburetter to bits. All clear. I had another good look at the sparking plug. It was useless to wait for a passing motor. So I seized my screwdriver, sought for a large stone, and batted that plug round till it was finger-loose.

A brand new K.L.G., gentlemen! The pity of it!

ROAD TESTS of NEW MODELS

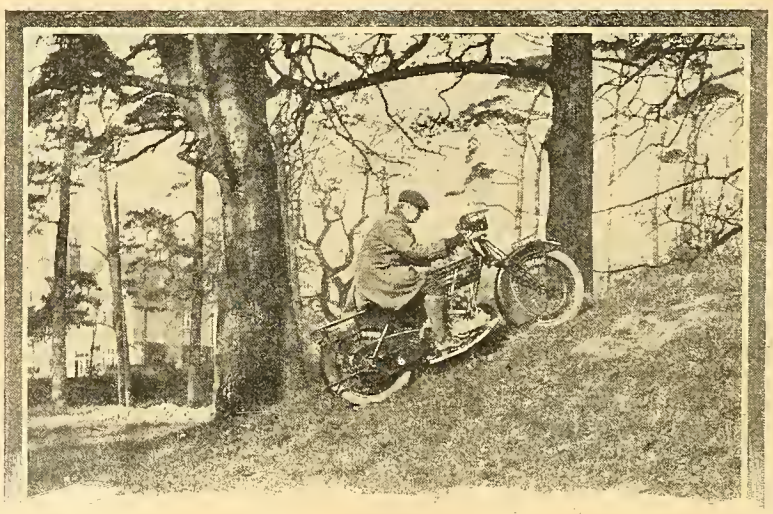


The 5 h.p. Lea-Francis, with and without Sidecar.

SPECIFICATION.		
ENGINE: 64 × 92 mm. (592 c.c.) M.A.G.	CARBURETTER: Amac.	FORKS: Brampton.
LUBRICATION: Drip feed.	GEAR BOX: Three-speed.	FRAME: Rigid.
MAGNETO: T.B.	TRANSMISSION: ½in. chains	WEIGHT: 280 lb. solo
	WHEELS: 26 × 3in.	PRICE: £145.

"A BEAUTIFUL machine but hardly enough power for sidecar work." This is one of the few criticisms heard with regard to the well-known 3½ h.p. Lea-Francis, and since the machine was primarily designed as a solo mount such criticism is perhaps hardly fair. Knowing the demand for a sidecar mount Messrs. Lea-Francis set to work to produce a slightly larger model, having as a power plant the 5 h.p. M.A.G. engine.

This engine is identical with the 3½ h.p. M.A.G., except for a longer stroke, and it is wonderful what a difference the addition of a few millimetres make to the power output. The 5 h.p. engine runs sweetly and quietly, but develops ample power for the most exacting requirements of the normal sidecarist. A glance at the new model reminds one strongly of previous Lea-Francis productions, but there are two notable modifications. First, the clutch is fitted on the engine shaft—where a lighter clutch can be employed—and a new three-speed gear box is mounted directly behind the engine.



The Lea-Francis underwent more than an ordinary road test; stiff grass banks were included, but nothing of sufficient gradient was found in the district that proved a real test of the hill-climbing capacity of the machine.

This gear box, though normal in action, is somewhat unusual in appearance, since the selecting mechanism is carried above the shafts and is directly surmounted by a large and accessible filler cap. Further modifications consist of Brampton Biflex forks and 26in. × 3in. tyres.

Our first road impressions were gathered with the machine as a solo mount. A rather long frame and straight test bars made the riding position slightly awkward, especially at low speeds, but this will be corrected by the standard bars.

The controllability of the machine was immediately noticeable, and once clear of traffic a touch of throttle caused the engine to accelerate rapidly and smoothly.

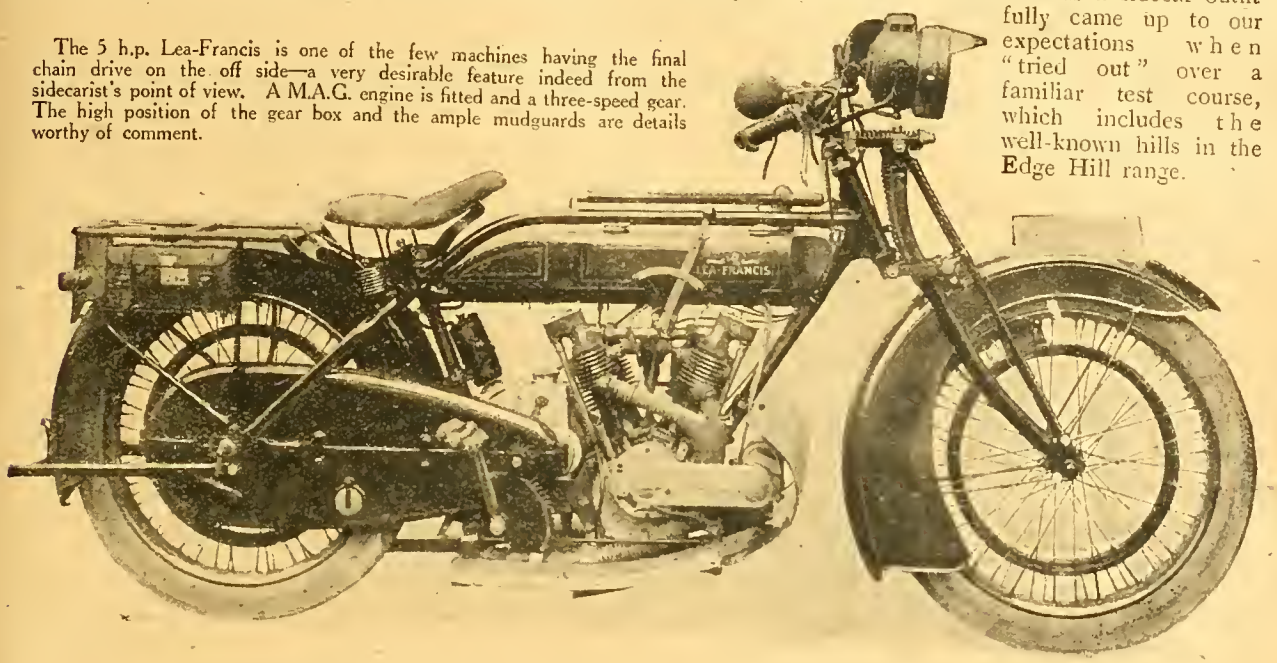
Two facts stood out above all others, the extraordinary flexibility of the machine and the impression of power without clumsiness. On top gear the engine could be throttled down to the merest crawl or opened up to extremely high r.p.m. Naturally a very slight snatch is noticeable when accelerating from 5 or 6 m.p.h. on

Road Tests of New Models.—

top without clutch manipulation, but this is not a fair test, and the shock absorber under normal driving conditions is excellent.

On the occasion of our trial the surface of Stoneleigh hill was in bad condition, but less than half throttle on top gear took us over the top quite as fast as was desirable. Both brakes are good, the mudguarding excellent, and the detail finish in keeping with the reputation of the firm for high-class work. Starting is easy, and comfortable footboards, with boot shields incorporated, are part of the standard equipment.

Later we were able to try the machine with sidecar fitted, and in spite of the somewhat heavy type of body, the capabilities of the Lea-Francis as a sidecar outfit fully came up to our expectations when "tried out" over a familiar test course, which includes the well-known hills in the Edge Hill range.



The 5 h.p. Lea-Francis is one of the few machines having the final chain drive on the off side—a very desirable feature indeed from the sidecarist's point of view. A M.A.G. engine is fitted and a three-speed gear. The high position of the gear box and the ample mudguards are details worthy of comment.

THE 6 h.p. B.S.A. SIDECAR.

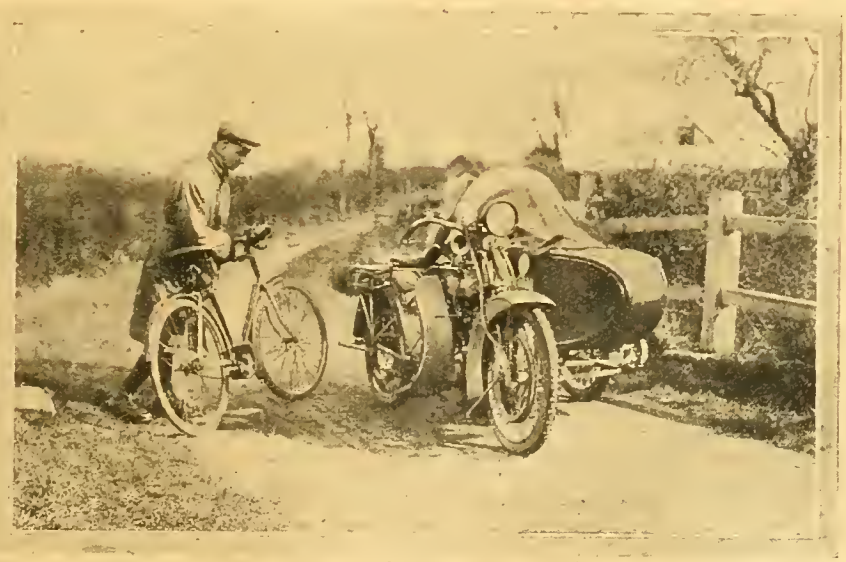
An Extended Road Test involving Lengthy Journeys without Spares.

THE name B.S.A. has been associated for so many years with single-cylinder engines that quite a number of motor cyclists fail to realise that a twin-cylinder model is already on the market and giving admirable results.

On a recent occasion a well run-in 6 h.p. machine fitted with a roomy sidecar, Lucas Magdyno, and very full equipment, was handed over to us for trial purposes. Such was the manufacturers' confidence in their production that, with the exception of a spare wheel, no other spares, and only a few tools were supplied.

One is at first inclined to be anxious when taking over a strange machine under such circumstances, but it must be admitted that the confidence of the manufacturers was fully justified, and that throughout our trial, which extended well over 400 miles, not a nut was touched or a tool of any description needed.

First as regards power, the 6 h.p. twin-engine appears to relish hard work, and a fully loaded sidecar makes little difference to its average performance. Any ordinary hill can be negotiated on top gear with ease, and though the long pull to the



Admiration, criticism, or envy—which? A passer-by interested in the big outfit.

summit of Cleve Hill, approaching Cheltenham, demanded middle gear for a short stretch, this was largely accounted for by a strong headwind.

The speed of the outfit was all that is required of a big passenger machine, and approximates to double the legal figure. Hard driving appears to have no ill-effects, and even after prolonged speed work there is not the slightest symptom of overheating; in addition, the balance is excellent, though at high speeds the valve gear is inclined to be noisy.



Both these illustrations give some idea of the unusual height of the sidecar body, which enables the passenger to see more of the country than when reposing in a sidecar fitted on a very low chassis. An ample locker is provided at the rear of the sidecar body where the spare wheel is carried.

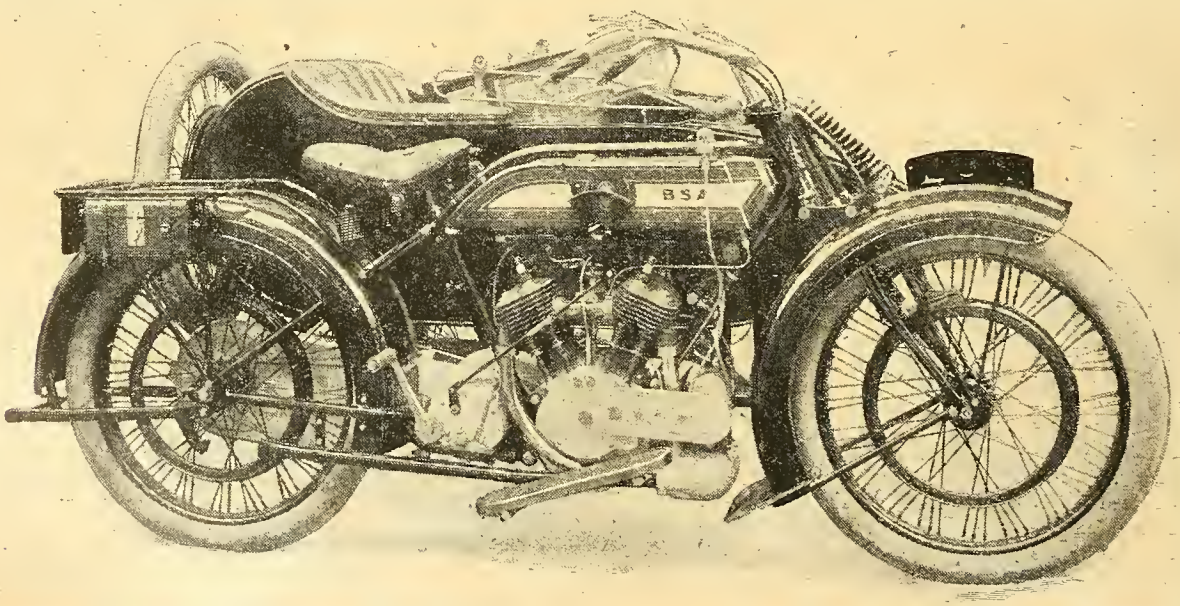
The new B.S.A. handle-bar controlled clutch is as sweet in action as anyone can desire, and the gears change easily and sweetly once one has grown accustomed to the gate quadrant.

Starting was easy, even on the coldest mornings, and all lubrication worries are removed by the B.S.A. mechanical pump, it being only necessary to glance occasionally at the sight feed in order to see that a regular supply is being maintained.

Petrol consumption was on the heavy side, but we had been warned that the carburetter had been set for power rather than economy, and certainly we obtained the impression that a considerable reduction in jet size might have been effected without materially detracting from power or ease of starting.

One of the many good features of the 6 h.p. B.S.A. is the width of the mudguards; the rear guard in particular is excellent, and the front guard is considerably better than the average, and combined with ample leg shields protects the rider under the worst conditions.

Though the need was not experienced, it is a simple matter to change a wheel owing to the excellent system



Sturdiness of construction is an outstanding feature of the big twin B.S.A. The 6 h.p. engine is 76 × 85 c.c., and is capable of sustained high speeds with a heavy load.

Road Tests of New Models.—

employed of using a splined driving hub and interchangeable wheels throughout. A spare wheel is carried on the rear panel of the sidecar.

Both front and rear chains are enclosed in cast aluminium cases, which should prolong the life of the chains to a large extent by keeping them free from road grit.

Our road test included part of the Colmore cup trial route, a trip from Coventry to Newark, and a certain amount of daily "hack" work. Under no circumstances did the 6 h.p. B.S.A. give the slightest trouble, nor did we ever experience even a misfire—in fact, the steady, even pulling, and smooth running engine are perhaps the most characteristic features of the machine.

Our passenger reported an exceptionally roomy and well-sprung sidecar body, with a thought too upright a position, but with an Easting windscreen, providing most admirable protection under the most adverse weather conditons.

Those who are already B.S.A. enthusiasts, but require rather more power, or those who only know the B.S.A. big reputation and need a thoroughly sound twin-sidecar outfit, should certainly consider the 6 h.p. model, which should fulfil all the requirements of the touring motor cyclist.

One point more must be mentioned. As a result of our test we were very much impressed by the fact that, although the maximum speed of the outfit is not out of the way, a speed of within a mile or two of maximum can be attained on a comparatively small throttle opening, and can be maintained as long as road conditions admit. For this reason the 6 h.p. B.S.A. is capable of as high an average speed as is desirable over give and take roads.

SPECIFICATION.

ENGINE: 76 × 85 mm. = 770 c.c. V twin B.S.A.	*TRANSMISSION: ⅝ × ⅜in chains.*	*TYRES: 28 × 3in.*
CARBURETTER: B.S.A.	*LUBRICATION: Mechanical.*	*FORKS: B.S.A.*
MAGNETO: E.I.C.	*GEAR BOX: Three-speed B.S.A., with clutch and kick-starter.*	*PRICE: £198, with sidecar.*
		WEIGHT: 350lb.

THE LONDON-EDINBURGH INNOVATION.

As did the Porlock-Lynton section in the London-Land's End Trial, and Kirkstone Pass in last year's London-Edinburgh, so is the inclusion of Buttertubs Pass in this year's M.C.C. Whitsuntide run creating a great deal of interest. Several readers have written giving details as to the condition of this new section, and below we publish a typical letter from Mr. J. Shaw, of Preston, who traversed this part of the route last week.

"I consider many parts of the route suicidal," he writes, "not so much on account of the gradients, of which generally my 2¾ h.p. Diamond made light, but of the surface. From Cray Gill to north end of Kidstone the surface is atrocious, generally big loose stones. Through Bishopdale, Thoralby, Aysgarth, Bainbridge, to Hawes, is good going, but from High Shaw at the entrance to Buttertubs Pass to Nateby, near Kirkby Stephen, there are many very rough and dangerous patches. At intervals of about every fifty yards over Birkdale Moor (between Keld and Nateby), there are short lengths (seven or eight yards) of newly laid-on broken stone. There is little or no chance of dodging these bits, and to take them at anywhere near 20 m.p.h. would be very risky. By May 13th, the traffic over these sections will not have flattened out these patches, and the steam roller on that high land is out of the question."



Buttertubs Pass, which is included in the new section of the London-Edinburgh Run that takes place on May 13th and 14th. This hill was included in the 1913 A.C.U Six Days Trials, and caused little trouble to competitors

DAY TRIPS AND WEEK ENDS



High Force Falls, Riddleton.

by Charles G Harper

BARNARD CASTLE and round about

BARNARD Castle is a considerable touring centre. Look on the map and you will find many roads radiating from it. For its convenience, rather than for itself, this town is a good deal visited. Westward is Brough, sixteen miles, and Penrith, thirty-seven; north-west Middleton-in-Teesdale, eleven miles, with Alston beyond, another twenty-two; Durham is twenty-five miles north-east; Darlington sixteen miles, and Middlesbrough fourteen, east; and Boroughbridge forty, and York fifty-eight, south.

Probably ninety-nine people out of a hundred think Barnard Castle is in Yorkshire. It is, in fact, so nearly within it that no guide-book writer to that shire of more acres than there are letters in the Bible (more precisely, 3,882,851 acres in Yorkshire, and 3,566,482 letters in the Bible) ever has or ever could afford not to mention it. For the best views of town and castle are across the river Tees, from Yorkshire, to which it thus scenically belongs, if not in other ways. The "Barnard" to whom the place owes its name was actually "Bernard," that strenuous Bernard Baliol who established himself on this rocky site by building that fortress whose ruins still rise so grandly from the tree-clad cliffs of the Tees. It took him twenty years to build his castle; from 1112 to 1132.

Avoiding Disillusion.

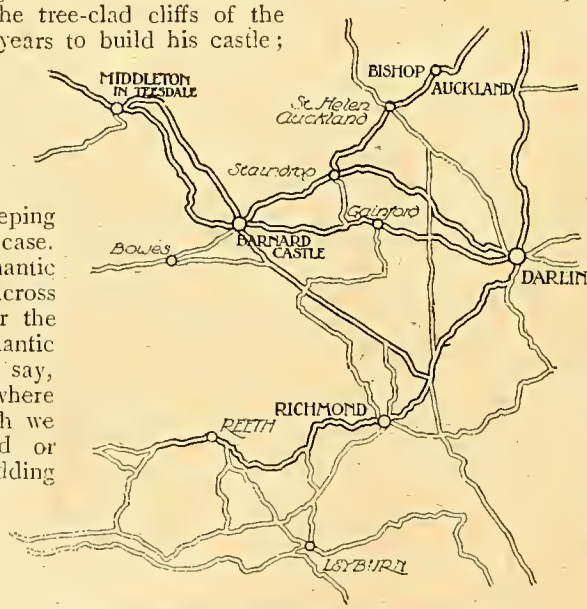
You might well suppose that the town which grew up around that feudal pile would be picturesquely in keeping with it; but that is not the case. If you would keep your romantic illusion, do not adventure across the high-pitched bridge over the river, but gaze upon the romantic ruin; and so away into, say, Wensleydale, or indeed anywhere save into those streets which we shall find so hard-featured or past those starkly-forbidding stone houses which for the most part make up Barnard Castle town. The ancient and beautiful old houses are the exception; for the town in the eighteenth century made almost a complete sweep of them, and the curious tall old mansion called "Blagroves" is alone really fine, and that is dilapidated. Thus "Barney Cassel, the last place that God made," has become the best known by-word in all these parts. Everything objectionable, from a tramp to a thorough-paced lie, is supposed by all the surrounding places to come from this town. Barnard Castle has associations with Dickens. It was in 1838 that he visited the town, to get local colour for "Nicholas Nickleby" and for his description of the infamous "Yorkshire schools" of that period. Squeers's dreadful academy, "Dotheboys Hall," is still pointed out at Bowes, five miles distant. Dickens stayed at the "King's Head," still a going concern. "There is good ale at the King's Head," said Newman Noggs. "Say you know me, and I am sure they will not charge you for it."

The "King's Head" of To-day.

The "King's Head" is there, right enough, in the Market Place, but they don't take much stock there in Dickens, and it is quite hopeless to attempt free drinks on the naming of Newman Noggs—or anyone else, for that matter.

The Market Place of Barnard Castle is a grim place, like the town itself. There the Market House stands, dully classical. It was built in 1747, and lacks everything that date implies. It is market house and lock-up too.

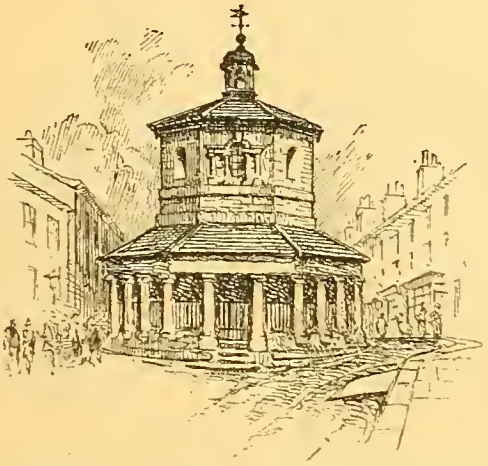
It is east and north-east of this centre that all the striving business lies, and west and south most of the wild and beautiful scenery. Thus on the long road to Alston we came past Lartington and Cotherstone, Balder Bridge and pretty Romaldkirk, a lovely route, to Middleton-in-Teesdale, with the Tees winding away in its gorges on the left, and then in another five miles to the High Force Hotel. Half a mile from the road is found the



Showing the roads radiating around Barnard Castle.

Day Trips and Week Ends.—

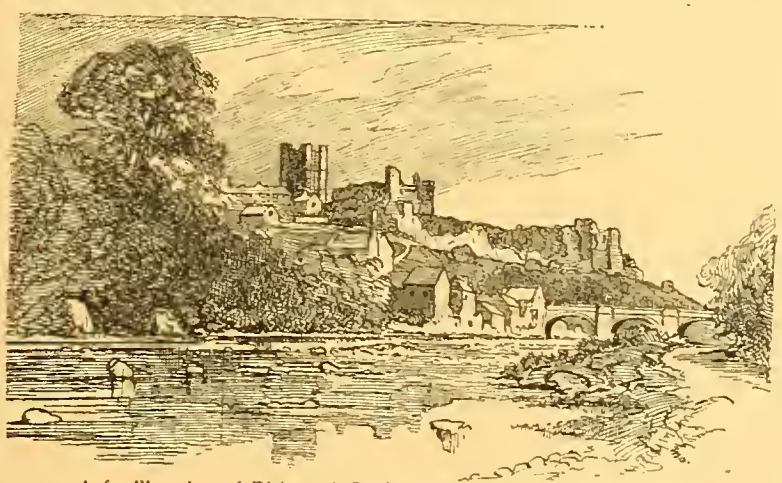
most impressive waterfall in the North of England, the High Force. Had Southey ever visited this magnificent spectacle, surely never would he have had the heart to write his poem on "How the water comes down at Lodore," for the cascade there is a poor thing compared with this fall on the Tees. It is a fall of some sixty-nine feet; not the loftiest cascade, certainly; but the mass of water and the setting of the scene render it easily of the first rank. Here the water comes down between dark, iron-hard cliffs, dashing into a deep pool, and thence proceeds by a series of minor cascades down to Middleton.



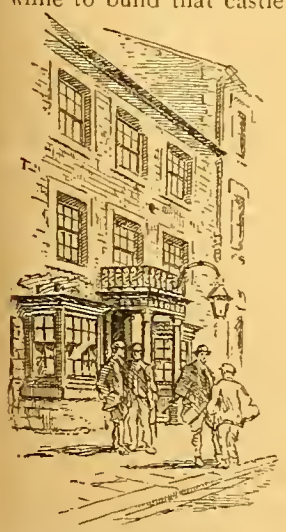
Amidst much unimpressive architecture in the town of Barnard Castle, the old Market Hall stands out.

Dotheboys Hall.

To reach Bowes and the road to Brough, we cross the Tees Bridge, and in less than two miles come to Cross Lanes, turning there to the right. Bowes was a Roman station, *Lavatrae* by name. One wonders, a little curiously, what the Roman centurions and legionaries thought of the forsaken moorlands round about, and why the Normans thought it worth while to build that castle whose stern keep yet stands on the windswept fell-side. Modern Bowes seems to have none of the graces of architecture, any more than its scenery has the beauties of nature. It seems a fit setting for the cruelties of "Dotheboys Hall." Beyond this place the road grows wilder, up to Stainmoor; and passing Brough, whose old castle wall fell down quite recently, after eight hundred years of standing up, comes into the pleasant old town of the pleasing name, like that of some Promised Land—Appleby-on-the-Eden. And so on, if you will, into Penrith, in another thirteen miles or so.

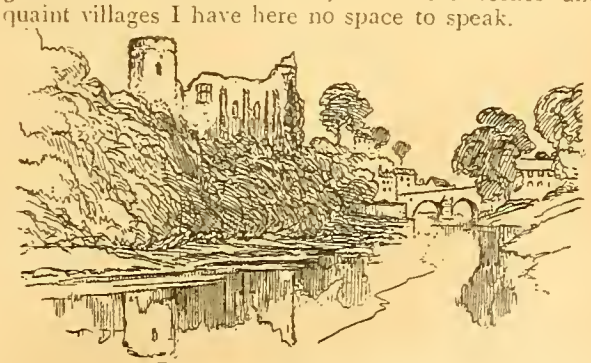


A familiar view of Richmond Castle, an ancient relic rich with historic and tragic memories.



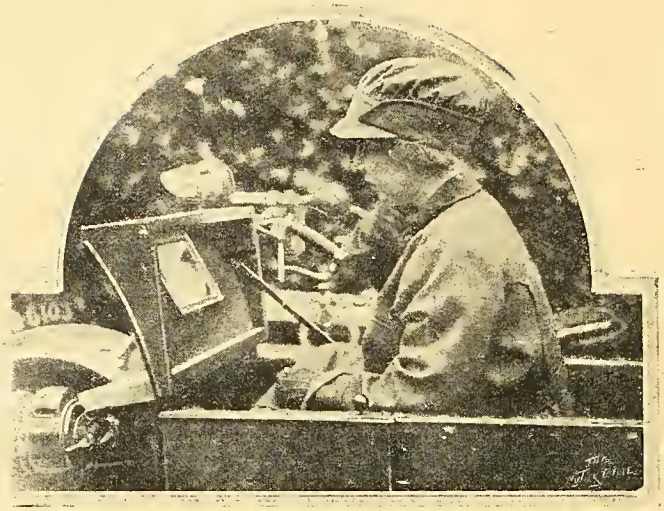
An old hostelry in Barnard Castle where Charles Dickens once stayed—the King's Head.

Or we may try south, into those Yorkshire dales whose entrance is past Richmond. Leaving Barnard Castle in a southerly direction and passing the ruins of Egglestone Abbey, we come past Rokeby Park to Greta Bridge, where the Greta joins the Tees in a deep glen. This was an important coaching and posting place, and the old "George" inn was a prosperous wayside house. Thus we proceed along the long straight Roman road for seven miles, thence bearing right for Gilling; crossing in a further four miles down into Richmond, a decayed town of 3,800 people, with its sett-paved Market Place, where you find houses and shops oddly embodied with Trinity Church, and a general look of Has Been, not perhaps very pleasing to the inhabitants, but with a very great charm for ourselves, who are, it may be, a little too much used to the pushful communities of to-day. To present-day motor cyclists Richmond has a special appeal; it forms a rallying point between the iron working and ship-building Tynesiders, the East Yorkshire agriculturists, and the weavers, engineers, and miners of the West Riding. Annually, on Good Fridays, its streets are thronged with the men and their machines from all these areas, and the "Richmond Meet" has become established by custom. But the chief object of interest here is the Castle, whose ruined curtain walls and great Norman keep form so lovely and romantic a picture from the other side of the Swale; that river which gives a name to Swaledale, of whose scenes and quaint villages I have here no space to speak.



The ruins of Barnard Castle.

THROUGH FEMININE GOGGLES



Some Disconnected Jottings Reflecting the Opinions of Lady Motor Cyclists.

Edited by "Minnehaha."

THE recent article by Miss Peggy Fraser published in the issue for March 17th, on the eternal question of dress, has aroused much interest. Many ladies have written expressing their appreciation of the suggestions contained in the article, while others have made suggestions in a like direction. I should like to hear from others.

One letter before me is from a reader in Devizes, who, being interested in Miss Peggy Fraser's article, makes another suggestion regarding suitable attire for riding, which, she says, "neither attracts attention by being dowdy nor is masculine in appearance." The specification, as our menfolk would say, is as follows:

For Summer and Winter Wear.

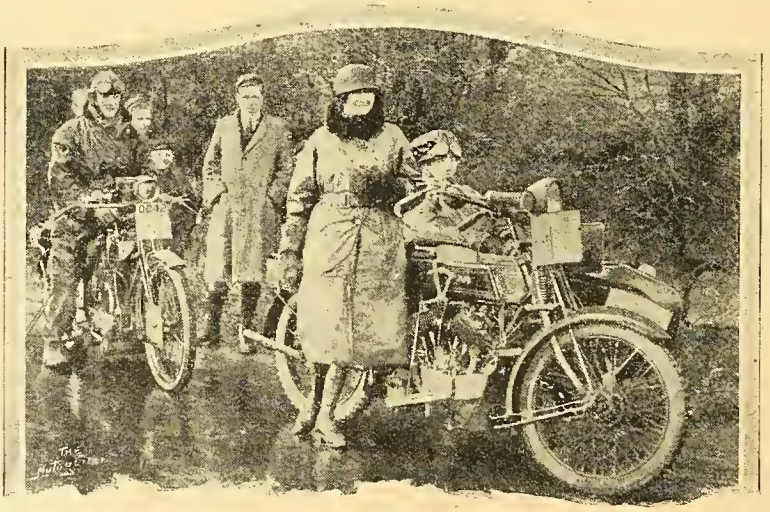
"The rig-out comprises a divided skirt, three-quarter length brown leather coat with a musquash collar (which may be worn turned up or down), and gauntlets of the same fur; suède close-fitting hat of any shade to tone with leather coat; brown brogues and woollen sports stockings to match the skirt for winter wear, and brown calf leggings on dirty roads. The skirt is made similar to the one described by Miss Fraser, consisting of a heavy Scotch tweed in a check design, front and back-lined waterproof, and fastening with buttons from the waist to hem; about three of these are unbuttoned for riding and fastened round the leg. When off the mount these are buttoned up in the ordinary way and form a smartly cut sports skirt of about two yards wide.

"With a woollen jumper or sports coat, which gives the necessary warmth under the leather coat, it makes quite becoming wear when off the machine. For the summer a costume of lighter weight tweed and a bluff or biscuit suède close-fitting tagel hat are most useful.

"I prefer a brown leather coat for serviceability, as it does not show the dust very much, and oil—of which one is doomed to get a little—is not noticeable."

Another reader, who signs herself "Malicia," gives some reminiscences. "I read *The Motor Cycle* every week," she writes, "sometimes because I want to, and sometimes under protest (the latter, when my motor fanatic husband is positively certain that there is a wonderful article I should not miss). In our early married days we were the proud possessors of a couple of push cycles, and we enjoyed the fresh air and beauties of nature to the full; but, alas! my husband grew ambitious, and in a rash and reckless moment bought a decrepit 1914 motor cycle and basket sidecar, the latter very much resembling one of those affairs in which gouty old gentlemen are wheeled about. To recall all our thrilling adventures with this outfit would require two volumes; let it suffice when I tell you that we tore about the country at the alarming rate of 12 m.p.h. (occasionally we touched 15), making as much noise as fifty knuts on N.U.T.'s all out minus exhaust pipes, much to the edification of sundry small rude boys, and the exasperation of various smartly-uniformed chauffeurs, who were obliged to drop into low gear behind our madly racing 'bus!

"Eventually, after a wonderful speed burst, the cylinder top blew off, knocking the bottom out of the petrol tank in its passage, and incidentally gaining us more fame, for the moment, than ever Charlie Chaplin enjoyed. I blush now when I think of it. No matter how smart one's suède hat may be, or how fascinating the veil one has to match—it is impossible to look dignified in such circumstances. You will observe I do not mention hubby's feelings. 'Tis better so."



Mrs. Duncan Bell, snapped during the Glasgow Western M.C.C. Trial, in which she was successful in gaining the A.J.S. trophy for the best performance. Appropriately enough, her mount is an A.J.S.

Through Feminine Goggles.—

Malicia concludes with a homily to "Sweethearts and wives." "If you really want to know your menfolk," she says, "go out motoring with them, and at every *contretemps* offer such grateful and comforting remarks as 'Can't we go any further, dear?' 'Will it be any help if I get out?' or 'Is my hat on straight?' If you still feel that you can love him after he has replied, you must be very fortunate in your choice or else you are very deaf."

Ladies' Successes in Competitions.

By the way, our lady readers will have been pleased to note that several motor cyclists of our sex have been successful of late in competitions, and, I am sure, will join with me in offering congratulations to Mrs. Duncan Bell, who, with her 7 h.p. A.J.S. sidecar, won the A.J.S. Trophy and a gold medal in the Glasgow Western Centre M.C.C. Trial at Easter. This was a splendid performance, and one of which we should be proud. I cannot recall of recent years a lady taking the premier award in level competition with men. There were thirty-four starters, and only nine survived the course.

Then there is Mrs. L. Luddington's success in the Bedford and District M.C.C. petrol consumption test, in which she won her class; Miss Cottlet, of Liverpool, who rode seventy-nine miles to the Ribchester Rally, and was awarded for her enthusiasm; and Miss Cowley, of Manchester, who won the prize for the most suitable costume (I should like a photograph if Miss Cowley will be good enough to send it along).

In speed events I have noted that Mrs. Jennison, who rides a 2¼ h.p. Velocette, put up some startling speeds at the East Midland Centre Speed Trials at Grimsthorpe Park. The course was slightly on the down grade, and her speed works out at nearly 70 m.p.h.

Finally, there are Miss Ireland, of the Barrow M.C.C., who was awarded the prize at Richmond for the lady riding the greatest distance; and Mrs. Gilchrist (6 A.J.S. sc.), who gained the award for the best kept lady's machine.







(Top) Mrs. Jennison, who competed at the East Midland Centre Speed Trials at Grimsthorpe Park, and attained a speed of nearly 70 m.p.h. on her little Velocette.

(Left) Miss Ireland (3¾ Scott sc.), of the Barrow M.C.C., and (Right) Mrs. Gilchrist (6 A.J.S. sc.), who were both successful in winning prizes at the Richmond Meet.

SAFETY IN NIGHT DRIVING.

THERE is still room (says *The Autocar*) for improvement in the rules and regulations governing the position of lights on modern road vehicles. When trucks and trailers are being drawn by a traction engine each should carry a light upon its right-hand side, so that other road users can see plainly exactly what they are meeting. Also when an engine is towing trucks, etc., every truck should be provided with a red light to the rear; and when any part of a load projects more than three feet beyond the rear light the load itself should also carry a red light at its extreme end.

France Recognises the Value of Trials.

British Reliability Trials to be Patterned by the Union Motocycliste de France.

From "The Motor Cycle" Continental Correspondent.

IN some countries, between the motor cycle and the car element a certain amount of antagonism sometimes exists, for the owners of the more costly machines are inclined to look with some disdain upon their smaller brethren, and these latter resent what they consider to be the patronising attitude of the lordly car owner. In French motor cycle sporting events there is fortunately very little of this spirit, and probably this is owing to the fact that the more prominent leaders of the movement are acknowledged authorities in the big car world. As an example, the Union Motocycliste de France, which corresponds in practically all respects to the A.C.U. in England, has as its head a sportsman whose reputation was made in the motor car world, and who has been most intimately connected with both the sporting and the industrial side of the motor car movement from its inception.

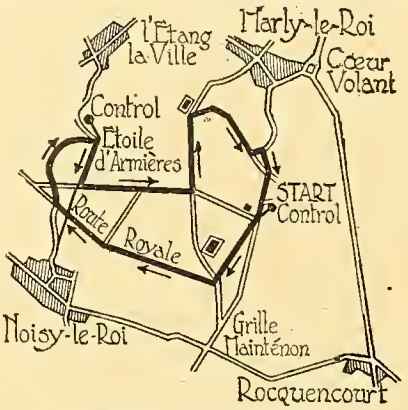
A Pioneer Motorist.

As a cyclist, Chevalier René de Knyff was not much impressed with the earliest motor cars, for he could beat them up any hill, and on a long run he generally arrived home before them. It was not until Levassor had won the Paris-Bordeaux and return race, at an average of 15 m.p.h. for 750 miles, that M. De Knyff developed any enthusiasm for the motor car. This average was so far superior to anything attainable by the ordinary cyclist that he resolved to become the possessor of a car. His first machine was a Panhard-Levassor with steel tyres, hired by the month, which he learned to drive himself, for the simple reason that there was nobody available to give him lessons. The first car owned by M. De Knyff was a Panhard-Levassor four-seater dogcart, which was delivered to him in 1897, and was equipped with pneumatic tyres, being the first of its kind produced by this factory.

During the whole of that early period, when the object of motor car races was to prove the reliability of machines rather than their speed, there was not an important town-to-town race in France in which M. De Knyff did not take part, generally with conspicuous success. When the Automobile Club of France formed its Racing Board, in 1899, M. De Knyff was elected chairman, and has occupied that position until the present day, thus being personally responsible for the early races from town to town, followed later by the Gordon-Bennett and the Grand Prix events. If any other proof were needed of the attachment of M. De Knyff to the car movement, it is to be found in the fact that he is a managing director of the Panhard-Levassor Co., a firm which has never built anything but motor cars.

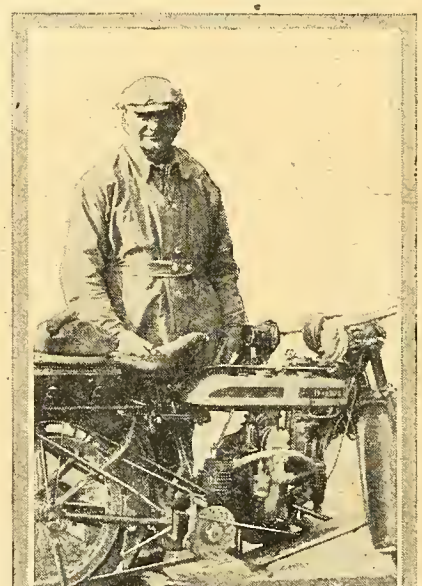
Enthusiasm for the Motor Cycle.

Notwithstanding, however, his connection with motor car racing, and his interest in the motor car industry, M. De Knyff's greatest enthusiasm inclines towards the motor cycle. As president



The black lines denote the course of the French non-stop trial, to be held on the 24th inst.

of the Union Motocycliste, he is not content to follow motor cycle events from afar, but takes part in them with all the vim of the newcomer. "Monsieur le Président" appears to have found the secret of perpetual youth, for there is nothing he likes better, despite his fifty-six years, than to put his family inside a comfortable limousine, while he gets astride one of the several motor cycles



Chevalier René de Knyff, president of the French Racing Board, and of the Union Motocycliste de France. His mount is a Douglas.

which occupy a place in his garage. The party unites again at midday, or at the end of the trip, and the veteran motorist, who has travelled all over Europe in every kind of self-propelled vehicle, from the high-wheeled Panhard-Levassors of 1897 to modern hundred-miles-an-hour racers, declares that there is nothing so enjoyable as a long trip astride a modern two-wheeler. It was in this way that he followed last year's Six Days Trials in the French Alps, and went down to the Motor Cycle Grand Prix at Le Mans. Whenever a racecourse or a reliability circuit has to be found, it is on a motor cycle that he sets out to explore; and, if the competitors find the course difficult, they, at any rate, know that it has been selected by a man with a practical knowledge of motor cycle events.

Really Severe Competitions for France.

Not only is the Union Motocycliste the controlling body, but it also organises some of the more important events in France. This year there are to be two outstanding competitions—the Grand Prix race at Le Mans on July 24th (which is a pure speed event) and the first non-stop reliability trial ever held in France.

We had the good luck to meet M. De Knyff just after he had discovered and tested the roads for the French non-stop trial of April 24th. "We have got to show that the motor cycle is a machine as reliable as any high-priced car," he declared, "and the best way to do this is to enter it into really severe competitions such as are common in England. The fact has to be admitted that in France we have neglected the motor cycle, and have allowed our neighbours to gain a lead on us. Now that there is a distinct popular movement towards the motor cycle and the cycle car, we must encourage it by organising events of a really sporting character, which at the same time will tend towards improvement in the quality of machines."

An Eight-hours Engine Test.

The first non-stop trial will be held in the Forest of Marly, about fifteen miles to the west of Paris, over a course roughly five miles round. While there is nothing of a really freakish nature in the set of roads, there are plenty of natural difficulties, including two hills with a gradient of 15%. The total distance will be about 155 miles; and, as the average of 18½ m.p.h. has to be maintained throughout, with penalisations for both early and late arrival, the engines will have to run for eight hours without a stop.

Although only short notice has been given regarding this event, M. René De Knyff believes that it will unite at least one hundred entrants with every type of motor cycle and cycle car. In order to encourage newcomers, and particularly amateur riders, the entry fee of one hundred francs is reduced to twenty-five francs for all those who received their competition licence after January 1st of this year. Entries are received by the Union-Motocycliste, in Paris, until the evening of April 20th. The first machines to be entered are four Nortons.

Round the Course of the A.C.U. One Day Trial.

A Sporting Day's Outing by Members of a London Club.

WITH a view to determining the severity of the trial arranged by the A.C.U., which is to be held on April 27th, a party of the City and Guilds Engineering College M.C.C. recently held a run round the course, as published in *The Motor Cycle* of March 24th. A dozen machines in all participated, and these consisted of very representative makes. A Harley, an A.B.C., a Triumph, two 2¾ h.p. New Imperials, a 2½ h.p. Clyno, and a 4 h.p. Douglas (two up), were the solo machines, while the sidecars included a Clyno and Enfield, and a 4 h.p. Blackburne, and lastly there was a sporting Morgan three-wheeler. As these machines range from a little two-stroke to a big twin, quite a good idea of the course from all points of view was obtained, especially when it is remembered that the roads were none too dry, and none of the machines were in any way tuned up for the occasion.

The Worst Hill in the Trial.

The start took place at Purley, whence the party proceeded through Caterham, and on turning to the left up a narrow lane encountered the worst hill in the trial, viz., Succumbe. On this, as on several other hills, there is an abundance of loose stones, and it is advisable to keep close into the side, for here a fairly reasonable surface may be found. On climbing this hill for the first time one is apt to imagine that one has finished the ascent when the first is surmounted, but as there is more to follow the "revs" must be kept up, though one should not overdo this, nor go too fast, as the corners are sharp as well as steep. Here the Enfield, Douglas, and Blackburne met their Waterloo, while a New Imperial rider broke his belt, but made a clean ascent after mending it. The Harley, the A.B.C., and the Morgan all made good ascents, the last-mentioned hurling stones all over the road, while the A.B.C. rider was so fast that he could barely take the corners.

Some of the Others.

The next hill likely to cause any trouble is Polesteeple. This was in a very slimy condition, and in consequence the Morgan, which, as usual, was no tortoise, had quite its full share of wheel slip. This and the Triumph streaked up side by side, but neither could gain a lead on the other. There was no actual failure here, though the Blackburne found it necessary to shed its passenger. The A.B.C. came up at speed, and the New Imperial ascended steadily with plenty in hand. Here as on most other hills, the best surface was at the side of the road, in this case on the right edge. Cudham Church Hill was the next hill of note, but did not cause a single failure, chiefly, no doubt, owing to the good surface and the lack of grease on the corner. Here the A.B.C. rider was too fast that even with cutting out he only just managed to take the corner. There was but one failure on Chalk Pit Hill, viz., the Clyno two-stroke, and here should be no difficulty experienced provided that the lower portion is not taken too fast, for here one may easily be baulked. At the commencement of the climb the A.B.C. decided that it preferred to be a single-cylinder rather than a twin, but notwithstanding it managed the gradient on its lowest ratio. From here onwards the course is perfectly straightforward, bar the ascent of Pebblecombe, which is a fairly long hill having a maximum gradient of about 1 in 4½. No difficulty, however, was experienced, though there is a sharp left-hand corner to be negotiated at the top.



At the bottom of Chalk Pit Hill, which is to be included in the A.C.U. One Day Trial on April 27th.

Altogether the A.C.U. has found a really sporting course which should provide a very fair test for standard machines, especially for new models chosen from agents' stocks.

As already stated, the trial is due to take place on Wednesday, April 27th, and is open to manufacturers, or agents, and private entrants, and will consist of a preliminary run round Brooklands of an hour's duration, in which six laps must be completed. This applies only to "standard stock machines" entries, and will not be required of all entrants.

Eighty Miles only on the Road.

There will next be a non-stop trial in two sections, of approximately forty miles each, beginning and ending at Brooklands, at a maximum speed of eighteen miles an hour, and a minimum speed of sixteen miles an hour. The arrival times will only be taken at the luncheon stop and Brooklands.

A non-stop speed trial will then be held on Brooklands track of twelve laps (32.6 miles). The following are the maximum rates of speed :

Class A, extended for the purpose of this test to machines not exceeding 275 c.c., and Class F, motor cycles with sidecars with engines of a cylinder capacity not exceeding 350 c.c., twenty-five miles an hour.

All other classes thirty-five miles an hour.

Motor cycles must be driven under their own power throughout the trial, and on the road must not be brought to rest under any circumstances except for the exigencies of traffic and at the controls.

Gear Ratios to be Published.

The gear ratio of every motor cycle will be published, and in the case of variable gears the highest and lowest ratios will be mentioned. The weights of the machines will also be published.

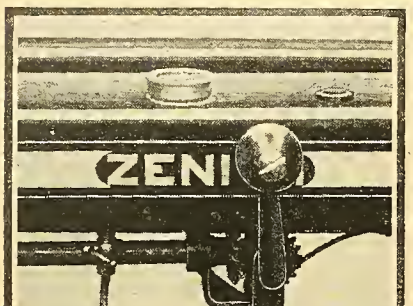
Motor cycles, sidecars, and cycle cars must conform to the F.I.C.M. regulations. Entrants of motor cycles conforming with the regulations and making a non-stop run will be granted a first-class certificate, and if, in addition to fulfilling these requirements, the motor cycle is a "stock" machine, the entrant will be granted a special certificate of merit.

Manufacturers who wish to enter a "standard stock machine" had to notify the A.C.U. to this effect before March 31st. They also had to authorise on a prepared form the officials deputed by the Competitions Committee to select the number of machines entered, which must arrive at Brooklands on Monday, April 25th, or Tuesday, April 26th. Stock machines were selected by the A.C.U. either from manufacturers or their London agents up to the date of the closing of entries, which was Saturday last.

On the morning of the trial these standard stock machines will be handed over to the accredited riders of the entrants, who will be allowed one hour on the track for making adjustments, during which six laps must be covered.

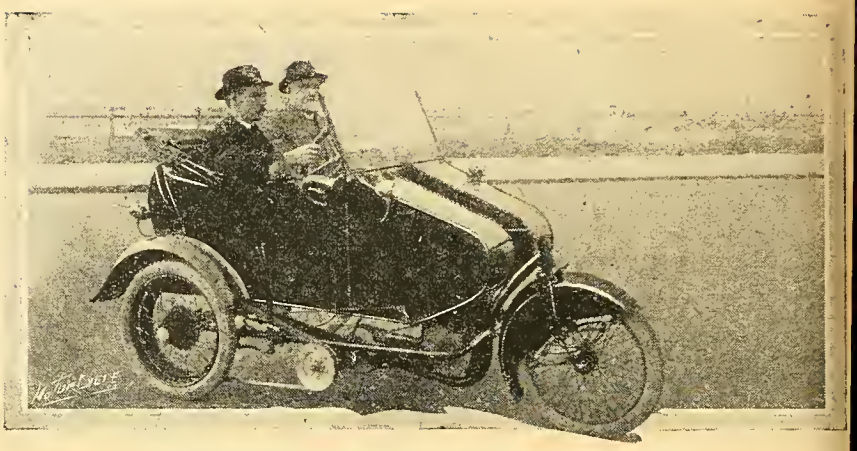
A GRADUA GEAR IMPROVEMENT.

AN innovation has been made in the design of the Zenith-Gradua gear by Mr. F. W. Barnes, chiefly for the convenience of those who drive fast, touring motor bicycles. It will be remembered that for many years the Gradua gear has been controlled by a handle fixed on a spindle running through the tank on the near side of the top tube. This has been a little awkward to manipulate at high speeds, and the new design has been got out with a view to overcoming this difficulty. From the accompanying illustration it will be noticed that the gear handle is on the



New gear control for Zeniths.

off side of the tank, and is designed to rotate at right angles to the direction of the original model. It would also be quite possible to run the horizontal spindle upon which the handle is mounted right across the underneath portion of the tank so that a handle might be fixed at each end, allowing the gear to be worked by either hand. It is the intention of Zenith Motors, Ltd., only to fit this new control to solo mounts, as the old system is quite adequate for sidecar machines.



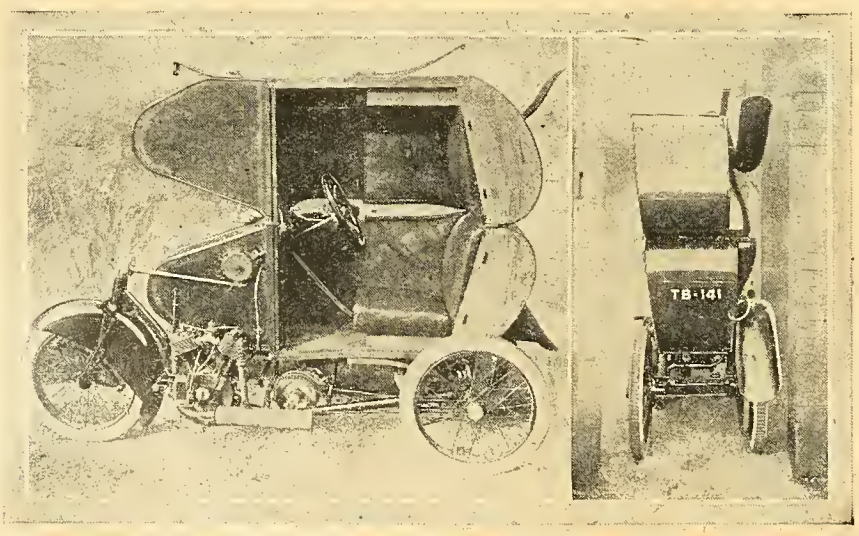
On the road in its natural form—the Dandy folding three-wheeler.

A FOLDING CYCLE CAR.

FOLDING or collapsible sidecars have been with us for some time, but a folding cycle car is, to say the least, somewhat of a novelty. Intended to meet the same contingencies as the folding sidecar, the Dandy three-wheeler has a V twin engine (a J.A.P. in the experimental model) mounted centrally behind the single front wheel; but the two-step transmission, including gear box, is entirely on one side of the chassis and drives one rear wheel only. The passenger's "compartment" of the body may be turned up over the driver's seat (as shown in one of the photographs), and the rear axle then telescopes inwardly, leaving the over-all width of the vehicle at 2ft. 8in. It is claimed that the folding process takes less than two minutes to complete.

Also the subject of a patent, the front forks comprise a pair of full elliptic springs, which take the road shocks directly from the wheel.

James Sumner and Sons, the makers and designers, of 2, Latham Road, Portsmouth, hope to sell this cycle car with complete equipment at £220.



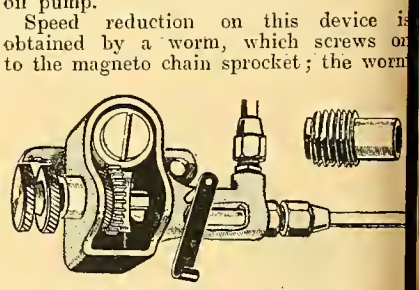
Broadside and rear views of the Dandy three-wheeler in its "folded" position, enabling it to pass through a very narrow gateway.

CONVERSION OF MECHANICAL LUBRICATION.

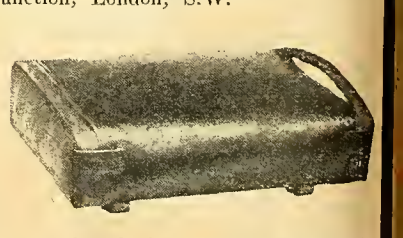
MECHANICAL lubrication seems slowly to be coming into favour, and, as a result, several oil pumps, easily adaptable to existing machines, are coming on the market. We illustrate a typical example, the Jebon mechanical oil pump.

Speed reduction on this device is obtained by a worm, which screws on to the magneto chain sprocket; the worm wheel, in turn, has a face cam which actuates a small plunger pump. Movement, controlled by an external milled nut, of the worm wheel on its shaft further serves to limit the throw of the plunger. Beyond the parts mentioned, which are comparatively few, there are only two ball valves.

This pump is made by the Jebon Press Works, 1, Brighton Buildings, Clapham Junction, London, S.W.



Jebon mechanical oil pump with the cover removed. (Inset) The worm, which screws on to the end of the camshaft.



Comfortable, handsome, and moderately priced (25/-) is the "Ideal Air Spring" pillion cushion, which, as the name implies, makes use of combined air and coil springing. The makers are Messrs. Saxessories, George Street, Coventry.

Disregarding Conventional Design.

A Swiss Motor Bicycle with Five-cylinder Rotary Engine in the Front Wheel.

WE have already published illustrations of the Megola motor cycle, and as it was made in Germany for a Swiss company we referred to it as a German production. We are now able to illustrate the 1921 model and to state that the design and capital behind the company are exclusively Swiss, the Megola S.A. being located at Zurich, and arrangements are in hand for the manufacture of the machine in various countries.

It may be recalled that the earlier model of this ingenious machine had the engine contained in the rear wheel, but in the 1921 type it forms part of the front wheel, which it drives through a train of gears; thus while the engine is rotating at one speed the wheel is revolving at another.

The bore and stroke of the five cylinders are 52 mm. and 60 mm. respectively, giving a total piston displacement of 640 c.c., and a declared 10 to 12 h.p. Lubrication is mechanical by means of a worm-driven piston pump.

Pressed Steel Frame Construction.

As will be seen, the frame is a pressed steel construction, with half-elliptic springs at the rear, and has a more or less conventional type fork utilising a leaf spring.

Having 28×3in. wheels, a long wheelbase, and somewhat narrow touring handle-bars, one cannot imagine such a machine becoming popular with trials competitors who take Porlock and Lynton Hills with their acute bends on the run. As a design, however, it is distinctly ingenious, and its appearance is bound to create much controversy. Still, we cannot mete out praise for the accessibility of the engine, the condition of which after a run in wet weather may easily be imagined.

Notwithstanding, it has points which in future years may become general practice. In this direction, one must admit that the clean outlines and provisions for protecting the rider from mud are excellent, and with an engine immediately in front of the rear wheel and a shorter wheelbase, it would possess a strong appeal to that large section of the riding public which still awaits the two-wheel automobile.

Those of our readers who have followed the controversy "Car Practice *versus* Simplicity" will probably take this as an example of how car practice may be introduced without undue complications. Undoubtedly the framework of the Megola is a cleaner piece of work than that of any other motor cycle, but this is only possible by adopting a far from ideal engine position.

Dismissing this interesting part of the Megola design, it will be seen that it would be extremely difficult to install an engine between the wheels and, at the same time, provide accessibility. One position, however, does suggest itself, *i.e.*, in that portion of the frame containing the tank. The imaginative motor cyclist will have no difficulty in deciding in his mind how a single-cylinder engine could be placed in an inclined position, with a gear box immediately behind it, and driving to the rear wheel in the more conventional way.

Attractions of the Open Frame.

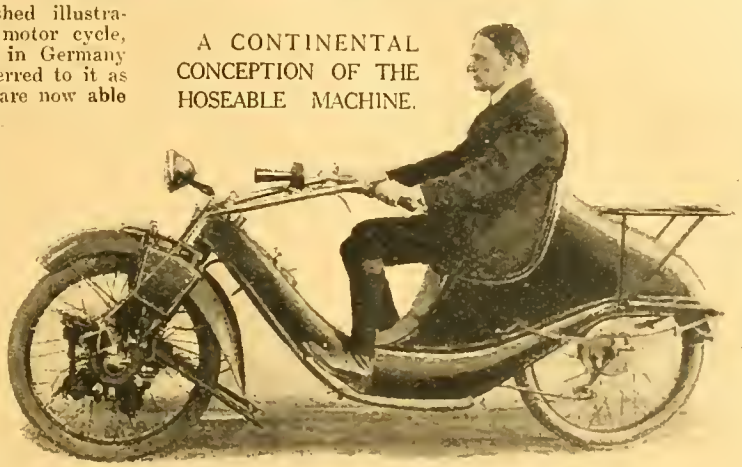
This, of course, is not by any means the first attempt to market a motor cycle of this type. The Pullin is an excellent example, the Swan was another, and there have been others of a similar character, but, at the present time, not available to the buying public.

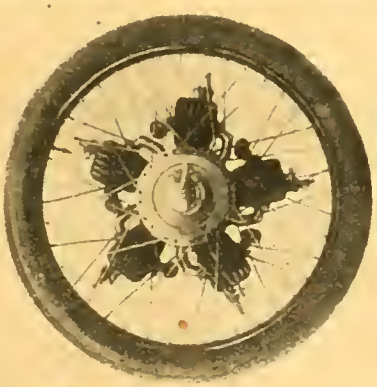
Fate seems unkind to the pioneer, and it would seem, in spite of the public's indictment that the modern motor cycle is the outcome of pedal cycle evolution—the buyer is extremely suspicious of all things that are born before their time.

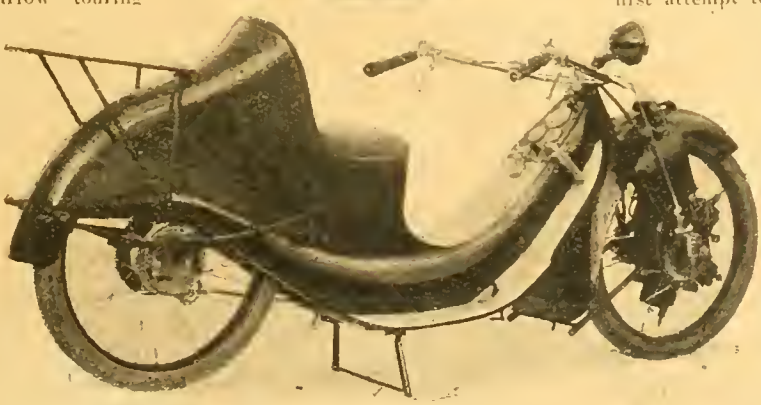
At the same time, we await a road test of the Megola with great interest, particularly in regard to stability and the effect of the rotary engine upon steering.

We understand that the Megola is being exhibited at the Hague Motor Show.

A CONTINENTAL CONCEPTION OF THE HOSEABLE MACHINE.







(Top) The rider's reposeful position on the Megola is not one usually provided for solo riders.

(Centre) Having five cylinders, 52 mm. bore and 60 mm. stroke, the Megola engine revolves with the wheel but at a different speed.

(Bottom) The automobile dash and enclosed tank and framework will interest those who have followed the recent controversy in these pages on the relative advantages of car practice or simplicity. Here the two seem to be combined.

FULL RESULTS OF THE ESSEX OPEN HILL-CLIMB.

BELOW we give a schedule of the final placings (in the last column) and the formula and time results of the Essex M.C. open hill-climb on Kop Hill on Saturday, the 2nd inst. Gold medal winners are requested to inform the committee at once whether they wish to receive medals or silver ash trays.

Name and Machine.	Nett Time.		Formula.		Weight.	Placing.
	sec.				lb.	
CLASS A.—Open Event.						
H. Newey (2¼ Levis)	44.6	1st	156	1st	315	1st F.T.
J. V. Prestwich (2¼ Diamond-Jap)	50.2	2nd	202	2nd	308	2nd
J. Lidstone (2¼ James)	52.8	3rd	235	3rd	294	3rd
Members' Event.						
J. V. Prestwich (2¼ Diamond-Jap)	50.2	1st	202	1st	308	1st F.T.
T. Lidstone (2¼ James)	52.8	2nd	235	2nd	294	2nd
Kaye Don (2½ Diamond-Jap)	55.4	3rd	254	3rd	300	3rd
CLASS B.—Open Event.						
J. V. Prestwich (2¼ Diamond-Jap)	49.6	3rd	199	1st	308	1st
A. A. Swan (2¾ New Imperial-Jap)	47.8	1st	240	2nd	280	2nd F.T.
Kaye Don (2¼ Diamond-Jap)	55.2	4th	252	3rd	301	3rd
Members' Event.						
J. V. Prestwich (2¼ Diamond-Jap)	49.6	1st	199	1st	308	1st F.T.
Kaye Don (2½ Diamond-Jap)	55.2	3rd	252	2nd	301	2nd
A. A. Prestwich (———)	52.2	2nd	274	3rd	343	3rd
CLASS C.—Open Event.						
G. S. Davison (2½ Levis)	41.8	4th	167	1st	259	1st
H. Petty (3½ Norton)	36.4	1st	175	2nd	371	2nd F.T.
Members' Event.						
H. Petty (3½ Norton)	36.4	1st	175	1st	371	1sr F.T.
G. Strange (3½ James)	39.2	2nd	219	2nd	350	2nd
S. L. Bailey (3½ Douglas)	41.2	3rd	224	3rd	378	3rd
CLASS D.—Open Event.						
G. S. Davison (2½ Levis)	41.8	4th	167	1st	259	1st
G. A. Vandervell (3½ Norton)	38.4	1st	178	2nd	406	2nd F.T.
S. L. Bailey (3½ Douglas)	39	2nd	201	3rd	378	3rd
Members' Event.						
G. A. Vandervell (3½ Norton)	38.4	1st	178	1st	406	1st
S. L. Bailey (3½ Douglas)	39	2nd	201	2nd	378	2nd
G. Strange (3½ James)	38.4	1st	209	3rd	350	3rd F.T.
CLASS E.—Open Event.						
G. S. Davison (2½ Levis)	38.6	8th	142	1st	259	1st
G. A. Vandervell (3½ Norton)	35	4th	148	2nd	406	2nd
S. L. Bailey (3½ Douglas)	36	5th	171	3rd	378	3rd
H. Le Vack (7-9 Indian)	32.4	1st	227	7th	462	F.T.
Members' Event.						
G. A. Vandervell (3½ Norton)	35	4th	148	1st	—	1st
S. L. Bailey (3½ Douglas)	36	5th	171	2nd	—	2nd
G. Strange (3½ James)	36.4	6th	188	3rd	—	3rd
H. Le Vack (7-9 Iodian)	32.4	1st	227	4th	—	F.T.

Name and Machine.	Nett Time.		Formula.		Weight.	Placing.
	sec.				lb.	
CLASS F.—Open Event.						
T. C. de la Hay (3½ Sunbeam)	30.4	1st	135	1st	343	1st F.T.
H. Petty (3½ Norton)	35.8	2nd	169	2nd	371	2nd
Members' Event.						
T. C. de la Hay (3½ Sunbeam)	30.4	1st	135	1st	343	1st F.T.
H. Petty (3½ Norton)	35.8	2nd	169	2nd	371	2nd
CLASS G.—Open Event.						
H. Petty (3½ Norton)	35	3rd	162	1st	371	1st
S. L. Bailey (3½ Douglas)	37	5th	181	2nd	378	2nd
T. C. de la Hay (3½ Sunbeam)	35.4	4th	182	3rd	343	3rd
H. Le Vack (7-9 Indian)	32	1st	221	4th	462	F.T.
Members' Event.						
H. Petty (3½ Norton)	35	3rd	162	1st	371	1st
S. L. Bailey (3½ Douglas)	37	5th	181	2nd	378	2nd
T. C. de la Hay (3½ Sunbeam)	35.4	4th	182	3rd	343	3rd
H. Le Vack (7-9 Indian)	32	1st	221	4th	462	F.T.
CLASS H.—Open Event.						
R. C. Chawner (3½ Sunbeam)	1.4	—	—	—	616	1st F.T.
CLASS J.—Open Event.						
H. Le Vack (7-9 Indian sc.)	44.6	2nd	251	1st	791	1st
R. C. Chawner (3½ Sunbeam sc.)	57.6	5th	268	2nd	616	2nd
I. P. Riddock (8 Zenith sc.)	44	1st	275	3rd	693	3rd F.T.
Members' Event.						
H. Le Vack (7-9 Indian sc.)	44.6	2nd	251	1st	791	1st
I. P. Riddock (8 Zenith sc.)	44	1st	275	2nd	693	2nd F.T.
E. A. Bridgman (7-9 Indian sc.)	49.8	3rd	319	3rd	777	3rd
CLASS K.—Open Event.						
E. B. Ware (8 Morgan)	45.6	1st	234	—	959	1st F.T.
P. F. A. Child (10 Morgan)	83.4	2nd	705	—	1085	2nd
Members' Event.						
E. B. Ware (8 Morgan)	45.6	1st	234	—	959	1st F.T.
P. F. A. Child (10 Morgan)	83.4	2nd	705	—	1085	2nd
CLASS L.—Open Event.						
H. R. Godfrey (8 G.N.)	43	1st	164	1st	1043	1st F.T.
A. Knights (6 Carden)	53.2	3rd	187	2nd	819	2nd
Members' Event.						
H. R. Godfrey (8 G.N.)	43	1st	164	1st	1043	1st F.T.
E. B. Ware (8 Morgan)	46.6	2nd	207	2nd	959	2nd

MOTOR CYCLES.—Fastest time (gold medal), T. C. de la Hay (3½ Sunbeam). F.T. = Fastest time.

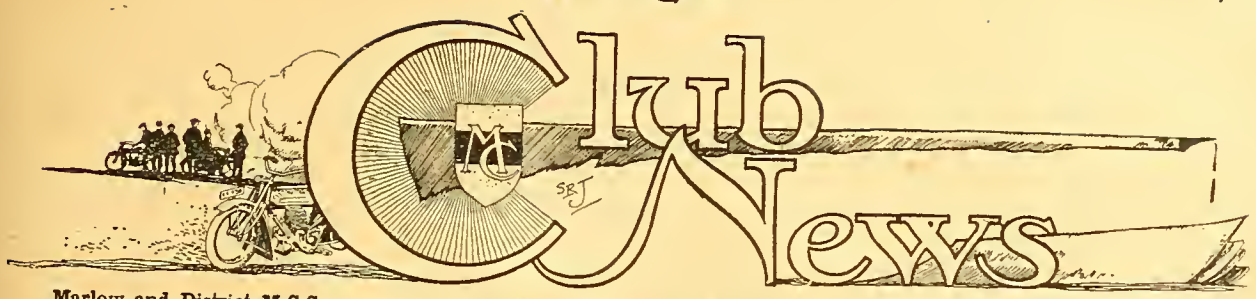
PRICES OF SECOND-HAND MOTOR CYCLES.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

MAKE, H.P., DATE.	CLASSIFIED PRICES.	AVERAGE PRICE.
A.B.C. 3 h.p., 1920	£85, £89, †£113, †£125	£103
Acme 8 h.p. sc., 1920	£115, £170	£143
A.J.S. 6 h.p. sc., 1920	£165, £169, £175, £175, †£195	£175
A.J.S. 7 h.p. sc., 1921	£210, £220	£215
Allon 2¾ h.p., 1920	£55, £60, £65, £68	£62
American X 7-9 h.p. sc., 1920	£165	—
Ariel 3½ h.p. sc., 1920	£85, £100, £105, £105, £110, £115	£103
Bat 6 h.p., 1920	*£130, *£132, *£135	£132
Beardmore 3½ h.p., 1920	£75, £79, £80	£78
Blackburne 4 h.p. sc., 1920	£100, £140	£120
Blackburne 4 h.p., 1920	£90, £95	£93
Bradbury 6 h.p. sc., 1920	£138, £155	£147
B.S.A. 4¼ h.p. sc., 1920	£120, £126, £130, £134, £140	£130
Calthorpe 2¼ h.p., 1920	*£58, *£60	£59
Chater-Lea 2¼ h.p., 1920	£49	—
Cleveland 3 h.p., 1920	£70	—
Clyno 2¼ h.p., 1920	£48, £53, £60	£51
Coulson-B. 2¾ h.p., 1920	£70, £75, £80	£75
Coulson-B. 4 h.p., 1920	£84	—
Coventry Eagle 3½ h.p. sc., 1920	£105	—
Diamond-Villiers 2½ h.p., 1920	£50, £60, £63	£58
Douglas 2¾ h.p., 1920	£80, £80, £83, £86, £89, £90	£85
Douglas 4 h.p. sc., 1920	£125, £130, £135, £138, £140	£135
Enfield 2¼ h.p., 1920	£50, £53, £60	£51
Enfield 8 h.p. sc., 1920	£150, †£155, £160, †£165	£158
Francis-Barnett 2¾ h.p., 1920	£67	—
Harley-Davidson 7-9 h.p. sc., 1920	†£160, £165, £168, †£170, £185, †£190, †£200, †£220	£182
Harley-Davidson 4 h.p. sc., 1920	£150	—
Henderson 10 h.p. sc., 1920	£175, £190, £190, †£200	£189
Hoskison 2¾ h.p., 1920	£70	—
Humber 4 h.p. sc., 1920	£155	—
Indian 7-9 h.p. sc., 1920	†£155, †£160, †£165	£160
Indian 4 h.p., 1920	£115	—
Ivy 2¼ h.p., 1920	£50, £53	£53
James 2¼ h.p., 1920	£65	—
James 5-6 h.p. sc., 1920	£130, £145, £160, *£165	£150
Lea-Francis 3½ h.p., 1920	£80, £95, £105, £110	£98

MAKE, H.P., DATE.	CLASSIFIED PRICES.	AVERAGE PRICE.
Levis 2¼ h.p., 1920	£47	—
L.M.C. 6 h.p. sc., 1920	£120, *£128	£124
Martinsyde 6 h.p. sc., 1920	£144, ††£150	£147
Matchless 8 h.p. sc., 1920	£165, £170, †£174, £175, £175, £175, ††£175, ††£180, ††£180, *†£195, †£200	£179
Metro-Tyler 2¼ h.p., 1920	£45, *£70	£58
New Hudson 2¼ h.p., 1920	£65	—
New Imperial 8 h.p. sc., 1920	£135, £150	£143
Norton 4 h.p. sc., 1920	£155, £155	£155
N.U.T. 3½ h.p. 1920	††£112, †£118, ††£135	£122
O.K. 2½ h.p., 1920	£55, *£59	£57
Omega 2¾ h.p., 1920	£50, £55, £75	£60
P. & M. 3½ h.p., 1920	£94, £99	£97
P. & M. 3½ h.p. sc., 1920	£100, £120	£110
Paragon 2½ h.p., 1920	£45, £50	£48
Quadrant 4¼ h.p. sc., 1920	£75, £95	£85
Reading-Standard 10 h.p. sc., 1920	£190	—
Rover 5-6 h.p. sc., 1920	£120, £160	£140
Rover 3½ h.p., 1920	£95	—
Royal Ruby 8 h.p. sc., 1919-20	£150	—
Rudge 3½ h.p., 1920	£65, £70, £79, £85, £85, £90	£79
Scott 3¾ h.p., 1920	£100, £100, £105, £110	£104
Scott 3¾ h.p. sc., 1920	£125, £128, £130, £135, £155	£135
Sparkbrook 2½ h.p., 1920	£50, £55, £70	£58
Sun 2½ h.p., 1920	£60	—
Sunbeam 3½ h.p., 1920	£120, £125, £130, £135	£128
Sunbeam 3½ h.p. sc., 1920	£155, £160, £165, £165, £170	£163
Sunbeam 8 h.p. sc., 1919	£175, £190	£183
Triumph 4 h.p., Model H, 1920	£95, £95, £118	£103
Triumph 4 h.p. sc., Model H, 1920	£122, £130, £160, £165, £165, £160	£145
Triumph 4 h.p. sc., 1919	£105, £105, £105, £118, £138	£114
Velocette 2¼ h.p., 1920	£56	—
Verus 2¾ h.p., 1920	£85, £95	£90
Verus 4 h.p., 1920	£105	—
Wooler 2¾ h.p., 1920	£62, *£75	£69
Zenith 8 h.p. c/shaft sc., 1920	£145, £175	£160
Zenith 5 h.p. sporting, 1920	£100	

*Unused. †Dynamo lighting.



Marlow and District M.C.C.

A visit was paid on the 3rd inst. to the quaint old town of Abingdon, and a most enjoyable afternoon was spent there.

Leicester and District M.C.

Last month the club had several runs, attracting an average turnout of about fifty members. On April 17th the first round of the Yates Trophy competition will be held.

Oxford M.C.

An attractive programme, including inter-club events with Banbury and Oxford University M.C.C. clubs, has been drawn up. Mr. H. M. Bailey, 43, Cornmarket Street, Oxford, is the hon. secretary.

Liverpool M.C.

Held on the 3rd inst. over a very sporting course, and attracting a large entry, a "surprise competition" resulted as follows: 600 c.c. Class.—1, N. C. Sclater (4 Norton). Unlimited Class.—1, E. A. Eastwood (7-9 American X).

Dublin and District M.C.C.

J. A. Carville, mounted on a 4 h.p. Triumph, has been adjudged the winner of the Easter reliability trial held under the auspices of the Dublin and District Motor Cycle Club. The lightweight prize in the competition was won by T. E. Green (2¼ Enfield). Gold medals were awarded to P. R. Hurse (4½ B.S.A.) and J. McEntaggart (7-9 Indian), as well as to the two cup winners.

North London M.C.C.

The results are now to hand of the Staley Cup Trial, held over an eighty miles course near Amersham. Mr. R. H. Baxter (2¼ Radco) was the winner, thereby gaining the Staley Cup and a gold medal. He obtained 100% of the marks allowed, and had 1½ min. error on time. Four other competitors gained 100% marks, and to each the club has awarded a silver medal. These were: Messrs. L. Walter (4 Triumph), R. R. Bowen (4 Triumph), R. L. Richardson (3½ Alecto), and Mrs. F. E. Jones (3½ Ariel). Six bronze medals were also awarded.

Norfolk M.C. and L.C.C.

Results of the hundred miles reliability trial at Easter have been announced as follows:

CLASS 1 (Solo Motor Cycles).—1, H. J. Hannent (4 Indian Scout), 2¾m.; 2, T. B. Hensman (4 Triumph), 3m.; 3, E. Edwards (6 Bat), 4m.

CLASS 2 (Sidecar Machines).—1, H. D. Wheeler (8 New Imperial sc.), 1¾m.; 2, A. Adcock (3½ P. and M. so.), 2¾m.; 3, C. W. Dix (6 A.J.S. sc.), 4¼m.

Cup presented by Mr. W. Lincolne Sutton for the best performance of the day.—H. D. Wheeler (8 New Imperial sc.).

Mr. W. Riley's prize for the best performance by a competitor not having held a driving licence prior to January 1st, 1919.—L. G. Baker (3½ 3rd M.).

Week-end Club Events.

April 16.—Stockport and District M.C. Remaining Classes of Open Hill-climb.
April 16.—B.M.C.R.C. Members' Race Meeting at Brooklands.
April 16.—Sunderland and District M.C. Consistency Hill-climb.
April 16.—Exeter M.C. and J.C.C. Opening Run. Chulmleigh.
April 16.—Oxford M.C. Half-day Reliability Trial.
April 16.—Helensburgh M.C.C. Hill-climb.
April 16.—Dewsbury and District M.C.C. Competition and Picnic.
April 16.—Bristol M.C.C. Reliability Trial to Torquay.
April 16.—Sunderland and District M.C.C. Hill-climb.
April 16.—Coventry and Warwickshire M.C. Manville Trophy Trial.
April 16.—Birmingham M.C.C. Novices' Trial.
April 16.—Kidderminster M.C.C. Social Run.
April 16.—West Kent M.C. Flexibility Test on Braxted Hill.
April 17.—Bradford M.C. and L.C.C. Speed Trial.
April 17.—Wallington and District M.C. and L.C.C. Reliability Trial.
April 17.—Eastbourne and District M.C.C. Hill-climb.
April 17.—Barrow and District M.C. Reliability Trial.
April 17.—Leicester and District M.C. Yates Trophy Trial (First Round).
April 17.—Sheffield M.C.C. Trophy Trial.
April 17.—Eastern Valley M.C.C. Social Run.
April 17.—East Lancs. M.C.C. Jerrard Cup Trial.
April 17.—Woolwich, Plumstead, and District M.C. Reliability Trial.
April 17.—Holwood M.C.C. 100 Miles Club Run.
April 17.—Newcastle and District M.C. Hill-climb.
April 17.—Leeds and District M.C. Club Run to Askham Richard.
April 17.—Halifax and District M.C.C. Club Run to Sprotborough.
April 17.—Ilkeston and District M.C.C. Club Run to Alport.
April 17.—Manchester M.C. Speed Trials.
April 17.—Essex M.C. Captain's Surprise Run.
April 17.—Eastbourne and District M.C.C. Hill-climb.
April 17.—Ivy M.C.C. (Wolverhampton). Club Run to Malvern.
April 17.—Reigate, Redhill, and District M.C.C. Speed-judging Contest.
April 17.—Horsham M.C. and L.C.C. Reliability Trial.
April 17.—Liverpool M.C. Amateur Trial for Blake Cup.
April 17.—Portsmouth and District M.C. and L.C.C. Club Run.
April 17.—Leeds M.U. Club Run to Bishop Monckton.
April 20.—Harrogate and District M.C.C. Social Run.
April 20.—Plymouth and District M.C. and L.C.C. Paperchase over Dartmoor.

IMPORTANT club and OPEN events are tabulated on the "Questions and Replies" page.

Stourbridge M.C.C.

In glorious weather a muster of fifty-two started from headquarters on the Captain's run for Flagstaff Hill, on which an impromptu climb was held. B. Clare (3½ Norton) was the winner.

Bridgwater and District M.C. and L.C.C.

On Saturday, April 30th, the club is holding an inter-club hill-climb at Puritan Hill at 3 p.m. This event is open to all West of England clubs. The course is a measured half-mile and of excellent surface, and it is hoped that as many members as possible from the neighbouring clubs will compete. Full particulars and entry forms may now be obtained from the hon. secretary, Mr. J. W. Hooper, the Oaks, Wembdon, Bridgwater.

Reigate, Redhill, and District M.C.C.

Including Chalk Pit Hill, a course in the Westerham district did not prove difficult to the majority of the competitors in a reliability trial held at the beginning of the month. Many were too early, however, and the following are the only awards to be made. Gold medal.—R. Green (4 Norton). Silver medals.—H. Watkins (8 Matchless sc.), J. Duplock (3½ Sunbeam sc.), and L. Alderton (4¼ B.S.A.).

Ilkley M.C. and L.C.C.

G. Clapham, of Keighley, on a Scott Squirrel, made a very successful performance in the reliability trial organised by the Ilkley Motor Cycle and Light Car Club on the 3rd inst. Over a route of ninety-nine miles across the upper reaches of the Yorkshire dales, with eighteen checks, and to a timetable worked out at 20 m.p.h., he lost only 15s. Twenty-four competitors took part. The winners were as follows:

Founder's Trophy and gold medal, G. Clapham (3¾ Scott Squirrel), total error 15s.; silver medal, B. H. Voss (3 A.B.C.), 6m.; bronze medal, C. A. Barker (6 Enfield sc.), 10m. 28s.

Rugeley and District A.C.

Detailed results of the speed trials held at Ingestre Park on Easter Monday, by permission of the Earl of Shrewsbury, are as follows:

300 c.c. CLASS.—1, P. F. Griffin (2½ Levis), 22⅘s.; 2, E. K. Griffin (2½ Levis), 24s.; 3, C. E. Massey (2½ Edmund-Union), 28⅘s.

350 c.c. CLASS.—1, E. Smith (2¾ Douglas), 19⅘s.; 2, N. Craddock (2¾ Douglas), 21⅗s.; 3, P. F. Griffin (2½ Levis), 22s.

500 c.c. CLASS.—1, W. Penn (3½ Rudge), 21s.; 2, P. F. Griffin (2½ Levis), 21⅗s.; 3, N. Craddock (2¾ Douglas), 23s.

680 c.c. CLASS.—1, B. Moakes (3½ Norton), 19s.; 2, N. Craddock (2¾ Douglas), 20⅗s.; 3, P. F. Griffin (2½ Levis), 21⅗s.

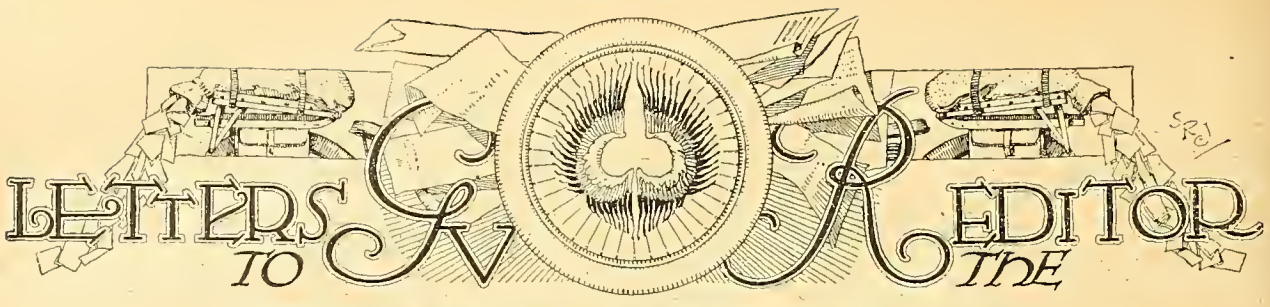
UNLIMITED.—1, E. Smith (2¾ Douglas), 18⅗s.; 2, W. Penn (3½ Rudge), 19⅗s.; 3, B. Moakes (3½ Norton), 20s.

South-west Durham M.C.

Thirty-four competitors started in the Easter Monday reliability trial, which was held under extremely adverse weather conditions. Rain and snow had made the surface of Killhope, the observed hill, very soft. Among those to make clean ascents were: G. Hudson (6 Matchless), J. Fidian (4 Triumph), J. P. Bell (3 A.B.C.), T. Scaife (4 Norton), A. Collingwood (3½ Norton), J. Grieves (4 Norton sc.), G. Walker (Morgan), A. Purvis (6 A.J.S. sc.), H. J. B. Murray (3½ Rover sc.), A. Wainwright (4¼ B.S.A. sc.), and E. Walsh (4 Norton sc.). Results (showing marks lost):

PASSENGER MACHINES (UNLIMITED).—Gold medal, E. Welsh (4 Norton sc.), 0; gold medal, E. Purvis (6 A.J.S. sc.), 0; silver medal, H. J. B. Murray (3½ Rover sc.), 6; bronze medal, A. Wainwright (4¼ B.S.A. sc.), 11.

SOLO MACHINES (UNLIMITED).—Gold medal, A. Scaife (4 Norton), 2; silver medal, J. P. Bell (3 A.B.C.), 3; bronze medal, A. Collingwood (3½ Norton), 4.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

HARD ON THE DOG!

Sir,—You may be interested in my method, which has effected a permanent cure of the dog nuisance.

On the dog making his usual frantic rush he should not be discouraged, but invited to continue his gambolings alongside. The throttle is opened gradually and the playful puppy (noisy end) manœuvred into the vicinity of the exhaust pipe (business end). The desired result being obtained, the "P.P." will decelerate violently, and will be seen showing obvious symptoms of acute nasal disturbance and pending gastronomic eruptions. G. A. OWEN.

SIDECAR OR CYCLE CAR?

Sir,—Like many hundreds of your readers, I especially enjoyed your article on "Sidecar or Cycle Car." As a solo rider, I am trying to make up my mind whether to join the sidecarists or cycle carists for the coming season. It is evident there is little to choose between a first-class sidecar outfit and a first-class runabout as regards initial cost and general reliability. What I would like to see is a comparison as regards cost of upkeep, including petrol, tyres, and replacements. It would appear that repairs, being more on car lines than on the runabout, would be somewhat higher than on the sidecar outfit. I would also like to know how they compare for average speed or runs of over 100 miles. Perhaps some reader would enlighten me. TYRCONNELL.

Ireland.

CLASSIFYING COMPETITION RIDERS.

Sir,—"Etaples's" letter in your issue of March 17th is excellent, but I would go a little further, viz., "star" the trade rider, "dagger" the man in the "expert" list, and put some other fearsome sign to the man who has a trade interest in the machine he is riding.

Good luck to them all, anyhow. I have just recovered from the latest form of secret check—to wit, a trenched road. A.C.U. please note. B. (Capt.).

Co. Kildare.

Sir,—With reference to remarks by "Etaples" in *The Motor Cycle* of March 17th regarding amateur and professional riders in competitions, I should like to say I entirely agree with his suggestion that there should be some means of identifying an amateur from a professional.

I should also like to point out that in most events the amateur rider is practically barred, having to compete against professionals with a factory behind them.

I feel sure that if the clubs were to make two premier awards—one for the professional and one for the amateur—they would increase their membership. Also, the clubs in which the suggestion was carried into effect would be more sociable and quite as sporting.

Take an amateur rider, for instance, who joins a club and fancies himself on the local hill. He pays his fee, tunes his machine to the best of his ability—probably in the kitchen, if the family will stand it—and goes to the hill-climb or speed event. What has he to compete with? Special engines, aluminium pistons designed with a compression ratio just suitable for the competition, and other tricks of the trade, which, possibly, would not stand a short tour, and would be hopeless in traffic. What earthly chance has he? He goes home disgusted with his machine, which is probably as good as the average.

I say again, and I know lots who will agree, give the amateur with a standard machine a chance.

Birmingham. FAIRSPORT.

Sir,—I note with interest the remarks of your contributor "Etaples" on the classifying of competition riders.

I am connected with the motor trade, from which I get my living; but when I ride in, say, a hill-climb or speed event on a Saturday afternoon I do so at my own expense and from a sporting point of view in the same way as a man connected with any other trade might do, and I should not care to be called a trade rider.

I should like to hear your correspondent's definition of an amateur rider, as there must be a good number like myself who ride for the sport but who are connected with the trade.

E. C. COLLINS.

NOT ENOUGH MUD TO WORRY ABOUT.

Sir,—Being another appreciative reader of your paper for many years, I should like to state that "Opinion's" letter was indeed very refreshing.

I am an all-round rider, and, being in business, my runs are confined to fixed days with an occasional day off. I am not concerned much with the weather. My 'bus is an Enfield Six, well mudguarded. My wife occupies the sidecar, with an Easting for protection, and myself in warm rainproof Beacons. So equipped, mud and rain are secondary considerations, and I am always surprised after every muddy and wet ride how clean my overalls are, with no spots save on my boots. The Easting keeps my passenger absolutely dry. My car friends often point out to me the comfort and cleanness of car driving. Admitted, but give me the sporting cycle. Incidentally, we cannot all afford cars.

D. C. WILLIAMS.

INCREASING SEATING CAPACITY ON THREE-WHEELERS.

Sir,—May I venture to suggest that one of the great disadvantages of the runabout, *i.e.*, its inability to carry more than two people, might be overcome by fitting two small seats on each side of the rear wheel and enclosed in the mudguard? These seats would of necessity be small, but they could be made sufficiently large to accommodate a child up to about fourteen or fifteen years of age; while, by removal of the cushions, ample and convenient luggage space would be available.

These seats would naturally make the mudguard so wide as to make the wheel very inaccessible. However, by removing the seats, and by hinging the rear portion of the mudguard as on the T.B., this would be completely overcome. D. CLARK.

DEFINING "SILENCE."

Sir,—I have read with interest a letter on the above subject, signed E. E. Howell, and published in your number of the 24th March, and venture to offer my solution to this problem, speaking as one who has studied human nature.

I would advise all those concerned with such an act of tyranny on the part of a local magistrate to form themselves into a league, to be known as "The Society for the Protection of Long Exhaust Pipes," and to present him with a motor cycle, fitted with a two-and-a-half foot, well polished copper exhaust pipe; together with a good leather and a tin of Brasso.

I would predict that all trouble with the authorities in this direction would immediately and mysteriously cease.

I am, of course, neither a manufacturer of motor cycles with long exhaust pipes, nor am I a magistrate, but am merely writing as A PSYCHOLOGIST.

Putney.

GOOD SAMARITANS.

Sir,—Will you kindly find room for a letter of heartfelt thanks to the two sportsmen who stopped to help me when stranded between Lancaster and Preston on the evening of this atrocious Easter Monday. The exhaust valve of my machine had broken, and my wife in the sidecar was taken ill. We were about eight miles from anywhere; it was raining persistently, and we (and our helpers) were soaked.

I had done some ninety-six miles (rain all the time), and had battled, with a slipping belt, against the storm for thirty of them, when the valve went. I was fagged and very anxious about my passenger, and still twenty-eight miles from home. These fellows, in spite of having been some eighteen hours on the road the day before owing to a sheared key, stopped willingly, and one on a 4 h.p. Triumph (I think, for it was dusk) towed us into Preston over appalling roads, and went out of his way to get us to a garage near the station. I will only say that the best "Get you home scheme" is, in my opinion, the British sportsman.

A. G. BANKS, Lieut. R.E.(T.).

POINTERS IN RADIAL ENGINE DESIGN

Sir,—As an engineer having considerable experience in the design and manufacture of radial and other engines for aero and general work, including the Redrup three-cylinder radial engine for motor cycles, I venture to raise a few points briefly in connection with the proposed design of a three-cylinder radial described in *The Motor Cycle* of March 10th. It should be borne in mind that my criticisms are based upon the present design, which may not of necessity be the final form.

It is noticed that the exhaust passages are in one with the gear case attached to the crank case. This appears very undesirable, as in a radial engine, even though the heat from the cylinder be dissipated as rapidly as possible, the crank case tends to become hot with conducted heat, and the casting of the exhaust passages with a portion of the engine bolted directly to the crank case would be distinctly unsuitable.

The extreme distance between the bearings supporting the crankshaft would create a strong tendeucy to crankshaft whip which would impose considerable strain on the crank pin joint, have a disastrous effect on the ball bearings as arranged, and the whip of the shaft would set up a cantilever action upon the two bearings nearest to the flywheel.

The segmental design of connecting rod end would be found to be quite unsuitable in practice in a comparatively high speed engine, as on account of the limited width of the "feet" (having three on a common bush) a severe binding effect would be set up in the housing.

The design of the detachable cylinder heads does not seem to be good, as there would be a somewhat large unsupported area which would provide a fruitful source of warping and leakage in practice.

The valve gear is unnecessarily complicated, and entailing, as it does, six spur wheels and accompanying mountings, it would probably be found to be noisy unless very carefully constructed. The mounting of the complete engine in the frame is very crude, as there is a lot of overhang, though this, together with other details mentioned, may receive further attention at the hands of the designers before the proposition assumes practical shape.

C. B. REDRUP.

LINCOLNSHIRE AS A TOURING GROUND.

Sir,—I was extremely interested in "Friar John's" article in *The Motor Cycle* for March 17th on the beauties of Lincolnshire, probably because I am a "Johnny of the Wolds" myself, and, so, well acquainted with the places mentioned in his article. He bears out what I have always maintained, that few, if any, counties in England are able to offer such a delightful variety of scenery as Lincoln.

The Fens may appeal to many, but, to me, from a touring point of view, they offer no comparison to the Wolds. It would certainly be a revelation to many persons to make Spilsby or Horncastle their headquarters, and to tour thoroughly the neighbourhood. We have very few roads to satisfy a speed merchant: the surfaces are just now rather rough, but pot-holes are conspicuous by their absence. The more enjoyable rides are off the beaten track and well away from the towns. Amongst the Wolds proper practically no level road is encountered. Windiug lanes, shady dells, rippling brooks, the unexpected climb, all add zest and pleasure to such a trip, and are, in variety, enough to please the most exacting. Many of the climbs bring into use the low gear of a sidecar, but although a good test, none are beyond the capabilities of a decent "3½."

The views from selected spots are nothing less than magnificent, especially those overlooking the Fens. From a hill in our own village, on a clear day, Lincoln Cathedral, Boston Stump, Tattershall Castle, the sea at Skegness (distances varying from fifteen to twenty-seven miles) are easily visible.

We, too, are interesting historically. Tennyson's birthplace at Somersby, Sir John Franklin at Spilsby, Henry IV. at old Bolingbroke, Tattershall Castle, Revesby Abbey, and other places are all within easy distance. The churches, too, are worth visiting. I am told part of our village church is over 1,000 years old.

It may be interesting, too, to know that this village is mentioned in Doomsday Book, and that in the church register is an entry which is supposed to have been made by a follower of Cromwell, who turned out the then incumbent. It is probably true, for in 1643 Cromwell met at Wrawby (two miles away) the Royal Army, which was marching to relieve Bolingbroke Castle, but the Royal Army suffered a disastrous defeat; the scene of the encounter is still named Slash Hollow. In Horncastle Church are displayed old weapons which are supposed to be relics of the encounter.

Anyone desiring a truly rural picnicking tour, a holiday amongst the Wolds could not fail to be appreciated, and a description of such a tour from the pen of a ready writer such as "Friar John" would be an interesting addition to your always interesting journal.

C.E.D.

Spilsby.

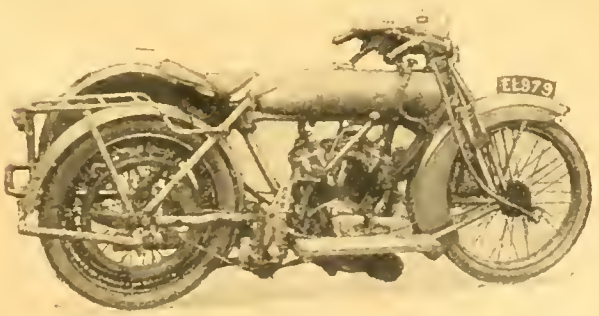
MODERNISING AN OLD MACHINE.

Sir,—Referring to your article on converting old machines, I have pleasure in enclosing herewith photographs and particulars of a rather interesting conversion I have carried out for a friend of mine on a 1914 Bat-Jap sidecar outfit fitted with hub gear.

This hub gear was not very satisfactory, and it was decided to replace it with a new up to date gear box with clutch and kick-starter, arranged for chain and belt drive.

The box which appeared most suitable was the Juckes patent countershaft type. This has several good features, which make it rather suitable for the purpose in view.

The gear lever and gate are attached to the box itself, and cannot easily get out of order, there being no tank fittings or rods of any sort requiring adjustment.



Converting a 1914 Bat-Jap to a countershaft model. (See letter from Mr. W. Gwennap.)

In fitting the gear box to the horizontal stays, it was found necessary to remove the latter, and make them parallel by heating, so as to receive the gear box, the box then being secured by four ⅝in. studs tapped into a specially thickened part of the stays. Transmission is by ⅝in. × ⅜in. chain, and thence by 1in. belt to a new rear wheel, top gear being about 4 to 1.

Two brakes are arranged to operate on the rear wheel, and the clutch is a massive cone type, and operated from the handle-bars with perfect ease.

It will be noticed from the photograph that there is an entire absence of change-speed brackets and rods, giving the cycle a clean appearance. The total cost of the whole job was approximately £37, not allowing anything for the parts removed, some of which have a marketable value.

W. GWENNAP.

UPPER SWALEDALE IN THE LONDON-EDINBURGH.

Sir,—I gather from the sketch map in *The Motor Cycle* that the London-Edinburgh Whitsuntide route, after crossing the Buttertubs, continues through Upper Swaledale *via* Thwaite and Keld to the Pennine watershed at Hollow Mill Cross, thence dropping into Kirkby Stephen by Nateby. Has this section been included in any previous important trial? My recollections of it date back to several pre-war tramping tours, and unless memory plays me false there were then "umpteen" miles of unrolled metal east of the summit. Can any of your readers give up-to-date information as to the condition of this section from the sidecar point of view? It lies over magnificent moors, flanked on the south by Great Shunnor Fell, and in clear weather the steep descent to Nateby provides fine panoramas of Westmorland. DALE LOVER.

WE STAND CORRECTED!

Sir,—Until to-day, I have always read your paper with great interest and instruction. But I find you have misled me. Your ideas of what a sporting motor cyclist should be have been wrong. Now I to-day have seen the ideal sportsman—two of them, in fact, and I can assure you that we benighted bumpkins in our town are not a little pleased with ourselves. This pleasant Sunday afternoon I was abruptly awakened from my snooze by the sound of fifty million aeroplanes, and, on rushing to the window, I saw a solo big twin and another with a light sidecar hurtling along on bottom gear on the level at 6 m.p.h. easily. The superdrivers on them had removed the silencers, and were alternately opening and shutting the throttles. You may guess I was open-mouthed with admiration at this pluck and skill. The riders were also good enough to tour even the side streets—no favouritism about them. I afterwards saw these supermen outside the inn of their choice smoking cigarettes, yes, and blowing the smoke through their noses!

Last August I saw T. C. de la Hay, Eric Williams, George Dance, and other moderate riders go through the town with no more noise than you or I make, *en route* in the Six Days. And yet you have taught me to look on them as crack riders. No, sir, winning the T.T. is all right in its way, but give me the man who takes off his silencer on a Sunday afternoon, and can accelerate up to 5 m.p.h. on low gear in next to no time in a quiet street.

Northallerton. J. LLEWELLYN G. HILL.

WAS IT ENGINE SEIZURE?

Sir,—I was much interested in reading "F.L.S.'s" letter regarding the apparent seizure of the engine of his 4 h.p. Triumph, as a similar experience befell me last Thursday.

My machine is a 1919 4 h.p. Trinmph, solo.

I had covered about fifty miles on a run to Penzance, and was travelling at thirty-five miles an hour, when my engine suddenly stopped, bringing my bicycle to an abrupt standstill and nearly throwing me out of the saddle.

Finding the engine rather hot, I gave it two pumpfuls of oil, and it re-started after a couple of good kicks, and appeared to be in splendid fettle.

I remember having a similar experience some months ago, but could find no reason for the apparent seizure, as I habitually over-oil. GEO. LAITY.

Sir,—Your correspondent "F.L.S.," in your issue dated March 31st, seems to have over-oiled and produced seizure of a valve stem, which latter, on cooling, would free itself and show little trace of the trouble. I have experienced the same trouble on a Douglas, and give the suggestion as a possible cause. Of course the skirt of the passenger's trench coat, or skirt *tout court*, might have wound itself into the works.

Wallington. AJ 1.

Sir,—I was very much interested in the letter by "F.L.S." about partial engine seizure.

Without presuming to have much knowledge of engines and their peculiarities, I may, through my own experience, be able to give "F.L.S." some information which will perhaps enable him to trace the trouble.

My own 1920 Triumph runs faultlessly until I open "all out." It will exceed 50 m.p.h. comfortably, and has touched 58 m.p.h., but if I run at this speed for more than half a mile the engine locks without warning and the machine comes to a standstill. Strangely enough, it will start again immediately, by applying the kick-starter.

For some months I was unable to fathom this until I examined the piston and cylinder closely. I found at the head of the piston a very slight score and a stain of brownish tinge (obviously a burn). The cylinder wall has a corresponding, but much less visible, stain, running vertically in the path of the piston scoring.

I have concluded that this is caused by a gas leakage as a result of the first partial seizure, which, no doubt, was caused by myself in ignorance by under-lubrication at speed.

If "F.L.S." will examine his engine, he will no doubt find similar markings to those I have mentioned, which were evidently there before he used the machine, and, therefore, no matter how much oil he injected at speed the leakage down the piston side would, after a few minutes' running, result in a "dry up." CHAS. G. HOUGH.

Sir,—May I venture to add my experiences to those of your correspondent "F.L.S."?

I have had apparent seizure three or four times with a scooter (pump lubrication). On one occasion I had injected two or three pumpfuls of oil before starting, and had not gone far when, without warning of any kind, the back wheel locked. However, I was able to start again immediately, and the machine ran for the rest of the journey faultlessly. I know the oil reached the engine all right, because it smoked furiously on starting, and had only just left off smoking when this occurrence took place.

This puzzled me so much that I gave up trying to fathom the mysteries thereof, when, on seeing your other correspondent's description of his joys, I was encouraged to add mine.

Perhaps "Ixion" can help us out on this point. Really, he is as faithful in feeding us, his sheep, with his incomparable "comments" as any parson is in supplying his flock with sermons, and "Ixion's" parishioners are many and varied—at least, round this district. D.J.E.

Tunbridge Wells.

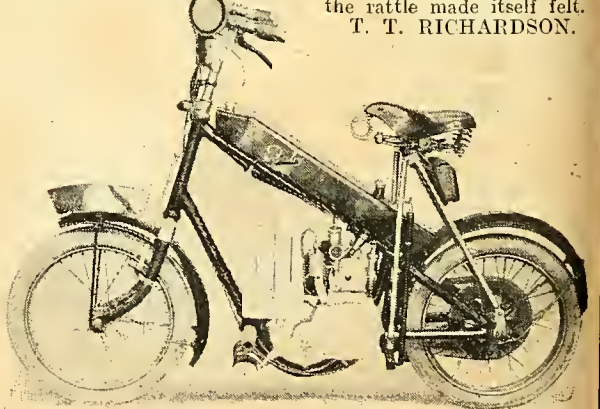
Sir,—The experience which "F.L.S.," of Derby, relates is almost a parallel to my own. Riding a 2¾ h.p. New Imperial, I was having a friendly "scrap" with another outfit when my engine stopped dead, locking the wheel, but, before the machine came to a stop, freeing itself again. I had closed the throttle on the engine stopping, but on opening up the machine went off again, apparently O.K.

The sequel came some time later, when the engine developed a most disconcerting rattle when running "light." Thinking that it was due to wear on the big end, I dismantled the engine, and found the bush seized on to the crank pin, and the whole moving inside the end of the connecting rod.

I had the connecting rod rebushed, and have had no trouble since.

I attributed the stoppage of the engine to the seizing of the bush, and then the pressure on the engine sprocket must have been sufficient to free the whole inside the connecting rod. I may remark that the engine ran perfectly for about 200 miles before the rattle made itself felt.

T. T. RICHARDSON.



For sale at the Crystal Palace Second-hand Show. A Max miniature, of the type exhibited at the Stanley Show of 1908, built before designers had such high hopes of producing what might be termed the "missing link" between motor cycles and scooters.

ORGANISATION AND CO-OPERATION.

Sir,—With reference to Mr. Loughborough's letter indicating what is and has been the attitude of the A.C.U. towards the new scheme of taxation, I hasten cordially to endorse his statement concerning the co-operation existing between the A.C.U. and the A.A. The letter which drew Mr. Loughborough's perfectly fair reply unfortunately escaped my notice; otherwise I should have written at once to correct the statement made by your correspondent.

Immediately the horse-power tax proposals were known, and the Motor Legislation Committee got to work, the A.C.U., with ourselves and other organisations represented on that committee, realised the injustice of the proposals and united in opposing the tax. STENSON COOKE.

Secretary the Automobile Association and Motor Union.

SPLITTING HAIRS?

Sir,—I should like to congratulate Mr. H. L. Lewis on his super-mathematical mind! When he mentions such things as "$y = e^{ax}$ (or $y = \frac{dy}{dx}$, which is the same thing)," I shudder.

If he can prove this to me I shall be pleased to forward him a bag of nuts. I am fairly conversant with the calculus, but I always thought that $\frac{dy}{dx} = y$ only when $y = ae^x$. Also, Mr. Garrod is perfectly justified in using the multiplication sign "×," since it is the one used at schools, and thus possibly the only one known to those with less brilliant intellects.

W. N. G. PHILLIPS.

Sir,—In your issue of the 31st March, Mr. H. L. Lewis has made a fairly good attempt to show his superiority over us, —mere motor cyclists, in elementary calculus.

However, may I be permitted in the interests of those of your readers who are studying this interesting branch of mathematics privately to point out an obvious "howler."

Mr. Lewis says: ". . . $y = e^{ax}$ (or $y = \frac{dy}{dx}$, which is the same thing) . . ." Surely if $y = e^{ax}$, $\frac{dy}{dx} = ae^{ax}$. I believe this is a "standard form." However, not being a mathematician I am open to criticism. From these last statements it is obvious that $y = \frac{1}{a} \cdot \frac{dy}{dx}$.

So Mr. Lewis's little example of "higher mathematics" was "but a meaningless assemblage of three or four letters of the alphabet" after all! H. H. C. BARTON.

THE BALANCE OF MOTOR CYCLE ENGINES.

Sir,—It appears to me that Mr. T. S. Bentley is at fault in his remarks on the above, concerning static and dynamic balance. Although static and dynamic balance are essentially different, it is easily shown that the necessary conditions for one satisfy the other. The accompanying diagram explains my argument.



Let M and m be two masses revolving about a fulcrum F, their radii and velocities being respectively Rr and Vv. The condition for static balance is—

$$m \times r = M \times R. \quad (1.)$$

The condition for dynamic balance is—

$$\frac{mv^2}{r} = \frac{MV^2}{R}. \quad (2.)$$

Now let w be the angular velocity, then $v = wr$ and $V = wR$.

∴ (2) becomes $\frac{mw^2r^2}{r} = \frac{Mw^2R^2}{R}$, or $mr = MR$, which is identical with (1).

We therefore see that an arrangement giving a static balance gives dynamic balance at all speeds.

S. W. FARRINGTON, A.M.I.C.E.

Sir,—In your issue of March 3rd I am aware Mr. T. S. Bentley in his remarks on the above is confusing centrifugal force and kinetic energy.

It is the former which is made use of in balancing an engine, and this quantity does *not* vary directly as the square of the velocity. For instance, the value for a weight of 10 lb. at a 2ft. radius is exactly the same as for one of 5 lb. at 4ft. radius, in both cases revolving at the same number of revolutions per second. Other considerations apart, it does not matter what is the radius of the centre of gravity of the balance weight compared with the radius of the crank pin provided the weight is made proportional to the radius in accordance with the well known formula for centrifugal force.

It appears to me that if Mr. Bentley were correct in his argument we should be under the awkward necessity of wanting a different balance weight for each and every speed at which the engine was run. I would cite as an example the modern locomotive. It is unlikely that the designers of this type of prime mover (which is very sensitive at high speeds to conditions of bad balance) would continue to put their weights on the wheels at anywhere from two to four times the radius of the crank, when, if it were absolutely necessary, they could be affixed to the crank web ends quite easily, at a radius closely approximating that of the crank pin. H. H. BEAUCHAMP, M.I.A.E.

FOUR-STROKING.

Sir,—Having read the letters on cures for four-stroking in two-strokes, may I suggest the following remedy which I have found satisfactory for the past five years?

Buy an ordinary gas tap from the nearest gas office, bore a hole in the induction pipe (opposite the induction port) sufficiently large to take the tap, fit it, and keep it open as much as the engine will allow.

It will not only stop four-stroking, but increase m.p.g., to say nothing of speed. A.N.

Taunton.

SUMMARY OF CORRESPONDENCE.

Several further correspondents in the Bromley district complain of "silence troubles" with the police.

Under the heading of "Three Thousand Miles on a Solo Big Twin," "Con Rod" states the case for that type of mounting. His own 6 h.p. Zenith has a speed range of 4½ m.p.h. to 57 m.p.h., and has averaged 92 m.p.g. for more than a thousand miles. Comfort and low tyre wear are other points emphasised. A Binks carburetter is also given its share of credit for the flexibility and low fuel consumption of this mount.

Referring to "Ixion's" query as to where the old "scooters" are nowadays, "F.J." informs us that he has used a Skootamota for the last twelve months with every satisfaction.

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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

RUNNING-IN A TWO-STROKE.

I have recently purchased a machine with a Villiers 2½ h.p. engine, and would like to know: (1.) The usual mileage per gallon of this type. At present all I can get out of it is from 60 to 70 m.p.g. (2.) It is lubricated on the petroil system. What is the quantity of oil per gallon to ensure perfect running and lubrication? (3.) Shall I get better results after the engine has been run in (it is new)?—H.G.J.

(1.) About 70 to 90 m.p.g. (2.) The proportion of oil to petrol is one in twelve at first; later, it might be cut down to one in sixteen. (3.) No doubt the engine will improve both in power and consumption after it is thoroughly run in.

GEAR RATIO FOR LOW-SPEED ENGINE.

Having built a motor scooter (with chain drive), I should like to know how many teeth are needed on the engine sprocket, also back wheel sprocket, to get 25 m.p.h. The engine is a 3½ h.p. Minerva (1,800 r.p.m. normal), and the wheels are 24×2in.?—W.T.

You would need a gear of about 5¾ to 1, and if you have only one chain you will need sixteen teeth on the engine shaft, and ninety-two teeth on the back wheel, or you can use fourteen teeth and eighty teeth. Such a large reduction in one step is not advisable, and it would be better to incorporate a countershaft when you could have sprockets as follows: Engine shaft fourteen teeth, countershaft thirty teeth, final drive sprocket on countershaft fifteen teeth, back wheel forty teeth.

BURNT EXHAUST VALVES.

Just recently my 1919 4 h.p. Triumph began to burn up exhaust valves at an alarming rate. In thirty miles a new exhaust valve drew out nearly 1/8in., and had obviously been red hot. The carburetter is a Binks, giving, if anything, a weak mixture, spark well advanced, tappet correctly adjusted, engine otherwise running well. I should be glad of your advice.—H.B.H.

You do not say whether any change has been made in any of the adjustments coincident with the burning of the exhaust valves. It is obvious that some change has taken place if the machine has only recently developed this trouble. If the mixture is noticeably weak, you may expect overheating as a result. Also verify the ignition timing. The contact breaker points should separate when the piston is on top dead centre (with magneto control two-thirds retarded).

DRAINING CRANK CASE.

(1.) As there is no drain tap on the bottom of the crank case of my machine, would you suggest the easiest method of draining off the used oil? (2.) About how often would this be necessary? I have once taken out the screw from the crank case to drain off this oil, but this necessitated removing the silencer and footboards. (3.) My engine will not kick start from cold as it used to; if run down a hill in gear, when the exhaust lifter is dropped it will fire fitfully, but as soon as it is warmed up it will run quite normally. Would a worn out plug cause this?—T.H.N.W.

(1 and 2.) The only method is by removing the plug you mention which is already provided in the bottom of the crank case. Although it is advisable to drain out the used oil at intervals, it is not absolutely necessary, and many riders omit this attention. (3.) You do not give the age of your machine, but possibly the starting difficulty is due to the inlet valve becoming worn in its guide. If the machine has covered any considerable distance, it probably requires generally overhauling.



FIFTEEN GOLD MEDALS BETWEEN THEM.

Geo. Dance (3½ Sunbeam) and G. W. Walker, the Norton exponent, at the East Midland Centre A.C.U. Speed Trial held at Grimsthorpe. No wonder Dance smiles, for, with a favourable wind and a slight down grade, he accomplished a speed of 96 m.p.h.

SPEED AND GEAR RATIO.

Having just purchased a new machine, a 4 h.p. semi-T.T. Douglas, which I intend to ride entirely solo, I should be obliged if you could tell me: (1.) If it would stand a top gear of 4 to 1, and what would be its maximum speed at this gear or one you would recommend? (My weight is 11st.) (2.) Is the lock nut on the adjustable belt pulley a left or right-hand thread? (3.) How can I adjust the oil supply from the pump to the crank case, as the engine continually smokes?—D.H.S.

(1.) A 4 to 1 gear is rather too high. About 4½ or 4¾ to 1 would be better. Probably the speed would be greater on the lower ratio—about 50 to 55 m.p.h. (2.) Left-hand thread. (3.) There is no adjustment provided other than the drip feed which controls the supply to the front cylinder. If the engine is overlubricated and the oil consumption is very high, we would advise you to have an auxiliary tap fitted in the delivery pipe from the pump.

DRIVING A DYNAMO.

Where do you consider the best place to drive a dynamo on a B.S.A. sidecar outfit? The dynamo I am thinking of purchasing has an output of 6 volts at 1,800 r.p.m. I thought of enclosing it in a case and fixing to the back carrier, obtaining the drive from the brake rim of the back wheel by a spring band. The dynamo has a pulley of approximately 3in. (2.) Should I obtain the correct number of revolutions this way? (3.) By using a 6 volt dynamo and 6 volt lamps, should I find a 4 volt 80 amp. accumulator satisfactory? I realise the light would be dim without the dynamo running; but would the accumulator come to any harm?—T.A.F.C.

(1.) Driving a dynamo from the back wheel of a motor cycle is not at all a satisfactory method, as it is most difficult to maintain a constantly high speed. It would be much better to take the drive from a small sprocket or pulley fitted on to the engine-shaft. It would be best to drive the dynamo at engine speed. (2.) Probably the average speed of the engine is in the neighbourhood of 1,500 to 1,800 r.p.m., and it will be necessary that you purchase a dynamo having some form of cut-out device for speed regulation purposes. (3.) It will be necessary to use a 6 volt dynamo in conjunction with a 6 volt accumulator unless you use a resistance in the charging circuit.

SELECTIVE GEAR SLIPPING.

I have tightened up the friction band upon the outer quick thread drum of my Scott gear, thus leaving the gear pedal just free in neutral. The low gear now grips firmly and remains so engaged when the rear wheel is turned. The high speed, however, barely grips even when the operating pedal is well pressed down, and immediately releases itself when the pressure is removed. The friction band is as tight as I dare make it without risking twisting the screw off. Is it a case of internal damage, or is there any other means of making the high gear engage firmly without the necessity of completely dismantling the gear? What is the principle of the gear, and will you give me a brief and simple description of its working, and the probable cause of the trouble? Recently I went for a short spin (fifteen miles) and had not gone one mile before my radiator was boiling over, and I had to allow it to cool before I thought it advisable to continue. This occurred three times in fifteen miles, the engine gradually losing power. Is not this due to the gear slipping, as from my examination it must be doing for most of the time, even possibly when the pedal is pressed well down?—W.M.

There should be no need to tighten the friction band until there is danger of twisting off the screw, and evidently the two-speed gear is worn. The wear is usually confined to the expanding steel ring in the gear itself, and may be taken up by inserting new oversize rollers in the thrust lever. We should recommend you to obtain the "Book of the Scott" from the makers, as this gives very complete instructions as to the management of this machine. The overheating of which you complain may also be due to the ignition being too far retarded, or to lack of oil; if the engine is an old model, it probably requires overhauling and cleaning.

EXPERIENCES WANTED.

"J.H.W." (London).—Coventry-Victor flat twin. Engine speed, power, reliability, and coolness of running.

"W.W.R." (Waddington, N.B.).—A.B.C. Lubrication system and reliability.

"F.K." (Woodbridge).—1919 Powerplus Indian. General reliability, running costs, and possible defects.

READERS' REPLIES.

GEAR ADJUSTMENT.

Re your reply to "H.R." on gear slip in *The Motor Cycle* of March 24th, I give my experience, which I think will apply to him also. I contend that "H.R.'s" gear lever is fitted on to the operating spindle with a key and nut, and that the key is slackly fitted or badly worn. When "H.R." changes gear, he has to lift clutch and slam in. The constant slamming when dogs or teeth are *not* in mesh is reflected on the quadrant key. To test, operate the gear lever whilst engine is standing. It will probably be found that if the lever is forced a little, when the middle gear teeth are *not* meshed, a small amount of give will be found both ways, either from low to middle, or middle to low or high. For final setting, take off the inspection cover, see that the second gear wheels are truly in mesh, see that gear lever on quadrant is properly fast, then nip up the gear lever nut with a powerful spanner until the threads threaten to strip.—L. BITHELL.

COMPARING ACETYLENE AND ELECTRIC LIGHTING.

There was a recent query in *The Motor Cycle* with regard to the relative merits of electric and acetylene lights in an acetylene lamp. I have a 5½in. P. and H. head light which I converted to electric, which for street work and just after lighting-up was quite satisfactory, but for country work in the dark was not to be compared with a fourteen-litre acetylene burner. The electric bulb gives a very narrow pencil of light and a somewhat dim, broad beam; whereas the acetylene burner gives a further bright beam and a bright broad beam for near work. My accumulator was a four-volt Fors, which is very excellent. It apparently holds its charge indefinitely when standing, so that there is no need to have it recharged if it is not being used.—SOUTHCOMB MAY.

Important Dates.

Sat., April 16th—Yorkshire Centre A.C.U. Open Hill-climb at Sutton Bank.
Sat., April 23rd—Midland Centre A.C.U. Open Reliability Trial.
Wed., April 27th—A.C.U. One-day Trial
Fri., April 29th, and Sat., April 30th—Ealing and District M.C.C. London-Holyhead Open Reliability Trial.
Sat., April 30th—Newcastle and District M.C. Travers Challenge Trophy Open Reliability Trial
Sat., April 30th—Surbiton and District M.C.C. Open Inter-Team Trial (Private Owners only).
Sat. May 7th—B.M.C.R.C. Open Meeting at Brooklands.
Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.
Sat., May 21st—Western Centre A.C.U. Open Hill Climb.
Wed., May 25th—A.C.U. Silencer Trial at Brooklands.
Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.
Tues., June 14th—Junior T.T. Race
Thurs. June 16th—Senior T.T. Race.
Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup
Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.
Sat., July 2nd—North-Western Centre A.C.U. Open Speed Trials.
Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.
Sat., July 9th—St. Andrews Speed Trials
Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.
Sat., July 23rd—East Midland Centre A.C.U. Open Speed Trials.
Sun., July 24th—Motor Cycle Grand Prix Race in France.
Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.
Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.
Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

SPARKLETS

A Colmore Cup Amendment.

A silver medal has now been awarded to C. R. Little, who rode a Coventry-Victor-engined El-ve sidecar outfit in the Colmore Cup Trial; he was formerly credited with a bronze.

Norton Success in South Africa.

Fastest time of the day in the last hill-climb of the Pretoria M.C.C. was made by Percy Flook, probably the best known speed rider in South Africa. He was mounted on a 3½ h.p. Norton.

C.T.C. Handbook.

Although primarily devoted to cycling interests, much useful road information is contained in the latest edition of the Cyclists' Touring Club Handbook and Guide; recommendation of moderate priced apartment accommodation is its special feature.

A Guide to the Lowlands.

A country rich in historical and picturesque interest encircles the town of Dumfries, from which place we have received a copy of Dinwiddie's "Guide to Dumfries" (R. Dinwiddie, High Street, Dumfries; price 1s.). Although not unduly inspired, and somewhat marred by a liberal use of capitals in the text, it contains much sound information relating to Dumfriesshire and Galloway. Maps of the district, tours, and itineraries are also included.

Catalogues Received.

Cooper Sidecars, Belgrave Road, Birmingham: A well-written booklet, which, apart from its primary purpose of describing the various Cooper models, contains some very readable notes on the history of sidecars and hints on their use.

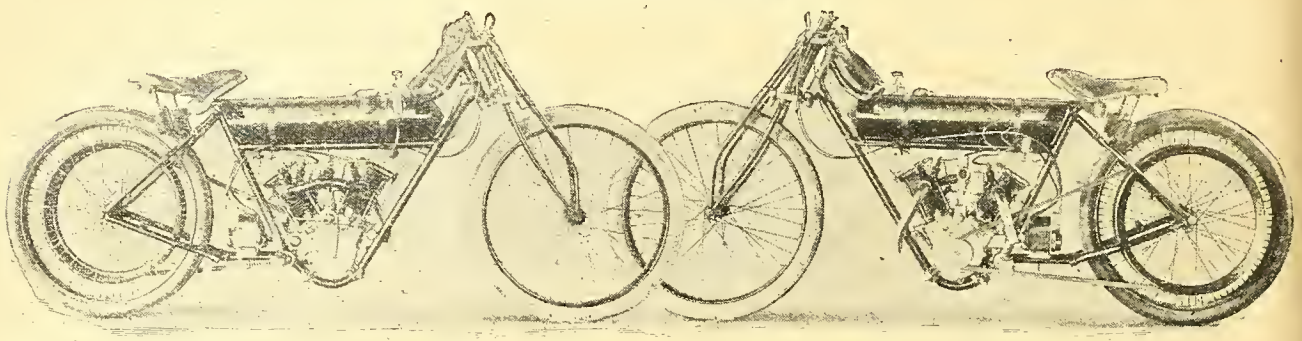
The Hobart Cycle Co., Ltd., Coventry: Full details of the latest Hobart models—the 2¾ h.p. four-stroke, the 2¾ h.p. two-stroke, the 2¾ h.p. spring frame lightweight two-stroke, and the lightweight single-speed model, which is now priced at £56 10s.

New Imperial Cycles, Ltd., Imperial Works, Princip Street, Birmingham: Catalogues of the 8 h.p. and 2¾ h.p. New Imperial motor cycles and the 8 h.p. New Imperial booklet; also a booklet entitled "Merits of a Motor Cycle," giving a brief history of the New Imperial, together with some interesting facts, such as running costs, which are not usually given in makers' publications. The cost of running a New Imperial Model 2 is given as 1½d. a mile, as compared with the 2½d., which, it is stated, the standard 4 h.p. single type of machine requires per mile. These costs include taxes, insurance, and upkeep for three years and cost of depreciation for three years. Some interesting photographs are reproduced from *The Motor Cycle*.

C3

THE FIRST OF THE T.T. RACERS.

Range of Racing Martins include Machines for Junior and Senior T.T. and a Big Twin for Record-breaking.



The tiny racer to be used by Harry Martin in the Junior T.T. It is shown with single gear and belt drive, but an Enfield gear will be fitted for the race.

BEFORE the war Martin motor cycles were famous for their speed. They held several records, and put up consistently good performances at Brooklands race meetings. This year will see the reintroduction of speed machines bearing the well-known name, and the approaching Tourist Trophy Races are responsible for much activity in the experimental department at the Martin works.

While the T.T. Martin motor cycles are not absolutely complete, they are in an advanced state of construction, as we found on the occasion of our visit last week to the works of Messrs. A. G. Miller, Ltd., at Scrubbs Lane, Willesden, London, N.W.10.

Machines for the Senior Race.

The Martins entered for the Senior Race will be fitted with M.A.G. overhead valve engines having a bore and stroke of 64 mm. and 77 mm. respectively. These engines are splendidly finished and well thought out, even to the fitting of grease cups to the valve rockers. Mushroom valve type priming cocks are provided in the walls of the cylinders, and not in the heads, as is usually the case; but these are not found to be necessary, as the engines are easy starters. The machines are practically identical (except as regards certain alterations in the timing) with those used by Collier in the 1914 T.T. Though Enfield gears will be used in the Isle of Man, the machine we saw was fitted with the three-speed Matchless gear box, giving ratios of 4.7 to 1, 6.5 to 1, and 8 to 1. The transmission shock absorber fitted to the engine-shaft is a miniature model disc clutch, twelve small springs abutting against the plates; and the degree of slip may be adjusted to a nicety. It is expected that the single-lever Claudel-Hobson carburetter, which has given such excellent results on the track, will be used.

The riders in the Senior Race will be Harry Martin, O. M. Baldwin, and Capt. A. G. Miller.

For the 250 c.c. Class.

Two types will be entered in the Junior event. The first is a very interesting little mount with an engine reduced from the 350 c.c. type to 250 c.c. by cutting a portion off the top of the cylinders and fitting long holding-down bolts for the purpose of securing the head. The revised size is 54×53.5 mm. (250 c.c.). A new crank pin has been fitted, the flywheel has been altered, and the engine rebalanced. The other machine in the Junior Race will be practically identical, except that it will have the 350 c.c. standard 53×75 mm. M.A.G. engine.

The riders in the Junior Race will be Harry Martin, who will ride the 350 c.c. model, and T. Eve, who will have the smaller engine.

A Class E Racer.

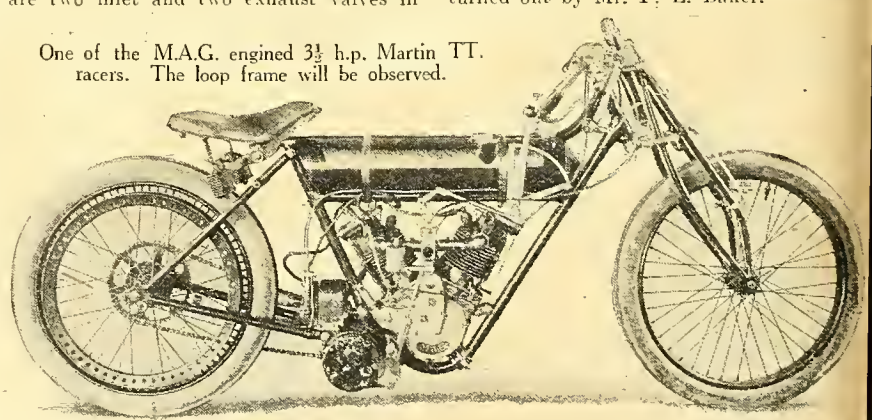
By far the most interesting machine we saw on the premises was the 992 c.c. racer, which Capt. J. Woodhouse was in the process of tuning up for record breaking. It was seen on the track last year on only two occasions; but this year great things are expected of it, and an early attack will be made on the 1,000 c.c. short distance records. It is said to have been unofficially clocked to do 102 m.p.h., and it is anticipated that its speed will be over 100 m.p.h. against the time-keeper's watch.

Like all the Martin racers, the frame is low built, and the engine, which has a bore of 82 mm. and a stroke of 94 mm., is said to have given 37 h.p. on the brake at the M.A.G. works in Geneva. There are two inlet and two exhaust valves in the head of each cylinder, and the valve ports have been carefully studied.

Great care and thought have been exercised in its design, and as an example of this we may mention that there are radiating fins round the bearing supports of the large valve rockers. There are two rockers on each of the two spindles, and these are worked by long tappet rods off the timing gear. To ensure steadiness of steering at high speeds, Woodhouse is fitting a plate clutch arrangement at the bottom of the steering head, controlled by a screw at the top of the handle-bar stem, so that the steering can be tightened while the machine is actually running, and when it has attained a certain speed. The racer has a single gear and an adjustable pulley, the normal ratio being 2¼ to 1. Naturally, some difficulty is experienced in finding a belt that will stand up to this engine.

The Man who will Ride it.

Capt. Woodhouse, who distinguished himself by doing remarkably difficult and hazardous work of a highly confidential nature as a pilot during the war, is now attached to the British Embassy at Vienna, and is amusing himself with the big record breaker during his leave. He has been a motor cyclist for fifteen years, and first began racing on the saucer track at the Aston Villa grounds in Birmingham on the early type Precision machines turned out by Mr. F. E. Baker.



One of the M.A.G. engined 3½ h.p. Martin TT. racers. The loop frame will be observed.

CURRENT HAT

Times to Light Lamps.

April 14th	...	...	8.21 p.m.
,, 16th	...	...	8.25 ,,
,, 18th	...	...	8.28 ,,
,, 20th	...	...	8.31 ,,

T.T. Races in Australia.

As part of the centenary celebrations at Goulburn, New South Wales, motor cyclists in that district held Junior and Senior T.T. races. The successful riders were L. Apps and G. Nichols, both on ¾ h.p. Douglas motor cycles. The course was one hundred miles.

Licences of Stolen Machines.

Motor Transport learns that the Ministry of Transport has issued an announcement to the registration authorities to the effect that it will be prepared to consider applications for the issue of new licences without extra charge in a case in which a new vehicle of a similar type is to be purchased to replace a stolen one.

Police Traps in Cambridge.

Police traps are not common in country districts nowadays, but apparently there is one working between Ely and Littleport Police Stations. Our informant says: "Timing is incorrect, and a Ford recently was stated to have covered the 4½-5 miles stretch in five minutes.

There is also said to be a police trap approaching Whittlesford level crossing, on the Royston-Newmarket Road, which has been placed there after a serious accident had taken place at the cross roads on the Royston side of the railway.

It will be noted that both these police traps are in the county of Cambridge.

Lights on Stationary Vehicles.

The Autocar mentions this week the case of a motor cyclist who left his machine standing against the kerb at night with both head and rear lamps alight, the head light facing towards what would have been the wrong side of the road had the cycle been in motion. Whilst in this position it was run into and damaged by the driver of a car. In an action for damages against the owner of the car, the defence was that the car driver, seeing the head light, mistook it for a moving light coming towards him, and, consequently, kept to his left, so colliding with the cycle. The Judge, in finding for the car owner, considered the action of the cyclist in leaving his cycle standing in the road with its front light in such a position was misleading. The cyclist should have turned the bicycle round so that the red light would have shown.

A Simple Question.

How many of the motor cyclists who carry a spare can of petrol on their machines are aware of the additional load they are transporting about the country? How many, indeed, could answer off-hand the simple question, "What is the total weight of a two-gallon tin of petrol?" The answer is 18 lb.

Motor Cycle Trials Overseas.

A petrol consumption trial was recently held by the Ashburton (New Zealand) and District Club, over a course of sixty-four miles in which the roads were very rough, and where there were a number of water courses which had to be negotiated. The results were as follows: New Imperial sidecar, 88⅛ m.p.g.; Harley-Davidson sidecar, 77⅞ m.p.g.; Indian sidecar, 76⅛ m.p.g.

T.T. Races at Brooklands Track.

Among other contests provisionally arranged for the meeting at Brooklands track on Saturday, May 28th, are a twenty-four lap race for Junior T.T. machines, and a twenty-eight lap race for Senior T.T. machines. All motor cycles coming within the definition of the Junior and Senior T.T. contests respectively will be eligible for entry for these contests, and it is anticipated that some of the actual machines which will race in the Isle of Man the following month will take part.

Weights.

Obvious to all who know the approximate weights of motor cycles, the 230 lb. debited to the Diamond in our road test description in last week's issue was a typographical error. Its correct weight is 168 lb., and it is, therefore, subject to only 30s. tax.

Special Features.

A FIVE CYLINDER ROTARY ENGINE.
DAY TRIPS AND WEEK-ENDS.
THROUGH FEMININE GOGGLES.

For H.M. Surveyors.

H.M. Office of Works is employing a motor cycle for use by surveyors in connection with the South Wales housing scheme. A Quadrant sidecar is the machine selected.

Victory Cup Amendments.

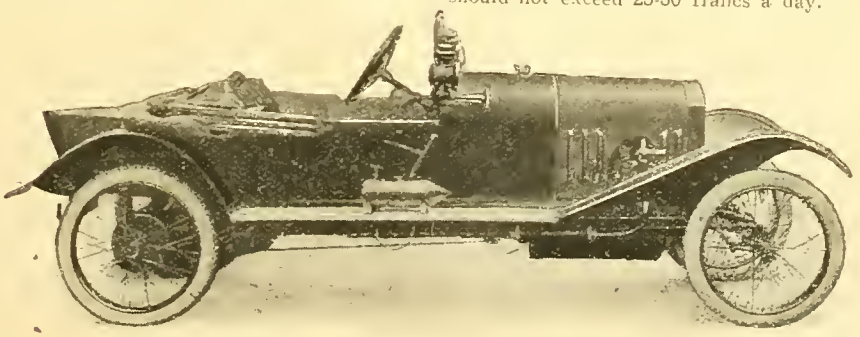
The Committee of the Birmingham M.C.C. have made the following corrections in their list of awards for the Victory Cup Trial:

J. Lee (7·9 Indian), G. Denley (2¼ Velocette s.c.), and A. Frazer Nash (G.N.), gold instead of silver medals; A. W. G. Martin 4 Triumph), gold medal (omitted); E. C. Iles (3½ Sunbeam), silver medal (omitted).

The following are still in abeyance: B. Bourke (2¼ New Hudson), B. H. Norris (2½ Sun), J. Allen (3 Neal-Dalm), A. J. Wilkes (3½ Rover), R. B. Clark (2¾ Coulson B), H. Poole (4¼ B.S.A.), and A. E. Wood (6 B.S.A. sc.).

Paris-Pyrenees-Paris Trial.

We have received further details concerning the Paris-Pyrenees-Paris Trial, which has now been officially sanctioned by the U.M.F. One of the most interesting portions of the trial will be the section from Pau to Toulouse by the passes of the Pyrenees. This will be the first trial held in this interesting district, and will entail much hill-climbing and gorgeous scenery. The return journey from Toulouse to Bordeaux will be by Castelsarrasin and the beautiful valley of the Garonne. The competitors' machines will be on exhibition on Ascension Day at Bordeaux, and the next day the return journey will be made to Paris. The trial starts on April 30th. We understand that competitors' living expenses should not exceed 25-30 francs a day.



A competitor to the higher-priced sidecar outfits—the popular model of the G.N., which costs £198. This addition to the G.N. range has practically the same specification as the more expensive machines, but is shorn of such embellishments as interchangeable wheels, spare wheel, dynamo lighting, etc.

Prices Reduced.

Ivy motor cycles have been reduced in price between £7 and £12 according to model. P. and M.'s are down £10 all round. Rex adjustments are: 4 h.p. model, £120; 8 h.p. chain-belt outfit, complete with spare wheel, etc., £200; chain drive, £205. The chain-belt 8 h.p. Acme is now £185.

Absent-minded Beggars.

Those of our readers who fail to obtain a reply to letters sent to advertisers should write again. Every week we hear from manufacturers who have received orders—sometimes with money enclosed—from which names and addresses have been omitted.

Will 500 c.c. Motor Cycles touch 100 m.p.h. This Year?

What is the maximum possible speed of a 500 c.c. machine? We are now approaching the 100 m.p.h. mark. Up to the present R. N. Judd (3½ Norton) has made the highest speed with this size of engine, *i.e.*, 92.44 m.p.h. for the flying kilom. Considering the importance of carburation in attaining such speeds, it is worthy of note that Judd used a Binks carburetter.

Speeds at Grimsthorpe Park.

The very high speeds accredited to competitors at the recent speed trials at Grimsthorpe Park require a little explanation. It will be recalled that G. Dance (3½ Sunbeam) covered the half-mile at a speed of approximately 96 m.p.h., and that even a tiny Velocette driven by a lady accomplished over 69 m.p.h. We admit that we were loth to be convinced that the times and distances were correct, and, in the interests of authenticity, we approached Mr. T. F. Bidlake, the official timekeeper, and the surveyor who laid out the course. Both assure us that the figures were correct, but add notes which go to explain the high speeds. The course was slightly on the down grade, and there was a strong following wind. It is not inferred that these favourable conditions in any way detract from the merit of the respective performances.

The Transport Crisis.

Motor cyclists are urgently requested to assist in the event of a national transport emergency. A large number of private motor cyclists will be required for the Government for various essential national services in the event of a suspension of ordinary forms of transport. The Auto Cycle Union and the Automobile Association have been requested to assist in the provision and organisation of these motor cyclists. All motor cyclists who are able to assist are urgently requested to register their names with the A.C.U. or the A.A. immediately. The requirements of the Government, the extent of which will naturally depend upon developments, are as follows:

1. Private motor cycles (with or without sidecars) owned and ridden by owners who are willing to volunteer for *(a)* whole time service; *(b)* part time service. Free petrol and oil will be allowed, and, if demanded, an allowance of £1 per week per motor cycle; 7s. 6d. per night subsistence (to cover a period of twenty-four hours) may be granted where owners are required to sleep away from their homes. The £1 per week will cover all the responsibility of the Government, except such risks as are not covered by an ordinary policy of insurance.
2. Riders without motor cycles for whole time service. The pay for motor cyclists, whether riding their own machines or not, will be £3 15s. per week; no guarantee as to hours; no overtime; with the addition of a subsistence allowance of 7s. 6d. per night (to cover a period of twenty-four hours) where motor cyclists are required to sleep away from their homes.

'Ware Long Exhaust Pipes.

It is reported that a "noise trap" is in operation close to the Eagle Hotel, Snaresbrook.

Zip! Bang!! Boom!!!

This is how an American trade contemporary heads an announcement of a sales campaign:

"ZIP! BANG!! BOOM!!!—We're off in a Bunch. The biggest thing that ever happened in motor cycle activity. Trade leaders make plan for smashing booster campaign that will bring every Red Blooded Rider and Live Wire Dealer up on His Toes."

This, and much more like it, reveals the attitude of the American trade when it starts to get a move on!

Speed Trials in Natal.

In the Natal M.C.C. speed trials held on the Isipingo Road, the fastest time was made by R. Suzor, on a Norton, in the 500 c.c. class. The same club also recently held a hill climb, with the following results:

SOLO CLASS.—1, A. E. Kirkwood (3½ Premier); 2, F. A. Zurcher (3½ Douglas); 3, T. Kenyon (4 Triumph).

SIDECAR CLASS.—1, A. W. Ricks (7-9 Harley-Davidson sc.); 2, H. P. Harper (7-9 Indian sc.); 3, C. Foster (6 M.S. sc.).

The A.C.U One Day Trial.

A very satisfactory entry has been received by the A.C.U. for the One Day Spring Trial due to take place on Wednesday, the 27th inst. Many of the manufacturers are entering "stock" machines, and among the trade entrants at the time of going to press may be mentioned the Raleigh Cycle Co. (for the first time), A. J. Stevens and Co., Triumph Cycle Co., Sun Cycle and Fittings Co., Phelon and Moore, Morgan Motor Co., Humber, Ltd., Trump-Jap, and British Radial Co.

Imports and Exports.

There has been a slight increase in both imports and exports of motor cycles for March as compared with February. This is perhaps more noticeable in the import figures, where, although only two more complete motor cycles are tabulated for last month, the total value of machines and parts shows an approximately 90% increase of £9,405. On the other hand, 154 more machines were exported, the total increase in value being £11,540. Comparative tables, extracted from the Board of Trade Returns for February and March, are appended:

IMPORTS.

	February, 1921.	March, 1921.
Number of motor cycles	23	25
Value of machines and parts	£10,484	£19,889

BRITISH EXPORTS.

	February, 1921.	March, 1921.
Number of motor cycles	663	817
Value of motor cycles only	£55,004	£68,618
Value of parts	£31,066	£28,992
Total value	£86.070	£97,610



SOUTH-EASTERN CENTRE A.C.U. INAUGURATION.

A scene during the slow race at the picnic held at Blindley Heath last Saturday. A big crowd gathered for the celebration, which was an unqualified success. The following clubs were represented—Woolwich, Brookdale, Wallington, Redhill, Surbiton, Brighton, Lewes, Public Schools, Eastbourne, Ealing, B.M.C.R.C.

TWO DAYS WELSH MOUNTAINEERING.

Western Centre A.C.U. Trial a Great Success. 20 m.p.h. over Mountain Roads eliminates Half the Starters.



Up to their wheel spindles—the deepest of the many watersplashes competitors had to navigate. J. W. Bevers (3½ Wilkin) and A. R. Passey (3½ Norton) at the foot of Sarn Helen.

The First Day.

PROBABLY the inhabitants of the mountain regions of Central Wales felt that they were having the time of their lives last Friday morning, for no sooner had the eclipse ceased its display than the advance guard of some hundred riders disturbed the quiet of the spring morning.

Although the Western Centre Two-day Trial, which was dated for April 8th and 9th, did not receive trade support, it attracted a very representative entry, and nineteen club teams were nominated.

Hereford, the starting point, was filled with motor cyclists on the Thursday evening previous to the start, and there was a busy scene up to a late hour in last minute preparations and adjustments. The weather of the preceding days had been ideal and promised well for the trial; its promise was borne out, and ideal conditions prevailed until the end of the second day.

Curious Eclipse Effects.

Solo riders were first sent away (in pairs) at one minute intervals, the first two leaving at 8.30 a.m. After threading a way through the battery of photographers and cinema men the splendid main road to Hay was followed as far as Glasbury, at which point a detour was made to the first check at Bronllys. During this early section of the day's run the partial eclipse of the sun accounted for the excessive cold of the morning, and some curious effects of shadows cast on the roadway were noticed by observant riders. The next two checks were easy, and it was not until the Elan Valley road from Rhayader was taken that the competitors realised they were in for something serious.

Favourable Weather Conditions.

Had the weather been wet, it is extremely likely that only a small proportion of the starters would have survived the morning's run; but under the bright sunshine the loose and shale-like ascent of the Elan Valley road was quite easy. Descending again on a road which skirts the precipitous hillside, the first of three watersplashes was reached. This and the next were easy, but the third, which was observed, unseated most of the solo riders. No matter how slowly the approach was made, the front wheels dropped suddenly through a foot of water on to a floor of loose, round, and slimy boulders—a combination too much for most of the entry.

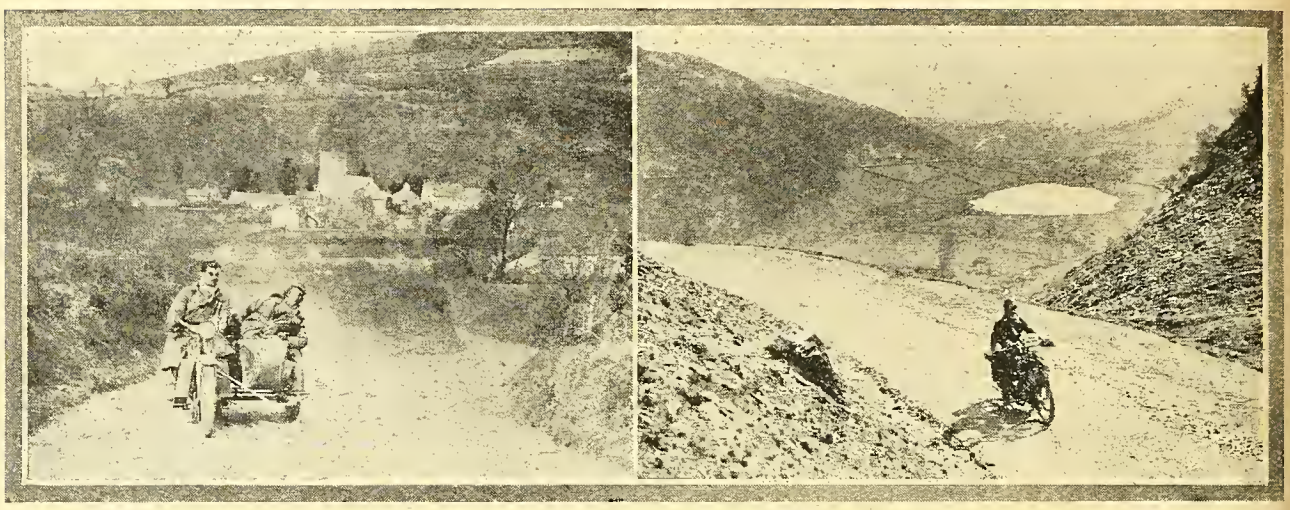
It did not seem to matter what type of machine was used, failure appeared to be inevitable, until E. Griffiths came along, and, with feet in air, demonstrated the possibility of steering a straight course on his 3½ h.p. Norton.

J. A. Carvill, a sporting Triumph rider from Dublin, also made a good show, as did J. Lee (7-9 Indian). Most of the other solo riders performed indifferently at this point, despite care and low gears. After this, the road on to Devil's Bridge was rough and rutted, and of the give-and-take variety—mostly "take"! Along this stretch a remarkable effort was made by B. L. Bird (4½ B.S.A.) to make up his time, which had been lost in effecting gear control adjustments and drying his magneto, which appeared to suffer in the watersplash. Owing, however, to the short distances between checks, it was extremely difficult to make up any time once it was lost; moreover, time lost in one check could not be regained in another.

A bad hairpin on a falling grade was the next difficulty undertaken, and quite a number failed to get round. Very good showing at this point was made by E. Clarke, jun. (4 Douglas sc.), and H. F. S Morgan, who wrenched his special short-wheelbase Morgan round in a wonderful way. A further long and loose-surfaced hill accounted for no failures, and a gentle run then brought the great majority of the starters into the lunch check at the Hafod Arms Hotel, Devil's Bridge.

A Rough Passage.

Twenty-seven miles of main road now followed to Machynlleth, a section devoid of incident for all except R. Fellows (3½ Sunbeam), who suffered three punctures. From the last-mentioned place the Plynlimon Road, through Stay-a-Little, to Llanidloes was taken, and this proved one of the most difficult stretches of the whole trial to negotiate at the schedule speed of 20 m.p.h. The loose and shaly ascent of the mountain was followed by grass tracks interspersed with jagged outcrops of bedrock, over which frames, wheels, and riders' nerves were tried to the utmost.



(Left) G. Packman (8 Matchless sc.) on Caio Hill. (Right) E. W. Spencer (4 Omega) on the hill out of Rhayader.

The descent to Stay-a-Little was particularly bad, and the machines bumped and bounced alarmingly as occasional patches of smooth grass, tempting speed bursts, suddenly ended in a chaos of loose stones.

W. I. Thomas (3¾ Scott) and W. G. Church (2¼ Velocette) appeared to know this section well, the latter taking some of the rocks at a great pace, and not bouncing worse in consequence than many who went more slowly. Both these riders, however, were subsequently in difficulties, for Thomas ran out of petrol at Stay-a-Little, and also had a broken throttle wire, while Church retired on the second day. R. Fellows took a bad toss, and retired on this section; while S. T. Tessier (8 Bat sc.) got a stone in his driving chain while descending a rough hill, and lost much time in consequence. Over the rocks G. Packman's 8 h.p. Matchless outfit was noticeable for the easy riding it appeared to give.

From Llanidloes the main Aberystwyth road was taken with a slight *détour* at Dyffryn Castell to cross a ford over a tributary of the River Rheidol; although wide, this was comparatively easy, and consequently caused little trouble; G. W. Wilkin (4 Wilkin sc.) retired at this point with engine trouble.

Arrival at Aberystwyth ended the day's run, and the survivors were at liberty to enjoy either their dinner or the sight of the setting sun beyond a blue sea and a cloudless sky.

Second Day.

Again perfect atmospheric conditions prevailed on Saturday, and the 8.30 a.m. start was made with every prospect of another summerlike day.

From Aberystwyth to Llanrystyd is a first class main road, and absence of traffic permitted everyone to get well ahead of time. A. T. Colcombe (4 Indian) and G. J. Baragwanath (3½ Sunbeam) both set a very hot pace, and the former, as No. 1, maintained his position throughout. After leaving Llanrhystyd a hill of some severity with a splendid surface was encountered, and after a rather stony section a good main road was again reached at Trefilan and followed to Llangybi, the first check.

A cross country road was then taken *via* Llanfair Clydogau over Saru Helen, through two watersplashes and back to the main road again at Pumpsaint, leaving it again in two miles, for Caio. Immediately before this village was reached a deeply rutted lane was traversed which would have been most difficult had it not been dry.

A Stony Ladder.

Caio Hill is moderately severe in gradient, its chief difficulty being the fact that it has a surface of bare rocky ledges. One or two of the riders, notably Colcombe and Baragwanath (mentioned above), and L. L. Sealey and H. Poole, on their 4¼ h.p. B.S.A.'s, took the rough surface at a tremendous pace, as did H. Gibson (8 Ruby sc.). Between the top of Caio and the next check at Cynghordy several riders failed to negotiate a severe corner, one crashing through the hedge, and in endeavouring to avoid his machine Hugh Gibson completely overturned his own outfit; this caused his retirement, as the sidecar passenger was injured and unable to proceed.

A deep watersplash on this section resulted in many spills, but L. Paynter (3½ Norton) was successful, while A. Lindsay (3½ Norton) and M. Hartland (2¼ Velocette) both got through, but fell in the shingle on the farther side. E.



Eric Williams (7 A.J.S. sc.) on one of the worst hairpin bends of the trial—Pont-rhyd-y-Groes.



Outside the time check at Rhayader. Each check counted separately, after the system of the Scottish Trials.



Inside a water check on Sarn Helen. F. Davies (3 A.B.C.) and J. E. J. Whitaker (4½ B.S.A.) put their best leg forward.

TWO KINDS OF "CHECKS."

Kickham (3½ Douglas) fell in the middle of the stream, and, on rescuing his machine, found that the engine would only revolve backwards, owing to some internal disorder, so had to retire. Another watersplash just outside the check caused more trouble, and at this the outstanding navigator was E. Williams (7 A.J.S. sc.).

In the next control a grass-grown mountain road from Llanfair-ar-y-bryn to Llangammarch Wells was easy; then followed main roads to Builth, and the lunch stop at Llandrindod Wells.

A Mountain Snowfall.

During the interval, heavy snowfalls occurred on the mountain tops, while rain fell at lower altitudes, making the roads greasy in places.

The first portion of the final afternoon's run was by main road through Builth and along the Brecon road to Upper Chapel, where a tortuous *détour* down the Afon Yscir valley was made, terminating at the check in Brecon. From this place the southern slopes of the valley of the Usk were traversed as far as Llangynidr—surely one of the prettiest places in the British Isles (and with a name as delectable to pronounce!) From this village an exceedingly steep pitch led the competitors, as the route card ingenuously stated, "over mountain to Beaufort"; the climb was easy, however, and the scenery truly majestic. After the Gilwern check a perfectly good section, including some splendid main roads, brought the rapidly diminishing survivors through Talgarth to Hay, where the final time check was taken preparatory to embarking upon the last, most talked of, and most dreaded climb of the whole trial.



'Ware water! H. M. Goddard (4 Triumph), followed by B. Bladder (8 New Imperial sc.). at the watersplash between Rhayader and the Devil's Bridge.

The Coup de Grace.

Truly the organisers reserved the worst trouble for the last section within twenty miles of home, and as a downpour had also commenced, the severe hairpin climb of Tre Fadoc, on the northern foothills of the Black Mountains, "caught out" several who had not previously lost a mark; amongst these unfortunates must be named A. Lindsay (3½ Norton), S. M. Greening (3½ Sunbeam-Jap), H. M. Goddard (4 Triumph), and D. G. Prentice (8 Morgan).

An easy run of twenty miles brought the arduous two days run to an end, and many echoed the words of one weary rider as he checked home, "Thank Heaven that's over!".

The organisation of the trial throughout was splendidly carried through.



At the foot of Caio Hill. A. E. Taylor (6 B.S.A. sc.) leaving the village. This hill gave no trouble to competitors.

Most of the riders were emphatic in declaring that better route marking and management could not be imagined. For the placing of direction arrows special praise must be given to the local representatives of the Anglo-American Oil Co., who loaned their cars and assistance, while during the run their petrol was available at even the most unlikely and out-of-the-way controls.

Enthusiastic officials also worked with a will, and, despite their two days on the road, sat up all Saturday night, announcing the results at 4.30 next morning.

INCIDENTALLY—

S. A. Such (2½ Connaught) and G. W. Shepherd (2¾ Beaumont) deserve special praise for qualifying for awards with their small machines.

Undoubtedly the pluckiest ride of the whole trial was that of H. J. Willis (3½ Norton), who broke off the left half of his handle-bar early in the first day's run; he steered through the remainder of the course with one hand, fixing the clutch lever to the handle-bar stem. On the second day a stout ash stick replaced the missing portion of the handle-bar.

From the point of view of gradient the hills were not really severe. No one lost a mark on hills during the first day, but Tre Fadoc caused trouble near the end of the second afternoon.

Competition riding in Ireland being rather a thankless occupation at the moment, J. A. Carvill came over from Dublin, competed as a Worcester M.C.C. club team member, and made a better performance than his two team mates, who were local men.

Details of four-wheeler results will appear in Saturday's *Autocar*.

PROVISIONAL RESULTS.

91 MOTOR CYCLE AND THREE-WHEELER ENTRANTS.
84 STARTERS. 43 FINISHERS.

23 Gold Medals.	1 No Award.
10 Silver Medals.	37 Retired.
9 Bronze Medals.	4 Disqualified.

THE WHITE CHALLENGE CUP (for most outstanding performance).—A. T. Colcombe (4 Indian).

SUNBEAM GOLD MEDAL (for outstanding performances on hills.—W. Brandish, jun. (4½ Humber).

AMATEUR PRIZES.—1, G. S. Boston (11 Morris-Cowley); 2, L. R. J. Blick (7 Harley-D. sc.).

BEST PERFORMANCE OF A WORCESTER M.C.C. MEMBER.—J. A. Carvill (4 Triumph).

CLUB TEAM PRIZE.

1. COVENTRY AND WARWICKSHIRE M.C.
   G. L. White (5 Rover).
   D. Atkin (5 Rover).
   W. Brandish, jun. (4½ Humber).
2. WORCESTER AND DISTRICT M.C.C.
   B. Bladder (8 New Imperial sc.).
   E. Williams (7 A.J.S. sc.).
   J. A. Carvill (4 Triumph).

GOLD MEDALS.—A. T. Colcombe (4 Indian), L. L. Sealey (4¼ B.S.A.), H. Poole (4¼ B.S.A.), T. B. Williams (4 Trinmph), J. Lee (7 Indian), J. A. Carvill (4 Trinmph), L. Paynter (3½ Norton), H. J. Willis (3½ Norton), L. Crisp (4½ Humber), W. Brandish, jun. (4½ Humber), D. A. Atkin (4½ Humber), G. L. White (5 Rover), E. W. Spencer (4 Omega) T. H. Richards (4 Triumph), E. R. Main (8 Zenith), T. B. G. Vale (3½ Beardmore), H. R. Harveyson (4 Indian), P. W. White (8 Sunbeam sc.), L. R. J. Blick (7 Harley-Davidson sc.), B. Bladder (8 New Imperial sc.), W. R. Brown (3½ Snnbeam sc.), E. Williams (7 A.J.S. sc.), and W. A. Carr (8 Morgan).

SILVER MEDALS.—A. Lindsay (3½ Norton), F. H. Wallis (3½ Rover), J. E. J. Whitaker (4¼ B.S.A.), S. M. Greening (3½ Sunbeam-Jap), H. M. Goddard (4 Triumph), W. Swiffen (3½ Norton sc.), W. P. Brandon (4 Triumph sc.), A. E. Taylor (6 B.S.A. sc.), G. H. Tucker (4 Norton sc.), and D. G. Prentice (8 Morgan).

BRONZE MEDALS.—J. Knowles (4 Triumph), E. Hughes (4 Triumph), G. W. T. Hartwell (3½ Norton), C. Dickens (3½ Dene), S. A. Such (2½ Connaught), G. W. Shepherd (2¾ Beaumont), F. Davies (3 R.B.C.), S. W. Lewis (4 Hoskison), and W. B. Gibb (3½ Douglas).

NO AWARD.—E. Colmer (2¼ Levis).

RETIRED.—H. Stringer (3¾ Scott), G. J. Baragwanath (3½ Sunbeam), J. C. Walker (2¾ Edmnnd), B. L. Bird (4¼ B.S.A.), H. F. Brockbank (8 Blackburne), F. S. Barnes (3½ Sunbeam), E. Griffiths (3½ Norton), A. L. Homer (4¼ James), R. Fellows (3½ Sunbeam), A. R. Naylor (3½ Snnbeam), F. A. Dickins (7 Harley), J. W. Bevers (3½ Wilkin), N. W. Smith (4 Trinmph), A. R. Passey (3½ Norton), E. Kickham (3½ Douglas), M. Hartland (2¼ Velocette), W. Howarth (8 Dot), W. G. Church (2¼ Velocette), W. I. Thomas (3¾ Scott), A. White (3 Neal-Dalm), J. Allen (3 Neal-Dalm), A. A. Prestwich (2¾ New Imperial), C. F. Townley (3½ Norton), J. H. Watson (3 Beardmore), O. G. Lewis (3½ Norton), Miss I. V. Corrie (2½ Connaught), C. Ellison (8 Zenith), H. Gibson (8 Royal Ruby sc.), E. G. Fery (8 Snnbeam sc.), S. T. Tessier (8 Bat sc.), H. J. Stretton Ward (8 Excelsior sc.), C. C. Beavis (7 Indian sc.), T. Silver (4½ Quadrant sc.), G. Packman (8 Matchless sc.), G. W. Wilkin (4 Wilkin sc.), R. I. Davies (6 A.J.S. sc.), and H. F. S. Morgan (8 Morgan).

DISQUALIFIED.—A. Thacker (2¾ Hoskison), W. Lord (3½ Sunbeam), J. R. C. Guest (4 Hoskison), and E. Clarke, jun. (4 Douglas sc.).

THE SCOTTISH SIX DAYS.

THE Scottish Six Days officials have now covered the major portion of the route, which, they affirm, presents no great difficulties. At all events we are assured that they were able to maintain an average of 10 m.p.h. over the major portion of it, and that this time includes the removal of a heavy Buick car from a deep ditch in the dark at no great distance from Otter Ferry. One of the hills to be included is Ballochandrain, and this, we are informed, was selected chiefly on account of its name, which, the Scotchmen think, will please their Sassenach friends, and, perhaps, enable them to cultivate an accent which will certainly get them into the London Scottish for the next European disturbance. Near Inverness another interesting hill was found.

The rules are now printed, but have yet to be submitted to the Manufacturers' Union. No trouble in this direction is anticipated, as the rules are relaxed and the new portions of the route have been investigated and found to contain nothing deadly. It is probable that an interesting innovation will occur in this year's Scottish Six Days, but we are not as yet at liberty to publish particulars.

THE NETHERLANDS AUTOMOBILE SHOW.

VERY few British motor cycles were exhibited at The Hague show last week, although they outnumbered the representatives of other countries. A 4 h.p. Blackburne attracted special attention by the fact that it had won the first prize in the Winter Trial, and had, it was claimed, covered a distance of 13,125 miles without replacement of any kind. The Megola five-cylinder rotary, described elsewhere in this issue, and a German make—the Ardie—a single-cylinder two-stroke of 3 h.p., were the only new machines. The following motor cycles represented the various nations:

GREAT BRITAIN.—Woolèr, Norton, Blackburne, Matchless, Douglas, A.J.S., Sun, and Scott.

AMERICA.—Henderson, American X, Reading-Standard, Briggs, and Stratton.

FRANCE. — A.B.C. SWITZERLAND. — Megola. BELGIUM.—F.N. GERMANY.—Ardie.

T.T. NOTES AND NEWS.

Preparations well in Hand for the Isle of Man Races. Course in Good Condition.

WE recently had a conversation with Mr. T. W. Loughborough, secretary of the Auto Cycle Union, who has just returned from the Isle of Man. He reports that the roads round the T.T. course are in a better condition than he has ever seen them before.

Improved Notice Board.

Mr. Loughborough has hit upon rather an ingenious scheme, which will be of considerable help to the spectators of the races. On the notice-board there will be an indicator above the number of every competitor. As soon as his presence is signalled half a mile away, the indicator will show above the number, so that the spectators will be able to see, not only that a motor cyclist is approaching, but exactly who he is. As soon as the competitor has passed, and his time has been posted, the indicator will disappear.

Country Headquarters.

It has been the custom in the past for a great many competitors to congregate in Douglas, and outlying headquarters have seen comparatively few. In view of the fact that in the past Douglas has always had the lion's share, it is suggested that competitors may care to install themselves in country headquarters, where they could work more quietly on their machines and under pleasanter conditions. Many of the villages would heartily welcome the installation of these.

Limiting the Number of Competitors.

An ingenious scheme has been instituted so that the number of entries for the T.T. races will not exceed the maximum permissible for safety—that is, one hundred in each race. If the maximum is exceeded, the entries will be limited in the following manner: Entries will be grouped into two sections—(1) entries from manufacturers and (2) other entrants. Group 1 will be arranged according to the number of entries per entrant. The firm having the greatest number of entries will have its list reduced until it equals the next largest entrants. This process will be continued until the required reduction has been obtained, or until no manufacturer-entraut has more than three entries. If, in spite of this reduction, the limit is still exceeded, Group 2 will be similarly dealt with: but in this case the reduction will be continued until no entrant in Group 2 has more than one entry. In the improbable event of a further reduction being called for, Group 2 will be further pruned by arranging the entrants according to the make of machine nominated, and cutting out the latest entries of the most largely represented make of machine.

CLUB NEWS. (Continued from page 461.)

Leeds and District M.C.

Held last Saturday in the rain a handicap hill-climb resulted as follows:

SOLO CLASS.—1, A. C. Thornton (6 Ariel), 34½s.; 2, G. Hill (3¾ Scott), 36½s.; 3, W. R. Brooks (2¾ Blackburne).

SIDECAR CLASS.—1, R. Cawthorne (4 Norton sc.), 40½s.; 2, R. J. Brown (4 Norton sc.), 46s.; 3, T. Hardy (6 Enfield sc.), 51½s.

North Wales M.C.C.

Detailed results are now to hand of the reliability trial held on the 2nd April, and which included Alt-y-Bady.

1, A. E. Bromley (4 Triumph); 2, A. E. Hughes (4 Triumph); 3, W. Edwards (4 Triumph).

The team prize also goes to W. Edwards, A. E. Hughes, and R. Edwards (4 Triumphs).

North-west London M.C.C.

The fuel consumption trial was run off on Saturday over a give-and-take triangular course at Stanmore. A measured supply of petrol was used till consumed, the last "live" competitor providing the winner. This arrangement maintained the interest through the trial. Results:

	M.P.G.	Ton M.P.G.
1. W. P. Cooper (3½ Sunbeam)	124.84 ..	23.45
2. C. C. Labin (4 Indian Scout)	87.86 ..	20.00
3. H. James (3½ Norton) ..	88.00 ..	15.54

Surbiton and District M.C.C.

A misplaced arrow in the route of the half-day trial on Saturday reduced a field of forty-eight to twenty-eight before the first circuit had been completed. On the second circuit T. O. M. Sopwith, H. G. Hawker (both astride the new Hawker lightweights), F. C. Townshend, and V. Gayford (6 Zeniths), made excellent ascents of Pitch Hill. The final results were as follows:

CLASS A. (Solo Machines up to 400 c.c.).—Silver medal, T. O. M. Sopwith (2¾ Hawker); bronze medal, H. G. Hawker (2¾ Hawker).

CLASS B. (Solo Machines up to 750 c.c.).—Silver medal, V. Gayford (6 Zenith); bronze medal, F. C. Townshend (6 Zenith).

CLASS C. (Solo Machines up to 1,100 c.c.).—Silver medal, C. H. Moccatta (7-9 Harley-Davidson); bronze medal, L. Gummer (8 Zenith).

CLASS D. (Three-wheelers up to 750 c.c.).—Gold medal and Dale Cup, H. E. K. Sawtell (10 Morgan); silver medal, Vivian Olsson (7-9 Indian sc.); bronze medal, H. F. Edwards (3 Enfield sc.).

Bath and West of England M.C.C.

One slight correction appears in the official list of awards of the recent twenty-four hour trial.

Young Cup, E. W. Spencer (4 Omega); gold medal, L. G. Williams (3½ Norton).

Catley Cup, A. E. Simms (4 Norton sc.); silver medal (special award), W. Gunning (4 Norton sc.).

Heaton Moor and Altrincham M.C.C.

Some excellent speeds were recorded at the joint speed trials of these clubs, as the following results show:

250 c.c. CLASS.—J. Bennett (2¼ Levis), 36.4 m.p.h.

350 c.c. CLASS.—F. Bamford (2¾ A.J.S.), 54.8 m.p.h.; F. Slack (2¾ Verus-Blackburne), 51.5 m.p.h.; A. Beswick (2¾ Omega-Jap), 41.1 m.p.h.

550 c.c. CLASS.—A. Matthews (3½ Norton B.S.), 54.2 m.p.h.; B. Rowley (4 Triumph), 53.9 m.p.h.; T. Hulme (3½ Rudge) and F. Slack (2¾ Verus-Blackburne), 51.1 m.p.h.

750 c.c. CLASS.—J. Hudson (5-6 Zenith), 58 m.p.h.; A. Matthews (3½ Norton B.S.), 57.4 m.p.h.; B. Maddeu (4 Norton), 56.8 m.p.h.

UNLIMITED CLASS.—F. Bamford (2¾ A.J.S.), B. Madden (4 Norton), and J. Hudson (5-6 Zenith), 57.4 m.p.h.

Eastern Valley M.C.C.

There were thirty-one entrants for the slow hill-climb held on Thursday, April 7th. The results are as follows:

SOLO CLASS.—1, W. Furnell (4 Douglas), 7m. 10s.; 2, Crad. Smith (4 Douglas), 4m. 57s.; 3, H. Jelly (4 Norton), 4m. 48s.

SIDECAR CLASS.—1, A. Rees (6 Zenith sc.), 5m. 28s.; 2, M. Powell (6-7 B.S.A. sc.), 4m. 31s.; 3, W. H. Oliver (8 British Excelsior sc.), 4m. 20s.

Bradford M.C. and L.C.C.

Results are now to hand of the reliability trial for novices, held on the 3rd inst., and are as follows:

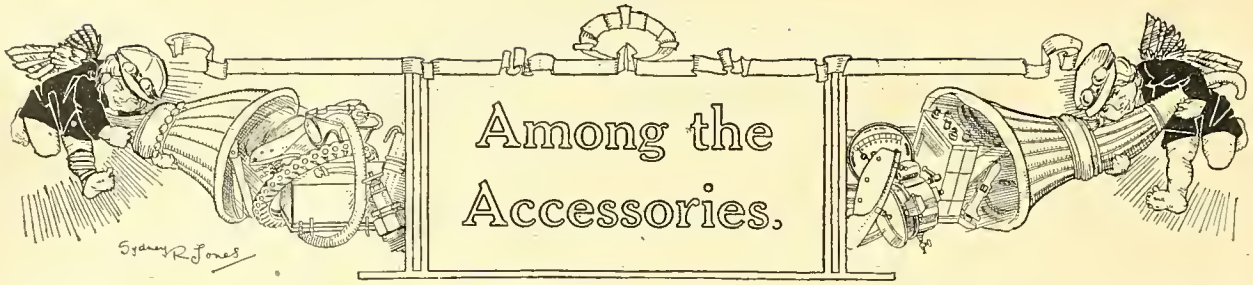
1. Triumph Cup and Gold Medal.—S. M. Haigh (6 Ariel sc.).
2. Silver Medal.—G. Scott (4 Triumph sc.).
3. Bronze Medal.—H. Harrop (3½ P. and M. sc.).

Eastern Centre A.C.U.

A meeting of the clubs in this area was held at Cambridge when the Centre was duly formed.

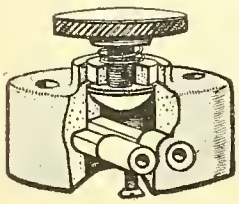


B.S.A. and Douglas machines at the start of the half-day trial of the Surbiton and District M.C. held last Saturday.



A Neat and Simple Switch.

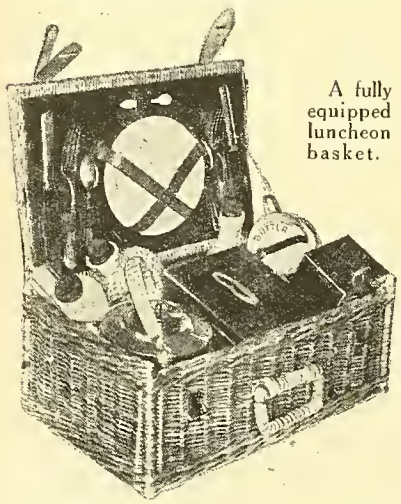
AN exceedingly neat lamp switch has recently been brought out by Messrs. A. H. Hunt, Ltd., H.A.H. Works, Tunstall Road, East Croydon, Surrey. It is of the screw type, and is extraordinarily well insulated. The fact that it has to be screwed down to make contact prevents the switch from working loose, and always ensures a good electrical connection. It is intended to be used as a dashboard fitting for a sidecar.



Screw type lamp switch.

For Picnicking Enthusiasts.

SELFRIDGES, of Oxford Street, London, sell this exceptionally complete and well-made luncheon basket, which has been designed specially for motorists. Among its ingenious features



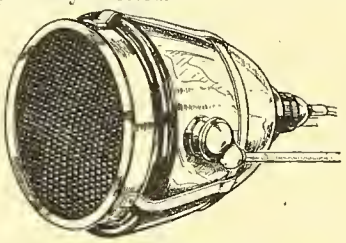
A fully equipped luncheon basket.

are a leak-proof kettle, which may be used as a water-carrier, and an air-tight butter pot.

An Anti-dazzling Screen.

MESSRS. H. TERRY and Sons, Ltd., Redditch, is the latest firm to attempt a solution of the "non-dazzling head lamp" problem, and its honeycomb device (illustrated) has the added advantage that it may easily be fitted to existing lamps.

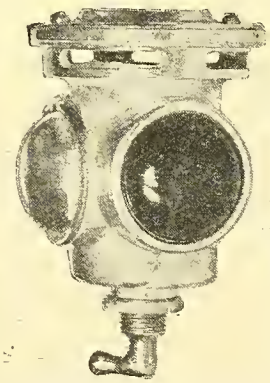
A test of the Terry anti-dazzle screen, as it is called, seemed to indicate that, while it does definitely reduce glare, the illuminating efficiency of the lamp is not appreciably affected.



The Terry Anti-dazzle Screen fitted to a motor cycle head lamp.

Messrs. Terry have also introduced a little device which they term a rear lamp burner cleaner. In brief, it consists of an adapter by which an inflator may be used at each end of the burner, and, incidentally, the little accessory makes a capital case in which to carry a spare burner.

An Aluminium Rear Lamp.

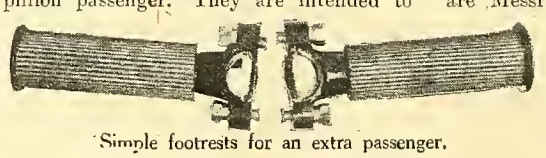


Brown Bros.' new aluminium tail lamp.

AN aluminium tail lamp of substantial manufacture, consisting chiefly of one shafting, has recently been introduced at a low price by Messrs. Brown Bros., Ltd., 15, Newman Street, London, W.1. The burner is easily detachable, and the lamp is fixed to the rear number plate by means of square-headed bolts passing through a portion of the casting.

For Pillion Passengers.

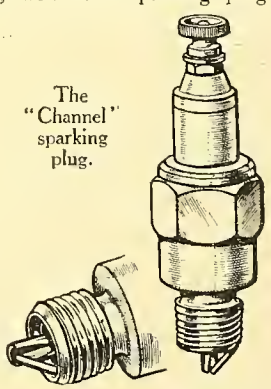
THE footrests illustrated are known as the "Venus," and have been designed to give comfort to the pillion passenger. They are intended to be fitted to the motor cycle chain stays, and should not only add to the comfort but also to the safety of the passenger riding on the carrier. They can be supplied to suit any machine, and are made by Venus Motors, 52, Plashett Road, Upton Park, London, E.6.



Simple footrests for an extra passenger.

A Coated Mica Plug.

SOMETHING of a novelty in the way of a plug has recently been placed on the market after some years of experimental work. To all outward appearance the "Channel" plug is a normal, well-made sparking plug of the



The "Channel" sparking plug.

non-detachable type, with mica insulation. It contains, however, features of considerable interest. Mica in itself is an admirable insulator, but the multitudinous layers which compose the insulation of a plug are somewhat liable to permeation by moisture, especially under pressure. In the case of the "Channel" plug the mica is protected by a coating composed of a special lacquer which extends to the central electrode. It is claimed that the lacquer is impervious, and is unaffected by the temperature of the explosive mixture. In addition there is little fear of internal short circuits due to carbon deposit, since the lacquered electrode prevents deposition on the bare metal, the lacquer itself being a good insulator. The name of the plug is derived from the fact that a channel groove is milled in the central electrode, and it is pointed out that the spark oscillates about the face of this channel, giving remarkable self-cleaning properties.

The distributing agents for this plug are Messrs. the Agency Corporation, of 9, Oxford Circus Avenue, London, W.1, who state that the plug has been designed for general utility purposes, and is suitable for hard work on all normal types of engine.

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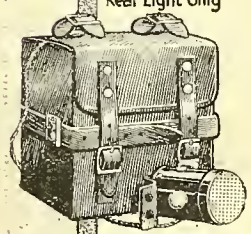
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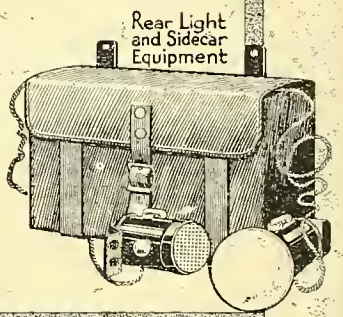


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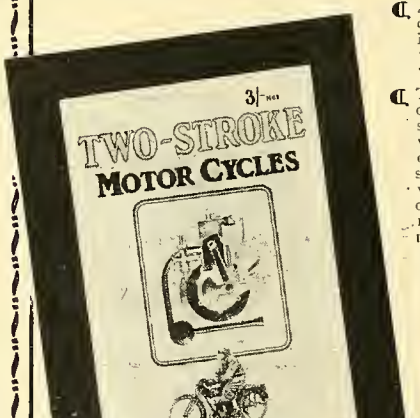
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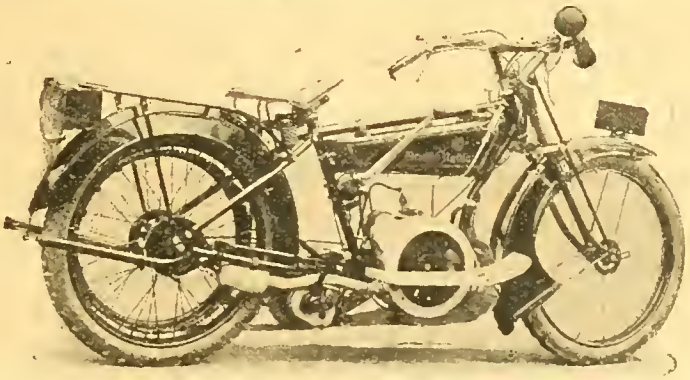
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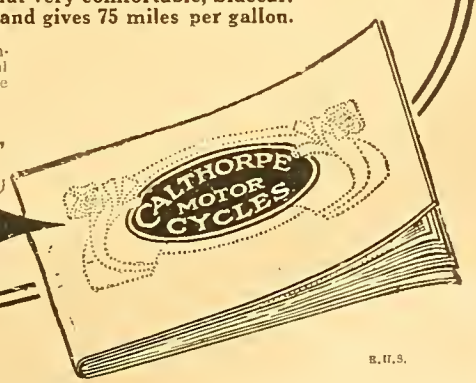
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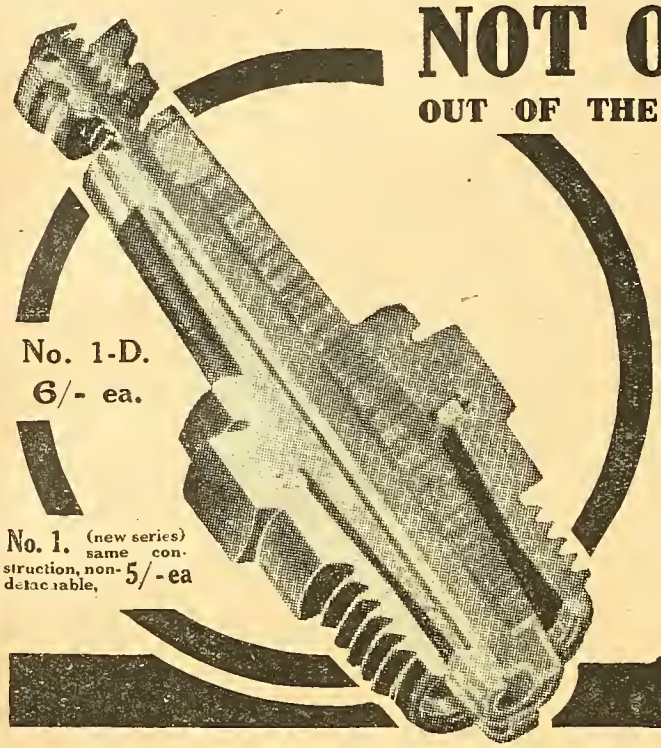
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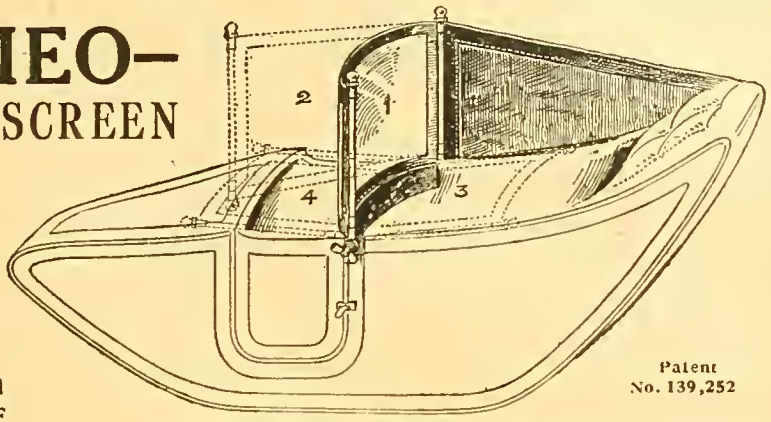
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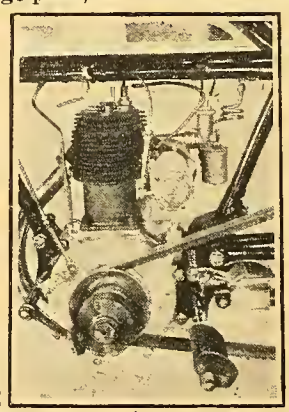
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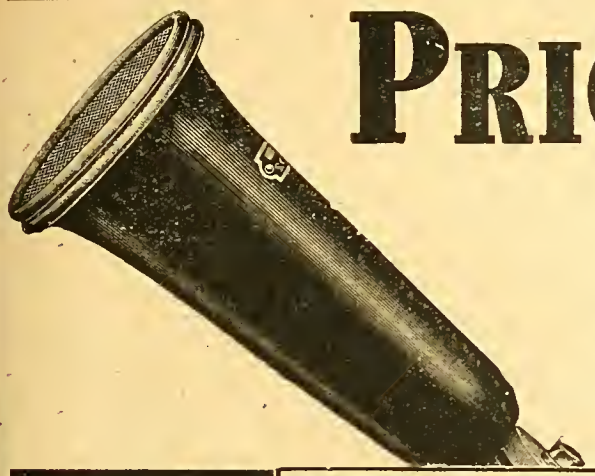
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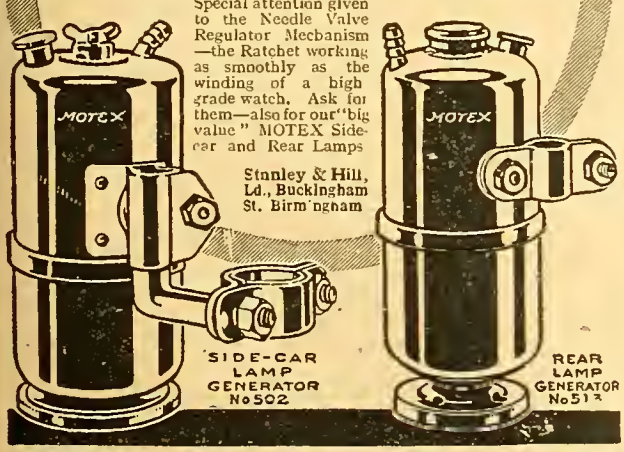
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1915 **ENFIELD** dyno. lighting comb.	100 0 0
1919 **RUDGE I.O.M.** and Sidecar	85 0 0
1920 **SUNBEAM**	£127 10 0
1920 **A.J.S.,** dyno., as new	220 0 0
1921 **G.N.** Standard, as new	220 0 0
1919 **NEW IMPERIAL** 8 h.p. comb.	125 0 0
1916 **ARIEL** and Sidecar, 5-6 h.p.	
1920 **QUADRANT** combination	95 0 0
1916 **DOUGLAS** 2¾ h.p.	59 0 0
1920 **DOUGLAS** 4 h.p. comb.	120 0 0

And many others. One-fifth down and 11 payments if desired.

In answering this advertisement it is desirable to mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed & Co. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Meter Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Meter Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box ooo, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. ooo, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal to perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, 1 %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited. The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, speedometer, lamps, etc., 1,500 miles; £87, or Lewis part.—Box 3,339, *c/o The Motor Cycle.* [2410

A.B.C., new models, from stock, 1920; best cash offer entertained.—A. J. Young and Co., Ltd., Newmarket [1057

A.B.C., 1920 (Aug.), perfect condition, speedometer, lamps, etc.; 110 gns.—133, St. James's St., Burnley. [2027

NEW A.B.C., 4 speeds, K.S., Lucas dynamo lighting, only run in, tax paid; £115.—Mr. Fox, 20, Okerman Rd., Kentish Town. [2472



MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C. Motor Cycle, absolutely new, fully equipped Lucas accessories and kick start; £110.—54, St. James' St., Ashted, Birmingham. [X1300

A.B.C., 1920, perfect condition, small mileage, kick starter, complete with all accessories; £110.—Drewett, Freshwater, Isle of Wight. [2428

A.B.C., T.T., 1921, dynamo lighting, Cowey horn, licensed, accessories, run under 100 miles, sell cheap or exchange 2-stroke and cash.—Leng, 36, West Hill, Sydenham. [2581

A.B.C. 3h.p., done 500 miles, dynamo model, electric horn; exchange good 4h.p. Triumph or Indian Scout.—Moore's Presto Motor Works, Ltd., North End, Croydon. 'Phone: 2624. [1825

1920 A.B.C., Lucas dynamo lighting, kick starter, all lamps, horn, tools, etc., cost over £175, done about 500 miles, as new; £98.—71a, King Henry's Rd., Hampstead. 'Phone: 6552. [2852

1920 (July) T.T. A.B.C., No. 1503, electric horn and lamps, speedometer, fully equipped with tools and spares, engine and enamel excellent, except on tank, nearly new tyre, new chain, 5,000 miles, tax paid; £90. — MacWatters, Almondsbury, near Bristol. [2648

Abingdon.

ABINGDON 3½h.p., 2-speed and clutch, 1913; £30. —232, High Rd., Tottenham. [2124

ABINGDON King Dick Combination, 4½h.p., 1915, 2 speeds, clutch, Bosch; £55, with licence; might exchange.—Kmiling, Beridge Rd., Halstead, Essex. [1824

5-6h.p. Twin, Abingdon King Dick, 4-speed Jardine, kick start box, little used, engine badly damaged; £24.—Shaw, Jeweller, Wellington, Salop. [X1376

ABINGDON King Dick 4h.p., lately overhauled, new carburetter, belt, tyre, and toolbox, in excellent condition; nearest to £40 secures.—East Grinstead Motor Garage. [9522

ABINGDON 3½h.p. C.B. Combination, free engine, kick start, 3 speeds, B. and B., Bosch, lamps, etc.; £65; perfect condition, tax paid; seen Saturday. —45, Ferndale Rd., South Norwood, S.E.25. [2608

A.J.S.

ARE You Requiring a New Combination?

JULIAN'S, of Reading, have 1921 A.J.S. in stock.

SECURE One Early, otherwise you may be disappointed. [0477

JULIAN'S, of Reading, have 1921 A.J.S. in stock. [0532

DAN GUY, Weymouth.—1921 A.J.S. in stock; £215. [0549

A.J.S. New 6h.p. Combination; £195.—Jones, Garage, Droitwich. [4680

PICKERING, Shrewsbury.—A.J.S. models in stock; exchanges arranged. [X0748

A.J.S. Brand New 7h.p. 1921 Combination, actually in stock.—Moss, Wem. [X1369

LONGMAN, of Salisbury.—A.J.S. combinations and 2¾h.p., 1921 models. [1748

A.J.S. 1921 Combinations and Lightweights in Stock.—Clifford Motories, Eastwood, Notts. [2752

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [4557

1921 A.J.S. Combination; £215; in stock.—Morriss and Co., 139, Finchley Rd., N.W.3. [2080

BRIGHTON, Hove, and District A.J.S. Agents.—Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

1921 A.J.S., all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X1487

A.J.S., T.T., I.O.M., very fast, overhauled makers Christmas; £65, offers.—Somerfield, Hinstock. [2866

1920 A.J.S. Outfit, Lucas dynamo outfit, new, but shop-soiled; £216/10.—Cross, Agent, Rotherham. [X1384

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

DAN GUY, Weymouth.—A.J.S. agent for Dorset; earliest deliveries new 2¾h.p.; provisional price £100. [0557

CYRIL WILLIAMS for immediate delivery of 1921 A.J.S. combinations.—Chapel Ash Depot, Wolverhampton. [X9609

A.J.S. Combination, all chain, 3-speed, K.S., equipped, tax paid; gift, 88 gns.—Ramsden's, 8, Mayhall Av., Blackpool. [2034

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—A.J.S. combination, 7h.p., dynamo lighting model; price £245/15. [2944

MOTOR CYCLES FOR SALE.

A.J.S.

DAN GUY, Weymouth.—A.J.S. 6h.p. combination, 1917, recently re-enamelled, splendid condition throughout; £120 [0558

1916 A.J.S. 4h.p. Combination, condition perfect, lamps, hood, screen, Tan-Sad; £115.—Perryman, Guildford Rd., Woking. [X1218

A.J.S. Late 1919 6h.p. Combination, complete, first-class condition; best offer over £125.—Vista Motors, Westbury, Wilts. [2137

A.J.S. 5-6h.p. Combination, good condition and appearance, all on; £87, or near offer.—Owner, 3, Beverley Rd., New Malden. 2644

A.J.S., 1920, magnificently equipped combination, every refinement; sacrifice, £175; no offers.—38, Knight's Hill, West Norwood. Streatham 1676. [2116

£90.—6 h.p. A.J.S. Combination, engine No. 7157, detachable wheel, thoroughly overhauled, lamps, spares, etc.—Hamilton, 111, Denmark Hill, S.E. [2851

1914-15 A.J.S. Combination, 3 speeds, interchangeable wheels, Lucas accessories, just overhauled, splendid outfit; £85.—37, Arlington Rd., Surbiton. [2462

1914 A.J.S. 2¾h.p., 2-speed, clutch, run about 3,000 miles, stored during war, absolutely first-class condition; price £55.—Kirkham, Cong, Co. Mayo. (D) [1818

A.J.S. 1916 Combination, 4h.p., new gears 1920, first-class condition, thoroughly overhauled and equipped; £105.—Trevor Jones, Peny Bryn, Llangollen. [2888

A.J.S. 1920 Combination, 4 discs, leg shields, blue and gold, Lucas lamps, all accessories, spare valve, tax paid; £195.—Maylee, Jeweller, High Rd., Wood Green. [2603

1920 A.J.S. Combination, mechanically perfect; any trial; lamps, hood, screen; £160, guaranteed.—45, Malden Rd., New Malden. Surrey. 'Phone: 39 Malden. [2886

A.J.S. 1921 6h.p. Combination, brand new, not shop-soiled, complete with interchangeable wheels and spare; £195.—P. J. Evans, 81-91, John Bright St., Birmingham. [2322

1920 A.J.S. Combination, new October, Hunts electric lamps, Lucas horn, small mileage, spare wheel unused, tax paid; £175.—Goodman, 18, Vilett St., Swindon. [2882

A.J.S. 6h.p. Combination, 1916, engine No. 6778, 700×80 Dunlop Magnums, spare wheels, lamps, tax paid; £140.—Sutton, York Villa, Brancaster Drive, Boultham, Lincoln. [1814

LATE 1920 A.J.S. Combination, mileage 1,200, exceptional engine, most beautifully equipped, tax paid, cost £245; accept £175; exchanges.—60, Wallingford Av., N. Kensington. [2588

1920 A.J.S.. Lucas Magdyno outfit, special hood, etc., fully licenced, in perfect order, engine very powerful; can be seen and tried in the Midlands; 185 gns.—Box 363, c/o *The Motor Cycle*. [X9927

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

A.J.S. 7h.p. Brand New 1921 Combination, complete with interchangeable wheels and spare, just arrived from works, actually in stock ready for immediate delivery; £215. no waiting.—Wilkins, Simpson, opposite Olympia, London. [2173

A.J.S. 6h.p. Combination, late 1919, in absolutely new condition, lamps, horn, spare wheel, pillion seat, mileage under 4,000, and was overhauled by makers month ago at cost of £12; selling by doctor's orders; will take £175.—30, Gladstone Rd., Scarborough. [2525

A.J.S. 1920 Combination, electric lighting, 2 horns, Watford, screen, 3 lamps, mileage 500, spare wheel unused, perfect condition; any trial; £200; exchange Morgan, G.N., late model.—Griffin, Pptergate, Grange Rd., South Norwood. [2729

A.J.S. 6h.p. Combination, 1920 (June), new engine Jan., 1921, Lucas dynamo lighting, electric horn, speedometer, watch, hood, side curtains, screen, celluloid side screen, Ace disc wheels, A.J.S. T.T. bars, splendid machine, mechanically excellent; any trial; what offers?—Lyon, 49, Conduit Rd., Bedford. [1888

A.J.S. Late 1919 Combination, screen, spare wheel unused, speedometer, lamps, horn, mirror, knee grips, apron, tools, condition perfect, appearance excellent, mileage under 3,000, property competition rider, driven and stored great care; any trial; £170; tax paid; after 6 and week-end.—39, Gordon Av., St. Margaret's, Twickenham. [3005

A.J.S. 1921 7h.p. Combination, Lucas dynamo electric lighting set, Cowey trip speedometer, Lucas horn, spare wheel, etc.; this combination was only purchased on Faster Saturday, owing to advertiser's own machine breaking down on tour, only in use four days, cost over £257; will accept £245, including licence for this year.—Richards, 13, Parkway, Wallasey, Cheshire. [1761

Alldays.

PICKERING, Shrewsbury.—Agent for Alldays Allon; exchanges arranged. [X0749

E. KICKHAM for Allon, sole agent for Bristol and district.—Stokes Croft, Bristol. [3356



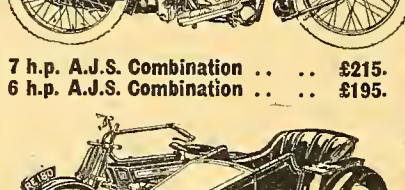
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P. J. EVANS

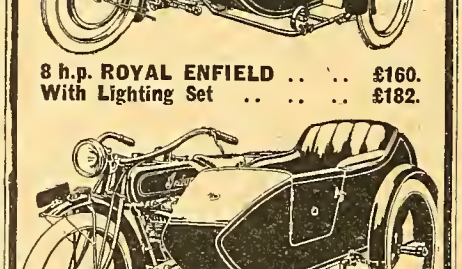
MOTOR CYCLES.



7 h.p. A.J.S. Combination .. .. £215.
6 h.p. A.J.S. Combination .. .. £195.



8 h.p. ROYAL ENFIELD .. .. £160.
With Lighting Set .. .. .. £182.



7 h.p. INDIAN (Elec. Equipment) £226.

We are also *the* Accredited Agents for the following well-known makes:—

ROVER, NORTON, NEW IMPERIAL, TRIUMPH, JAMES, BLACKBURNE, HUMBER, EDMUND-J.A.P. AND MASSEY-ARRAN.

The widest range of solo and side-car machines in the Midlands.

WRITE, CALL, OR 'PHONE TO-DAY.

CASH. EXCHANGES. DEFERRED PAYMENTS.

81-91, JOHN BRIGHT ST.

Mid. 2910. "LYTCAR, B'ham."

MOTOR CYCLES FOR SALE.

Alldays.

ALLDAYS Allon, all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X1488

ALLDAYS Allon, 1918, 2-speed, clutch, lamps, and horn, excellent condition; £45; duty paid.—230, Gooch St., Birmingham. [3046

1919 Allon, 2-speed, clutch, horn, lamps, accessories, smal mileage, tax paid; £60.—6, Grosvenor St., Camberwell Rd., S.E.5. [2558

ALLDAYS Allon 2¾h.p., 2-speed, 1917-18, rebushed Dec., 1920, excellent running order, lamps, horn, etc.; £45, offers.—15, Llanover Rd., Plumstead, S.E.18. [2360

ALLON 2¾h.p., 1920 (late), equally new, K.S., 2-speed, hand clutch, lamps, bulb horn, ready for use.—Taylors, 237-243, Wood St., Walthamstow, E.17. [2529

2¾h.p. Alldays, 2-speed, thoroughly overhauled, complete with spring pillion seat and all accessories, tax paid; £48.—Hallam, Brandon, Coventry. [X1437

ALLDAYS Allon 1916 2¾h.p., 2-speed, accessories, splendid condition throughout, tax paid. ride away; sacrifice £39.—A.K., 14, Norwood Rd., Southall, Middlesex. [1890

ALLDAYS Allon, 2-speed, Aug., 1919, perfect condition, all accessories, pillion seat and footrests attached, tax paid, ride away; £55.—Moore, 23, Park Rd., Redditch. [2439

ALLON 1919, 2-speed, perfect running order, Tan-Sad, P. and H. lamps, all new, leg shields, tax paid, splendid condition generally; £54.—34, Cawlay Rd., South Hackney. [2125

1920 Allon, Lucas lamps, Klaxon, Tan saddle, etc., hand and foot clutch, perfect condition, tax paid and insurance for 1 year; 65 gns.—Lloyd, 27, Copthall Gardens, Twickenham. [1949

ALLDAYS Allon 2¾h.p., almost new, 2 speeds, clutch, Lucas horn, lamps, spare cover, tube, belt, chain, etc., Tan-Sad, insurance, unscratched; £50.—Hawkins, 133, Bearton Rd., Hitchin. [2674

ALLON 1920 Model De Luxe, 2-speed, hand clutch, kick-starter, legshields, Tan-Sad, practically new, perfect, tax paid, any trial; £70.—18, Lower Camden, Chislehurst; after 6 p.m. or week-ends. [1961

F.O.C.H. have a brand new Alloa, shop-soiled; £73/5 cash; exchanges or easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2145

American X

AMERICAN X Combination, 7-9h.p., accessories, very fast, as new; £178.—Taylors, Ltd., 52, Sussex Place, S.W.7. 'Phone: Kensington 7260. [0410

AMERICAN X Motor Cycles.—All models in stock for immediate delivery.—Early application advised by Edinburgh Pioneer Motors, 50, Grindlay St., Edinburgh. [7819

A WONDERFUL Bargain.—Brand new 1921 American X, standard model, 7-9h.p., 3-speed, with Millford de luxe sidecar, 27×3½in. tyres; list price £217, offered as slightly shop-soiled at £170.—The Premier Motor Co., Aston Rd., Birmingham. [X1410a

Ariel.

JULIAN'S, of Reading, have 1921 Ariel in stock. [0533

DAN GUY, Weymouth.—Ariel agent; early delivery dates. [0550

LONGMAN, of Salisbury.—Ariels, solo and combinations, 1921 models. [1749

ARIEL 3½h.p., clutch, bargain, ride away; £30.—Copthorne, Chase Rd., Epsom. [2248

1921 Model Ariel in stock; immediate delivery.—Pinn's Garage, 12, High St., Fulham. [2275

ARIELS, at the reduced prices, from Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X1489

ARIEL Combination, 3½h.p., perfect, complete, tax paid; trial; £50.—Jones, 12, Benwell Rd., Highbury. [2353

ARIEL 1921 4½h.p. Combination, from stock; price £162/10.—A. J. Young and Co., Ltd., Newmarket. [1062

3½h.p. Ariel Combination, 3-speed, kick starter, shop-soiled only; £140.—John C. Beadle, Ltd., Spital St., Dartford. [2310

5-6h.p. Ariel Combination, speedometer and horn, good condition; £100.—Richardson, Waller Av., Leagrave, Luton. [3057

ARIEL 3½h.p. Sporting; £32; Decompressor, Binks, good tyres, perfect, licensed.—48, Ashford Rd., Withington, Manchester. [2166

ARIEL 1920 New 3½h.p. Solo; list price £120, our price £105.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0422

1920½ 4h.p. Ariel Combination, Magdyno lighting, as new; £130.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [2433

1919 Ariel 6-7h.p. Combination, 1921 forks, lamps, Easting screen, speedometer, accessories; £145.—E. Pool, 56, Abel St., Burnley. [1982

MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A. 1920 Combination, 4½h.p., all-chain, lamps, speedometer, Easting wind screen; insurance policy 1922, tax paid, good order and appearance, small mileage; £120.—P., 45, Stanley Gardens, Bel-size Park (Tube Station). [2850

B.S.A. Chain-cum-belt Combination, 4½h.p., bought new by present owner November, 1916, stored 2 years, excellent condition throughout, numerous spares, 3 lamps, horn, speedometer, tax paid, transferable insurance for £130; will accept £80, or near.—Mannsell, 3, Hurlingham Gardens, Putney Bridge, S.W. Putney 1272. [2333]

Calcott.

CALCOTT 2½h.p., lamps, horn, tax paid, starts easy, pulls well, good condition; £28.—143, Ravensbury Rd., Earlsfield, S.W. [2917

Calthorpe.

1920 Calthorpe 2-stroke, shop-soiled; £60.—Pickering, Shrewsbury. [X0744

J. C. PICKERING, Shrewsbury.—Calthorpes in stock; exchanges arranged. [X0751

CALTHORPE, all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X1491

CALTHORPE 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Below.

CALTHORPE 2¾h.p., 2-speed Enfield gear, as makers' specifications; at greatly reduced price, now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [2063

CALTHORPE-J.A.P. 2¾h.p., 2-speed Enfield gear, running order; £35.—Wecks, Hainault, Tenterden, Kent. [2253

CALTHORPE-PRECISION, 2½h.p., 2-speed, excellent running order; £29.—Collman, 47, Arbuthnot Rd., New Cross. [2647

CALTHORPE 2¾h.p., 2-stroke, 2-speed, free, countershaft, lighting set, perfect condition; 42 gns.—Capt. Fowler, Stonham. [2108

CALTHORPE 2¾h.p., 2-stroke, 1920 model with Enfield gear; £59.—P. J. Evans, 81-91, John Bright St., Birmingham. [2319

CALTHORPE-J.A.P. 2¾h.p., Enfield 2-speed, late 1920, tax paid, fully equipped; 55 gns.—34, Cassland Rd., South Hackney. [2750

CALTHORPE-J.A.P., 2 speeds, 1917, lightweight, all lamps, registered, nice condition; £37.—302, London Rd., Thornton Heath, S.E. [2468

CALTHORPE Lightweight, 2-speed, F.E., in splendid condition, tax paid; bargain, £30. After 5.30.—22, Church Lane, Battersea Sq. [2678

CALTHORPE 2-stroke, Enfield 2-speed, complete horn, and tools; cost £69/15; not ridden; £48.—Box 3,361, c/o *The Motor Cycle*. [3040

CALTHORPE, 1920, 2¾h.p., 2-speed, lamps, speedometer, new condition; £55; appointment only.—Beacham, 11, Barkstone Gardens, Earl's Court. [1914

CALTHORPE, 2½h.p., 2-speed, free engine, new condition, very little used, lamps, tools, tax paid; £38.—Pullen, 339a, Underhill Rd., East Dulwich, S.E.22. [2651

CALTHORPE-J.A.P. 2¾h.p., Enfield 2-speed, all accessories, licence paid, splendid condition; genuine bargain, £29; after 5.—84, Valley Rd., Streatham, S.W.16. [2562

1919 19-20 Calthorpe-Jap 2¾h.p., Enfield 2-speed, mileage 500, expensive lamps, etc., tax paid, better than new machine, seen any time.—9, Hallam Mews, Gt. Portland St., W.1. [2586

CALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon; all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

£65.—1916-17 Calthorpe Combination, 4-5h.p. twin J.A.P., Amac, Enfield 2-speed, clutch, starter, chain drive, latest frame, Druids; 2¾h.p. Douglas part.—63, Solon Rd., Brixton. [2869

CALTHORPE-J.A.P. 2¾h.p., Enfield 2-speed gear, lamps, horn, pump, tools, good condition, reliable, economical, licensed; £42/10.—Davies, Rock Villa, Bisley Rd., Stroud, Glos. [1307

CALTHORPE 1921 Combination, actually in stock for immediate delivery; cash or deferred terms; place your orders with the Calthorpe specialists.—Burlington Motors, Ltd., Clapham Common, S.W.4. 'Phone: Brixton 2417. [0509

Campion.

1920 Campion-Jap, 2¾h.p., Sturmey 2-speed, clutch, kick start, new condition, licensed; £62.—89, East Hill, Wandsworth. [2564

CAMPION-J.A.P., Aug., 1920, 4h.p., Sturmey 3-speed, Binks carburetter, Cowey trip speedometer, legshields, Campion sidecar, Easting wind screen, electric light, tax and insurance paid, perfect condition, complete; £150.—181, Oxford St., Grimsby. [2273

Cedos.

E. KICKHAM for Cedos, sole agent for Bristol and district.—Stokes Croft, Bristol. [33S7

CEDOS Late 1920 2¾h.p., 2 speeds, fully equipped, indistinguishable from new; £60.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X1265



TAYLORS

Sole London and District Agents for A.J.S. & British Excelsior Motor Cycles.

Our large well-equipped South Kensington Show Rooms are situated within 100 Yards of South Kensington Station—District, Met., or Tubes.

Don't miss this splendid opportunity.

We have a limited number of

NEW 1920 6 h.p. A.J.S.

Combinations, complete with screen, luggage carrier, spare wheel, apron, tools, etc., which we are offering at GREATLY REDUCED prices. Each outfit carries the makers' usual guarantee. Write at once for full particulars before it is too late.

BRAND NEW 6 or 8 h.p. BRITISH EXCELSIOR COMBINATIONS

£160

Jap engine, Sturmey-Archer countershaft 3-speed gear box and clutch, all-chain drive, 650 × 65 tyres, handsome coach-built sidecar.

8 h.p. ROYAL ENFIELD COMBINATIONS

£160

With Magdyno Lighting Set, £22 extra.

Write, 'phone, or call for complete list of over 100 new and carefully used Motor Cycles and Combinations, all offered at London's Lowest Prices. Deferred payments arranged to suit those wishing to purchase out of income.

H. TAYLOR & CO., LTD.

Showrooms—
Motor Cycles and Cars.
52-53, Sussex Place, South Kensington.
Accessories, Spare Parts and Repairs.
21a, Store St., Tottenham Court Road, W.C.1.
Wholesale—
38, Alfred Place, W.C.1.
Garage: Tottenham Court Road, W.1
'Phones: Accessories and Repairs, Museum 1240.
Motor Cycles and Cars, Kensington 7260.
Telegrams: "Dynametro, Westcent, London."

MOTOR CYCLES FOR SALE.

Cedos.

CEDOS 2-stroke, the finest lightweight reaching the public, earliest deliveries, particulars on application.—Largest London Agents: Fowler and Brigden, 130, Euston Rd., London, N.W.1. 'Phone: Museum 4827. [0469

Chater-Lea.

CHATER-LEA Combination, 8h.p., good condition, 1914; £90.—17, Manor Park Parade, Lee, S.E. [2369

CHATER-LEA, 1921, Villiers 2½h.p. 2-stroke, 2-speed, as new; £55.—10, Longley Rd., Tooting. [1785

CHATER-LEA Combination, 8h.p. J.A.P. engine, 3-speed, all-chain drive, electric lighting, speedometer, hood, wind screen, etc., tax paid; trial; £110.—12, High St., Fulham. [2276

Chater-Lea-Jap.

1920 Chater-Lea-Jap Combination, 2-seater C.B. sidecar, Sturmey-Archer, K.S., screen, lamps, all complete, done 2,000 miles; £140, or nearest.—Call, or write, 3, Scrutton St., E.C.2. [1951

Cleveland.

CLEVELAND 1920 2-stroke, 3h.p., new, 2 speeds, kick starter, hand clutch, weight 175 lbs., petrol consumption approx. 100 miles to gallon, has been used as demonstration model, only done 100 miles; price £70.—Apply, North Western Motors, Ltd., 35, Norton St., Liverpool. [X0089

Clyno.

DAN GUY, Weymouth.—1921 8h.p. Clyno combination, small mileage, as new; cash offers wanted. [0551

CLYNO Combination, 1916, in excellent condition, all accessories; best offer.—97, Roman Rd., Bow, E. [2680

1917 5-6h.p. Clyno Combination, 3 speeds, spare wheel, all black; £60.—Bullen, The Downs, Dartford. [2599

CLYNO Combination, 1918, 8h.p. J.A.P., lamps, horn, spare wheel, as new; £120.—60, Caithness Rd., Mitcham. [2123

CLYNO-J.A.P. Combination, new mag., wants touching up; £70, offer.—Banister and Botten, 341, Upper St., N.1. [2897

1920 Clyno Lightweight, 2 speeds, clutch, accessories, perfect order, and as new; £55.—Crown Garage, Thames St., Weybridge. [2743

1920 Brand New Clyno Lightweight, unused; first offer over £55 secures.—Rhosha Motors, South St., Romford. 'Phone: 96. [2697

1918 8h.p. Jap-Clyno Combination, lamps, horn, 4 wheels, perfect condition; snip, £95.—Foster, 32, Kelvin Rd., Highbury, N. [2896

CLYNO 1916 6h.p. 3-speed Combination, splendid order, all on, tax paid; £105; after 6 o'clock.—54, Martin St., Stratford E.15. [2709

CLYNO Combination, 1915, 5-6h.p., 5 interchangeable wheels, lamps, hood, screen; appointment, or after 6 p.m.—198, Oxford Rd., Reading. [2740

CLYNO Combination, 3-speed, kick start, chain drive, interchangeable wheels; £98; take lower power part.—57, Kenbury St., Camberwell, London. [2511

CLYNO 5-6h.p. 1913 Combination, coachbuilt sidecar, horn, lamps, spare wheel, £100; also lady's 2¾ h.p. Douglas, 1914, £45.—Ash, Storms, Keswick. [1866

8h.p. Clyno-Jap Combination, re-enamelled, plated, and completely overhauled, in perfect condition, electric light; 100 gns.—Box 456, c/o *The Motor Cycle*. [X1473

CLYNO 1921 Models, immediate delivery; 1920 lightweights, shop-soiled, £63; list price, £75.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0434

CLYNO Coachbuilt Combination, 2-speed, K.S., new extra heavy Dunlops and spare, all accessories, good running order; £60.—154, Effra Rd., Wimbledon. [2010

CLYNO Lightweight, 1920, very little used, lamps, mechanical horn; 80 gns.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., New Bond St., W.1. [0511

CLYNO 1921 Models.—We are now accepting orders for early delivery of all models. Your enquiry esteemed.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [2064

CLYNO 5-6h.p., 3-speed, kick start, underslung coachbuilt sidecar, enamel and plate good, lamps, etc.; £57/10.—Stanley, 8, Warwick Square Mews, Clarendon St., Westminster. [2960

FOR Sale, Clyno combination, 1915, 4 interchangeable wheels, good condition; £85, or exchange runabout or light car; cash adjustment.—H. Druce, Apsley End, Hemel Hempstead, Herts. [2552

CLYNO 8h.p. J.A.P. 1920 Combination, enamelling and plating new, perfect condition; only wants seeing; given for debt; £120.—Bunn, 20, Furlton Rd., Earlsfield, S.W.18. After 6 o'clock. [9294

CLYNO Combination, 6h.p., excellent condition, recently overhauled by makers, mileage under 9,000, Millford detachable sidecar, 3-speed, Bosch, Sensspray, spare wheel, speedometer, horn, lamps; sacrifice £90.—S. Chapple, Torrington. [2022

MOTOR CYCLES FOR SALE.

Clyno.

8h.p. Clyno Combination, fitted P. and H. lamps, horn, tools, bought in December, 1920, cost £257, mileage 100; owner bought light car; sacrifice, £175. —Box 3,359, c/o *The Motor Cycle.* [3038

1919 8h.p. Clyno Combination, J.A.P. engine, W.D. model, extra large sidecar, spring pillion seat, Easting wind screen, lamps, mileage only 1,400, licence paid; offers.—Apply, Sheldon, Blake and Peirius, The Garage, Biggleswade. [2932

5-6h.p. Clyno Combination, re-enamelled grey, tax paid, engine 6789, 4 detachable wheels, electric light, Klaxon, apron, spare chain, and new tube, overalls, helmet; £105; after 6. Wanted, A.V.—Bolsover, Clarendon Court, Maida Vale. [2660

CLYNO 6h.p. Combination, stored during war, little used since, spare wheel, screen, luggage grid, can carrier, everything on board, and in excellent condition; £90.—Seen at 5, The Boulevard, Balham High Rd., S.W. 'Phone: Streatham 2417. [1985

Connaught.

PICKERING, Shrewsbury.—Agent for Connaught; exchanges arranged. [X0752

CONNAUGHT, single speed, 2¾h.p. — 16, Grove Parade, East Finchley. [2818

CONNAUGHT, all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X1492

1920 Connaught 2-speed Lightweight, almost new; nearest £50.—Shone, Bull and Stirrup Hotel, Chester. [2605

CONNAUGHT 1921 Models, immediate delivery.—Note address: S.E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [4128

CONNAUGHT 2¼h.p., 1920 model, single-speed, shop-soiled only, £50; 2-speed model, £58.—P. J. Evans, 81-91, John Bright St., Birmingham. [2320

1921 Connaught, T.T. Model, brand new, just arrived; £47/10; easy payment accepted.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [2989

Coulson.

PICKERING, Shrewsbury.—Coulson distributing agent for West Shropshire; exchanges. [X0753

COULSON B 2¾h.p. 1920, demonstration model, much reduced.—Warne's, 46, Churchfield Rd., Acton, W.3. [2713

COULSON B 1921 Models in Stock.—Sole Wiltshire Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5007

1920 Coulson B, under 1,000, unpunctured, excellent condition; £70, or nearest offer.—Glover, Osborne Rd., Southsea. [2692

1920 Coulson B, 2¾h.p. Blackburne, 2 speeds, as new; £80; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [2995

1920 Coulson B. 2¼h.p., 2-speed, been stored, small mileage, fully equipped, speedometer, spares, guaranteed as new; £80.—28, Gloucester St., S.W.1. [9312

1920 Coulson, 2¾h.p. Blackburne engine, disc wheels, speedometer, lamps, excellent condition; bargain £80; cost £113.—71, Dagnan Rd., Balham, S.W.12. [1853

COULSON B. 2¾h.p., 1920, fast, in splendid condition, complete with lamps, horn, etc.; 75 gns.—Connolly's Garage, Churchway, Euston Rd., N.W.1. [2387

NEW 1921 2¾h.p. and 4h.p. Coulson-B, 3-speed, kick start; list prices, £117/10 and £126; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607 [X0633

F.O.C.H. are Coulson-B agents; exchanges or easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2151

COULSON.—R. B. Clark has several second-hand machines, 1920 (July), 2¾h.p., 2-speed, K.S., licensed, equipped, £75; new machines, immediate delivery.—7, Exhibition Rd., South Kensington. [2981

COULSON 4h.p., 1920, 2-speed, spring frame, electric lighting set, horn, tools, very fast and reliable, all in excellent condition, tax paid; £85, reasonable offer accepted.—Seymour, 251, Woodstock Rd., Oxford. [1885

SUPER Sporting 1920 2¾h.p. 2-speed Coulson, just re-enamelled and plated, run 1,200, tax paid, speedometer, horn, engine has special piston, cam, valves, etc., spare cam, sprocket, chain, valves. Saturday afternoon and Sunday.—Faber, Williamsville, Queen St., Renfrew. [1916

COULSON B, 4h.p., 120 gns.; an ideal solo or side car mount, as low and handy as a Levis; in stock —Sole agents for Leeds and 15 miles radius, excluding Bradford, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [0493

Coventry Eagle.

PICKERING, Shrewsbury.—Coventry Eagles in stock; exchanges arranged. [X0754

COVENTRY EAGLE 2¼h.p. 2-stroke Villiers engine, good condition; £30.—White, 108, Forest Rd., Torquay. [2705

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Coventry Eagle.

1920 3½h.p. Coventry Eagle, in excellent condition, all on, spare valve, etc., tax and insurance paid for coming year, reliable and economical; £88.—Thompson, 36, Park Rd., Earlestown, Lancs. [2231

F.O.C.H. have a brand new Coventry Eagle, 3¾h.p., kick starter, shop-soiled; £84 cash; exchanges or easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2146

Coventry Victor.

COVENTRY Victor, the perfect flat twin engine, 5-7h.p.; these famous engines, and all fittings for assembling the complete motor cycle, now available from stock; highest specification throughout; send for our special offer of demonstration machine.—Coventry Victor Motor Co., Ltd., Coventry. [0520

Dayton.

16 GNS. (worth double).—Dayton lightweight 2-stroke, in perfect running order, aluminium footboards, C.A.V. mag., Amac carburetter, spring forks, low built sporty machine, goes anywhere; first wire secures.—Trevena Motors, Bexhill-on-Sea. 'Phone: 162. [1948

De Luxe.

2¾h.p. De Luxe, 2-stroke, as new, 24in. Dunlops, single speed, excellent throughout; £43.—Baron, Allesley, Coventry. [X1280

1920 De Luxe Jap, 8h.p. T.T. twin, Sturmey countershaft 3-speed, clutch, kick starter, all chain; bargain, £70.—89, East Hill, Wandsworth. [2567

DE LUXE 1920 2¾h.p. 2-stroke, 2-speed, C.A.V., B. and B., fully equipped, tax paid, perfect condition throughout; any trial; nearest £45; evenings.—46, Avondale Rd., Harringay, N.15. [2368

Diamond.

DIAMOND, brand new 1920 Villiers engine; £50.—Clark, 7, Exhibition Rd., S.W.7. [9170

1920 Diamond, equal new, licence paid, complete; please inspect.—Pickering, Shrewsbury. [X0743

E. KICKHAM for Diamond, sole agent for Bristol and Bath districts.—Stokes Croft, Bristol. [3355

DIAMOND 2-stroke, 1919, not driven 500 miles, guaranteed; £42/10; approval. — Gibb, Gloucester. 'Phone: 852. [0440

DIAMOND-J.A.P. 1920 Model 2¾h.p., 2-speed, complete with lamps, practically new; £62/10.—Hopkins, New St., Ledbury. [0537

IMMEDIATE Delivery of any Diamond Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0507

DIAMOND, T.T., specially built, ultra sporting, 2½ h.p., high compression, Singer T.T. engine, expert tuned, 2-speed Enfield gear, fitted with roller bearings, Ricardo aluminium piston, special cams, speed model Senspray, Brooks B220 saddle and 2in. Palmer cord tyres unpunctured, in absolutely perfect condition throughout and extremely fast, will easily touch 52 m.p.h. or tick over dead slow. Finish, black with primrose wheels and tank, polished crank case, and plated cylinder, spares include 2 sets cams, pulleys, and sprockets, horn, knee grips, tools, etc., very handsome and thoroughly reliable, any trial or examination, photo on request, buying cycle car; £95, or near offers; write or 'phone appointment after 6 p.m.—Rose, Highfield, Gainsborough. Tel.: 36. [X1486

Douglas.

DOUGLAS. Douglas. Douglas.

1921 Models in stock; 4h.p. combination £170, 4h.p. solo £130, 2¾h.p. clutch model £105, 2¾h.p. 2-speed model £85. Extended payments if desired. Spare parts stocked; repairs. — Douglas specialists, Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0375

DOUGLAS, 2¾h.p., 1911, good condition; £22.—17, Heaton Rd., Mitcham. [2764

DOUGLAS 2¾h.p., 1916, all on, perfect; £45.—84, Greenside Rd., Croydon. [2451

LONGMAN, of Salisbury.—Douglas All-on, 2¾h.p. and 4h.p. combinations. [1750

E. KICKHAM for Douglas and spares; trade supplied.—Stokes Croft, Bristol. [3351

DOUGLAS 2¾h.p., also a sidecar; £65, or near offer.—Turner, Southwater, Horsham. [2250

DOUGLAS, 1918, 2¾h.p., 110 m.p.g., all on, tax paid; £53.—54, Paddenswick Rd., W.6. [2420

DOUGLAS, 2¾h.p., single gear, ride away; £23.—15, Ashvale Rd., Tooting, London. [2645

DOUGLAS 1916 4h.p. Combination, 3-speed; £65.—Freeman, 181, Tottenham Court Rd., W.1. [2384

DOUGLAS 2¾h.p., 1916, fully equipped, good condition; £55.—115, Brownhill Rd., Catford [2455

BRIGHTON, Hove, and District Douglas Agents, Turpin's, 22 and 29, Preston Rd., Brighton. [0201

MOTOR CYCLES FOR SALE.

Enfield.

LIGHTWEIGHT Royal Enfield Twin, overhauled, accessories; £45, near offer.—62, Wydehurst Rd., Addiscombe, Croydon. [2047

1921 Royal Enfields.—8h.p. combination, £160; 2¼h.p. 2-stroke 2-speed, £65.—Stacey, 12, Ecclesall Rd., Sheffield. [0573

ENFIELD Dynamo Combination, Easting, licensed, Klaxon, lovely order; £112.—Clark, 7, Exhibition Rd., South Kensington. [2982

GENUINE 1919 8h.p. Enfield Combination, mechanically perfect, fully equipped; offers.—136, Boundaries Rd., Balham. [2267

ENFIELD 1920 2¼h.p., 2-speed, lamps, horn, tools, spares, in new condition, licensed; £55.—29, Santos Rd., Wandsworth, S.W.18. [2662

1920 Enfield Combination, 8h.p., Magdyno, perfect condition, licence paid; £150.—Bryson, 136, High Rd., East Finchley, N.2. [2379

NEW 1921 8h.p. Enfield Combination; list price £160; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [X0632

ENFIELD 6h.p. 1917 Solo, in practically new condition; cheap, as no sidecar, £85.—302, London Rd., Thornton Heath, S.E. [2471

ENFIELD 2½-3h.p. Twin, Amac, Bosch, good tyres; 30 gns.; Friday evening or Saturday.—Gardiner, 51, Chipstead St., Fulham. [2230

1920 Royal Enfield, Lucas Magdyno, combination, condition as new, small mileage; £165.—Stacey, 12, Ecclesall Rd., Sheffield. [0578

ENFIELD Combination, dynamo lighting, new tyres, chains, hood, screen, perfect; £105 cash.—52, Nightingale Lane, Wanstead. [2483

ENFIELD Combination, 1920, nearly new, full equipment, Easting, D.A.; £160, or near offer.—O.B., 51, Station Rd., Harlesden, N.W.10. [9689

1920 Royal Enfield Combination, complete with lamps, horn, etc., in perfect condition; £125.—Stacey, 12, Ecclesall Rd., Sheffield. [0576

1920 Enfield Combination, Magdyno lighting set, unused, unregistered; £165. — Arnold, 4, Summerland Rd., Minehead, Somerset. [2550

1920 2¼h.p. Royal Enfield, 2-speed, 2-stroke, in splendid condition, lamp and Klaxon; £50.—Morris and Co., 139, Finchley Rd., N.W.3. [2088

DULLING'S Garage for Enfield. Spare parts and repairs a speciality.—Sole Croydon and District Agent, London Rd., Croydon. 'Phone: 1619. [1694

ENFIELD Combination, late 1915, 6h.p., lamps, horn, speedometer, screen, splendid condition; £100.—11, Barcombe Av., Streatham Hill, S.W.2. [1778

BRAND New Enfield Lightweight in stock for immediate delivery; £65.—Broom and Whitehead, Ltd., Authorised Agents, 88, Ot. Portland St., W.1. [9241

ENFIELD Combination, 6h.p., 1917, complete with all lamps, sidecar screen, several spares; £115, offers.—Lt. Richardson, c/o Dan Cay, Weymouth. [0563

ENFIELD Combination, 6h.p., equal new, wind screen, hood, Klaxon; £100; trial any time; tax paid.—Pocock, 16, Randolph Mews, Maida Vale, W. [7929

1918.—2¾h.p. Twin Enfield, m.o.i.v., enclosed Bosch, Amac, Druids, believed 1913, smart appearance, running order.—Bacon, Ollington Lane, Worthing. [2612

1919 Enfield 2-stroke Lightweight, lamps, horn, speedometer, etc., licensed, little used, perfect condition; £55.—Apply, Box 3,285, c/o *The Motor Cycle.* (D) [1945

1920 (June) Royal Enfield Lightweight, 2-speed, clutch, perfect condition throughout, licensed; bargain; offers.—Davies, 45, Pool Rd., Newtown, Montgomeryshire. [X1000

1916 6h.p. Enfield, hood, screen, speedometer, Tan-Sad, lamps, horn, luggage grid, etc., licensed; genuine bargain, £97/10.—Coach ad Horses, London Rd., Isleworth. [2223

1921 Enfield Combination, dynamo lighting, with or without dynamo; in stock, immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

ROYAL ENFIELD 2-stroke, new Oct., 1920, 2-speed gear, lamps, horn, tools, licence paid, excellent condition; £55.—S. Hallworth, Midway, Poynton, near Steckport. [X1236

ENFIELD Combination, new sidecar body, Lucas lamps, very fine condition; accept £97/10, or exchange lightweight. — Edwardes, 277, Camberwell Rd., S.E. 4913 Hop. [2626

1920 2¼h.p. 2-speed Enfield lightweight, lamps, and horn, licence paid, ready to ride away, only done 1,000 miles.—The Premier Motor Co., Upton Rd., Birmingham. [X1411

VAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Royal Enfield models from stock, combinations and lightweights, from £65; supplied on our easiest of easy payment system. [2941

1918 2¾h.p. 2-stroke 2-speed Enfield, tax paid, all lighting set, appearance and condition perfect; rifles, 38 gns.; guaranteed.—G. Huddlestone, 9, Seward St., King's Lynn. [2804

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,,	Englebert Wired-on Rib	25/-	55/-
,,	Palmer Ribbed	25/-	—
,,	Avon Ribbed Lightweight	25/-	—
26×2¼	Avon Combination	48/6	91/-
,,	Hutchinson Passenger	44/-	70/3
,,	Avon Sunstone	40/-	52/3
,,	Palmer Cord	39/6	53/6
,,	Wood-Milne or Spencer Moulton Extra Heavy	39/6	68/-
,,	Dunlop W.D. Heavy	39/6	53/6
,,	Beldam Extra Heavy	37/6	64/-
,,	Bates Special Heavy	37/6	60/-
,,	Clincher de Luxe Ex. Heavy	37/6	62/6
,,	Hutchinson T.T.	37/6	56/6
,,	Beldam Heavy	32/6	55/3
,,	Englebert Wired-on Rib	30/-	60/-
,,	Wood-Milne Special	29/6	53/9
26×2¾	Hutchinson Passenger	42/6	72/-
,,	Dunlop W.D. Heavy	42/6	56/9
,,	Bates Special Heavy	39/6	72/-
,,	Palmer Cord Heavy	39/6	62/-
,,	Clincher de Luxe Ex. Heavy	39/-	68/6
,,	Kempshall Anti-skid	37/6	75/-
,,	Wood-Milne Extra Heavy	37/-	63/9
,,	Hutchinson T.T. R.-stud.	35/-	59/9
,,	Beldam Extra Heavy	35/-	66/3
,,	Wood-Milne Special	32/6	56/9
26×2½ ×2¼	Wood-Milne Extra Heavy	44/-	86/-
,,	Hutchinson T.T. R.-stud.	37/6	67/-
,,	Palmer Sidecar Ribbed	35/-	—
26×2½	Wood-Milne Combination	57/6	102/-
,,	Bates Special Heavy	45/-	76/-
,,	Avon Tricar Rubber-stud.	45/-	78/-
,,	Wood-Milne Extra Heavy	44/-	87/6
,,	Palmer 2-ply Ribbed	35/-	40/-
,,	Hutchinson T.T. R.-stud.	35/-	65/-
,,	Englebert Wired-on R.S	35/-	72/-
,,	Englebert Wired-on Rib	30/-	70/-
26×3	Wood-Milne Combination	55/-	105/-
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,,	Dunlop W.D. Extra Heavy	51/6	83/-
,,	Dunlop W.D. Heavy	48/6	74/6
,,	Avon 3-rib	45/-	90/-
,,	Wood-Milne Extra Heavy	35/-	81/-
,,	Kempshall Anti-skid	35/-	63/-
650×65	Bates Special Heavy	50/-	80/-
,,	Wood-Milne Extra Heavy	50/-	83/-
,,	Bergougnan 3-rib Heavy	35/-	83/3
700×80	Wood-Milne Steel Syudded	97/6	103/6
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,,	Wood-Milne Extra Heavy	60/-	93/-
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Enfield.

1921 Enfield-Jap Combination, excellent condition, mileage under £1,000, good reason for selling; cost £166, accept £140, no offers; trial.—Write, O.T.L., 23, Applegarth Rd., W.14. [2021

1920 2¼h.p. 2-stroke Royal Enfield, all accessories, guaranteed in perfect condition, licence paid; no reasonable offer refused; by appointment.—Chesters, 61, Linden Gardens, Chiswick. [2523

ENFIELD 2¼h.p. Lightweight, new from makers October last, 100 miles, perfect condition, unscratched; selling for combination; tax paid; £58.—7, Rutland Park, Catford, S.E.6. [1776

ENFIELD 1915 6h.p. Combination, Lucas lighting, horn, Watford speedometer, tax paid, in perfect condition; any trial; 85 gns.—'Phone: Waltham Cross 299.—Stanley Biss, Waltham Abbey. [2908

6h.p. Enfield Combination, 1915, splendid condition, lamps, horn, mirror, hood, Easting screen, tax paid, guaranteed perfect; £118.—P. Bartholomew, 23, Jubilee St., Woodstone, Peterborough. [2664

1920 Enfield 8h.p. Combination, Lucas Magdyno, fully equipped, as new; sacrifice at £135, offer; owner bought car.—Stephens, 12, Oil Mill Lane, Kingston-on-Thames. 'Phone: 1945 Kingston. [2671

ENFIELD 6h.p. Combination, 1918, Lucas electric lighting, Easting wind screen, luggage carrier, spares, fully licensed, in perfect condition; £120.—Cheesman, 151, Palmerston Rd., Palmer's Green, N.22. [1863

ENFIELD, 1919, November, as new, perfect condition, all accessories, hood, screen; £146; seen evenings after 7 or appointment.—'Phone: Streatham 711.—Dove, 71, Northcote Rd., Battersea, S.W.11. [2252

ENFIELD Brand New 1921 8h.p. Combination, actually in stock for immediate delivery, just arrived from the works; £160, no waiting, ready to drive away.—Wilkins, Simpson, opposite Olympia, London. [2175

1921 Enfield 8h.p. Combination, electrically equipped throughout, speedometer, screen, discs, spare chain, valves, etc., cost over £200, small mileage, unscratched; £180; appointment, trial; bought car.—1, Hoyle St., Warrington. [X1471

ROYAL ENFIELD Combination, 1921, electric model, 8h.p. Vickers engine, tax and insurance paid, Easting wind screen and legsheilds; price £180.—Write, or call at Frank Nicholson, c/o Nicholson and Fieldsend, Tinsley Park Rd., Sheffield. [2635

1920 Royal Enfield Combination, 8h.p., electric outfit, Cameo de luxe wind screen with side valances, Klaxon horn, etc., unscratched, and will bear expert examination, not done 1,000 miles, tax paid; £147; seen after 6.—13, Arragon Gardens, Streatham, S.W. [2860

ENFIELD 3h.p. Twin, 1916, 2-speed, clutch, K.S., electric and acetylene lighting, speedometer, spares, and pillion seat, excellent condition, recently overhauled by makers, 105 m.p.g., tax paid; £58, or exchange combination.—6, Temple Fortune Hill, Golders Green, N.W.11. [2366

ENFIELDS.—The cheapest twin on the road. We are North London agents, and can supply from stock standard models £160, electric £182, cash, or deferred payments. All spares in stock. Trade supplied.—Jones' Garage, Muswell Hill, and at Woodside Parade, N. Finchley. [0380

Excelsior.

BRITISH Excelsior, all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X1493

1920 6h.p. British Excelsior Combination, equipped; first 98 gns.—Ramsden's, 8, Maybell Av., Blackpool. [2033

EXCELSIOR 1921 Combination, 4½h.p., perfect condition, lamps; cost £160, accept £136.—Wise, Lodge Rd., Knowle, Birmingham. [X1432

1921 British Excelsior, new, 2-stroke, 2-speed, clutch, kick starter, models just arrived.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich. [6634

1920 2¾h.p. British Excelsior, J.A.P. engine, 2-speed, lamps, horn, Tan-Sad, tax paid, fully insured; £70, no offers.—Halliday, Rosmead, Montem Lane, Slough. [2526

EXCELSIOR 2½h.p., 2 speeds, handle clutch, kick-starter, 1920 model, tools and accessories, run about 1,500 miles; price £50; seen at Earl's Court, London.—Box 3,367, c/o *The Motor Cycle.* [3017

A WONDERFUL Bargain.—Brand new 1920 Excelsior 4½h.p. big single combination, bulbous back sidecar; list price £160, finally reduced to £125 spot cash.—The Premier Motor Co., Aston Rd., Birmingham. [X1412

Fafnir.

FAFNIR Combination, 3½h.p., perfect condition, replated and enamelled; must sell; £65, or offer.—Waterworks, Southall. [1933

F.N.

F.N. Combination; £30; 4-cyl., 2-speed, tax paid.—Clutton 9 Eloine Grove, Gospel Oak, N.W. [2099

F.N. 2¼h.p., 2-speed shaft, hand clutch, drop frame, licensed; £33, offers.—5, Lemon Rd., Leytonstone, E. [1819

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B53

MOTOR CYCLES FOR SALE.

F.N.

F.N. 1921 Models, now arriving.—Send enquiries to S.E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [4129

F.N. Combinations in stock; call for a trial run.—Grimes and Co., 18, Bruton Place, Bond St., W. Mayfair 4792. [7645

4-CYL. F.N. Combination, coachbuilt sidecar, in good running order; £32.—Taplin Bros., 159 and 232, Hornsey Rd., N.7. [2283

F.N. 4-cyl., splendid order, tax paid, £26; Indian, clutch, 2 speeds, good order, £42; sidecar £4/10.—Hall, Hocknan, Whetstone, London. [1868

DAN GUY, Weymouth.—F.N., 4-cyl., 3-speed, clutch, and sidecar, Easting screen, tax paid, absolutely as new, mileage about 400; cash offers. [0568

F.N. 2¼h.p., shaft drive, 2 speeds, band clutch, perfect order, starts easy, lamps, etc.; £20, bargain.—143, Ravensbury Rd., Earlsfield, S.W. [2916

F.N., 2¾h.p., excellent condition, new Thomson-Bennett mag., fully equipped, lamps, spares, etc.; any trial; £28.—Davis, 6, Buller Rd., N.W.10. [2669

1921 F.N. 2½h.p., 2 speeds, clutch, and kick-starter, brand new, in stock for immediate delivery; £84; exchanges or easy payments.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [2990

IMMEDIATE Delivery of any F.N. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0500

F.N. Combination, 5-6h.p., late 1913, beautiful condition, little used, stored over 4 years, perfect order, lamps, tools, spare cover, tubes, etc.; must sell, bargain, £55.—14, Richmond Rd., Chorlton-cum-Hardy, Manchester [2699

Francis-Barnett.

JULIAN'S, of Reading, have 1921 Francis-Barnett in stock. [0479

Grandex.

1914 Grandex-Precision 4½h.p. Coach Combination, 3-speed, K.S., Bosch, Senspray, speedometer; £80; almost new condition.—20, Tyrrell Rd., Peckham Rye. [2168

Haden.

HADEN-PRECISION 2-stroke, 3½h.p., kick start, 2-speed motor cycles in stock; price 75 gns.—T. Williams, 9, Lower Chatham St., Oxford Rd., Manchester. [X1407

Harley-Davidson.

PICKERING, Shrewsbury.—Shropshire agent Harley-Davidsons; exchanges arranged. [X0755

HARLEY Sports, brand new, equipped; £145.—Clark, 7, Exhibition Rd., S.W.7. [9175

HARLEY Combination, splendid condition, brand new sidecar; £120.—50, Bath St., E.C. [2835

1920 Harley-Davidson Combination, 7-9h.p., electric fittings, tools, etc., in perfect condition; £175.—Also

1919 Solo Sports Model, 4h.p., hardly used, usual fittings; £110.—St. Katherine's, Snodland, Kent. [2049

1920 Harley-Davidson 7-9h.p., disc wheels, lamp-set, horn, in perfect condition; £135.—62, Church St., Chelsea, S.W. [1965

IN Stock.—1917, 1919, and 1920 Harley-Davidson combinations; from £120 to £200.—Stacey, 12, Ecclesall Rd., Sheffield. [0577

1920 7-9h.p. Harley Combination, fully equipped, almost new; £145.—29, St. Leonard's St., Bromley-by-Bow. East 4708. [2432

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', Southport, Lancashire. Tel.: 607. [5009

1918 Harley-Davidson, new 2-seater sidecar, hood, good condition and appearance; £135.—29, Grey St., Higher Openshaw, Manchester. [2572

1919 Harley Combination, new condition, fully equipped, hood, wind screen, speedometer, lamps, etc., tax paid; £160.—12, High St., Fulham. [2279

HARLEY-DAVIDSON, 1919 (November), new condition throughout, lamps, horn, etc., small mileage, sidecar optional.—133, Muswell Av., Muswell Hill. [2119

1920 Harley-Davidson 7-9h.p., electric model, special sidecar, hood, screen, side curtains, in perfect condition; £170.—62, Church St., Chelsea, S.W. [1966

7-9h.p. 1918 Harley Combination, sporting sidecar, discs, D.A. lighting, enamelled latest colour; offers over £125.—Toronda Works, Addlestone, Surrey. [2813

1920 Harley-Davidson 7-9h.p., unused, acetylene lights, dynamo, kick start, 3-speed, free wheel, solo; price £150.—S. Kirchner, 21, Sunnyside Rd., Ilford. [9648

HARLEY, late 1919, overhauled, plated and enamelled, indistinguishable from new, with new Canoelet sidecar; snip at £130.—322, Whitehorse Rd., Croydon. [1548

1920 7-9h.p. Harley, dynamo lighting, speedometer, Montgomery sidecar, Triplex screen, hood, mileage 2,000, licensed; £170.—12, Leaside Av., Muswell Hill, N.10. [1311

DOUGLAS MOTOR CYCLES

Rebuilt as new from Ex-Government machines and new parts.

Fully equipped with new accessories, including Head Lamp, Generator, Tail Lamp, Horn, Licence Holder, Two Tool Bags, Pump and Tool Kit, and carrying a Three Months' Guarantee.

CASH PRICES.

2¾ h.p. two-speed, fully equipped - £65
4 h.p. three-speed, kick-start and clutch, fully equipped - - - £85
4 h.p. ditto and Sidecar, with new body, finished in "DOUGLAS" Saxe Blue, and fully equipped - £105

CARRIAGE EXTRA IN EACH CASE.

DEFERRED PAYMENTS ARRANGED.

SPECIFICATION.

Engine, "DOUGLAS" horizontal twin cylinder, all worn parts discarded, rebuilt with new parts where necessary, fully tested before reassembling.

Gear Box, 2¾ h.p., with two speeds and free position, 4 h.p. with three speeds, kick-start and clutch, rebuilt as new.

Carburetter, new, two lever AMAC, with plated handle-bar controls.

Magneto, new, C.A.V. or Thomson-Bennett, with plated handle-bar controls.

Frame, Forks, Wheels, and Mudguards, Etc., either new or thoroughly renovated, and stove enamelled in best finish.

The Tank is thoroughly renovated as new, and finished in "DOUGLAS" colours, aluminium and blue panels, with "DOUGLAS" transfer, and new plated fittings.

Tyres, new, 26in. × 2¼in. heavy covers and tubes.

Handle-bars, newly nickel-plated in best style, 2¾ h.p. semi T.T., 4 h.p. standard touring pattern.

Induction Pipe, Fork Springs, Gear Lever, Etc., either new or newly nickel-plated.

Saddle, new, or renovated as new.

Front Brake, Belt Chain, Etc., Etc., brand new

Each of the above machines is rebuilt in our own extensive up-to-date works with a great proportion of new parts. In appearance they are almost indistinguishable from new, and we are prepared to give a signed guarantee with each machine. We are in the best position in the trade to give satisfaction with our rebuilt machines, being closely associated with the private syndicate which purchased the whole of the surplus W.D. motor cycles from the Slough Trading Co., and having always a tremendous stock of new "DOUGLAS" parts

Delivery from stock. Trade supplied.

Special quotations on application for TRIUMPH and P. & M. Motor Cycles rebuilt as above.

Crabtree & Son, Ltd.,
Motor Engineers,
WISBECH.

MOTOR CYCLES FOR SALE.

Harley-Davidson.

1919 Harley Combination, accessories, unscratched; exchange furniture; sell £130.—5, Whitecroft, Beckenham. [2192

YOUR Chance.—Colmore Depot has 1920 Harley-Davidson combination, lamps and horn, brand new at £205; list price £230.—31, Colmore Row, Birmingham. [X1215

HARLEY-DAVIDSON 1920 Standard Model 7-9h.p. Combination, electrically equipped, splendid condition; £160.—9, St. Mary Axe, London, E.C.3. Tel.: 3529 Central. [2109

1916 Harley-Davidson, with sidecar, in nice condition, lamps, horn, electric installation, tyres good; £100.—Salmond, 22, Redfield Lane, Earl's Court, S.W.5. [2537

HARLEY-DAVIDSON Sports Model, speedometer, electric lighting, guaranteed perfect; £110; ride to intending purchaser.—Humphryes, 33, Preston Av., Newport, Mon. [9844

LATE 1920 7-9h.p. Harley-Davidson and Coronet Sidecar, electric model, rear drive, speedometer; £200, or nearest offer.—Hopkinson, Westwood House, Ripponden, nr. Halifax. [1978

LATE 1917 Harley-Davidson Combination, hood and screen, electric, fully equipped, just been completely overhauled; £125.—A. J. Young and Co., Ltd., Newmarket. [1064

HARLEY Combination, 1915, electric model, overhauled by Harley's, enamelled, plated, latest colour, receipts shown; £105.—Perrin, 136, Evering Rd., Stoke Newington, N.16. [X1403

1919 Harley Combination, electric light, legshields, all new tyres, fully equipped, splendid machine and sidecar, tax paid; £175.—Morriss, 8, Victoria Rd., Finsbury Park, N. [2090

HARLEY-DAVIDSON 1920 4h.p. Model, Swan sporting sidecar, electric lighting, in good condition, as new; £185.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X1263

1919 Harley-Davidson, Mead and Deakin special coachbuilt sidecar, thoroughly overhauled, really smart lot, like new; £130.—85, Shirland Rd., Paddington. 'Phone: Padd. 3889 [2102

HARLEY 7-9h.p. Combination electric lamps, magneto model, 1921, new sidecar; accept £97/10; exchange lightweight and cash.—Edwardes, 277, Camberwell Rd., S.E.5. 4913 Hop. [2625

HARLEY Combination, in splendid order, very fast, electric light, hooter, wind screen; any trial; £100; absolutely reliable, wet or fine.—Taylors, 237-243, Wood St., Walthamstow, E.17. [2530

HARLEY-DAVIDSON, special racing frame and engine, perfect condition, ideal for competitions, large quantity spares, touring carburetter, clutch, tyres; offers.—Box 3,317, c/o *The Motor Cycle*. [2099

HARLEY-DAVIDSON 7-9h.p. Coachbuilt Combination, mag. model, electric lighting, perfect, and as new; £120, offer, or exchange.—Clapham Motors, 113, High St., Clapham. 'Phone: Latchmere 4290. [1903

1919 Harley-Davidson 7-9h.p. Combination, almost new, fitted with expensive sidecar, all lamps, Klaxon; any trial; must dispose, £155, or exchange lower power and cash.—365, King St., Hammersmith, W.6. [2792

HARLEY Combination, tax paid, insurance, electric, late 1920, hood, screen, grid, Tan-Sad, discs, just overhauled by makers, stored all winter; cost £265, sacrifice £220, or near offer.—'Phone: Everden, Battersea 1730. [9761

£90.—Harley combination, 7-9h.p., fully equipped, newly painted, smart outfit, must be sold, cash wanted.—Gyer, 1, Chichester Mews, Chichester Rd., Paddington. Near Royal Oak Station, Met. 'Phone: Padd. 3889. [2101

HARLEY-DAVIDSON Combination, 1919, owner-driven, Patey sidecar, carries 1, 2, or 3, and pillion seat with arm and footrests, everything on; £165; good reasons for selling.—H.C.E., 3, Prince of Wales Crescent, N.W.1. [2016

1920 Harley Combination, Lucas Magdyno lighting, sidecar upholstered in antique, hood, screen, Tan-Sad, luggage grid, spare chains and valves, new, lovely turnout, £185; less lighting set, £170; tax paid; offer 6.—307, Camden Rd., N.7. [3053

1918-19 Harley-Davidson Combination, double-seated sidecar, hood; electric lights, Tan-sad, splendid machine for man and wife and two children; tax paid and fully insured, guarantee no fault; £135.—Dairy, 8, Effra Parade, Brixton. [2210

1919 (late delivery) Harley-Davidson Combination 7-9h.p., No. 1 sidecar, mag. model, speedometer, mileage 900 miles, Lucas dynamo lighting set, good as new, double horn, and all accessories, unscratched; trial given any time; owner going abroad; £185, tax and insurance paid.—38, High St., Islington, N.1. [2392

HARLEY-DAVIDSON, 1920 (October), electric model, and Henderson Elite sidecar, finished to match, disc wheels, speedometer, Cameo wind screen, hood and hood cover, outfit done 100 miles, and is a new throughout, a splendid outfit at a bargain price, £185.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0063

MOTOR CYCLES FOR SALE.

James.

AMES Lightweight, 1915, 2-speed, good running order, lamps, tax paid; £38.—W. Smith, Maces ill, Daglingworth, Cirencester, Glos. [2291

AMES 3½h.p. Twin, kick starter, hand clutch, late 1915, 3-speed, horn, and lamps; £50; excel- nt condition.—257, Brockley Rd., S.E. [2622

AMES 6h.p. Combination de Luxe, July, 1919, dual control, lamps, horn, speedometer (Cowey), licence; cept £142.—Best, 120, Whitaker Rd., Derby. [1892

AMES 4½h.p. Combination, 1919, 3-speed, kick start, fully equipped, licence paid; £115, or good lo part exchange.—9, Upper George St., W.1. [2419

AMES 4½h.p. Combination, 1916 model, £20 acces- sories, overhauled, re-enamelled recently, licensed; 7, offers.—58, Merridale Rd., Wolverhampton. [X1364

AMES 4½h.p. Combination, 3-speed, K.S., C., over- hauled, perfect, new tyres, licensed, all accessories; 00, or offer; wanted 6h.p.—7, Warwick Rd., South ingford, E.4. [1858

919 (late) 5-6h.p. Jamea Combination, lamps, horn, Cameo wind screen, new gear box, perfect echanical condition, little used; £130.—Coles, Car- e, Chepstow. [2974

920 4½h.p. James Combination, tax paid, electric lamps, speedometer, Klaxon horn, wind screens, st £175; accept £125.—Duncan and Shephord, 33, ie Parade, Golders Green. [2824

AN GUY, Weymouth.—1920 5-6h.p. James com- bination, complete, Lucas head lamp, Lucas horn, ucas sidecar lamp, tail lamp, speedometer, Easting reen, mileage 1,195 only, as new; cash offers wanted. [0553

918 5-6h.p. James 3-speed Combination, engine No. 9999, hand and heel clutch, horn, leg shields, ecar, luggage carrier, electric lamps, in excellent ndition; £112.—Apply, 76, Steadfast St., Attercliffe, effield. [1999

MMEDIATE Delivery of any James Model; cash or deferred payments; book your order now, and oid disappointment later.—Burlington Motors, Ltd., ith Side, Clapham Common, S.W.4. 'Phone: Brix- 2417. [0503

WONDERFUL Bargain.—Brand new 1920 6h.p. 3-speed James combination, model de luxe bous back sidecar; list price £190, finally reduced £150 spot cash.—The Premier Motor Co., Aston , Birmingham. [X1413

AMES 5-6h.p. Combination, 1920 model, complete with lamps and horn, hood, and screen, perfect dition throughout, £130; also one 1919 model, com- e with Eastiog screen, lamps, etc., £110.—P. J. us, 81-91, John Bright St., Birmingham. [2317

AMES 1919 4½h.p. Combination, 3-speed, kick start, 3 lamps, horn, and tools, new tube and retread rear wheel, mileage about 2,500, recently over- led, in excellent condition, licence paid; £90, or rest.—50, Forest Drive West, Leytonstone, E.11. [9986

J.A.P.

.p. J.A.P. Combination, 3 speeds, Bosch, Binks, sidecar new 1920, cost £30, fully equipped, excel- order throughout, tax paid; £85.—6, Campsbourne , Hornsey, N. [2122

J.E.S.

E.S. 1921 Models from stock.—Gibb, Gloucester, 'Phone: 852. [0441

E.S., 1920, good conditioo, lamps, and all acces- sories, tax paid; £39.—Crane, 21, St. John's Rd., ershalo, Oxon. [1759

Juno.

NO-V.T.S. 2½h.p., 1917, mechanism perfect, over- hauled, lamps, tax paid; £27, or offer.—93, Cor- e Rd., Brixton. [1770

Kingsbury

NGSBURY 1920 2-speed 2-strokes, all chain, new, fine and fast machines; £60; deferred payments esired. — Colonial Motors, 104a, Finchley Rd., 3. Hamp. 7822. [2954

NGSBURY Motor Cycle, unused, 2-stroke, 2-speed, all-chain drive, C.A.V. mag., Senspray carburetter, op tyres; price £48; a real bargain.—Estreham ge, 35, Estreham Rd., Streatham, S.W.16. ne: 335. [3047

Kynoch.

14 4h.p. Kynoch-Jap Combination, perfect run- ning order, 3-speed, clutch, kick start, 1920 Montgomery sidecar, Triplex wind screen, lamps, tools, spares, etc., tax paid; £65; view after 6.30 week-end.—Sale, Milton Cottage, Richmood Rd., es. [2357

Lea-Francis.

A-FRANCIS 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2436

A-FRANCIS 1920, as new, mag.; 95 gns., cost £138.—Tree, 14, Courtfield Gardens, Kensington. [8241

A-FRANCIS 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.— .

A-FRANCIS, M.A.G., as makers' specifications shop-soiled; at greatly reduced price; now is the to buy.—Mebes, 154-156, Gt. Portland St., W.1 e: Langham 2230. [2065

Burlington Motor Cycle Co. Ltd

WE'VE GOT THE GOODS

It is impossible to produce finer re-conditioned machines

DOUGLASES

Almost indistinguishable from new

Each machine fitted with new Carburetter, Tyres, Belt, Chain, etc.

Fully equipped, ready for the road, and carries our

THREE MONTHS' GUARANTEE.

2¾ h.p., 2-speed £65

4 h.p., 3-speed, kick-starter, solo £85

4 h.p., 3-speed, kick-starter, combination, with brand new Burlington Sidecar .. £110

Tuition Free.

We have the largest stock of Ex W.D. Douglas Motor Cycles and Spare Parts in England, and can supply practically everything from a split pin to a complete machine.

Trade Supplied.

SLOUGH

We have for disposal at our dump at Slough Depot, a number of P. & M.'s and Clynos, in the rough. Also a number of P. & M., Clyno, and Douglas Sidecar Chassis and Bodies at absolutely scrap prices. Full particulars may be obtained at the dump, or by writing to

The BURLINGTON MOTOR CYCLE COMPANY, LTD.

7, South Side, CLAPHAM COMMON, S.W.4.

Phone: Brixton 2417

'Grams: "Burlington Motors, Clapham"

(50 yards from Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

Lea-Francis.

1920 Brand New Lea-Francis, unused, astonishing value; first offer over £100 secures.—Rhosha Motors, South St., Romford. 'Phone: 95. [2696

LEA-FRANCIS 1921 models, immediate delivery, 3-speed £125, 2-speed £115.—Ratcliffe Bros., 200, Gt. Portland St. 'Phone: Langham 1704. [0431

LEA-FRANCIS Coachbuilt Combination, twin Jap, 2-speed, clutch, starter, guaranteed condition, 120 to gallon, fast smart; gift, £80; delivered.—42, Glen horn Rd., Jesmond, Newcastle-on-Tyne. [2748

LEA-FRANCIS Combination, 1920 (late), 3½h.p. sporting outfit, 2-speed, K.S., M.A.G. twin engine; £115; equal new; trial pleasure.—Taylors, 237-243, Wood St., Walthamstow, E.17. [2527

1920 3½h.p. Twin Lea-Francis, M.A.G. engine, com- plete with Mills-Fulford sidecar, lamps, horn, etc., only done 300 miles, indistinguishable from new; accept £100.—J. Smith, 54, Hampstead Rd., N.W.1. [2919

Levis

LEVIS. Levis. Levis.

GENTLEMAN'S Popular Model, £60; lady's Popu- lar Model, £60; Model S, 2-speed, hand-con- trolled clutch, £68; immediato delivery. Levis special- ists and sole distributors for London and district. Spare parts stocked, repairs undertaken.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., W.1. [0384

JULIANS, of Reading, have 1921 Levis in stock. [0483

GIBB, Gloucester.—1921 Levis from stock.—'Phone: 852. [0442

DAN GUY, Weymouth.—Levis 1921 models in stock; £60. [0554

1921 Levis, Model S, 2-speed; £68.—A. J. Young and Co., Ltd., Newmarket. [1065

£30.—2½h.p. Levis, 2-stroke, splendid running order, lamps, horn, tax paid.—King, Egrove Farm, Oxford. [X1395

LEVIS 1917, perfect condition, 2¼h.p., new tyres, spare bolt; bargain, £36.—Granger, Icewell Hill, Newmarket. [2008

LEVIS 2½h.p. 2-speed Model, 1916, lamps, re- enamelled, splendid little machine; £40.—36, St. Thomas Rd., Hackney. [2405

1920½ Popular Levis, in perfect condition, mileage under 500 miles; will accept £40 cash.— Thompson, Grocer, Dovercourt. [2207

LEVIS, 1915, long exhaust, Lucas lamps, overhauled and re-enamelled, fast, tax paid; £34.—Whit- bourn, Vicarage Rd., Chobham, Surrey. [2681

LEVIS 2½h.p. 2-stroke, in excellent condition, new tyres, good hill-climber, lamps, accessories; £36.— 140, Thurlow Park Rd., Dulwich, S.E.21. [1860

1920 Levis, fully equipped, licensed, long exhaust, discs, engine 8492, sportly little tub; £40, no offers.—Barge, 65, High St., St. John's Wood, N.W.8. [2365

LEVIS, single gear, new Sept., 1920, only ridden 200 miles, splendid condition, all accessories, tax paid; £50.—Write H. Price, 78, Elm Park Gardens, S.W. [2390

1920 2½h.p. Levis, mileage under 50 miles, indis- tinguishable from new, fitted Binks carburetter, perfect; £45.—C. L. Binks, Phœnix Works, Eccles. [X1240

LEVIS 2½h.p. 2-speed, new Watford speedometer, electric lighting, new tyres, Klaxon and bulb horn, little used; best offer.—Cottam, Zabell House, Letch- worth. [2573

1921 Levis Popular, the super 2-stroke; immediate delivery from stock; £60; easy payments or ex- changes.—Official agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [2985

IN Stock, 1921 Levis, £60. Good wine needs no bush. Nuff sed.—Sole agents, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [0494

IMMEDIATE Delivery of the new Model S Levis, with Starmey-Archer 2-speed, handle-bar-controlled clutch; £68; the cheapest high-grade lightweight. Place your order now.—The Premier Motor Co., Aston Rd., Birmingham. [X1418

NEW 1921 Levis 2¼h.p. Touring, sports, and lady's models, all in stock for immediate delivery; £60; you will obtain a specially picked machine if you place your order direct with the Levis Specialists, The Pre- mier Motor Co., Aston Rd., Birmingham. [X1417

Lincoln-Elk.

LINCOLN ELK 3½h.p., variable gear, Ivee engine, and canoelet sidecar; nearest £35.—144, Wall- wood Rd., Leytonstone. [2606

4h.p. Lincoln-Elk Combination, 2-speed, clutch, K.S., Dunlop beavies, enclosed E.I.C.; £50.—151, King- ston Rd., Teddington. [2648

L.M.C.

6h.p. L.M.C., 3-speed, K.S. and clutch, chain-cum- belt, spring saddle suspension, 1920 model, shop- soiled only; list price £150, my price £127/10; a real opportunity for a sidecar machine.—Davies, 229, Deansgate, Manchester. [0526

MOTOR CYCLES FOR SALE.

L.M.C.

L.M.C.—Mebes and Mébes are the sole London and Home Counties agents; early delivery of all 1921 models; trade enquiries esteemed.—Below.

L.M.C., suspension and ordinary models, shop-soiled, as makers' specifications, at greatly reduced prices; also 6h.p. and 4¼h.p. combinations, second-hand; at bargain prices.—154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [2066

Martinsyde

JULIAN'S of Reading, have 1921 Martinsyde in stock. [0484

1921 Martinsyde Combination, only used for a few demonstration runs, Lucas Magdyno lighting; £170; fully guaranteed.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X1306

1920 Martinsyde with sidecar, 6h.p., electric lamps, hood, screen, horn, etc., tyres unpunctured, magnificent condition; 137 gns.—Julians, 84, Broad St., Reading. 'Phone: 1024. [0535

MARTINSYDE 6h.p. Combination, Dec., 1920, condition as new, splendid running order, Klaxon horn, tax paid, tyres unpunctured; £140.—H. Burgess, Eastcliff House, Sidmouth, S. Devon. [2772

MARTINSYDE-NEWMAN 1921 Models.—We are now accepting orders for early delivery, all models; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: Langham 2230. [2067

MARTINSYDE 1921 Standard Combination; £175; actually in stock; other models early delivery. Place your order now with the authorised agents.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. 'Phone: Victoria 7164. [9922

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DON'T Hesitate.—If makers reduce prices before the end of May I guarantee to refund the difference.

1921 Combinations, any model from stock or in few days. Gradual payments can now be arranged. Every outfit personally tested by the Matchless specialists. Spares of all dates in stock.—J. Tassell, 1a, Bloomfield Rd., Plumstead. [6881

JULIANS, of Reading, have 1921 Matchless in stock. [0480

PICKERING, Shrewsbury.—Agent for Matchless; in stock; exchanges. [X0757

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RACING o.h.v. Matchless-Jap, tax paid, hot stuff; £45.—Ramsden's, 8, Maybell Av., Blackpool. [2035

1919 Matchless Victory Combination, Lucas accessories; £125.—Varvell, Crocken Hill, Swanley, Kent. [2799

1921 Matchless Combinations in stock for immediate delivery; £205. — Stacey, 12, Ecclesall Rd., Sheffield. [0574

MATCHLESS Combination, 8h.p. J.A.P., lamps, screen, and new hood; £68.—17, Heaton Rd., Mitcham. [2213

1915 7h.p. Matchless Combination, lamps, horn, speedometer; £105.—Mason's Garage, Letchworth, Herts [1082

MATCHLESS C.B. Combination, 8h.p., 2-speed, kick start, overhauled, enamelled; £75.—72, Whitwell Rd., Plaistow. [2641

MATCHLESS Combination, late 1920, hardly used, all accessories, cost £230, licence paid; £170.—12, Sutherland Rd., West Ealing. [1962

8h.p. Matchless C.B. Combination, splendid running order, recently overhauled; any trial.—Wylde, 29, Fox Lane, Palmer's Green, N.13. [9 81

MATCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0424

WAUCHOPE'S, 9, Shoe Lane, London, E.C.—8h.p. Matchless combination, dynamo lighting, 1921; price £180; easy terms arranged. [2949

MATCHLESS, 1920, Magdyno lighting, speedometer, beautiful condition; best offer over £170.—3, Kildowan Rd., Goodmayes. [2260

MATCHLESS, Victory Model, spare wheel, new tyres, perfect throughout; best offer over £100.—123, Gray's Inn Rd., London, W.C. [2842

1920-21 Matchless-M.A.G. Combination, Lucas lighting, several extras, licence paid, absolutely new; £175.—294, Kennington Park Rd., S.E.11. [2560

MATCHLESS 1920, M.A.G., dynamo lighting, as new, mileage 750, fully equipped, real bargain; £168.—35, Gartmore Gardens, Goodmayes, Ilford. [2571

MATCHLESS 8h.p., August, 1920, horn, speedometer, wind screen, hood, tools, and spares; £180.—Lancaster Motor Co., 158h, Norwood Rd., S.E. [2742

MATCHLESS Model H., Magdyno lighting, spare wheel, hood, screen, mudshields, tax paid; quick sale £165.—Fauler, Cromwell's House, Woodstock, Oxon. [2029

MATCHLESS 1921 Models in Stock; liberal allowance on your present machine.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2178

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MATCHLESS 5-6h.p. Combination, just overhauled, tax paid, new tyres, wind screen, speedometer, lamps, spare tyres and belt; £90.—195, Longley Rd., Tooting. [8858

1915 Matchless Combination, M.A.G., hood, screen, lamps, speedometer, insured September, tax paid; £110, or near offer.—Morris, Beachfield, Totton, Southampton. [2237

MATCHLESS. Matchless. Matchless.—Latest 1921 model 8h.p. combination, for immediate delivery.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0418

MATCHLESS Combination, May, 1920, Magdyno lighting, speedometer, screen, leg shields, etc., licensed, as new; any reasonable offer.—190, Sangley Rd., Catford, S.E.6. [2511

MATCHLESS Model H., 1920, Magdyno, 2-seater body, 2 screens, steps, speedometer, spare wheel, whole lot as new; £205, or near.—60, Falcon St., Plaistow. East 3319. [1788

MATCHLESS Combination, 1920, 8h.p., small mileage, Magdyno, Cowey horn, tyres unpunctured, beautiful condition throughout; £170.—47, Streatham Hill, S.W.2. [2977

MATCHLESS Model H, complete, lamps, hood, special screen, leg shields, etc., low mileage, excellent condition; accept £170, quick sale.—Alva Cottage, Ashford, Middlesex. [1366

MATCHLESS 1920 Model H, acetylene lamps, spare wheel, etc., £165; also dynamo model, £185.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2181

MATCHLESS Model H Combination, 1920, Magdyno, hood, screen, legshields, Tan-Sad seat, Klaxon, spares, excellent condition; any trial; £180.—G., c/o Brand's Garages, Felixstowe. [8901

MATCHLESS, 8h.p. twin J.A.P., 2-speed countershaft gear, chain drive, Matchless sidecar, wind screen, Lucas lamps, luggage grid; £105.—Eagles and Co., 275, High St., Acton, W.3. [2495

MATCHLESS Service Depot. 'Phone: Greenwich 751.—All 1921 new models. Secure one now. Demonstration ride with pleasure at S. E. Clapham (Motors), Stockwell St., Greenwich, S.E.10. [1035

8h.p. Matchless o.h.v. Sporting Model, recently overhauled and re-enamelled, very fast but easy to start; sacrifice for £55; owner going abroad; can be seen at Ealing.—Box 3,341. c/o *The Motor Cycle.* [2401

MATCHLESS 1921 Models, immediate delivery: with Magdyno lighting £230, without Magdyno lighting £205, no waiting; in stock ready to drive away; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [2171

LATE 1920 Matchless Combination, 8h.p., M.A.G. engine, Lucas dynamo lighting, and horn, speedometer, legshields, special screen, sidecar step, original tyres, outfit perfect; £165; exchange.—60, Wallingford Av., N. Kensington. [2581

£50 Under List Price.—1920 Matchless combination, Lucas lamps, and all accessories, mileage 80, condition as new, tax paid; owner bought car; any trial; accept £168.—Woodhouse, 1, Cross Flatt Parade, Beeston, Leeds. [2477

MATCHLESS Combination, 1914, 8h.p., 2-speed Bosch, speedometer, 4 lamps, Al'all pan seat, mirror, spares, tools, 2-seater sidecar, screen, etc., mo excellent condition, tyres new, insurance; £75.—6 Crookham Rd., Fulham. [2211

COMPETITION Matchless, 90×77½, o.h.v., Grad gear, newly enamelled by makers, Bosch, Am new tyres and belt, condition perfect, complete wi lighting and Lucas horn; £80, or near offer.—Pickto Springfield St., Warrington. [X13

1920 Matchless, Model H2, mag., acetylene lam set, horn, speedometer, hood, Triplex scre with side wings, perfect condition, 1,000 miles on £160; another, with Magdyno lighting, electric hor speedometer, leg shield, perfect, £170.—Tassell, Bloomfield Rd., Plumstead, S.E.18. [23

F.O.C.H. have a 1920 Matchless Combination, Ma dyno, small mileage, fully equipped, hood, scree spare wheel, luggage carrier, tax paid; £175.—5, Hea St., Hampstead (nr. Hampstead Tube Station). 'Phone Hampstead 3752. Hours 9-7, including Saturdays. [21

MATCHLESS Combination, 1920, 8h.p. M.A.G. engine, complete with Lucas dynamo lighting s electric horn, bulb horn, hood and screen on sidec luggage carrier, etc., in perfect condition throughou £185.—P. J. Evans, 81-91. John Bright St., Birmi ham. [23

MATCHLESS 8h.p. Victory Model, fully equipp mechanical oiler, Binks carburetter, 60 m.p. Flexeknas, wind screen, Tan-Sad, spare wheel, new tyr spares, engine and machine completely overhauled, paranee as new, perfect tune, insurance and licen paid; £150.—Lambert, 151, King Henry's Rd., N.W [17

MATCHLESS, late 1920, M.A.G. engine, Magdy lighting with inspection lamp, Lucas ho Watford speedometer, 2-lever Amac, very little us makers' guarantee; 250 mile trial allowed; list pr with spares and extras £260, take £200 lot, or ne offer.—Levells' Dining Rooms, 468, Harrow Rd., W [29

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P. and M. Combination, coachbuilt, condition perfect, Cowey trip, all accessories, tax paid; barn, cheap; after 7.—52, Gaskarth Rd., Balham. [2633

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P. and M. Combination, 1918 model, renovated, 1920 colours, Cameo wind screen, P. and H. lamps, in r condition throughout; 78 gns.—A.S., 12, Thrale ., Streatham, S.W. [2912

P. and M. Combination, 1919, not W.D., electric lighting, licensed, excellent condition; 95 gns., or offer. Vernon Robinson, Charlecote, Torrington Park, North chley. Tel.: City 2140. [2381

P. and M. Combination, overhauled and renovated, guaranteed, new mag., Amac, chains, etc., tank ainted, sidecar repainted; £80.—Colonial Motors, la, Finchley Rd., N.W.3. Hamp. 7822. [2953

1919 (late) P. and M., K.S., speedometer, lamps, mechanical horn, mirror, Watsonian C.B. sido, wind screen, apron, tax paid, splendid condition; 0.—Steventon, 5, Welsh Row, Nantwich. [2421

1919 (Nov.) P. and M. Combination, P. and H. head lamp, electric side and tail, Lucas horn, Watd speedometer, Binks carburetter, licence paid, exlent condition; £100.—Shirley, 40, Bridge St., Chepw. [2972

P. and M. Combination, late model, Rennoc torpedo sidecar, Aero wind screen, enamel and mechanically fect, tyres good, helmet, goggles, etc; photo; any mination, tax paid; £95.—Inwood, 3, St. Mary's ., Tenbridge. [2555

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-6h.p. Peugeot, Mabon clutch pulley, Lycett's, Splitdorf, B. and B., Dunlop, Kemshow, kick start, '- tax; offers.—Howich, Keeper's Corner, Burstow, rey. [2801

Precision.

PRECISION 4½h.p., C.U. sidecar, wind screen, lamps, speedometer, horn, tools, wind screen, etc.; £85; ellent running order.—France, 3, The Croft, Heath rk Rd., Romford. [2403

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Premier.

PREMIER 3½h.p. Countersbalt and Sidecar; £50.— Pickering, Shrewsbury. [X0745

PREMIER, 3½h.p., 2-speed, etc.; great bargain, £25.—Speechley, 86, Churchfield Rd., Acton, 3. [2758

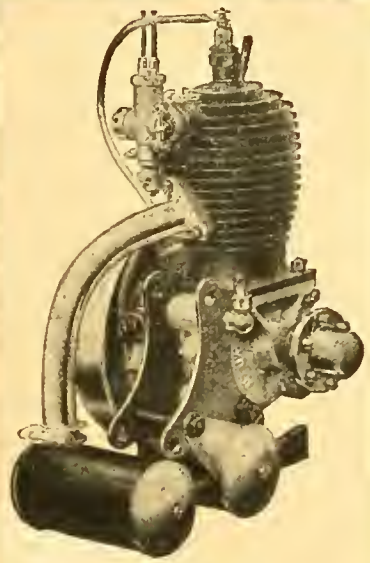
3½h.p. Premier Combination, 1914, countershaft, 2 lamps, horn, etc., perfect running order; £85. 2, High St., Fulham. [2278

PREMIER 3½h.p., good running order; £35; exchange lower power or gent's cycle and cash.— anflour, Barkfold House, Billinghurst. [2593

PREMIER 2½h.p., rebushed, new Grado gear, good running order, economical; £25; accept push e part.—Bird, 370, Blandford Rd., Beckenham. [2438

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P.V. Spring Frame 3½h.p. Precision, 2-stroke, 2-speed, kick start, new April, 1920; £70.—Brooks, 43, Sydenham Rd., S.E.26. [2751

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QUADRANT, all models, from the Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X1501

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—4h.p. Quadrant combination, 1920; £110. [2948

QUADRANT Combination, 1920, mileage guaranteed under 200; price £95.—Welford, James St., Brighton. [2831

QUADRANT, 4½h.p., August, 1919, aluminium sidecar, all on, tax paid; £95.—Roberts, 18, De Montfort Rd., Reading. [1928

QUADRANT Twin Coach Combination, Enfield gears, all-chain, new condition; bargain, £70.—H.S., 33, St. Stephen's Rd., Bow, E. [2676

QUADRANT 4½h.p. Combination, 3 speeds, clutch, lamps, horn, Bosch mag.; sound bargain, 48 gns.—49, Bart St., Newbury, Berks. [1869

1916 Quadrant 4½h.p. Combination, countershaft B.S.A. 3-speed, speedometer, Klaxon, lamps and spares; £75; trial.—12, High St., Fulham. [2280

QUADRANT 3-speed Coachbuilt Combination, wind screen, luggage carrier, all accessories; bargain, £65; solo, £50.—636, Harrow Rd., Queen's Park, W.10. [2292

QUADRANT 1921 4½h.p. Combination, delivery from stock at reduced price, £126; best value for money on the market; exchanges, extended terms.—Authorised agents, Elco and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0066

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RADCO 2-stroke, 2 speeds, lamps, licence paid; £42/10.—175, Knolly's Rd., Streatham. [2412

£19.—Radco 2-stroke, running order, Klaxon; bargain. —King, Egrove Farm, Kennington, Oxford. [X1398

RADCO, late 1920, 2-speed, very fast, not done 200 miles; nearest £45.—18, Albert Rd., Canterbury. [2601

RADCO 2½h.p., 1920, Albion 2-speed, pump, tools, as new; £48.—36, St. Thomas Rd., Hackney. [2406

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RALEIGHS, solos and combinations in stock; exchanges entertained.—Hicking, Bromley Rd., Beckenham. [3277

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LATEST 1921 Raleigh 5h.p. Flat Twin Coachbuilt Combination, unused; delivery too late for owner; accept 15 gns. under list price.—Ayers, The Garage, Kensington Palace, W.8. 'Phone: Park 86. [2089

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READING-STANDARD Combination, 10h.p., dynamo lighting, new; what offers. By appointment.—Lait, Oak Terrace, Burnt Tree, Tipton. [X1435

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REX 4h.p., low, Bosch, B. and B., Mabon clutch; £25.—Fry, St. Michael's Sq., Gloucester. [2613

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REX 3½h.p., B.B. carburetter, mag., good condition, running order; £15.—63, Arlingford Rd., Brixton. [2363

6h.p. Twin Rex Combination, £30 sidecar, hood, screen, perfect; 55 gns.—176, South Ealing Rd., W.5. [2650

REX 6h.p. Twin Combination, Bosch, B. and B., overhauled, re-enamelled, good tyres; a bargain.—R., 32, Arthur Rd., Brixton, S.W.9. [2480

REX 3½h.p. Motor Cycle, Druids, Thomson-Bennett mag., Senspray, new Dunlop and tubes, ready for road; £30.—Thornton, Moor Lane, Sherburn-in-Elmet. [2885

REX 6h.p. Twin, 2-speed, recently overhauled, re-enamelled, good tyres and belt, Bosch, B. and B.; £35, or nearest; for quick sale.—Rolls, Lovel Rd., Winkfield, Windsor. [2802

6-8h.p. Rex C.B. Combination, 2-speed, F.E., overhauled and engine rebushed, all on, tax paid, good reason for selling; £75, or nearest.—7, Thirsk Rd., Mitcham. [2858

REX 6-8h.p. Combination, in exceptional condition, 2-speed, handle starting, good tyres, Capac carburetter; £65.—Taylors, 237-243, Wood St., Walthamstow, E.17. [2528

1914 6h.p. Rex-Jap 2-speed Handle-starter Combination, lamps, etc., in perfect condition; any trial; £40.—'Phone: Waltham Cross 299.—Queen's Head, Waltham Abbey. [2909

REX, 1920, 8h.p. twin Blackburne combination, perfect condition, detachable and spare wheel, lamp, licence, insurance policy; cost £240, bargain, £180.—White, 121, Adelaide Rd., Chalk Farm. [X1354

LATE 1913 Rex Combination, 2-speed, lamps, horn, speedometer, 650×65 tyres (new), also new spare, will do 70 m.p.g., in excellent condition, licence paid; £70, bargain.—27, Bridge St., Northampton. [X1360

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Rover.

1920 Rover, T.T., 3½h.p., single speed; £105.—A. J. Young and Co., Ltd., Newmarket. [1066

ROVER T.T. 3½h.p., 1919, 2, complete; £75 and £80.—Warne's, 46, Churchfield Rd., Acton, W.3. [2711

1915 3½h.p. Rover Combination, 3-speed, complete; bargain, £57/10.—18, Wood St., Walthamstow. [2762

ROVER Coachbuilt Combination, 3-speed and clutch, excellent condition; £75.—J. Lindfield, Crawley, Sussex. [2043

1920 (late) 3½h.p. T.T. Rover, Philipson pulley, tax paid, mileage 300; first £85.—Ramsden's, 8, Mavbell Av., Blackpool. [2039

1920 (Aug.) Rover 3½h.p., T.T. model, as new, Philipson pulley, all accessories; £95.—Heady, 44, Alma Rd., Carshalton. [2724

T.T. Rover, 1920, only used 500 miles, good as brand new, guaranteed perfect; £75.—Wallis, Hartington Grove, Cambridge. [2315

1920 3½h.p. Rover, 3-speed, lamps and horn, in new condition, done 700 miles; tax paid, £95.—Mason's Garage, Letchworth, Herts. [1083

1920 Rover, 3½h.p., 3-speed, clutch, kick start, lamps, horn, licence paid; £115.—Apply, 74, Mount Pleasant, Barrow-in-Furness. [2881

1919 3½h.p. Rover Combination, 3-speed, Lucas lamps, horn, good condition, tax paid; £140, or offers.—Kilby, 1, Museum Sq., Wisbech. [2114

ROVER 1919 5-6h.p. Combination, countershaft, 3 speeds, lamp, horn, tools, splendid condition; £117/10.—White, 46, Chalk Farm Rd., N.W. [X1353

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ROVER, 1920, Philipson, discs to match tank, long and standard exhaust, all on; any trial; small mileage; £95.—Hopedene, Brighton Rd., Purley. [2042

ROVER 1919 3½h.p.. T.T.. Philipson, Lucas lamps, speedometer, engine and enamel in excellent condition; £75.—Brown, Hartford Rd., Huntingdon. [2264

1920 5-6h.p. Rover Combination, Lucas best lamps, horn, Cowey speedometer, ridden 600 miles; £160.—E. Walker, seen Robin Wood Garage, Anerley, S.E.19. [1137

3½h.p. Rover Combination (Sept., 1919), fully equipped, electric, spares, run 2,600 miles, no trouble; £130, lowest.—51, Taylor Rd., Wallington, Surrey. [1798

ROVER 5-6h.p. Combination, like new, 3-speed countershaft, kick starter, hand and foot clutch, tyres unpunctured; £145.—7, Hampton St., Walworth, S.E.17. [2257

ROVER, 1914, 3½h.p., 3-speed, clutch, variable pulley, splendid condition, laid up 4 years, little used; £50.—Wybrow, 42, Pickwick Rd., Dulwich Village, S.E. [1936

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MOTOR CYCLES FOR SALE.

Rover.

1920 6h.p. Rover Mills-Fulford Combination, complete with lamps, horn, and tools, in absolute perfect condition; £130.—The Central Motor Co., Ltd., Kettering. [X13

3½h.p. T.T. Rover, hand-controlled Philipson pulley, Klaxon horn, discs, enamelling and plating new, knee grips; £60.—Duncan and Shepherd, 33, T Parade, Golders Green. [28

ROVER Motor Cycles.—Place your order with official agent, the man who rides a Rover; immediate delivery; hire-purchase if desired.—Collar Cook's Garage, Shifnal. [26

ROVER 3½h.p., countershaft model, also T.T. mod Philipson pulley, as makers' specifications, shop soiled; at greatly reduced prices; now is the time buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phon Langham 2230. [20

ROVER 1920 3½h.p., brand new, shop-soiled on 3-speed, chain drive, £120; complete with Ro sidecar, £150; one 1920 T.T. model, 3½h.p., sh soiled only, £95.—P. J. Evans, 81-91, John Brig St., Birmingham. [23

Royal Ruby.

J. C. PICKERING, Shrewsbury.—Royal Ruby agen exchanges arranged. [X07

8h.p. Royal Ruby Combination, 1918, taxed; £85 9, Church Rd., Harlesden. [26

R. D. VARTY, Thundersley, Essex.—Agent Royal Ruby motor cycles; immediate delive [24

DAVIES, of Manchester, can deliver 1921 Ro Rubys from stock.—229, Deansgate. 'Phone: 5 Central. [24

1915 Royal Ruby, 2-speed, in lovely order; £3 trial any time.—Wright, 12, Albert St., Popl London. [29

ROYAL Ruby, 1919, 2-stroke, single-speed, go mechanical condition, licence paid; £29.—Welfo James St., Brighton. [26

1919 8h.p. Royal Ruby Combination, just overhaul fully equipped, tax paid; £135.—30, Lysias R Clapham Common, S.W.12. [26

ROYAL RUBY 2¾h.p. 1921 Sports Models, deliv from stock.—Fowler and Brigden, 130, Eust Rd., N.W.1. Museum 4827. [05

ROYAL RUBY Combination, 1919 model, 8 J.A.P. engine, electric lighting, perfect conditi tax paid.—59, Lancaster Gate. [24

1920 8h.p. Royal Ruby-Jap Combination, perfe any trial, original tyres (28×3), Lucas, Ea ing, locker in sidecar; 158 gns., near offer.—Ewe Newton Rd., Burton-on-Trent. [26

Rudge.

RUDGE Multi, brand new, unused; £79.—Box 3,1 c/o *The Motor Cycle*. [95

1920 Rudge Multi, I.O.M., perfect, tax paid.—Shan Barrowby, Grantham. [X12

I.O.M. Rudge Multi, from stock; £85.—A. J. You and Co., Ltd., Newmarket. [10

RUDGE, 1914, in good running order; £25.—Rog 43, Green Lane, Penge, S.E.20. [2

WAUCHOPE'S, 9, Shoe Lane, London, E.C. 3½h.p. Rudge Multi, 1917-18; £65. [2

1914 Rudge Multi, new Dunlops, licensed, la £32/10.—Shaw, Park St., Wellington, Salo [X1

RUDGE 3½h.p., F.E., K.S., as new, splendid runn order, tax; £36.—M., 23, Arlington Rd., Camd Town. [17

5-6h.p. Rudge Multi Combination, excellent ord £70; tax paid.—81, Woodville Rd., Thorn Heath. [2

1920 I.O.M. Rudge, as new, comple accessories, insurance; £85.—Eames, Rothamsted Cottage, H penden. [17

RUDGE Multi 3½h.p., 1919, clutch, all on, Tan tax paid, full insurance; £56.—1, Freemantle Bristol. [1

RUDGE Multi 3½h.p., pedal starter, 1921 mo received to-day; £85.—Marston, New Fo Cheshire. [2

RUDGE, 1921, models, at reduced prices, f Coventry Motor Mart, London Rd., Coven 'Phone: 200. [X1

BRAND New 3½h.p. Rudge, T.T., full guaran £85.—Fowler and Brigden, 130, Euston N.W.1. Museum 4827. [0

RUDGE 3½h.p., clutch, perfect running order, lau horn, licence paid; £30.—B.B. Motor Works, bourne Grove, Dulwich, S.E. [1

1919 (Oct.) 3½h.p. Rudge Multi, I.O.M., equipped, mechanically perfect, tax paid; £ 104, Bailiff St., Northampton. [X1

3½h.p. T.T. Rudge Multi, engine perfect, elec lighting, speedometer; £60.—Apply, Summer Lane, Wombwell, Yorks. [1

RUDGE Multi, T.T. bars, complete lamps, h tools, used 50 miles; cost £91, accept £ Box 3,358, c/o *The Motor Cycle*. [2

MOTOR CYCLES FOR SALE.

Rudge.

h.p. Rudge Multi Combination, 1920, excellent condition; seen by appointment.—A. E. Green-, Edgerton Villa, Huddersfield. [2706

20 5-6h.p. and 7-9h.p. Rudge Multi Combinations, new; £152 and £175.—Shepherd, Enfield High-Enfield. Tel.: Waltham X31. [0341

UDGE Multi C.B. Combination, 1915, 3½h.p., new tyres, belt, mat, lamps, etc.; £75, or offer.—ards, Fire Station, East Ham. [1898

UDGE Multi, 3½h.p., 1915, perfect condition, lamps, horn, speedometer; £55; tax paid.—5, et Grove, Dewsbury Rd., Leeds. [1915

UDGE Multi, brand new, unused, latest pedal starter, all accessories, exceptional opportunity; —294, Kennington Park Rd., S.E.11. [2561

UDGE Multi 5-6h.p., new 1915, overhauled by makers last year, and new cylinder fitted; price —Prince, Springfield, Romsey, Hants. [2285

h.p. Rudge Multwin, copper exhausts, very fast, tax paid. 'Phone appointment Palmer's Green —37. Elm Park Rd., Winchmore Hill. [2370

20 Rudge Multi, indistinguishable from new, not done 200 miles, no tax or accessories; £75.— ys, 50, Darlington St., Wolverhampton. [X1362

h.p. Rudge Multi Combination, C.B. sidecar, perfect running order, good condition; £75, or near. stgate, Pinewood Rd., Abbey Wood, S.E.2. [1852

UDGE Multi 3½h.p., Millford sidecar, speedometer, lamps, tools, perfect condition; £70; tax —46, Garthorne Rd., Honor Oak Park, S.E.23. [2440

20 I.O.M. Rudge, fully equipped, low mileage, guaranteed perfect.—£75; exchanges.—Homac's, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [2991a

UDGE Multi, 3½h.p., new tyres and belt, 1916; £48; exchange Enfield combination; cash adnent.—Potts, Jeweller, 37, High St., Plaistow. [1899

20 Rudge Multi 5-6h.p., Grosvenor sidecar, Easting, Tan-Sad, lamps, horn, etc., 200 miles; st offer £130.—Partington, Dorset Garage, Bolton. [2352

20 Rudge Combination, 7-9h.p., F.R.S. electric lamps, very fast, guaranteed; £115; exchanges. mac's. 243, Lower Clapton Rd., N.E. 'Phone: ton 2408. [2987

UDGE 1916 Clutch Model, just overhauled, new tank, forks, starter, mudguard, perfect condition, insured; £52/10.—Farrar, 261, Winchester Rd., ams Park. [2401

h.p. Rudge Combination, 1920, C.B. sidecar, Tan-Sad, lamps, horn, etc., tax paid, perfect condition, anywhere; £93, bargain.—Lyne, 214, Elms Rd., ham Park, S.W. [1968

UDGE 3½h.p., Philipson semi-T.T., large acetylene lighting set, mechanical horn, dises, perfectly l, fast and reliable; £40, or offer.—Seymour, 251, istock Rd., Oxford. [1884

h.p. Rudge Multi Combination, hood, screen, speedometer, lamps, apron, carrier, spares, etc., ition good, 1921 colours; £75, or offer.—Fletcher, Greenwich Rd., Greenwich. [1879

20 Rudge Multi, I.O.M. model, purchased July, very little used, lamps, horn, speedometer, s, splendid condition; £74.—Rhosha Motors, h St., Romford. 'Phone: 95. [2698

20 Rudge Multi, special competition machine, unscratched, will average 40 m.p.h. easily; bought sacrifice £75; ridden dozen times only.—Brook-s Winner, Terncroft, Market Drayton. [X0999

UDGE Multi, 1920, Isle of Man model, original Dunlop tyres, very little used, equal to new, tax must sell, £65; owner bought car.—Apply, A., Ravensbury Rd., Earlsfield, London, S.W. [2687

UDGE Multi 3½h.p. T.T., brand new, pedal starter, immediate delivery from stock at makers' latest reli price; £85, no waiting; in stock ready to drive —Wilkins, Simpson, opposite Olympia, London. [2172

UDGE Multi 1920 Combination, 5-6h.p., electric lighting, Easting wind screen, speedometer, percondition, for recent 3½h.p. or 4h.p. T.T. solo; adjustment.—Write full particulars, 6, Bulganak Thornton Heath. [2263

Scott.

BB, Gloucester, can deliver 1921 Scotts from stock.—'Phone: 852. [0445

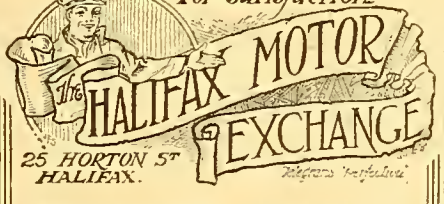
OTT.—All models from stock.—Coventry Motor Mart, London Rd., Coventry. 'Phone: 200. [X1503

21 Scott Combination, slightly soiled, mileage under 300; price £150.—Welford, James St., Brighton. [2827

20 Scott Combination, excellent condition, tyres unpunctured, tax paid; £115.—Alley Studio, ey. [1777

21 Scott, sports model; £130; for immediate delivery; easy payments accepted.—Scott agents w). [2988

20 Scott, with Rennoe sidecar, P. and H. lamps, Lucas horn, etc., magnificent condition, guaran perfect, tyres unscratched; £140; exchanges.— agents, Homac's, 243, Lower Clapton Rd., N.E. ne: Dalston 2408. [2988



EXCHANGES WANTED.

1921 NEW MODELS.

STANDARD, 11.6 h.p., 4-seater	£610	0
LAGONDA, 11.9 h.p., coupé, dickey, full equipment. Reduced price ..	£425	0
CALTHORPE, 2-seater. Reduced price	£420	0
CALTHORPE 4-seater. Reduced price	£450	0
COVENTRY PREMIER 3-wheeler	£250	0
REX-BLACKBURNE Model 55 8 h.p. Combination, 28 × 3, spare wheel ..	£218	18
EDMUND-BLACKBURNE, sp. frame..	£105	0
ROYAL RUBY, 2¾ h.p., 2-speed, sports	85 gns.	
NEW IMPERIAL, 8 h.p., and Sidecar.	£188	18
NEW IMPERIAL, 2¼ h.p., 2-speed ...	£80	17
SCOTT Combination	£170	0
SCOTT, new Squirrel model	£130	0
BRADBURY, 6 h.p., and Sidecar	£187	10
TRIUMPH, chain drive, and Sidecar ..	£172	10
B.S.A. twin Combination, Lucas dyno. lighting, spare wheel. New price	£212	18
SUNBEAM, 3½ h.p., touring	£165	8
NORTON, 3½ h.p., single-speed	£98	0

1921 DOUGLASES.

Including lamps, generator, horn, licence-holder

2¾ h.p., 2-speed	£85	0
2¾ h.p., 3-speed (no clutch)	£100	0
2¾ h.p., 3-speed, kick start, clutch ..	£105	0
4 h.p., 3-speed, clutch	£130	0
4 h.p., 3-speed, Combination	£170	0

Prices plus transit. Exchanges. Easy terms.

AGENTS FOR

ACME-J.A.P., B.S.A BRADBURY, DOUGLAS, ENFIELD, NEW IMPERIAL, NORTON, REX, SUNBEAM, SCOTT, and TRIUMPH Motor Cycles; L.S.D. and COVENTRY PREMIER 3-wheelers; AIREDALE, DOUGLAS, CALTHORPE, and LAGONDA Light Cars; MILLS-FULFORD and SWAN Sidecars.

SECOND-HAND MACHINES.
Guaranteed in Running Order.

A.B.C., 1920, Magdyno lighting, speedometer, electric horn, 700 miles	£120	0
WOOLER, 1920, spring frame, 200 miles	£82	10
EDMUND, 2¾ h.p., 1920, as new	£75	0
ARIEL, 1920, 3½ h.p., 3-speed c/shaft.	£98	10
HUMBER, 3½ h.p., 2 speeds, free engine	£29	10
COVENTRY EAGLE, 1920, 3½ h.p., 3-speed, very fine condition	£98	10
WOLF-J.A.P., 2½ h.p., 2-speed	£45	0
DOUGLAS, 2¾ h.p., 2-speed	£39	10
CLYNO, 1920, 2-speed, lightweight ...	£55	0
SCOTT, 1920, well equipped	£105	0
MINERVA, twin, spring forks	£35	0
DOUGLAS, 1919, 2¾ h.p., 2-speed	£65	0
ARIEL, 3½ h.p., 2-speed, F.E.	£42	10
B.S.A., 1919, 4½ h.p., special equipment	£87	10

PASSENGER MACHINES.

MORGAN, 8 h.p., sporting. Tax paid.	£135	0
MORGAN. 1915, sporting	£150	0
MORGAN, Grand Prix, overhead m.o.v. engine, new tyres. Tax paid	£160	0
SCOTT 2-stroke coach Com. Tax paid	£85	0
PREMIER, 3½ h.p., 3-sp., and Sidecar	£65	0
BRADBURY, 6 h.p., Grindlay Sidecar, lamps, etc., 1920 Combination	£149	10
ARIEL 3½ h.p. 1920 3-sp. Combination	£110	0
HARLEY, 7-9 h.p., 1920, and new latest type bulbous back Sidecar..	£185	0
HARLEY 1920 Combination, electric..	£190	0
INDIAN 1920 twin Combination	£90	0
BRADBURY, 3½ h.p., 3-speed, Sidecar.	£75	0
NORTON Big Four, 3-speed, Swan sporting Sidecar, electric lighting..	£145	0
RUDGE, 5-6 h.p., Multi-Rudge Sidecar	£65	0
SPARKBROOK 6 h.p. coach Com. ...	£95	0
SCOTT, 1920, with new Sidecar	£135	0

Cash offers wanted.

SIDECARS.

New, unused, but slightly shop-soiled **SCOTT, ROVER,** and **SWAN** and **MILLFORD** 1920 models to suit Harley, Indian, and other leading makes at much reduced prices. Large and varied stock to choose from.

MOTOR CYCLES FOR SALE.

Scott.

1920 Scott Combination, mileage 500, condition perfect, oil lamps; £126.—Welford, James St., Brighton. [2828

1915 Scott and Scott Sidecar, excellent order, tyres good; £70; seen Leicester.—Atkin, 23, Stockport Rd., Ashton-under-Lyne. [2414

SCOTT, 1920 sports model, horn, tools, very small mileage, enamel as new, plating fair, perfect order; £100.—D. Lavin, Old House, Sonning, Berks. [2353

SCOTT, 1920, 3½h.p., fully equipped, 3in. Palmers, licensed, fine condition; £100; convenient payments arranged.—Buntiog's, Motors, Wealdstone. [2498

1920 Scott, guaranteed mileage under 700 miles, in splendid condition; will accept £95, or nearest cash offer.—Thompson, Grocer, Dovercourt, Essex. [2208

1920 Scott Combination, complete, wind screen, rear seat, great many accessories; £155, or offer; owner ordered abroad.—Major, Kinross, Hampton Court. [2265

SCOTT 3½h.p. Motor Cycle, solo, in top-hole condition, new 1920, very little used; price £105, or near offer.—Apply, Pearce, 77, High St., Sandgate. [2308

1914 Scott (December), new bearings, 3 new chains, tyres unscratched, lamps and horn, top-hole order; must sell; £54.—J.S.W., Cecil House, Westwood Rd., Sydenham. [1862

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0510

1920 Scott Combination, Eastiag, Lucas accessories, excellent running order and appearance; £150, or nearest, for quick sale. — Boulton, Avenue Rd., Whittington Moor, Chesterfield. [1908

GREAT Sacrifice.—Brand new 1921 Scott, semi-T.T. bars, just delivered, unwrapped; advertiser having paid £30 deposit will sacrifice half deposit and accept £115 for same.—Box 3,085, c/o *The Motor Cycle.* [9390

Shaw.

£15.—3½h.p. Shaw Motor Cycle, P.H. lamps, U.H. mag., running order.—Station House, Crowley. [2044

Singer.

SINGER 4h.p. 2-speed Combination, Palmers, Bosch, lamp; £45.—May, Church St., Leatherhead. [2028

3½h.p. Singer, clutch model, 1912, requires overhauling, laid up 5 years; £18.—Marsh, Caerau, Ross-on-Wye. [2747

3½h.p. Singer, Amac, Bosch, clutch, lamps, good running order, seen by appointment; £40.—Dawkins, 60, Hindes Rd., Harrow. [1767

SINGER, 1914, 3½h.p., T.T., lamps, horn, licence, just overhauled; £35.—Whitman, Midcharn Farm, Little Gaddesden, Berkhamsted. [2416

1914 Singer Combination, 4½h.p., 2-speed countershaft, chain drive, Bosch mag., B.B. carburetter, coachbuilt sidecar, stored during war; £85.—Wright, 79, Chelmsford Rd., Southgate, N.14. [2693

Sparkbrook.

2¼h.p. Sparkbrook, 1920, 2-speed, as new, any trial. —7, St. Mary's Grove, Richmond. [2354

1921 2-speed Sparkbrook, from stock; £77/10.—A. J. Young and Co., Ltd., Newmarket. [1063

SPARKBROOK-VILLIERS, 1920, flywheel mag., 2-speed, lamps, horn, tax paid, beautiful condition; £55.—Leeson, 12, Nithsdale Av., Market Harborough. [2782

SPARKBROOK, single-speed, nearly new countershaft model, lamps, horn, tax paid; £47, or exchange Douglas.—Skelton, 11, Havana Rd., Wimbledon Park, London, S.W. [1854

SPARKBROOK 1920 2½h.p., 2-speed gear, shop-soiled only, excellent lightweight machine; £55.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [2935

SPARKBROOK 1920 2½h.p., 2-speed, lamps, horn, ridden 150 miles only, mechanically perfect, carefully used; £50.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [2936

SPARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra finish, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt Portland St., W.1. Phone: Langham 2230. [2069

Sun.

SUN-VITESSE.—All models from stock.—Coventry Motor Mart, London Rd., Coventry. [X1506

SUN-VILLIERS 2-stroke, lamps, horn, in nice order, take 2 anywhere; £32. — 261, Mitcham Lane, Streatham. [2846

1917 Sun-Villiers, semi-T.T., 2 speeds, countershaft, new tyres, lamps, horn, drip feed, perfect condition guaranteed; £40.—89, East Hill, Wandsworth. [2566

SUN-PRECISION 1914 4-stroke, 3½h.p., Lucas 3-speed and clutch, Bosch, Amac, Burberry sidecar, lamps, etc.; £70.—Rev. Gregory, Belmont Abbey, Hereford. [2226

MOTOR CYCLES FOR SALE.

Sun.

SUN-VITESSE, 1920, Sturmey-Archer clutch and kick starter, 2-speed gear, lamps, horn, ridden 50 miles only, exceptional offer; £60.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [2937

Sunbeam.

SUNBEAM 8h.p., sidecar; £175, bargain.—Pickering, Shrewsbury. [X0746

1921 3½h.p. Sunbeam in stock; £155/8.—Mason's Garage, Letchworth, Herts. [1085

SUNBEAM 3½h.p., 1921, just delivered, in crate; no premium.—Wiggins, Romsey. [X1312

3½h.p. Sunbeam Combination, 1916; £100, offers.—Bertram, Gorebridge, Scotland. [2169

E. KICKHAM for Sunbeam, sole agent for Bristol and district.—Stokes Croft, Bristol. [3352

SUNBEAM Combination, 3½h.p., 3-speed; bargain, £87/10.—18, Wood St., Walthamstow. [2761

3½h.p. Sunbeam Combination, absolutely as new; £135.—Ramsden's, 8, Maybell Av., Blackpool. [2036

1921 new 3½h.p. Sunbeam, complete with Lucas lamps, horn, etc; £155.—Thos. Booth, Frodsham. [2195a

1914 3½h.p. Sunbeam Combination, needs slight attention; £60.—J. Smith, 54, Hampstead Rd., N.W.1. [2918

1921 Sports Model Sunbeam, unregistered; £10 under list price.—Goodman, Ellesmere, Northampton. [2867

1916 3½h.p. Sunbeam, perfect condition, small mileage, tax paid; £85.—Nelson Smith, Whitley, Coventry. [X1281

1921 3½h.p. Sunbeam, 3-speed, kick start clutch, brand new, unsoiled; £140.—Caton, Barncote, Reigate. [2726

6h.p. Sunbeam Combination, J.A.P., Binks carburetter; £110.—Curtis, Church Farm, Chalfont St. Giles, Bucks. [1897

SUNBEAM (June, 1920), used 3 months only, condition excellent, equipped; £125.—Payne, Eccleston, Chester. [X0725

SUNBEAM 3½h.p., 2 speeds, clutch, kick starter, 1915, very exceptional condition; £70.—302, London Rd., Croydon. [2469

3½h.p. Sunbeam Sporting Combination, as new, with all accessories, tax paid; £110.—Wright, 12, Albert St., Poplar, London. [2957

8h.p. Sunbeam Combination, 1919, about 5,000 miles; £160; exchange lower power and cash.—Pumping Station, Hadley Rd., Enfield. [2556

SUNBEAM 6h.p. Combination, twin J.A.P. engine, Bosch mag., 3-speed gear, B.B. carburetter.—King, 57, Westbourne Park Rd., W.2. [2394

1920 3½h.p. Sunbeam and Sidecar, semi-sporting, tax paid, beautiful condition; £150.—White, 31, Shakespeare St., Southport. [2240

SUNBEAM 3½h.p. 1915 Combination, disc wheels, Easting, lamps, horn, as new, taxed; £100.—Hayter, Oak Mount Av., Southampton. [2425

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

1920 3½h.p. Brand New Sunbeam and Sidecar, interchangeable wheels; at list price; from stock.—A. J. Young and Co., Ltd., Newmarket. [1061

SUNBEAM and sidecar, new 1919, 3,000 miles, all fittings, heavy tyres, 2 nearly new, exceptional engine; £125.—Box 3,251, c/o *The Motor Cycle*. [1828

NEW 1921 3½h.p. Sunbeam, 3-speed, kick start, clutch; list price £155/8; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [X0634

2¾h.p. Sunbeam, 2-speed, handle-bar clutch, new piston, Amac, good tyres, accessories, licence; offers; solo or wicker combination.—Jennings, Jeffries Rd., Ware. [2808

1920 3½h.p. Sunbeam Combination, interchangeable wheels, lamps, horn, spare valves, etc., tax paid, perfect condition; £180.—Whittaker, New St., Lancaster. [2877

SUNBEAM 1915 3½h.p. Model with Sidecar, complete with all accessories, excellent condition; £110.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X1266

SUNBEAM, 3½h.p., 3-speed, 1914, stored 4 years, re-enamelled; offers; evenings.—120, Marlborough Flats, Walton St., Chelsea, S.W.3. [X1356

SUNBEAM, 1921, sports model, one of first deliveries, fast, 3 sprockets; list price £152/10, what offers?—Box 446, c/o *The Motor Cycle*. [X1370

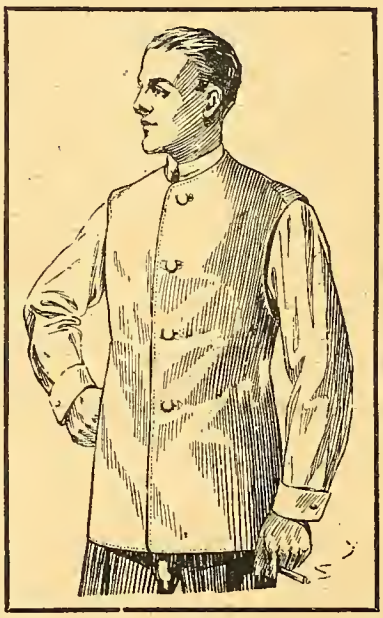
GROVE.—3½h.p. 1919 Sunbeam Combination, overhauled and as new, full equipment, tax paid; £135.—Grove Motor Co., 34, Hereford Rd., Westbourne Grove. [2611

3½h.p. Sunbeam Unit, clutch plates, spring, kick starter, damaged sporting Canoelet, Seaspray controls, make and break, lock; evenings.—120, Marlborough Flats, Walton St., Chelsea, S.W.3. [X1358

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In the finest quality tan leather, soft and pliable, yet extremely durable. They are full size and reach below the waist, and are lined with warm, fleecy woollen material. For motor drivers and cyclists, tramwaymen, postmen, etc., and can be worn under a coat quite easily. The splendid quality l ather can also be put to other uses, viz., Slippers, strong Driving Gloves, Upholstery, Bookbinding, etc. Less than one-third the cost of production.

10/-

Postage 1/- extra.

MOTOR CYCLES FOR SALE.

Sunbeam.

1921 Full T.T. Sunbeam, under 200, Lucas hea electric rear, horn, licence, unsuitable to p sent owner; offers.—Holmes, Belt Rd., Brampto Cumberland [19

1920 3½h.p. Sporting Sunbeam (new Sept.), sto winter, condition as new, with new Lucas lam licence paid; price £145, or offers.—N. Edkins, Sh field, Alcester. [X12

NOVEMBER (1919) 3½h.p. Sunbeam Combinatio lamps, horn, etc., excellent condition, sm mileage; what offers?—H. W. Parsons, Horsheca Bartlow, Cambs. [26

SUNBEAM, 3½h.p., 1917, and Dinky sidecar, Cow speedometer, Lucas lighting, only done 3,0 condition as new; £145, no offers.—F. Lewis, T Barrows, Cheddar, Somerset. [19

SUNBEAM 3½h.p. Combination, late 1920, perf condition, Bluemel's screen, Lucas lamps, surance, tax paid; £180.—Keats, Mimosa, Chestn Rd., Enfield Lock, Middlesex. [24

1920 3½h.p. Sunbeam Combination (engine 145/9077), lamps, Bonniksen trip speedome Cowey horn, tools complete, excellent condition; £1 —148, Elborough St., Southfields, S.W.18. [26

1920 Sunbeam 3½h.p., Gloria sidecar, Easting scre speedometer, Klaxon, leg shields, mileage 1,6 in absolutely first-class condition throughout; price £1 —East Grinstead Garage, East Grinstead. [9

SUNBEAM 2¾h.p., 2-speed, K.S., clutch, eaclo chain drive, lamps, horn, speedometer, tools, perfect; 60 gns.; would exchange, with cash, combination.—141, Merton Rd., Wimbledon. [2

3½h.p. Sunbeam, 1915, complete, Gloria side Cameo wind screen, speedometer, lamps, s tubes and tyre, tax paid. 'Phone appointment Palm Green 619.—37, Elm Park Rd., Winchmore Hill. [2

SUNBEAM with sidecar, new June, 1919, only 3, miles, Klaxon, Watford, hood, screen, accu lator lighting, large tyres, hardly used, splendid co tion; Leytonstone.—Box 3,250, c/o *The Motor Cycl*

1921 Sunbeam 3½h.p. Combination, touring mo Lucas Magdyno and electric horn, equal to n very small mileage; what offers? owner buying ca J. H. M. Yeomans, Newton Rd., Burton-on-Trent [2

1920 3½h.p. T.T. Sunbeam, August, mileage Lucas lighting, horn, Sunbeam leg shields, Binks, interchangeable wheels, knee grips, as n £134 secures; cost £165.—14, Estcourt St., Devizo [2

SUNBEAM 3½h.p. 1921 Touring Model, absolu brand new, Lucas Magdyno, licence paid for, cost £189, will accept £155, or close offer; a gen bargain.—57, Great George St., Liverpool. 'Pho 1092 Royal. [9

3½h.p. Sunbeam Combination, in top-hole condit economical and fast, take passenger anywh tyres unscratched; for quick sale £115.—Seen s 7.30 at 35, Jervis Rd., Fulham, or 'phone Hop during day. [2

FOR Sale, late 1919 Sunbeam combination, inclu lamps, tools, wind screen, hood, luggage ca and apron, most carefully looked after, and in top condition.—Apply, Wellington Motor Works, Bath Maidenhead. [1

8h.p. Sunbeam Combination, 1918, perfect run order, excellent appearance, black and gold fi interchangeable wheels, leg shields, lamps, spares; trial; £139; London district.—Box 3,327, c/o *Motor Cycle*. [2

1920 (July) 8h.p. Sunbeam Combination, L Magdyno, spare wheel, Cowey trip, Tan luggage grid, tax holder, Klaxon, many spares, ma ficent condition; £240.—D., 23, Dresden Rd., Hor Lane, London. [

SUNBEAM 3½h.p., August, 1919, sporting mo long exhaust, P. and H. lamps, Bonniksen, F horn, spare tube, valve, chain links, etc., insured, paid; any examination; £135, or nearest.—Walker, Midland Rd., Nuneaton. [X

8h.p. Sunbeam Combination, full accessories, deliv end 1919, but stored considerable period, mil 1,500 only, condition absolutely new; accept £190, o sale.—Further particulars, Osborne, Sackville H Littlefield Lane, Grimsby. [

SUNBEAM (late) 1916 Combination, 8h.p., M. engine, exceptionally complete outfit, numerous spares, accessories; £155, or near owner buying car, Croydon.—Box 3,348, c/o *Motor Cycle*. [

LATE 1920 3½h.p. T.T. Sunbeam, black and unscratched, under 500 miles, legshields, C horn, 3-jet Binks, P. and H. lighting, Bonniksen s ometer, interchangeable wheels, 3in. Dunlops, ance; price £155; no cheques. After 6.—E.B. Sandown Villas, Grove Rd., Mitcham, Surrey. [

1921 Sunbeam Combination, 8h.p., speedomet Lucas best lamps with separate generators, horn, sidecar apron, screen, luggage carrier, small age, and guaranteed in most perfect condition in way, fully licensed to January, 1922; for sale to owner having purchased car; any examination by appointment; price £240.—Address, Lane, combe, Glos. [

MOTOR CYCLES FOR SALE.

T.D.C.

O.C. 2-stroke, 2 speeds, Bosch, ride away; £29: after 7.—19, Tyrrell Rd., E. Dulwich, S.E. [2244

D.C. 1920 2¾h.p., E.I.C., Amac, Clincher de luxe, Pedley, lamps, etc.; £35; appointment.—Graham, Elm Grove Rd., Barnes. [1979

Triumph.

REMIER Motor Co. for 1921 Triumphs.

RIUMPHS at the new reduced prices now in stock.

VE Can Deliver to your address within 24 hours 2½h.p. lightweight Triumph, £70; W.D.B. (reno-d), £95; Type H 4h.p., 3-speed, £115; Type S.D., n drive, £125; sidecars from £25 to £50; buy machine direct from the Triumph specialists.—Premier Motor Co. Aston Rd., Birmingham. [X1419

LIAN'S, of Reading, have 1921 Triumph in stock. [0487

)21 Baby Triumph in Stock.—Welford, James St., Brighton. [2833

)21 All-chain Triumph in Stock.—Welford, James St., Brighton. [2832

RIUMPH, W.D.B. Model, never ridden; £80.—50, Bath St., E.C. [2836

ROSS, Rotherham, can give delivery of all model Triumphs from stock. [X1387

RIUMPH Gloria 1920 Combination; £125; licensed, perfect order.

RIUMPH, W.D.B., left Triumph's Aug., 1920, ridden under 500 miles, full tools, equipped; absolutely unscratched.—7, Exhibition Rd., .7. [1582

)14 Triumph, coach, 3-speed, clutch; £65.—London and Brown, Leighton Buzzard. [2266

RIUMPH, 1912, 3½h.p., perfect; £30, or offer.—Hadfield, Dentist, East Grinstead. [2503

)19 Triumph 4h.p., 3-speed countershaft; £90.—Hickman, 36, Castle St., Salisbury. [X1313

RIUMPH, 1914, 4h.p., 3-speed, clutch, guaranteed perfect; £55.—60, Carleton Rd., N.7. [2518

)21 Triumphs, all models in stock; 1920 brand new Triumph Model H; £110.—Below.

)20 Brand New Triumph Model H Combination, with spring wheel Gloria sidecar; £160.—Be-

)19 Triumph 4h.p., countershaft, Gloria combination, overhauled, lamps, horn, speedo., splendid kit; bargain, £108.—Rhosha Motor Co., South St., nford. 'Phone: 95. [2695

)14 Triumph Combination, excellent condition, 3-speed; £62.—83, Burton Rd., Brixton. [7019

AN GUY, Weymouth.—1921 Triumph combination £182/10; Triumph 2-stroke, £75; in stock. [0555

RIUMPH, 1918, splendid condition, fully equipped; £80, or near.—374, Grove Green Rd., Leytonstone. [1766

)21 4h.p. Triumph, Model H; £127/10; in stock. —Morriss and Co., 139, Finchley Rd., N.W.3. [2083

)21 Renovated Triumph H and new Montgomery sidecar, guaranteed by makers 3 months; 2.

)21 Baby Triumph, new; £70.—365, King St., Hammersmith, W.6. [2794

RIUMPH Combination, 1918, discs, accessories, spares; £90, or offer.—20, Prah Rd., Finsbury k. [2520

RIUMPH Baby, splendid condition, Bosch mag., 1914, renovated.—Chubb, High St., West Wickham, t. [2095

.p. 1914 Triumph, 3-speed, perfect condition, accessories; £55.—Smith, 19, Calverley St., Tunbridge is. [2735

)16 Triumph 4h.p., countershaft, in perfect condition; £68.—Dowell, The Crescent, Pyrford, ey. [2809

)21 Junior Triumph, 2½h.p., 2-speed; £75; in stock.—Morriss and Co., 139, Finchley Rd., .3. [2085

'8.—Sporting Triumph, dropped frame, perfect condition, can hop it, tax paid.—King, Egrove Farm, rd. [X1399

RIUMPH, countershaft, with Sturmey 3 speeds, clutch, kick start; £70.—Hole, 129, Park Lane, halton. [2457

)21 4h.p. Triumph Combination, new, complete with lamps and horn; £160. — Thos. Booth, lsham. [2195

)13 3½h.p. Triumph Sporting, clutch model first-class condition; £40.—45, Whitstable Rd., erbury. [2220

ABY Triumph, 1920, lamps, horn, ridden 2 months only, absolutely as new; £60.—13, Little James Holborn. [2247

h.p. Triumph, clutch, Grado gear, Bosch mag., lamps, etc.; £38.—Gatley House, Old Colwyn, th Wales. [2014

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TRIUMPH 3-speed model Combination	£182	10
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LATE 1920 single-geared Triumph, condition as new; £95, or nearest.—Rudd, Stapenhill Rd., Burton-on-Trent. [2618

1918 Triumph, 4h.p., good condition, usual fittings, etc.; owner going abroad; £70.—St. Katherine's, Snodland, Kent. [2050

TRIUMPH, 1912, excellent condition; £30; light-weight wanted.—Taylor, Brownlow Cottage, Pleasington, Blackburn. [X1552

TRIUMPH Late Model H, new condition, fully equipped; sacrifice £82/10.—353, King St., Hammersmith, W.6. [2793

TRIUMPH, 1913, clutch model, condition as new, had very little use; £45.—Nicholls, 351, Green Lanes, Harringay, N. [2448

TRIUMPH 1919, fully equipped with lamps, horn, etc., privately owned, not W.D.; £80.—59, South Island Place, Brixton. [2133

TRIUMPH Combination, 1919, 3-speed countershaft, Easting, lamps, excellent condition, licensed.—Hilton, Stone, Stafford. [2214

£28.—Triumph, good running order and appearance, tax paid.—Owen, 80, Church St., St. George's, near Wellington, Salop. [X1359

1920 Triumph Combination, perfect condition, lamps, horn, tax paid; £140, or near offer.—441, Green Lanes, Harringay N.8. [2199

1919 Triumph, chain-cum-belt, C.S., Millford sidecar, screen, spares, and lamps, good condition; £105.—Scoones, Sittingbourne. [2227

29 GNS.—3½h.p. Triumph, single-speed, drop frame, lamps, horn; any trial.—88, Brook Green, Hammersmith, W. [2774

JUNIOR Triumph, 1919, excellent condition, all accessories, tax paid; £50.—Bruce, Holly Grove Farm, Rotherfield, Sussex. [2289

TRIUMPH Combination, 1917, countershaft, Millford sidecar, lamps, horn, all perfect; £87.10.—261, Mitcham Lane, Streatham. [2845

50 GNS.—1913 3-speed Triumph and coachbuilt sidecar, splendid condition throughout, tax paid.—King, Egrove Farm, Oxford. [X1400

105 GNS. Triumph combination, 1919-20, counter shaft, equipped, tax paid.—12, Cornwall Mews, Gloucester Rd., S.W.7. [3008

TRIUMPH 1913 3½h.p., 3-speed clutch, engine excellent 26288; £45, or highest offer. 7, Denmill Rd., East Sheen, S.W.14. [2485

TRIUMPH Combination, 4h.p., countershaft, late 1918, little used, accessories, Mills-Fulford; 85 gns.—Pratt, High St., Reigate. [2749

TRIUMPH, 3½h.p., single speed, free engine, recently overhauled, cylinder reground.—White, 11, Bickley Rd., Bickley, Kent. [1940

TRIUMPH 4h.p., 3-speed countershaft, Binks carburetter, excellent condition, tax paid; after 7 p.m. —27, Albert Rd., Peckham, S.E.15. [2403

1919 Triumph, 3-speed, new tyre, licensed, faultless, £78; 1913 ditto coach combination, £48.—Shaw, Park St., Wellington, Salop. [X1378

1914 Triumph Cycle and Coachbuilt Sidecar, 3-speed hub, decompressor, Bosch, splendid condition; £50.—Wratten, 73, Lupus St., S.W.1. [2721

TRIUMPH Model H., brand new, 3-speed, latest improvements; £105, bargain.—Pike, 102a, Church St., Chelsea. Tel.: Kensington 137. [2106

TRIUMPH Coachbuilt Combination, 1918, 3-speed, K.S., fully equipped with lamps, horn, etc., tax paid: £90.—33, Hackford Rd., Brixton. [2132

1914 Triumph C.B. Combination, Sturmey-Archer 3-speed, excellent condition, all accessories; £75; after 6 p.m.—Kins, 28, Hugo Rd., N.19. [2126

1920 Triumph late, 4h.p. T.T., absolutely perfect order, not ridden 700 miles; what offers?—F. Pepper, 47, Alington St., Northampton. [X1284

NOV. 1919 Triumph, and Millford sidecar, wind screen, lamps, etc., very little used, condition as new; £120.—Byrd, 5, High St., Evesham. [2030

TRIUMPH 3½h.p. Clutch Model, fully equipped, tax paid, appearance and mechanical condition good; £34.—Martyn, 21, Flaxton Rd., Plumstead. [2262

3½h.p. Triumph and Sidecar, 3-speed and clutch, enamelling and plating as new; £58.—Duncan and Shepherd, 33, The Parade, Golders Green. [2821

TRIUMPH Model H Combination, electric lighting, discs, Easting, spares and accessories, low mileage: £115.—62b, Highgate Rd., Kentish Town. [2607

T.T. Roadster Triumph, 1911, Philipson pulley, laid aside 5 years, excellent condition, many spares: bargain, £45.—Seslie, Style Acre, Wallingford, Berks. [1880

TRIUMPH, all models in stock, W.D., fully guaranteed by makers; £90 and £95.—Ratcliffe Bros., 200, Gt. Portland St., W.1. 'Phone: Langham 1704. [0436

1918 and 1917 Triumphs, reconditioned, in perfect running order; from £65.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [3049

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 4h.p. Combination, 1919, Gloria sidecar, splendid condition, recently overhauled; £100.—Windward, Bullsmoor Lane, Waltham Cross, Herts. [2348

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, very small mileage; £65.—D. Lavin, Old House, Sonning, Berks. [9354

TRIUMPH, Sept., 1918, 4h.p., countershaft, excellent condition, very fast, lamps, horn, tax paid; £83.—30, Crystal Palace Park Rd., Sydenham, S.E.26. [2430

TRIUMPH 1920 4h.p. Model, Triumph sidecar, Watford speedometer, equal to new; £160.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X1262

1920 Triumph H. Combination, Gloria sidecar, Cameo wind screen, lamps, horn, etc., splendid condition, tax paid; £145.—11, Grove End House, St. John's Wood. [2120

3½h.p. Triumph Combination (coachbuilt), complete with luggage grid, lamps, Pillion, 2-speed clutch; trial; £60, offers.—9, Woodsome Rd., Highgate Rd., N.W.5. [2092

TRIUMPH 3-speed Kick-starter Combination, lamps, etc., in new condition; any trial; £60, offers.—'Phone: Waltham Cross 299.—Stanley Biss, Waltham Abbey. [2911

1914 Triumph 4h.p. Combination, 3-speed hub, speedometer, horn, new tyres, Gloria sidecar, excellent condition, tax paid; £65.—Sefton, New Malden, Surrey. [2364

4h.p. Triumph, 1919 (Oct.), excellent condition, £100; a combination, £115.—Light Car and Motor Cycle Engineering Co., Half-minute from Brixton Skating Rink. [2302

1919 Triumph Countershaft, in splendid order, not renovated, Dunlop heavies, like new; 75 gns.—Harvey's, 47, South Lambeth Rd., S.W.8 (near Vauxhall Station). [2889

1920 Trimmph 4h.p., 3-speeds, kick starter, countershaft, all lamps, Cowey speedometer, tax paid, as new; £118.—Duncan and Shepherd, 33, The Parade, Golders Green. [2822

£87.—4h.p. countershaft Triumph combination, oversize extra heavies, 1916, only used fine Sundays, speedometer, lamps, tax paid; trial.—Lambert, 1, Pitlake, Croydon. [2051

1920 Triumph 4h.p., 3 speeds, countershaft, clutch, tyres unpunctured, under 3,000 miles, licence paid; £115, or nearest.—Apply, 28, Upper Redlands Rd., Reading. [X1213

TRIUMPH 4h.p. Contershaft, W.D.B., renovated by makers, in use since April last, perfect condition; selling owing to restrictions; 75 gns.—Atkinson, 5, Mardyke, Cork. [1834

57 GNS. — Triumph, 1918, 3-speed countershaft, clutch, kick starter, condition and order perfect. —Short, 487, Upper Richmond Rd., East Sheen. 'Phone: Richmond 2362. [2491

CHAIN Drive 4h.p. Triumph, 1920, tax paid, oversize tyre, special mudguards, electric lighting, enclosed spring fork, all spares; £115.—Teage, Whitehouse, Kenilworth. [X0859

1920 4h.p 3-speed Triumph, stored 3 months, new July, Cowey trip, lamps, horn, spares, etc., written guarantee given; £100.—Ryley, Glenthorne, Woodland Grove, Weybridge. [1763

TRIUMPH Gloria Combination, 1919, fitted scoop and Triplex screen, all accessories, tax paid, condition as new; £130; seen appointment.—Jeffryes, 39, Warren Rd., Wanstead. [2031

1918 Triumph 4h.p. Countershaft, recently overhauled, replated and enamelled by makers, electric lights, all spares and accessories; any trial; £80.—154, Effra Rd., Wimbledon. [2011

TRIUMPH 1917-18 Coachbuilt Combination, perfect condition, licensed, mechanical horn, lamps, etc.; £95; would separate.—McKinnon, 1, Walpole Rd., Twickenham, Middlesex. [1887

1920 (July) Triumph Canoelet Sporting K4 Combination, as new, equipped all accessories, taxed; any trial; £115, or offer.—R. Waddington, Thornton Steward, Bedale, Yorks. [2415

1921 4h.p. Triumph Combination, all-chain, lamps, Lucas horn, wind screen, mileage under 200, tax paid; £180, or offer.—M. Stone Hall, Thorley, Bishops Stortford, Herts. [1864

CROYDON Agents for Triumph motor cycles. All models in stock, ready for immediate delivery.—Moore's Presto Motor Works, Ltd., 145, North End, Croydon. 'Phone: 2624. [1348

TRIUMPH, 1917-18, reconditioned, makers' colours; £67/10 cash; exchanges; limited number available. —Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2181

£98, or nearest.—1917 Triumph combination, splendid condition, insured, fully equipped, hood, screen, spare belt, tyre, etc., tax.—Lacey, 58, D Square, Stanhope, Lines, Aldershot. [2218

1920 Model H Triumph, Cowey, horn, P. and H. lamps, all tools and spares, excellent condition, low mileage, licence paid, holder.—Warburton, Beulah House, Market Drayton, Salop. [X1374

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TRIUMPH Combination, bulbous sidecar, 1920, Cowey horn, speedometer, large lamps, screen, taxed, as new; best over £135.—2, Gorst Waudsworth Common, London. [2

TRIUMPH, 1912, 3½h.p., clutch, Barmpton able gear, new front forks and wheel, lamps, in excellent condition, tax paid; £40; appo ment.—50, Malvern Rd., Hornsey, N. [2

100 TRIUMPHS, 4h.p., 1917 and 1918, 3-s countershaft clutch models, completely conditioned, ready to ride away.—Wm. Hurlock, Ltd., 63, Denmark Hill, London, S.E.5. [2

1919 Triumph 4h.p. Countershaft, fitted with G sidecar, Tan-Sad, electric lamps, Klaxon, pe condition; £120; absolute bargain.—Chamberlain, Hillside, Folkestone Rd., Dover. [2

TRIUMPH, W.D.B., renovated by makers, in s for immediate delivery, new tyres, £95; ano £90; Montgomery sidecar to match, £25.—The Pre Motor Co., Aston Rd., Birmingham. [X

TRIUMPH 1914 4h.p., countershaft, 3 speeds, lamps, horn, licence paid, fast, fine condi smart appearance; bargain, £90.—Fryer, Hare Hounds Inn, Fonlridge, near Colne. [

1921 Triumph H., accessories, insurance, £4 paid, under 400 miles, perfect; sacrifice £ cost over £140 recently.—Cluer, Cox Green, Ma head. 'Phone: Hop. 5820, Ext. 207. [

4h.p. Triumph 3-speed Countershaft Coachbuilt bination, electric light, just overhanled and painted, tax paid; any trial; £95.—Ellershaw, hatch House, Sonning, near Reading. [

3½h.p. Triumph Motor Cycle, variable gears, engine, new tyre back wheel, good run order and condition; a bargain, price £33.—Cr Barford, Denmark Rd., Kingston-on-Thames. [

TRIUMPH 1917, 1918 Countershaft Mo thoroughly reconditioned, several to choose f £65-£75.—R. B. Clark and Co., 7, Exhibition South Kensington. 'Phone: Kensington 4096. [

BARGAIN.—1917-18 4h.p. countershaft Tri combination, special torpedo sidecar to tank, sporty and speedy, excellent condition, tax £98.—Payne, 12, Shakespeare Rd., Hanwell, W.7

TRIUMPH 1921 Models in Stock for immediat livery at current prices; exchanges arranged; Triumph H. models, renovated by makers, as new, and £95.—Eagles and Co., 275, High St., Acton, don.

LATE 1920 Triumph Model H., with Henderson sidecar, Lucas horn, unscratched, guaranteed, 250; cost £175, sacrifice £145, tax paid; ope pert examination, trial willingly.—H. Allen, M Bath.

LATE 1918 Triumph Combination, splendid tion, complete with Easting, speedometer, l etc., tyres and tubes new; owner purchased a £120, or near offer.—Craven, Britwell Rd., Burn Bucks.

1919 Triumph Combination, Easting, Dunlop lamps, Lucas horn, spare belt, new valve chain, tax paid, as new, absolutely perfect; sac £95.—Limby, 2, Kynance Place, Gloucester S.W.7.

TRIUMPH Countershaft Combination, new luxurious Sunbeam coachbuilt sidecar, lu carrier, Klaxon, lamps, etc., exceptionally fine c tax paid; 85 gns.—Fersfield, Westbury Rd., Malden.

TRIUMPHS.—We are the North London agents can give immediate delivery; chain drive, cum-belt, and renovated models.—Jones Garage, well Hill, N.10; and at Woodside Parade, Finchley.

IMMEDIATE Delivery of any Triumph Model or deferred payments; book your order now avoid disappointment later.—Burlington Motors, South Side, Clapham Common, S.W.4. 'Phone: ton 2417.

TRIUMPH Combination, July, 1920, Gloria spring wheel sidecar, aluminium footrest accessories, lamps, etc., in splendid condition; £145; only wants seeing.—36, Grafton Rd., West don, Surrey.

1920 4h.p. 3-speed Triumph, wide bars, Pedley Lucas lamps, horn, Tan-Sad, knee grips, tyres unpunctured, mechanically perfect; cost w cessories £140, accept £116/10, including tax.—9, St., Swindon.

F.O.C.H. are Triumph agents. New and secon machines in stock. Exchanges or easy pa arranged.—5, Heath St., Hampstead (near Han Tube Station). 'Phone: Hampstead 3752. Hou including Saturdays.

£140.—Triumph-Gloria combination, 1920, 4h speed, Lucas electric lighting, Bonnikeen meter, mileage 2,000, specially picked machin chanical condition as new.—The Premier Moto Aston Rd., Birmingham.

TRIUMPH, late W.D., countershaft, No. 4846 1,000 since overhauled, thoroughly satisf appearance good, cane torpedo sidecar, 2 lamps good, spare tubes, belt, lings, tax paid; £80, rate.—162, Fosterbill Rd., Bedford.

MOTOR CYCLES FOR SALE.

Triumph.

RIUMPH 4h.p., brand new, chain drive, 1921 model, just arrived from the works, in stock ready immediate delivery; £125; secure now at the makers' t reduced price, ready to drive away.—Wilkins, oson, opposite Olympia, London. [2174

RIUMPH Combination, August, 1920, Gloria side-car, complete with wind screen, mud shields, acety-lighting, tools, etc., all in splendid condition, in-nce paid; cost £190, accept £125.—P. Slemmings, Upton Lane, Forest Gate, E.7. [1896

20 Triumph and Gloria, 3 speeds, countershaft, in excellent order, Watford speedometer, Ace hed discs, leg shields, aluminium number plates, or, lamps, Klaxon, tax and insurance paid; £150. stall, Griffin, Earlestown, Lancs. [2707

18 Triumph, 3-speed, C.S., T.T. bars, Mills-Ful-ford sidecar, Auto screen, luggage carrier, 3 ric lamps, Binks, horn, tax paid, insured, per-condition; £115, no offers. — Rowan Cottage, chfield Rd., Walton-on-Thames. [1905

).C.H. have 3 4h.p. countershaft Triumph and B.S.A. sidecar, all lamps, speedometer, tools, lug-grid, tax paid; £130, bargain.—5, Heath St., Hamp-(near Hampstead Tube Station). 'Phone: Hamp-3752. Hours 9-7, including Saturdays. [2147

AUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Triumphs, all models in stock, new chain drives, chain-cum-belts, solos and combinations; also 4h.p. nted models, £90 and £95; immediate delivery; ied on easiest of easy terms; trade supplied. [2942

p. Triumph, 1920 model, completed only 1,000 miles, fully equipped, including Lucas head lamp tail lamp, horn, Brooks cantilever sprung saddle, pinm leg shields and undershields, speedometer, paid; £110.—John C. Beadle, Ltd., Spital St., ford. [2311

.C.H. have a new 1921 Triumph S.D. model, all chain, slight dent top of tank, £10 under list, cash ferred terms; also good 3½h.p. model, tax paid, 5, Heath St., Hampstead (near Hampstead Tube n). 'Phone: Hampstead 3752. Hours 9-7, io-g Saturdays. [2148

11 Sporting Triumph, adjustable pulley, Bosch, 1920 B. and B., 1½in. copper exhaust, good valanced mudguards, 2 foot brakes, wide bars, and P. and H. lamp set, pump, spare belt, and ool kit, 1920 replacements, fast and reliable; £40. rdess, Old Windsor, Berks. [1894

UMPH Model H, 1919, 3-speed countershaft gear, with coachbuilt sidecar, excellent condition, £88; few Triumph models, entirely renovated, £78; ph Junior, with all accessories, £45; Triumph N.S.U. 2-speed gear, £32/10.—Eagles and Co., High St., Acton, London. [2492

UMPH 1921 Models for immediate delivery at reduced prices. 4h.p. Model H. £115; chain Type S.D., £125; lightweight, £70; Triumph ted models, £90-£95; exchanges, extended terms.—and Co., 15-16, Bishopsgate Av., Camomile St. 'Phone: Avenue 5548. [0067

1 Triumph, Triumph 3-speed gear box, special model, gold medal winner, 2-gallon tank, all-spring drive, enclosed sprieg Ace discs, Triumph solid brass, nickelled centres, 2in. plated brass st, condition perfect, under 1,000, unique mount; or close offer.—Fisher, 25, Scale Lane, Hull. [2236

UMPH Combination, ready for road, W.D. model, 919, and Gloria sidecar, licensed to end of year, te with Lucas lamps, Klaxon, speedometer, and essories, not done 700 miles, perfect condition, getting light car; £120, or nearest; seen by ment.—Write Boad, 16, Avington Sq., London. [1976

UMPH Late 1919 Combination, 4h.p., 3 speeds, erge bulbous back sidecar, Bluemel screen, hood, aps, aluminium discs, Klaxon and bulb horns, meter, tools, spares, just overhauled, splendid on, tax paid; £130, or nearest.—Apply, Knight Wheatley, The Pavement, Coulsdon, Surrey. : Purley 1277. [2303

Velocette

AN'S, of Reading, have 1921 Velocette in stock. [0486

Velocette, 2-speed, fast, reliable, good tyres; £30.—3, Park St., Wellington, Salop. [X1377

OCETTE, the super 2-stroke, from Coventry Motor Mart, London Rd., Coventry. 'Phone: [X1504

EDIATE Delivery can be given of the famous locette, 1921 model, 2¾h.p., 2-speed, all-chain £75.—Agents, W. Sparrow, Ltd., Osborne Yeovil. [1632

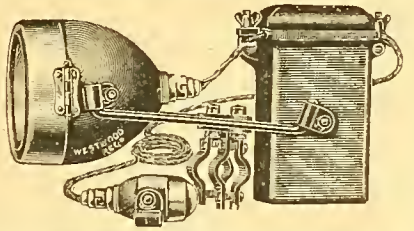
Velocette, Model D3, 3-speed, £85; Model D2, speed, £75; Model DL2, lady's open frame, 1 in stock for immediate delivery.—The Premier Co., Aston Rd., Birmingham. [X1422

Velocette 2¼h.p., 2 speeds, all chain drive, tored during war, plate and enamel unscratched, essories and licensed; £47/10, a bargain.—173, eane Rd., Herne Hill, S.E.24. [2386

Verus.

2¾h.p. Verus-Blackburne, 2-speed, K.S., acces-ories; £75.—19, Saxon St., Wrexham. [2741

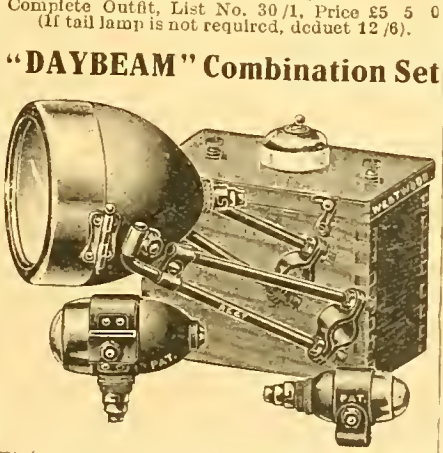
"DAYBEAM" Electric Solo Set



The Headlamp supplied with this set is our 5in. Daybeam, a very powerful light-giver. The brackets are of exceptionally strong and handsome design. They carry the headlamp and also the (die cast) aluminium case. The accumulator is specially made for motor cycle lighting, and will brilliantly illuminate the head and the rear lamp for 20 hours if used intermittently. The tail lamp (our torpedo S.B.C.) is exceptionally strong and well made, and has a very attractive appearance. Each lamp is fitted with a switch, and one lamp may be used independently of the other. The outfit is despatched completely assembled, and 4 volt bulbs are fitted. The finish is ebony black and nickel plate.

Complete Outfit, List No. 30/1, Price £5 5 0
(If tail lamp is not required, deduct 12/6).

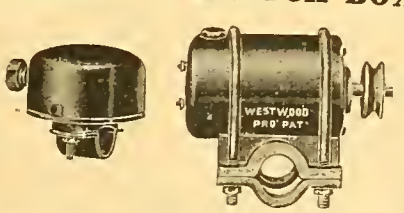
"DAYBEAM" Combination Set



The set comprises Daybeam 5in. Headlamp, Ideal Sidecar Lamp, and Torpedo S.B.C Tail Lamp. Each lamp is fitted with an independent switch, and is finished in ebony black with nickel-plated relief. The Accumulator (capacity, 6 volt, 40 amp.) is specially made for motor cycle lighting and will give very satisfactory service in use. Many have now been in use two or three years, and are as efficient as when first purchased. **All our Accumulators are specially made to stand vibration.** Ordinary accumulators are never satisfactory for motor cycle work. The hard wood case supplied with this set is finished ebony black, and is specially treated to withstand acid. This outfit is despatched completely assembled with bulbs and all necessary wiring, etc.

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MOTOR CYCLES FOR SALE.

Verus.

VERUS-BLACKBURNE, 2-speed, kick start, brand new; £80; only one left.—Clark, 7, Exhibition Rd., S.W.7. [9174

IMMEDIATE Delivery of any Verus Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side Clapham Common, S.W.4. 'Phone: Brixton 2417. [0502

1920 Verus, 2¾h.p., 2-stroke, single speed, practically new, H.A.H. electric lighting outfit, spare toolbag, good horn and mirror, complete tools and spares, suit or overalls for 6ft. 6in. rider, tax paid; owner giving up riding; £60, no dealers; London, S.W., district.—Write Box 3,312, c/o *The Motor Cycle*. [2054

Vindec.

VINDEC 5h.p. Twin, £30; also C.B. sidecar, £10.—Baker, 7, Oxberry Av., Fulham, S.W.6. [2113

Wilkin.

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [2070

Williamson.

£78.—Williamson C.B. combination, new chassis and sidecar, Easting, lamps, hooter, generator, spares, tax paid; exchanges.—89, Highland Rd., Coventry. [X1394

WILLIAMSON Combination, 8-10h.p. Douglas engine, water-cooled, 2-speed, kick start, family sidecar, hood, screen, electric lights, beautiful turnout; £120; take lower power part.—57, Kenbury St., Camberwell, London. [2510

Wolf.

WOLF-J.A.P. 2¾h.p., 2-speed, in new condition, lamps, horn; £39.—Phillips, 138, Manor Park Rd., Harlesden. [2449

2¾h.p. Wolf-Jap Motor Cycle, 3-speed gear, with foot clutch, splendid condition, tax paid.—Bradford Bros., Bounderies Rd., Balham, S.W. [2634

1920 Wolf, 2¾h.p. J.A.P., Sturmey-Archer countershaft, clutch, kick starter, perfect condition, accessories; £70.—Marsh, Burton Bandals, Loughborough. [2423

WOLF.—Sole agents for London, South of Thames, and district. We are now fixing sub-agencies, and invite enquiries.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0508

Wooler.

1920 Wooler Flat Twin, as new; exchanges; sell 80 gns.—61, Jephson Rd., Forest Gate. [2359

1920 (Late) Wooler, tax paid, speedometer, lamps, etc., splendid machine; £80.—60, Albany St., Hull. [2316

WOOLER for Sale, 1920, new condition, licensed, perfect; must have cash, nearest 65 gns.—10, Clarendon Rd., Notting Hill, W. [2979

2¾h.p. 1920 Wooler Flat Twin, P. and H lamps, Cowey horn, licence paid, splendid condition, mileage 400; £72.—Palmer, The Cannon, Wisbech. [2803

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [2071

Zenith.

JULIAN'S, of Reading, have 1921 Zenith in stock. [0482

DAN GUY, Weymouth.—Zenith agent, early delivery all models. [0556

J. C. PICKERING, Shrewsbury.—Zeniths in stock; exchanges arranged. [X0761

ZENITH, all models, from the Coventry Motor Mart, London Rd., Coventry. [X1505

1921 Sports Zenith, 5h.p., unused; will take solo part payment.—19, West St., Ryde. [2863

ZENITH 8h.p. Combination, countershaft, guaranteed perfect; £75.—60, Carleton Rd., N.7. [2519

ZENITH 1921 Models.—We are accepting orders for early delivery; your enquiry esteemed.—Below.

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [2072

1921 8h.p. Zenith Countershaft Model; £162; in stock.—Morriss and Co., 139, Finchley Rd., N.W.3. [2082

LOOK.—Zenith 8h.p. combination, new condition; 85 gns.—Foucar, Coldfall Lodge, Fortis Green Rd., Muswell Hill. [2855

1920 5h.p. Sporting Zenith, aluminium discs, lamps licence paid; £95.—157, Queen's Crescent, Haverstock Hill, N.W.5. [1808

ZENITH 1916 5h.p., lamps, new tyre, Bosch, re-enamelled, guarantee 55 m.p.h.; £69.—157, Loidship Lane, Wood Green. [2383

ZENITH, 3½h.p. J.A.P., overhead valves, Gradua quite a T.T. model, like new; £60.—Bunting, Motors, Wealdstone. [2500

1920 6h.p. Sporting Model Zenith, condition as new, mileage negligible; what offers?—89, Oxford Rd., Moseley, Birmingham. [X1275

MOTOR CYCLES FOR SALE.

Zenith.

ZENITH Late 1919 3½h.p. Single, excellent condition, lamps, horn, licence paid; £78, or nearest.—Tippen, Marden, Kent. [2539

ZENITH 1915 5h.p. Sports Model, discs, Lucas, all on, very smart, tax paid; £75.—88, High St., Colliers Wood, Merton, S.W. [1981

ZENITH Combination, 6h.p. clutch, K.S., lamps, horn, Gloria projectile sidecar, disc wheels; £100.—F.J., 62, Church St., Chelsea, S.W. [1967

5-6h.p. Zenith Combination, countershaft, clutch, kick starter, in good order throughout; £60.—Bunce, 12, Alma Rd., Windsor. [2714

6h.p. Twin Zenith C.B. Combination, all accessories, very smart; £85; evenings (side door).—7, Grove Parade, High Rd., East Finchley. [2358

1920 8h.p. Zenith, with Henderson sidecar, lamps, tools, horn, tax paid, luggage grid; nearest £135.—Durnford, 4, Albert Grove, Southsea. [1797

ZENITH 8h.p. 1916, Gradua, discs, lamps, horn, long exhausts, tax paid, fast and perfect; £88.—W.D.C., Oaks Farm, Shirley, Croydon. [2017

1921 Zenith Sports Model or Combination; immediate delivery.—Taylors, 52 and 53, Sussex Place, S.W. 'Phone: Kensington 7260. [0497

30 GNS.—3½h.p. Zenith, Gradua gear, F.E., excellent condition and appearance, lamps, tax paid.—21, Windsor Rd., Denmark Hill, S.E.5. [2884

ZENITH Combination, 4h.p., Gradua gear, disc wheels, long exhaust, in tip-top condition; price £85, or nearest offer.—East Grinstead Motor Garage. [9523

1913 Zenith C.B. Combination, 8h.p., o.h.v. J.A.P., overhauled and enamelled; £80, or best offer; will separate.—Parnin, 14, Erlam Rd., S.E.16. [1832

1917 5h.p. Zenith Sports and Sidecar, usual equipment, tyres nearly new, fine running order; £90.—105, Holmdene Av., Herne Hill, S.E.24. [2597

1916 4h.p. Zenith-Gradua, stored 3 years, electric lighting, Dunlop heavy tyres, accessories, tax paid; £65.—Fraser, 5, Ulysses Rd., West Hampstead. [3001

5-6h.p. Zenith Sporting Combination, Gradua, torpedo sidecar, disc wheels, electric, acetylene lamps, spare tools, tube, belt; £95.—Brookland Villa, Histon, Cambridge. [2737

ZENITH, 4h.p. Green engine, coachbuilt sidecar, good tyres, lamps, horn, wind screen, Gradua gear; £65.—Taylors, 237-243, Wood St., Walthamstow, E.17. [2531

ZENITH 1921 Models, orders now accepted for early delivery; 1920 models at greatly reduced prices; write or call.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0437

1920 Zenith 8h.p. Countershaft Combination, guaranteed perfect order, Cowey, Tan-Sad, Cameo, etc., tyres perfect; best offer over £148.—114, Woodstock Rd., Oxford. [1921

BEAUTIFUL 8h.p. Zenith Countershaft Combination, lamps, speedometer, Klaxon, screen, kick starter, clutch, as new, guaranteed; £105.—89, East Hill, Wandsworth. [2565

ZENITH 5h.p. 1920 Sporting Combination, hardly scratched, fully equipped, licensed; £120; consider exchange or convenient payment.—Buoting's, Motors, Wealdstone. [2499

ZENITH 5h.p. 1916 Countershaft Clutch Model, Bosch, Binks, new Dunlop and Palmer, appearance and condition good, fine solo machine; £70.—Coram, Bycott, Tiverton, Devon. [2023

ZENITH-GRADUA Combination, 3½h.p., 1914, fully equipped, electric lighting, appearance and mechanical condition good, any trial; best offer.—Miskin, 69, Flaxton Rd., Plumstead. [1937

ZENITH 1914 Sporting 5-6h.p., just overhauled, tank 1921 colours, new lamps, Lucas horn, speedometer, several spares, tax; £63, or exchange good Velocette.—68, Pine Rd., N.W.2. [2783

ZENITH (Nov., 1919) 8h.p. Super-sporting Combination (Canoelet), mechanically perfect, ideal fast touring or competition 'bus, used only Zenith expert; snip, £115.—2, Cranes Park Surbiton. [2841

ZENITH Late 1919 6h.p. Sports Model, excellent condition, new Palmer tyre, Klaxon, Tan-Sad, lamps, speedometer, laid up 9 months, tax paid; £95.—R.A.F., Waldron Cottage, Harrow-on-Hill. [2117

IT Is of Interest to All Zenith Riders, and to all those who hope to become the proud possessors of a Zenith machine, to know that there is a service depot for these machines now open in London.

YOU Can Obtain Any Spare Part you may require within a few hours, any accessory, or a new machine fully equipped and ready for the road; second-hand cycles, that have been thoroughly examined, are always at hand.

1920 Models, new, direct from the works, at greatly reduced prices: 8h.p. sporting models at £119, 2¾h.p. models at £90, also one 1921 model, used in one trial, fitted with a special 750 c.c. engine, as new; £125. All 1921 models for immediate delivery.—The Zenith Service Depot, The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W. Mayfair 5598. [2327

THE MOTOR CYCLE

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Testimony

THIS space will be occupied each week with copies of letters from Policy holders who have made claims. Original letters may be inspected.

Dear Sir,

I wish to acknowledge receipt of cheque for £..... I much appreciate the generous way you have treated me in this matter.

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Telephone: City 9831 and 9832.

MOTOR CYCLES FOR SALE.

Zenith.

ZENITH 1919 8h.p. Clutch Model, with Swan spo ing sidecar, dual acetylene and electric lamps, e cellent condition throughout; £140, or offer; seen a tried by appointment.—Macaskie, The Hythe, Stain [X12

ZENITH 1920 6h.p. Sporting Combination, Luc head, rear, and sidecar lamps, Cowey speedomet knee-grips, Ace disc wheels, luggage grid, equal to ne £160.—Parker's, Bradshawgate, Bolton, and 245, Dear gate, Manchester. [X12

F.O.C.H. are Zenith agents. New and second-ha machines in stock. Exchanges or easy payme arranged.—5, Heath St., Hampstead (near Hampste Tube Station). 'Phone: Hampstead 3752. Hours 9- including Saturdays. [21

500 C.C. Zenith 4h.p. Single, fast, 1915 sporti model, T.T. bars, lamps, speedometer, et 1921 Amac, 1921 Brooks saddle, a real good 'bu £65; carriage paid.—A. L. Baldock, Ingleside, Cal Rd., Burton-on-Trent. [25

1920 Zenith 6h.p., countershaft, clutch model, fitt with Henderson Elite sidecar, Lucas acc sories, wind screen, tax paid, in excellent ord throughout; £145.—Clifford Wilson, 177, Westminst Bridge Rd., S.E.1. Hop 210. [29

ZENITH (May, 1920) 8h.p. Countershaft Combi tion, clutch, kick starter, Millford sidecar, Ea ing screen, luggage carrier, electric lighting, horn, Cow speedometer, several spares, insured, tax paid, n condition; sacrifice, £145.—Cutting, Ebor Vill Stamford. [25

Ladies' Motor Cycles.

LADY'S Douglas, little used, 2-speed, clutch, ki starter; £42/10, tax paid; offers.—Nurse Na Riverside, Kingston-on-Thames. [22

LADY'S Douglas, 2-speed, kick-start, clutch, fu equipped, tax paid, splendid condition; 50 g —Keable, Ashmansworth, Newbury. [26

3h.p. Lady's Minerva, Bosch, Amac, completely ov hauled, lamps, excellent condition, any trial; gns.—76, Western Rd., Southall, W. [98

NEW 1921 Model DL2 Open Frame Velocette, speed, chain drive, £78; immediate delivery.—T Premier Motor Co., Aston Rd., Birmingham. [X14

Miscellaneous.

THE Bargain House.—1920 brand new A.B. electric model; £125.

THE Bargain House.—1920 brand new 8h.p. Bla burne combination; £175.

THE Bargain House.—1920 4h.p. Douglas combi tion, as new; £140.

THE Bargain House.—1920 Hobart 2¼h.p., sing speed, brand new; £50.

THE Bargain House.—1920 Model H Matchless co bination, complete with hood, speedometer, ge mileage 1,000, not scratched; £185; licence paid.

THE Bargain House.—1915 3½h.p. Norton combi tion, fully equipped; £90.

THE Bargain House.—Late 1919 P. and M. combi tion, fully equipped, not scratched, all as ne £110.

THE Bargain House.—1920 brand new 3½h.p. Ro combination; £165.

THE Bargain House.—1920 brand new 6h.p. Ro solo; £135.

THE Bargain House.—1921 renovated Triumph makers, with their guarantee; £95.

THE Bargain House.—Late 1919 4h.p. Trium combination, fully equipped; £120.

THE Bargain House.—1920 brand new O.K.-Uni licence paid, three in stock; £45/10.

THE Bargain House.—See display advert.—Jo Garage, Muswell Hill, London, N.10. [26

BARGAINS.—New O.K.'s, Ariels, Harleys, Omeg Quadrants; exchanges entertained. — Boot Motories, Halifax.

BARGAINS.—New 4½h.p. Quadrant and sidec £125; new 7h.p. Ariel combination.—Boot Motories, Halifax.

BARGAINS.—1920 Wooler, nearly new, £69/ 1914 P. and M., £45/10; 1914 4¼h.p. Jan £45/10.—Booths' Motories, Halifax.

BARGAINS.—6h.p. 2-speed Rex combinati £37/10; 3½h.p. Sun-Precision, 3-speed, £36/1 Booths' Motories, Halifax.

BARGAINS.—Six 1915 Douglas's, £42/10; 4 Douglas, £69/10; 4h.p. Douglas, with new s car, £95/10.—Booths' Motories, Halifax.

BARGAINS.—1919 P. and M., with new side £110/10; 1920 Scott, £87/10; 1920 Scott sidecar, £110/10.—Booths' Motories, Halifax.

BARGAINS.—1919 Royal Ruby, 3-speed, with s car, £110/10; 1919 Enfield, 2-stroke, £42/ 1920 O.K., £35/10; 1919 Rudge Multi, £67/1 Booths' Motories, Halifax.

BARGAINS.—Shop-soiled 1920 models: 2¾ O.K., £43/10; ditto 2-speed, £54/10; 2¾ Omega-Jap, 2-speed, £67/10; Harley-Davidson sidecar, £189/10; 6h.p. Ariel combination, £149/ exchanges entertained. Pay us a visit.—Boo Motories, Portland Place, Halifax. Tel.: 1062. [7

THE MOTOR CYCLE

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The Trial for Stock Machines.

SINCE closed trials in the Midlands have been attracting over 150 entries, it may appear strange that next week's one-day trial, organised by the Auto-Cycle Union, should secure support from only about one-third that number. No doubt the threat of a transport strike had something to do with the comparatively meagre support, but there are other factors which in fairness to the official body should be considered.

In the first place, the closed trials referred to were organised in the heart of the industry, where so many pseudo trade riders are so full of enthusiasm. In the absence of "official" support from the manufacturers, a retirement is not an important matter, while to win means good advertisement. On the other hand, an A.C.U. trial is altogether more serious, and, owing to its technical nature, more tiresome, which discourages the private owner who is so attracted by trials of a sporting nature. Further, there is the stock machine innovation which causes some makers seriously to think, while not a few could not name a number of agents who have in stock a full range of their models.

Those who could not consider seriously entering stock machines would hesitate before entering their competition stud in case a misunderstanding public should draw erroneous conclusions.

Everything considered, therefore, one may regard the entry of fifty-four for the A.C.U. trial as satisfactory; and the fact that no fewer than eleven manufacturers have entered stock machines—some of them teams of three—is a tribute to the quality of present-day motor cycles and the faith of manufacturers in their standard productions.

On the other hand, it is somewhat surprising that so few manufacturers of four-wheeled cycle cars conforming to the F.I.C.M. definition have entered their machines. We long urged that these little vehicles which compete in price with motor cycles should be able to prove themselves to be their equal in performance, and the lack of entries in this trial, which gives their sponsors an opportunity of demonstrating them under equal conditions on the road, may cause the public to draw invidious conclusions.

Speed.

WHO will be the first to accomplish a speed of 100 miles per hour with a 500 c.c. engine? This question is already heard amongst those groups of enthusiastic motor cyclists who gather to discuss their favourite sport. Record figures for the flying kilometre are gradually creeping higher and higher, and already an enterprising manufacturer has offered a special trophy for the first machine to reach the magic figure. The present figure of 92.44 m.p.h. leaves an increase of nearly 8 m.p.h. to be obtained, and though several capable judges consider that the 100 m.p.h. mark will be passed before the close of the year 1921, yet it should be remembered that every little increase in speed requires much careful thought and experiment. At first sight there would appear to be two obvious methods of increasing speed. (1) To increase engine efficiency at high revolutions; (2) to decrease resistance by streamlining both man and machine. The first question has, of course, received so much attention at the hands of our best designers that it becomes increasingly difficult to improve on present-day performances, and a very considerable increase of power will be required to accomplish these extra miles per hour. The second alternative is perhaps worthy of more consideration than it has yet received, though it presents admittedly difficult problems. All Brooklands riders of experience know the importance of lying flat so as to present the least possible head resistance, but it might be possible to decrease, by fairing, the vacuum formed behind the rapidly moving body. The suggestion is not a new one, and originally appeared in *The Motor Cycle* some nine years ago, though it becomes of increasing importance as the speeds of racing motor cycles become higher.

An index to the advertisements in this issue will be found on the page facing the back cover.



Crack Speedmen Wanted.

I HEAR that several of the motor cycle firms who have done no racing since pre-war days, and are now reviving this form of advertisement, have experienced considerable difficulty in unearthing the requisite jockeys. Of course most juvenile motor cyclists are apt to fancy they could beat George Dance if they had something as hot to sit over; and—equally of course—it isn't the easiest thing in the world to recognise a potential super-speedster when one meets him in the flesh. I am not going to enter into any correspondence over this matter or offer any introductions. But if any young and ardent reader believes in his own powers, and can hit upon a knack of convincing worried, busy, and hungry competition managers, I believe there are several good jobs of this sort going in the Midlands for the right man.

The Future of Sopwiths?

I WAS in the Sopwith works the other day. A deep impression of tragedy was created by the sight of this magnificent plant running on a small throttle opening, so to speak, and equally by the sight of the gorgeous A.B.C. machine, so largely strangled by high production costs and the general trade depression. The weekly output of new A.B.C. machines still reaches double figures, there are tons of spare parts in stock, and repair work is going on just as usual. But of course no very definite scheme of reorganisation is possible while trade remains so bad. Wages and material costs are dropping rapidly. The A.B.C. has never been listed at more than £150, even when wages were at their zenith, and every ounce of material had to be bid for in the teeth of a raging demand and a famine of supplies. One presumes that when normal conditions return this fascinating 'bus could be turned out at about £75. What a seller it would be at that figure.

Naked Chains.

ANYBODY who has motor cycled in a dark suit on a dusty day must conclude that the only method of keeping dust out of the bearings of a naked chain is to keep those bearings so full of lubricant that there is no room for foreign matter in the clearances. If dust will permeate, as it does, into the microscopic clearances between the threads of the closest-woven cloths, it will obviously penetrate into chain bearing clearances at the arcs which are not under pressure. If the chain is kept oily externally, as Mr. Evans and many other advisers suggest, the main function of the oil will be to render the dust glutinous, and prevent some of it from being blown clear by wind pressure. There is something to be urged in favour of a dry brush, which will clean off a certain amount of dust at each revolution of the chain; but I do not believe that any oil squirted on to the brush will do good. My own practice is to lubricate the innards of the chain as often as I can muster the energy to remove it and soak it; but to keep its exterior surfaces as dry and clean as possible. For these reasons I infinitely prefer the enclosed chain, even if the casings are apt to rattle and are awkward to re-fit.

Gingered Baby Two-strokes.

A LITTLE care is advisable in ordering a single-geared baby two-stroke nowadays. As everybody knows, the two-stroke engine seldom possesses such a wide range of r.p.m. as the four-stroke. Just at present there is a demand for rather more powerful babies. Some designers meet the demand by giving us bigger engines; others give us engines with a wider range of r.p.m.; and others "hoist" the range by giving us engines which will run faster than the old type, but which will not run so slowly. I have been out this week on a baby which, in delivery tune, cannot be induced to fire regularly at less than 16 m.p.h. on a 5 to 1 gear, and from what I hear there are others like it. If such engines have a gear box behind them, their high minimum r.p.m. are of no great account; but if they are single-geared, they are regular hogs. I have not yet had time to discover how far the fault can be amended by special carburetter tuning, but complaints of this type have reached me from several sources.

Evil is Wrought

BY want of thought, as well as by want of heart. M'yes. My new machine arrived with an advice note on which the words "inflator to follow" were duly carboned. I thought nothing of the omission until I took the road. Thanks to the fact that high wages have enabled all my kitchen varlets to purchase push bicycles, there wasn't a solitary tyre inflator left in my garage. One can always stop a push cyclist, I reflected. After a few miles my back tyre grew a thought soggy. I stopped a push cyclist. I much disliked the job of inflating a 2½in. tyre with a pump about the size of a fountain pen. At the next burg I ransacked the three motor cycle garages. I found one rather inferior pump at the last dealer's which I visited, and paid 9s. 6d. for it. By this time I was feeling ripe for a pungent comment on the subject. Next morning the missing inflator arrived by post, and I soon realised why it had not accompanied the machine by rail. Two nice little pegs had been brazed on the frame to accommodate it. Next morning the designer had designed a pair of leg shields. The stays of these shields prevented the pump from being inserted in the clips. He couldn't think of anywhere else to put it. Having owned an A.B.C., I

Ixion's "MOTOR CYCLE REMINISCENCES" have lately been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

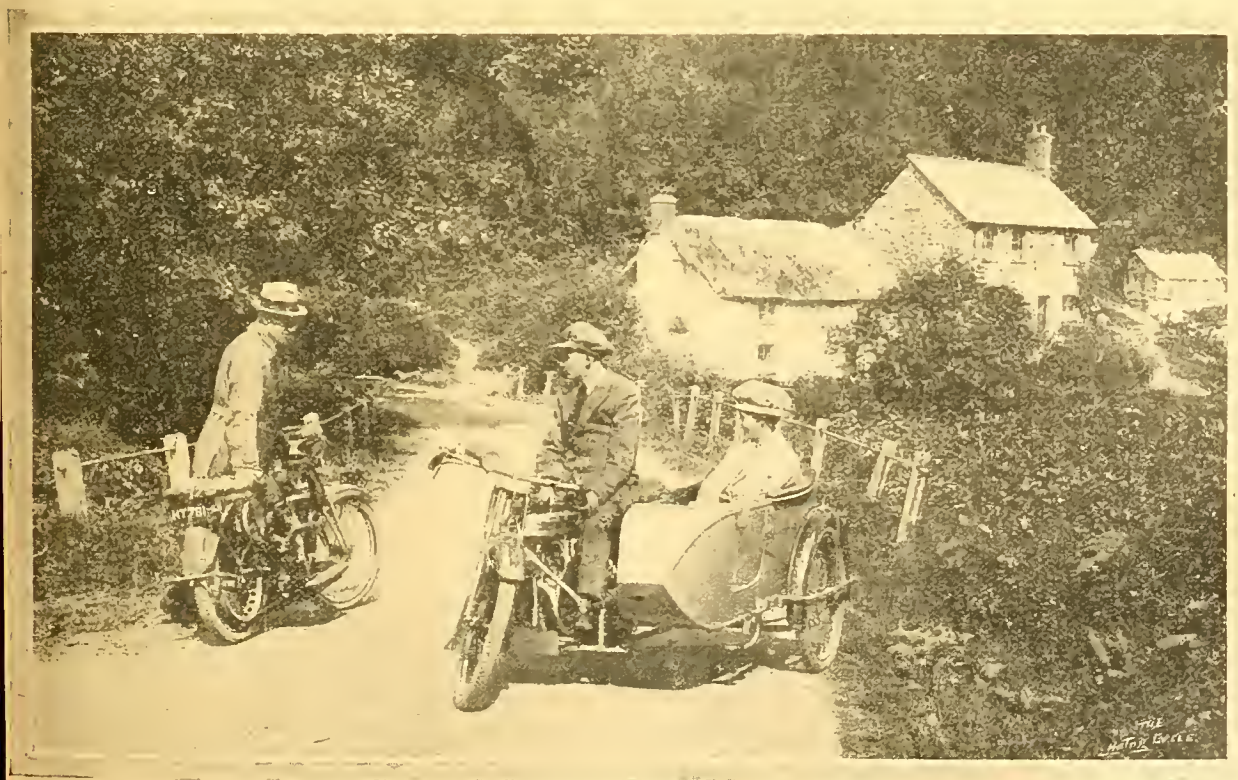
propose to mount my inflator clips on the leg shields. But for the moment the pump reposes in the side pocket of my reefer jacket, where it is so comically in the way that I am now composing a film scénario for Charlie Chaplin, in which much comic business arises from a motor cycle inflator carried in a side pocket.

Streamlining Our Racers.

THE last Brooklands meeting showed that fierce competition in the light car world has forced scientific streamlining on all would-be top-notchers. The modern Brooklands edition of a 10 h.p. car is not more than 20in. wide across the body, and is faired off so subtly that not even a rivet head protrudes from its rotund tummy. H. G. Hawker, the Atlantic flier, is by no means a giant, but he could only get into the cockpit of his track A.C. by adopting the sort of attitude in which Annette Kellerman dives, and then getting a hefty friend to pick him up and poke him in, feet foremost. When Hawker was safely ensconced, the top 33% of his head was the sole excrescence from the entire area of the 'bus. I can see the day coming when not even the driver's head will protrude. He will lie on his abdomen inside the bonnet, and scan the track through eyeholes in the radiator, which holes will be carefully streamlined with Triplex glass. Motor cycle racing is crude by contrast. Look at the photographs of Judd and O'Donovan on their Nortons in *The Motor Cycle* for April 7th last. If Hawker's A.C. is faired as carefully as a Sopwith-Snipe aeroplane, the Norton is as bristly as the old Rumpetty schoolplane, which was said to be perfectly rigged when a canary could not find its way out. If an unstreamlined Norton can beat 92 m.p.h., what will the 500 c.c. record be when motor cyclists take to streamlining?

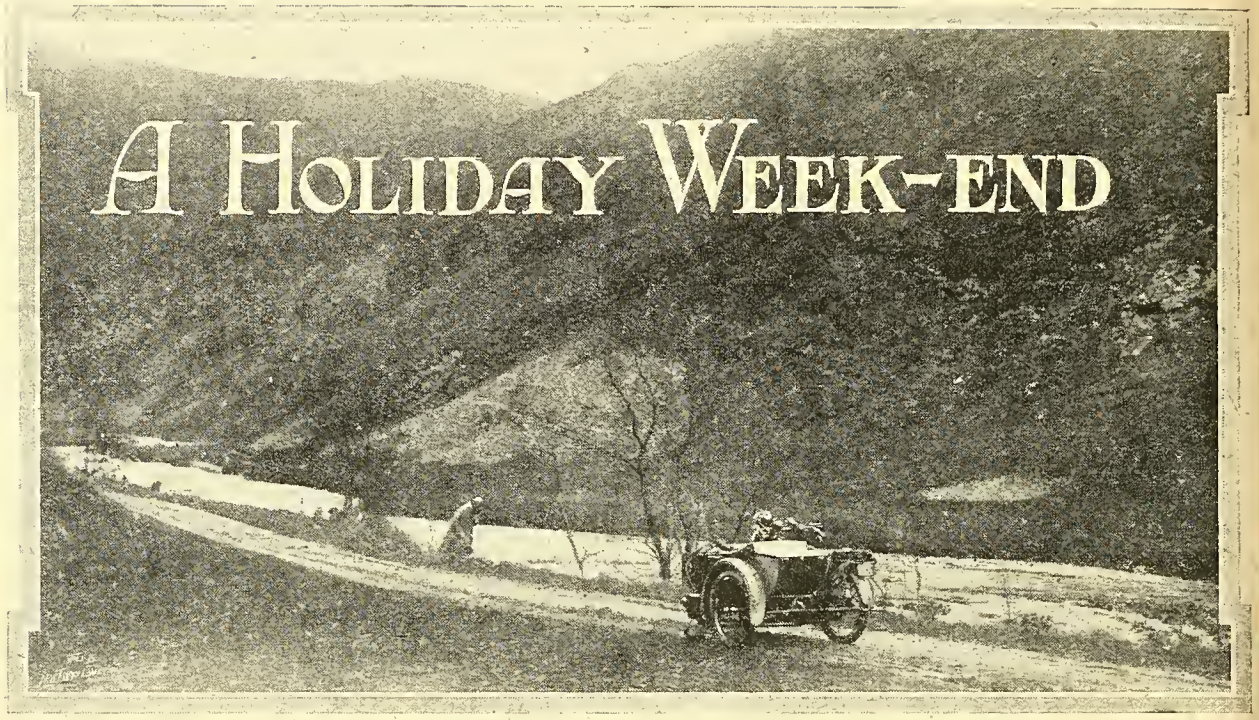
Top Tube Tool Boxes.

MY latest 'bus carries its tools in a neat metal case on the top of the tank, instead of in the usual stern carrier bags. The design is probably dictated by motives of economy. Sheet metal is cheaper than leather, and one box is far cheaper to produce than two bags. For practical reasons I prefer the tank box. The contents are ready to hand when one wants them, and the box is free from the rather annoying vagaries of pannier bags—lost keys, jammed locks, catches which jerk open and litter the road with your tools, etc. But nobody has ever yet turned out a really satisfactory tank box. Most of them are far too small; the few samples I have encountered will barely hold a rational tool roll, and you have to stack the other extras in your pockets—tyre kit, spare lamp bulbs, spare plug, spare chain links, etc. They want too much packing. Leather may be dear and fail to keep its shape, but at least it isn't resonant. A metal box, when packed with assorted ironmongery, is apt to jangle. You must either stuff it very carefully with rag, or else cement a thin lining of felt to its inside surfaces. I hope that I shall live to see a really capacious tank box, lined with some material which will deaden the sound of the contents. It is a mistake to suppose that these tank boxes necessarily look ugly; they not infrequently add to the good appearance of a machine, especially when the top tube is sloped.



SUNSHINE IN SOMERSET.

A pretty scene in one of the many picturesque lanes of that county. A Douglas solo rider enquiring the way of another Douglas enthusiast.



A Holiday Week-end

Stiff Test of a Stock Machine. 560 Miles on a 6-7 h.p. Ariel Sidecar Outfit.

TO embark upon a business trip of over 400 miles upon a brand new and untested machine, and one, moreover, which is quite unfamiliar to the rider, is the sort of happening that frequently falls to the lot of the motor cycle writer.

From Coventry to Richmond (Yorks.) was the journey, and the machine was a chain-driven 6-7 h.p. Ariel twin sidecar outfit; and it acquitted itself so well as to leave in retrospect one of the most pleasurable outings ever undertaken in the quest of "copy" for the pages of *The Motor Cycle*.

Richmond on Good Friday is the annual meeting place of north-country motor cyclists, and the writer planned to make the greater part of the journey there on Thursday, and to that end visited the Ariel works in Birmingham on the Wednesday afternoon, only to find that the expected machine was still awaiting its finishing touches; it was finally driven away just in time to make Coventry before lighting-up time.

A Standard Machine.

No special preparation had been given to the outfit, except the fitting of an acetylene lighting set, and it was untested—the run from Birmingham to Coventry being the very beginning of its road life.

Having listened to strict instructions regarding easy running for the first fifty miles, the engine was nursed gently on the beginning of the next day's run, when the northward journey, *via* Leicester and Newark, was commenced; at Leicester, however, the temptation of the Fosseway was too great, and, as the long-stroke twin engine appeared to like it, the throttle was opened and the stretch of thirty-one miles covered in surprisingly quick time.

An examination of the petrol tank at Newark revealed the fact that sixty miles' running had absorbed the two gallons put in at the start, and this high consumption was only slightly improved during the next two days on the road. (It is only fair to say that the carburetter was not the automatic one now standardised.) After Newark, excellent time was made to Doncaster, the Great North Road being good and the weather perfect. Beyond Doncaster a detour was made through Leeds, and on the vile surfaces between Pontefract and that city the spring seat pillar, efficient front forks, and 28 × 3in. wheels of the Ariel were appreciated to the full. Delaying but a few minutes to make a call, the northward direction was still followed, Wharfedale crossed at Pool, and a little further on the lamps were lit in the afterglow of a perfect sunset. Humphrey Bank, a stiff main road pull near Harrogate, just necessitated a change into second, and a way through the famous northern Spa was slowly threaded, the better to appreciate the effect of its brilliant illuminations, dominated by the electric sign of "The Grand" high up on the hillside over the town.

Ancient Customs.

The day's journey was ended at Ripon, that near-by but much less pretentious watering place and ecclesiastical city, famous for many antiquities and old customs, not least being the horn-blowing at sunset; the horn-blower is a local worthy equipped with lungs "like blacksmith's bellows," who winds three doleful and unbelievably prolonged blasts in the market square at the close of each day.

The meteorological promise of Thursday was not fulfilled on Good Friday, and a grey, dank mist hung

A Holiday Week-end.—

over the country; from Ripon, a short run brings one again on to the Great North Road, on one of its best stretches—Leeming Lane—and all the way to Catterick Bridge the good Ariel thundered along on a generous whiff of gas. During the day, what time some eleven hundred machines were gathered together in the market place of Richmond, the Ariel stood in proud isolation, not being one of the competing machines, but its handsome appearance attracted not a little attention. Owing to official duties, a restart towards the south was not made until the majority of motor cyclists had left the Meet, and a delightful "blind" in the direction of Boroughbridge was enjoyed, despite a spectacle and goggle-obscuring drizzle of rain which made fast driving difficult; along this stretch a somewhat ferocious dust with a "very" Scott driven by the works speedster was satisfactorily settled, thanks to the extra c.c.





IN DERBYSHIRE. Early spring time in the Peak District is apt to be bleak, but the grey hillsides have their charm at all times of the year. The top picture is near Dovedale, and the lower one in the valley of the Dove itself.

and the cool running engine of the Ariel.

On the homeward journey, which was completed on Saturday owing to heavy rainfall on the night of Good Friday, no incident worthy of record was encountered; before leaving the north, however, Pool Bank, near Otley, was climbed as a test. This hill, which averages 1 in 11 for one mile, was climbed almost entirely on top gear, the exception being about thirty yards at the second bend. On the long run back to the Midlands, an

A Holiday Week-end.—

average of 28 m.p.h. was found to be quite within the compass of the machine.

Saturday evening was enjoyed at rest after the 420 miles riding, but next morning the call of the road was again insistent, especially with such an excellent machine available, for a purely pleasure run.

The consumption was improved by slightly closing the jet orifice, but this was rather over-done, and the control became sensitive thereafter, especially against the strong head wind which blew from the north-west and retarded progress all the way to Ashbourne; Dovedale being the objective.

A 'Busman's Holiday.

While having lunch at the "Green Man and Black's Head" (delightful name!) in Ashbourne, the heavens showered down their whole repertoire of nastiness—hail, sleet, rain, and snow—true Easter weather! However, although tempted to turn tail and run home with the wind, the remaining five miles to Dovedale were braved, and, despite heavy showers, the scenery of the secluded valley was thoroughly enjoyed.

On the homeward run, across country, through twisting and undulating lanes, the splendid top-gear pulling of the Ariel engine was a delight, the only delay being due to a temporary cessation of the oil supply for some unknown reason; the hand pump of the Best mechanical system here proved its usefulness. Near Atherstone the lamps were lit, and a gentle pace made over the villainous surfaces around Nuneaton and Bedworth.

Easter Monday was spent in gentle ambling around Warwickshire lanes, bringing up the total week-end mileage to 560, during which no attention to the machine was needed. For sweet running, power, comfort, and the staunch construction which promises prolonged good service, the 6-7 h.p. chain-driven Ariel outfit stands in the front rank. Steering is excellent, mudguarding good, the internal brake in the rear chain sprocket smooth and powerful; the large sidecar is luxurious, and, having ample luggage capacity, is convenient for long journeys—altogether an outfit admirable from both driver's and passenger's point of view. D.H.S.

A New Use for Old Trailers.

A Country Clergyman's Experiences with a Motor-assisted Bicycle as a Passenger Machine.

By REV. F W COBB.

I OWE my introduction to the "Simplex" auxiliary unit to an interesting description of a ride last year from Torquay to Birmingham. 187 miles were covered in the day by a "Simplex" enthusiast, on a lady's model B.S.A. cycle without any mechanical trouble.

After demobilisation as an Army chaplain I found myself in a Surrey village, miles from anywhere, and the "Simplex" unit, which had been purchased from the Portsmouth agents, soon proved its usefulness and efficiency.

Two Up.

Shortly afterwards, a second-hand trailer was picked up for a mere song, and as I was anxious that my wife should, if possible, share the benefit of the little engine's powers, I had the trailer's connecting bar altered to allow of its attachment to the seat pillar of my Royal Enfield pedal cycle.

Perhaps the experiment of such a combination was a bold one. Some might go further and say that with a baby of only 1¼ h.p. I was courting trouble. However, the experiment was made, and 400 miles of winter riding have been covered with this somewhat novel, and certainly very cheap, outfit. All miniature engines have in the nature of things to be watched carefully, and overstrain avoided. This has necessitated steep gradients being walked, and some pedal assistance being given up moderate gradients. But for the rest I cannot speak too highly of the little engine's performances. Frequently a 14 m.p.h. speed has been attained, and both engine and cycle have stood an exceptional experiment remarkably. Petrol consumption works out at about 110 m.p.g.



Without question the most economical method of motoring for two. The Rev. F. W. Cobb and his 1¼ h.p. Royal Enfield-Simplex trailer outfit, which he has found invaluable in a district "miles from anywhere."

At a rally of new and expensive motor cycles, any simple outfit perhaps would appear somewhat antiquated, but it serves my purpose and takes my wife and me to where we wish to go—and brings us back.

T.T. NOTES AND NEWS.

Motoring Visitors to Manxland to be Taxed this Year.

Practising to Start on Empire Day.



From "The Motor Cycle" Correspondent in the Isle of Man.

PREPARATIONS for the forthcoming T.T. Races, which will take place on the 14th and 16th of June, have assumed a definite form since a visit to the Island of Mr. T. W. Loughborough, and the Rev. E. P. Greenhill, of the A.C.U. Competitions Committee. During the visit they saw His Excellency the Lieut.-Governor, Maj.-Gen. Sir William Fry, K.C.V.O., C.B., who promised them every assistance in his power. They also saw the Government Secretary and Treasurer, Mr. B. E. Sargeaunt, O.B.E., the Town Clerk of Douglas, Mr. A. Robertson, and the members of the Highway Board.

The Highway Board consented to the same course as last year being utilised. The start will take place at the Playing Fields belonging to the Douglas Corporation, which were utilised last year, and the builders have received instruction to proceed immediately with the work of erecting the time-keepers' box, the grand stands, and the general enclosure.

Roads in Good Order.

The course on the whole was pronounced by Mr. Loughborough to be in very fair condition; in fact, better than it was at this time last year. The necessary repairs to the stretch running from Sulby to Ramsey will immediately be undertaken by the Highway Board, and the mountain road below Craig-na-Baa, which is the fastest part of the course, will also be put into good condition. It will be remembered that last year the rocks were beginning to jut out from the roadway. These rocks will be blasted away. Practising starts at 4.30 a.m. on the morning of Tuesday (Empire Day), 24th of May, and it will be continued up to the day of the race. The rules for practising are not yet definitely settled, but will not differ much from those in force last year. 1920 competitors will not be required to complete six circuits this year, but the number will be reduced to three, including, of course, the time circuit. Competitors living outside Douglas will be allowed to complete their circuit from the telephone marshal nearest to the place they reside. For example, those living in Peel can start their qualifying circuits and finish them at Ballacraine, but their timed circuit must be done from the official start opposite the Playing Fields, where the official timekeepers will be located. No competitor will be allowed on the course until 4.30 a.m. nor to start the journey to the course before 4.15 a.m., and, after 6.15 a.m., a rider will not be allowed to start a practice circuit.

Safety Helmets.

The wearing of safety helmets during practising and on the day of the race will be compulsory. This will be strictly enforced, as also will be the rule compelling the use of silencers during practising.

Mr. Loughborough pointed out to our Island correspondent that there was nothing whatever to prevent a firm, if it so desires, crossing to the Island at once and practising so long as it complies with the Island laws and regulations.

Competitors and spectators bringing their machines to the Isle of Man, in addition to the shilling tax for registration previously paid, will have this year to pay an additional fee of ten shillings for permission to use the Manx high roads for one month, whilst car owners will have to pay thirty shillings for the same privilege. These new taxes were strongly opposed in the Manx Legislature by the Manx Motor Cycle Club and the local A.C.U. Consul, but without success, and it is felt that the action of the Insular Legislature in imposing these taxes, small and paltry though they may be, will have the effect of preventing many spectators taking their machines with them.

Sunbeams on the Course.

Among other manufacturers' representatives who have recently visited the Island for the purpose of preliminary practising may be mentioned the Sunbeam experts, who spent three busy days on the Island last week. The party consisted of Mr. J. E. Greenwood, the designer of the Sunbeam, T. C. de la Hay, the winner of last year's Senior event, George Dance, Reg. Brown (the amateur who came in third last year), and Bennett, an American with a great reputation on the other side of the Atlantic. The Sunbeams used in these practices were the same as those used last year with different cylinders and pistons. The cylinders no longer have detachable heads, and one of the machines had overhead valves. The speed down the mountains of the side-by-side valve engines was very high, but the overhead valve engine (which has already scored successes in open competition) was the faster. De la Hay was actually using the same front cover on his machine last week as he used in the race last year.

Telephone Facilities.

A very complete telephone system is being installed round the course, and this will be in full working order during practice in the same manner as it will be during the races.

Competitors are urged to drive their machines silently to and from practice.

The warning banners throughout the course will be on wire netting, and this will prevent the possibility of their being blown down, and will stop them flapping in the wind. The banner at Governor's Bridge will be horizontal, and, therefore, invisible; but when it is turned on its axis, so that it can be clearly seen, it will signal to each competitor as he passes that he is on his last lap.

THE MOTOR CYCLE T.T. TELEGRAMS.

In connection with the blue riband event of the motor cycling world, "THE MOTOR CYCLE" has arranged to extend its usual service of T.T. telegrams. It will be recalled that in past years this journal has flashed the results of the race throughout the country by telegram. Post Office regulations will necessarily restrict the number of firms to whom the wires can be issued, and, therefore, all firms who desire to receive the series of telegrams should make immediate application to the advertisement manager of "The Motor Cycle," 20 Tudor Street, London, E.C.4.

A Classic French Hill-Climb.



First Argenteuil Hill-climb since the War. Motor-assisted Bicycles attracting Attention in France. British Motor Cycles win 1,000 c.c. Solo and 500 c.c. Sidecar Classes.

ARGENTEUIL hill-climb, held in the suburbs of Paris on the 10th inst., created a lot of local interest, and united about sixty competitors in the varied classes comprising everything from motor-assisted bicycles to cycle cars. The hill is two kilometres in length, not particularly steep, but having a rough surface (for the road has been neglected during the war), and with three bends calling for skill on the part of the riders. There was not much attempt at organisation, and the few gendarmes who were on duty showed a preference for the places where their presence was least needed. However, by the efforts of the members of the committee, the crowds were kept off the roads most of the time, and the event passed off without accident, though not without a few exciting incidents taking place.



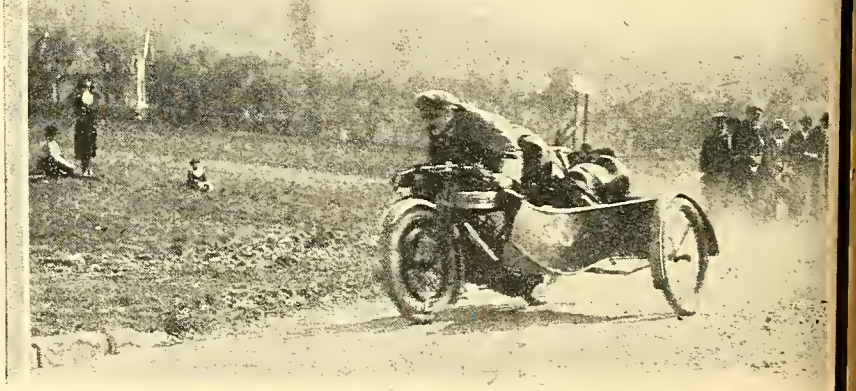
Louis at speed on an Alcyon. He gained second place in the 250 c.c. class.

Popularity of Motor Attachments.

One of the features of the hill-climb was the large number of motor-assisted bicycles which took part, for this class of machine is attracting a lot of attention in France at the present time.

Competition was keen in all classes, and all records went by the board. Fastest time of the day was made by Jolly on a four-valve single-cylinder Alcyon, with 1m. 30s. He was followed by his team mate Lehmann on an identical machine in 1m. 35s. In the 1,000 c.c. class there was a dead heat between Vulliamy on a Rover and Bartlett on a Bartlett-Jap; time, 1m. 35$\frac{3}{5}$s. To determine the winner in this class it was decided to measure the cylinders and give the first place to the rider of the machine having the smaller piston displacement. This verification had not taken place when our report was sent away.

The fastest machine in the cycle car class was a newcomer, the E.H.P., which climbed the hill in 1m. 43s., making an excellent impression. The Grégoire cycle cars which were entered did not start.



Isodi, who, with a Douglas outfit, won the 500 c.c. sidecar event. Observe the inelegant posture of the passenger

A Classic French Hill-climb.—

It is noteworthy that a 500 c.c. machine made the fastest time of the day, at a speed of 50 m.p.h. (approx.).

There were thirteen competitors in the class for motor-assisted bicycles, but only three scooters. Most of the motor cycle classes attracted about half a dozen entries each, but in several there were only two or three. Results are as follows :

MOTOR-ASSISTED BICYCLES.

		m.	s.
1.	Benoist (Sicam)	3	24⅘
2.	Brown (Cyclemotor Evans) ...	3	27
3.	Dupont (Cycletracteur)	3	33

SCOOTERS.

1.	Proullet (Skootamota)	2	49
2.	Colombee (Skootamota)	3	7
3.	Mm. Javiers (Dorte)	4	45⅕

250 c.c

1	Marc (Thomann)	1	52⅕
2.	Louis (Alcyon)	1	55⅘
3.	Reservat (Gratieux)	2	1

350 c.c.

1.	Grignet (Alcyon)	1	41⅕
2.	Meunier (Armour)	1	49
3.	Liaudois (X)	2	10

500 c.c.

1	Jolly (Alcyon)	1	30
2.	Lehmann (Alcyon)	1	35

750 c.c.

1.	Duverue (Duverue)	1	41⅘
2.	Delabre (Rover)	1	45⅕
3.	Jacquin (X)	1	59⅕

1,000 c.c.

1.	Vulliamy (Rover) / Bartlett (Bartlett-Jap) ...	1	35
3.	Lambert (Harley-Davidson) ...	1	40⅕
4.	Coquidet (Indian)	1	47⅕

350 c.c. SIDECARS.

1.	Moret (Motor Bijou)	2	7
2.	Dubost (D.F.R.)	2	36⅕

500 c.c. SIDECARS.

1.	Isodi (Douglas)	2	19⅗
2.	L. Psalty (Rover)	2	25⅗

750 c.c. SIDECARS.

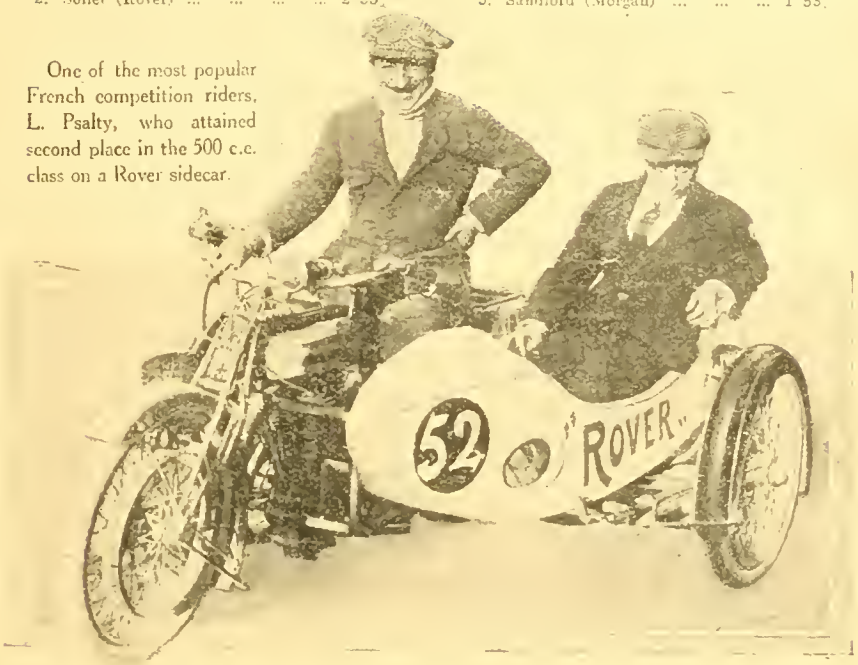
1.	Lacerve (G.L. Oriac)	2	7
2.	Sollet (Rover)	2	55⅕

1,000 c.c. SIDECARS.

1.	Bailhf (Harley-Davidson) ..	1	56⅗
2.	Delauney (Stucchi)	2	0
3.	Vernisse (Harley-Davidson) ...	2	3⅗

CYCLE CARS.

1.	Chabéreiron (E.H.P.)	1	43
2.	Franquebale (Morgan)	1	46⅗
3.	Sandford (Morgan)	1	55⅕



One of the most popular French competition riders, L. Psalty, who attained second place in the 500 c.c. class on a Rover sidecar.

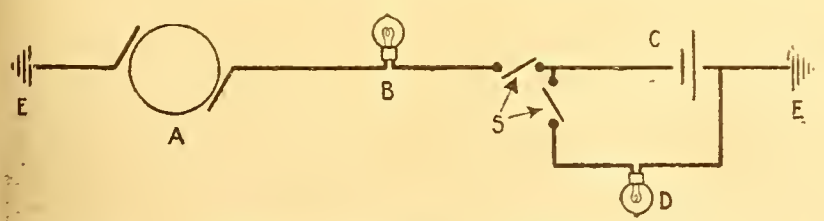
LIGHTING FOR LIGHTWEIGHTS.

As a simple means of generating the necessary current for lighting and ignition, the M-L Maglita has already proved its worth in both large and small sizes. Realising, however, that there is a large demand for a compact set for small machines, the manufacturers have produced a modified form, utilising a small 2 volt accumulator.

The normal Maglita generating instrument is employed, but the current is conveyed to the accumulator *via* the head light, and a 2 volt tail lamp is connected across the accumulator in the normal way. This system automatically provides a bright tail light and a dim head lamp when the machine is stationary with engine stopped, but immediately the engine is started the head lamp gives a bright light, since it receives the current directly from the generator. A slight flicker is observable at very low engine speeds, but at all normal engine revolutions a bright, steady light is produced. Thanks to the self-regulating properties of the generator, no trouble has been experienced with burned-out bulbs, and the use of a 2 volt accumulator permits a considerable reduction in both weight and size of the case.

A single switch knob serves to close both charging and tail light switches, but the accumulator can only be charged with lamps alight.

In accordance with the producers' invariable rule, the lighting set is admirably finished in every detail.



Wiring diagram of new M-L lightweight set.

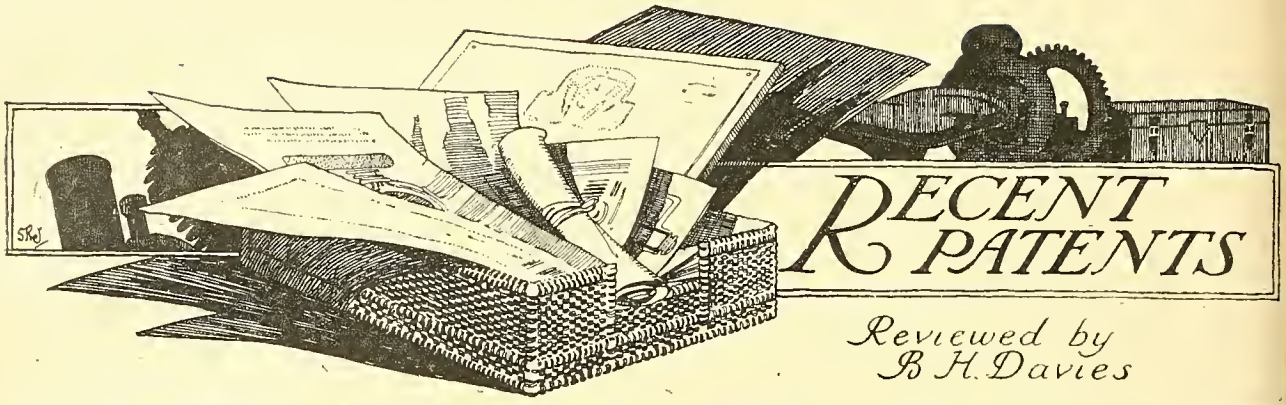
A. Generator
B. Head lamp (four volt)
C. Accumulator (two volt)
D. Tail lamp (two volt)
E. Earth
S. Switches



The M-L Maglita head lamp, with new battery box and switch, designed for lightweight motor cycles.

WHERE PRACTICAL KNOWLEDGE INFLUENCES LAW.

A REMARKABLE instance of the value of special knowledge in legal matters is reported from Guernsey, where the A.C.U. local consul, Mr. G. H. Lock, has been strenuously exercising himself on behalf of local motor cyclists. Various undesirable regulations which were proposed by the local authorities have been successfully combated, and Guernsey motor cyclists are enthusiastic in their praise of Mr. Lock's efforts. Conspicuous among the concessions the A.C.U. local consul secured was that motor cycles should be required to carry only "reflex" rear lamps instead of oil or acetylene lights. Mr. Lock's efforts certainly illustrate the very practical value of the personal representation which the national motor cycling body now affords to members in almost every district.

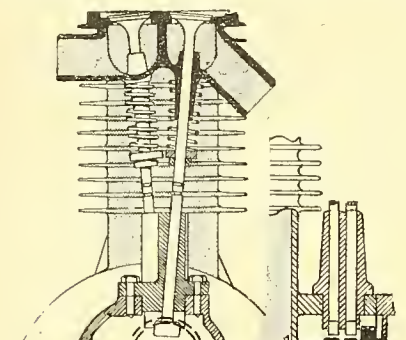


RECENT PATENTS

Reviewed by B. H. Davies

Corona Valve Gear.

THE sketch shows the very neat valve gear used on the Corona engine, and patented by Mr. C. J. T. Oppermann. A hollow camshaft is mounted on a spindle supported at one end in the crank case and at the other by the timing gear cover. This camshaft carries both the inlet and the exhaust cams, and the



Oppermann's valve gear. No. 158,091. 28/9/19.

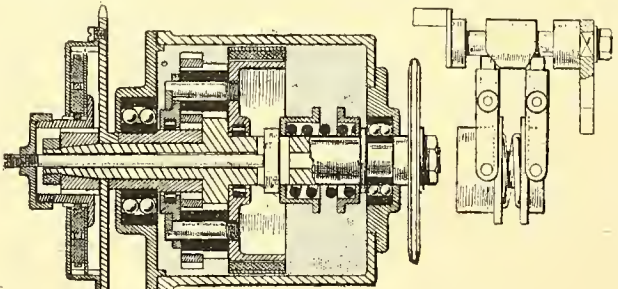
heels of both tappets are brought within its reach by inclining the tappets and valves towards each other, as shown. A particularly neat two-pinion valve gear is thus obtained. The overall width of the engine is very slightly increased, and the "bending" of the gas columns between valve port and piping is fractionally increased.

Doorless Sidecar Bodies

Messrs. Spinks and Cawthorne have evolved a sidecar body constructed on approximately the same lines as the fuselage of an aeroplane. The two side frames are built of wood bent into the shape of two pears so as to give a rounded nose and pointed tail. The frame is spaced and stiffened by struts, bracing wires, and plywood panels, and is finally covered with aeroplane linen. I hope they bought a large stock of the latter at a cut rate from Mr. Martin?' The passenger enters by a hatchway on the top, affording a notable exhibition of those pretty stockings which contribute to make the sidecar so popular.

Foolproof Gears.

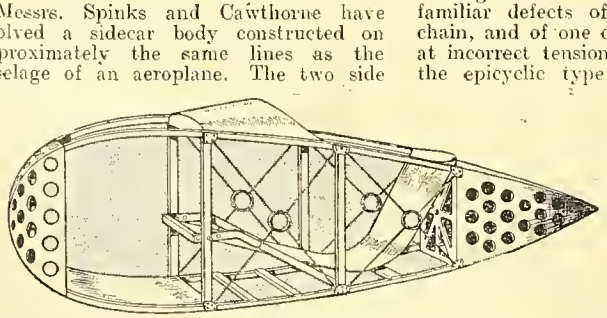
Mr. Arthur Alltree's name will be unknown to many readers, but his is the anonymous brain behind several successful gear boxes. The motive behind his present patent (an amplification of an earlier design) is tolerably clear. Several motor cycle manufacturers consider that average riders prefer a foolproof gear-change, and that sliding gears are barbarously treated by duffers. The commonest substitute is a gear embodying a friction clutch on each ratio. Such designs are easy to handle from the saddle, but generally include two chains sharing a common adjustment with the familiar defects of rattle from an idle chain, and of one or both chains running at incorrect tension. Mr. Alltree prefers the epicyclic type of gear. I show a section of his gear box. When the plate clutch on the left is engaged, the sleeve and the axle are locked, and the gear runs solid. Neutral position is obtained by freeing the clutch, and low gear by applying the brake inside the box. The detail sketch shows how cleverly a single camshaft is utilised to control the three positions of the lever or pedal. The double cam operates the two forks, of which the left hand fork frees the clutch whilst the right hand fork takes the end thrust of the spring off the main axle. When the camshaft has been partly rotated, the hardened pins in the fork ends enter the parallel grooves on either side of the cam, and the gears are then held in neutral. There are two locking notches in the cam sides. The projecting stud at the extreme left of the camshaft operates the brake which brings low gear into action. As the section shows, the gear runs on ball and roller bearings and should make a very reliable foolproof and durable unit, entailing less weight and friction than systems which have made this type of gear unpopular in the past. This type of gear lends itself to a simple selective control, dispenses with a clutch lever and has a progressive take-up on low.



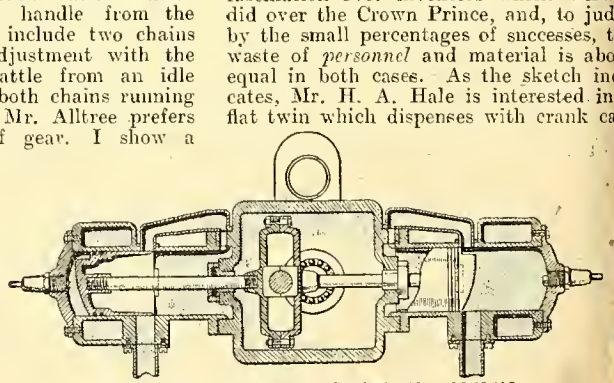
Alltree's gear box. No 140,143. 19/12/18.

Flat Twin Two-stroke.

The two-stroke engine exerts the same fascination over inventors which Verdun did over the Crown Prince, and, to judge by the small percentages of successes, the waste of *personnel* and material is about equal in both cases. As the sketch indicates, Mr. H. A. Hale is interested in a flat twin which dispenses with crank ca



Spinks's sidecar body. No. 145,206. 30/4/19.



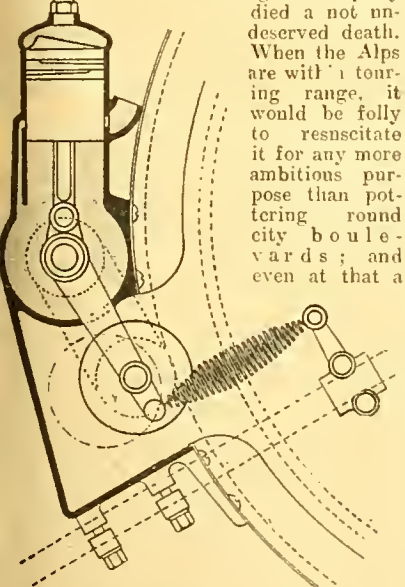
Hale's two-stroke engine. No. 144,852. 10/5/19.

Recent Patents.—

compression. The inner portion of each cylinder barrel is used for the primary compressions. In order to render each of these chambers gastight, the tubular connecting rods are attached to a common cross head, and stuffing glands are used to seal the holes through which the connecting rods emerge from the cylinder bases into the crank case. The crank pin moves transversely within the cross head as the crankshaft rotates. An inventor is not obliged to submit complete drawings, and Mr. Hale does not honour us with his confidence on several technical problems inherent in his engine. If it were constructed in exact accordance with his drawing, the stuffing glands would either wear rapidly, and so destroy the compression, or, alternatively, they would set up tremendous friction. It is possible that he withholds details which overcome these and other difficulties associated with the particular type of engine in which he is interested.

Friction Drive for Auxiliary Motors.

I presume that Signor Leopold Paganelli has an auxiliary motor for push-cycles in mind in propounding yet another version of the friction drive between a small pulley and the tyre or the rim of the road wheel. This particular drive was applied to the 1¼ h.p. Derby machine in this country nearly twenty years ago, and rapidly died a not undeserved death. When the Alps are with in touring range, it would be folly to resuscitate it for any more ambitious purpose than pottering round city boulevards; and even at that a

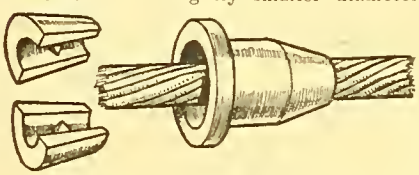


Paganelli's friction drive. No. 156,986. 2/1/20.

better drive could easily be found. His drawing shows a gear of 9 to 1, which chronic slip would probably soon reduce to double figures, so that he must have a very tough (as well as a very tiny) engine in his mind. The friction roller is chain-driven off the engine, and the roller bracket is pivoted, so that the pressure may be varied, for which purpose powerful springs or a screw gear are suggested. A single-cylinder two-stroke engine figures in the drawings. It is astounding that people should spend money on protecting such an idea in the year 1921.

An Emergency Bowden Nipple.

Mr. F. E. Harmer makes a new contribution to the old problem of renippling a Bowden wire in a hurry. We all know that a properly fitted Bowden wire takes a lot of beating, but that a skilled man requires appreciable time to repair such a wire when it has broken or stretched enough to exhaust the mechanical adjustment provided by the makers. Mr. Harmer's emergency nipple can be rapidly applied by any amateur on the road without any tool except a pair of pliers. A pair of tapered cones are slipped along the wire. The inner cone is bored to a slightly smaller diameter

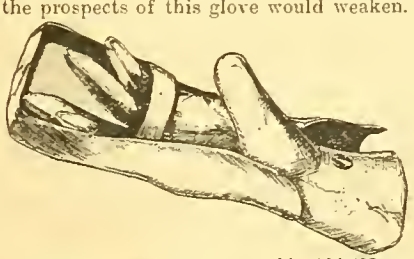


Harmer's Bowden wire nipple. No. 24,133.

than the Bowden wire, is longitudinally split, and is provided with two internal spikes. When the outer cone has been set at the desired point on the wire, the inner cone is forced into it by means of suitable pliers. As an emergency device the gadget should be of some service; but I do not suppose the Bowden people will encourage its adoption as a substitute for soldered nipples.

Waterproof Gloves.

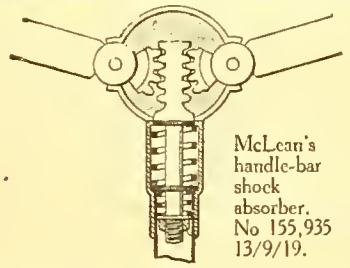
Mr T. Hilton evidently despairs of a direct solution of the waterproof glove problem, and considers that British rubber manufacturers can never follow where the Continental Tyre Co. once blazed a path. He therefore elects to provide an ordinary glove with a special shield of the type shown in the sketch. This shield may be composed of any warm and waterproof material, *e.g.*, patent leather, and is stitched to the glove along a line drawn across the back of the wrist. It projects beyond the finger tips, and its underside is provided with an elastic loop through which one or more fingers may be slipped. The shield will then afford moderate protection to the glove, whilst leaving the fingers free to operate controls. The idea is by no means impracticable, and would certainly keep out a lot of weather. On the other hand, rain, driven by the wind plus the extra impetus due to the speed of the machine, is extremely penetrating; and the Hilton glove can never be either as warm or as dry as a glove made from a wind and waterproof material. As soon as such a material is developed in a sufficiently flexible form, the prospects of this glove would weaken.



Hilton's waterproof gloves. No. 136,483. 24/6/19

Handle-bar Springing.

An Australian produce broker is responsible for the spring handle-bar illustrated herewith. The handle-bar is made in two halves, which are pivoted near the steering head, and secured to a vertical member which oscillates between

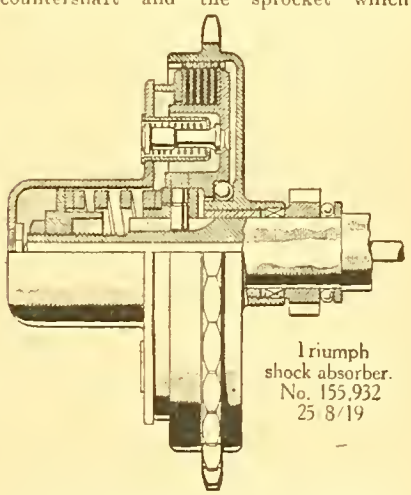


McLean's handle-bar shock absorber. No 155,935 13/9/19.

the pressure of two springs. The plain fact is that a spring handle-bar does not dispense with the need for a spring fork, and that a rigid handle-bar is quite tolerable if the spring fork is properly designed.

A Countershaft Shock Absorber.

We all know that when the Triumph Co. have settled upon a broad design, they hold it up and work at it until every detail is as good as they can make it. So when they adopted the countershaft clutch and gear box, they began to find fault with the ordinary type of shock absorber, which is interposed between the countershaft and the sprocket which

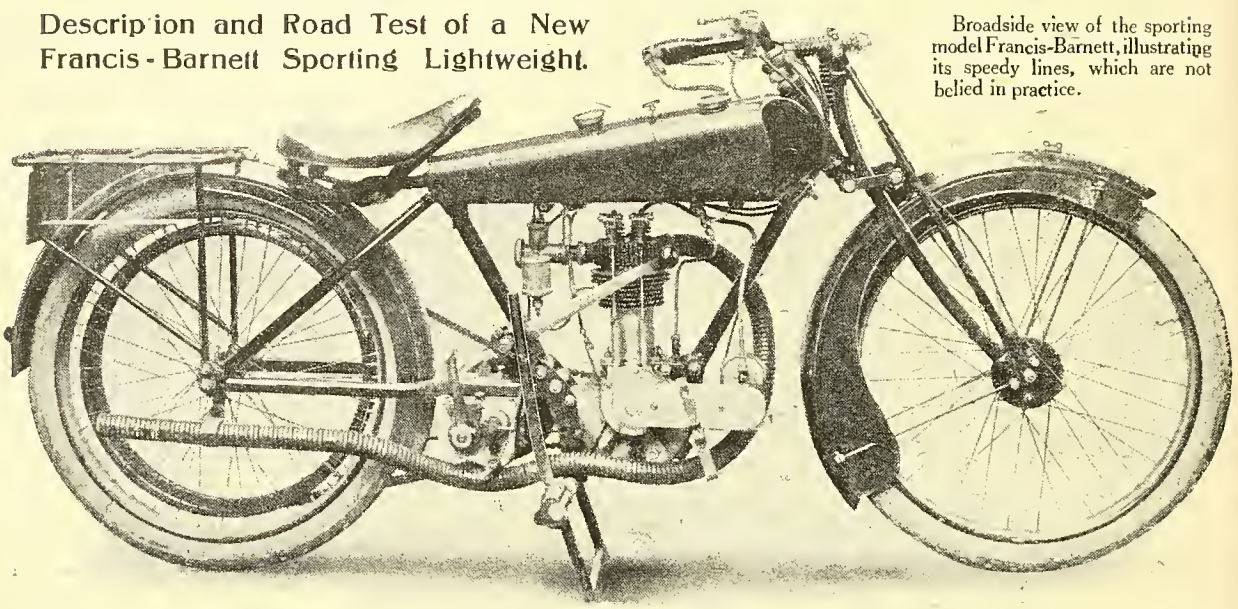


Triumph shock absorber. No. 155,932 25/8/19

receives the drive from the engine. This absorber normally consists of a member which can move endways against the pressure of a strong spring, whenever the drive is jerky. The Triumph experts criticise the ordinary construction in two respects, viz., that it is apt to stick and is expensive to make. The floating member or collar of the Triumph absorber is provided with radial rollers which engage (1) V notches or cam-shaped recesses on the face of the clutch hub, and (2) splines on the driven shaft. The contact is thus of the "rolling" instead of the "rubbing" type, and sticking is regarded as impossible. A glance at the drawing will show that the parts lend themselves to cheap manufacture. If necessary, the device can be constructed so as to ease the main clutch springs under a heavy shock, but this application is not pressed.

EFFICIENCY WITH CONVENIENCE.

Description and Road Test of a New Francis-Barnett Sporting Lightweight.



Broadside view of the sporting model Francis-Barnett, illustrating its speedy lines, which are not belied in practice.

WHEN the sporting clubman ponders upon the purchase of a new mount, he seldom considers anything of less than 350 c.c. engine capacity as likely to be "hot" enough. Yet he is wrong, for there are several lightweights in the 250-300 c.c. class that are both fast and "lively." The new sporting model Francis-Barnett is an outstanding proof of this statement.

Although there are other points that have their bearing on the performance of a "sports" model, an overhead-valved 293 c.c. J.A.P. engine, which forms the power unit, must primarily be given a large amount of the credit attached to big results from a small machine.

Specification in Brief.

As this engine is fairly well known already, it will here suffice to say that it is a clean, workmanlike job, and, mechanically, surprisingly silent and free from valve clatter. (Its exhaust note, on the other hand, is very healthy indeed!)

Other standard fitments include Brampton Biflex lightweight forks, Amac carburetter, a C.A.V. magneto, and a Sturmey-Archer two-speed gear box with clutch and kick-starter, the final drive being by belt. In the remaining details, the Francis-Barnett departs considerably from, and, we venture to think, improves upon, the conventional.

For example, perhaps the biggest bugbear of solo riding—the lengthy process involved in jacking a machine on to the stand at each stop—has been dispensed with. There is a stand, but it is situated amidships, and may be pulled into action whilst the rider remains in the saddle, by means of a long hand lever. Moving off is similarly just as simple a matter; and when not in use the stand is held in a horizontal position, the lever end resting in a spring clip on the magneto chain cover. When on the stand the machine is practically balanced, and the weight of, say, a coat on either end will raise the wheel at the other clear of the ground, as required.

For a lightweight the large saddle tank holds a more than ample supply of fuel. An ingenious syphon arrangement (which has been patented) does away with the necessity of a separate petrol pipe from each compartment.

Finished, down to the handlebars, in all-black, the machine possesses workmanlike, well-balanced lines, and is devoid of those unsightly clips or fitments that so often look like after-thoughts.



Controllability at all speeds, and a natural riding position make jaunts off the beaten track possible.

On the Road.

A short test convinced us that appearances were not deceptive. The riding position is as nearly ideal as we have ever experienced. There is all that sense of having a substantial machine underneath one, and none of that impression of the ridiculous that a tall man sometimes has on a lightweight, and yet nothing could be more steerable or generally handy from the driver's point of view.

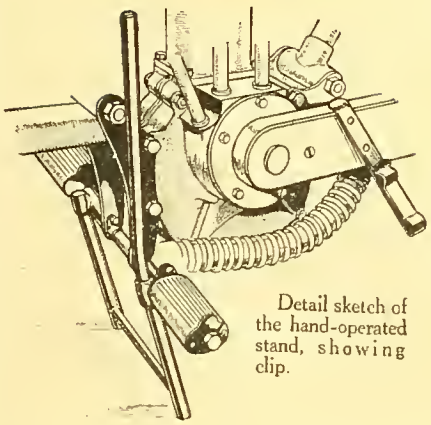
At all speeds—and it almost touched "fifty" with us—there is an absence of vibration that makes it a most fascinating mount. The brakes—a generously dimensioned belt rim rear and Webb internally expanding front—are powerful and smooth. The rear pedal is located just where it ought to be.

In practice, the stand proved extremely convenient, and surprisingly little exertion is required to jack up the machine; we very quickly forgot to look for convenient kerbstones, as of yore.

Efficiency with Convenience.—

As we have already indicated, the Francis-Barnett is a high-efficiency performer. It is not, however, heavy on petrol. During our test, we did not find it necessary to get out of a rather high top gear. We should imagine that there are very few hills that it would not easily ascend on its standard low ratio.

Since this machine is rated at 2¾ h.p., one is naturally inclined to compare mentally its performance with that of other mounts of the same horse-power. It says much, therefore, for the Francis-Barnett that it survived with honour this most unfair comparison before the writer had fully realised its unfairness. What he momentarily forgot, and what the majority of us are apt to ignore, is that most of the nominally 2¾ h.p. engines now on the market have engines of 350 c.c., an increase of approximately 20% on the capacity of the J.A.P. fitted in this case.



Detail sketch of the hand-operated stand, showing clip.

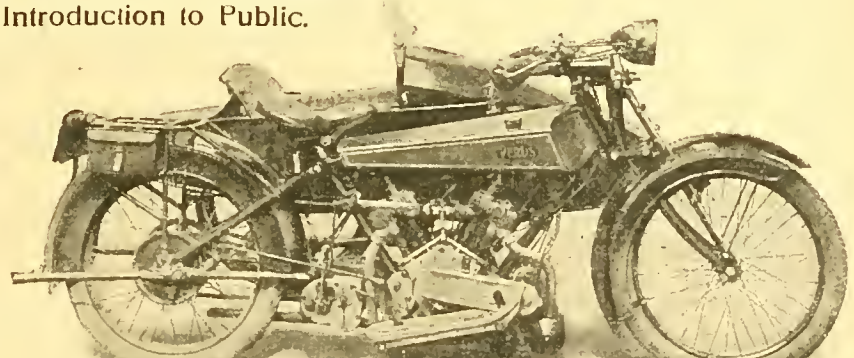
It is, therefore, all the more remarkable that the maximum speed of the smaller machine should be as great as any of the highly developed "pukka 2¾'s" (excepting, of course, one or two purely speed mounts).

Seldom have we come across so fascinating a lightweight, and, without wishing to be unduly laudatory, we failed to discover any point that might fairly be made the subject of criticism, either viewing it as the production model or as an experimental mount. Perhaps the flexible tubing forming the exhaust pipe may shock the fastidious. Personally, we rather like it: it lacks the resonance of copper, and, indeed, has a slight deadening effect on the exhaust note without (practically, if not theoretically) reducing engine efficiency.

VERUS TWINS FOR 1922.

Next Year's Models now on the Road, and will Undergo Many Months' Test before Introduction to Public.

BEFORE the war the name Verus was unknown to motor cyclists, but to a number of makers it was the telegraphic address of an old-established firm upon whom they had long depended for their castings. Although young in reputation, the Verus name on a motor cycle is now well known: even the small boys who make lists of names displayed on differently coloured tanks know the distinctive purple and gold of the Verus. In competitions it has done consistently well, the winning of the Victory Cup being its latest outstanding success, and altogether the machine has gained its place among the firmly-established makes.



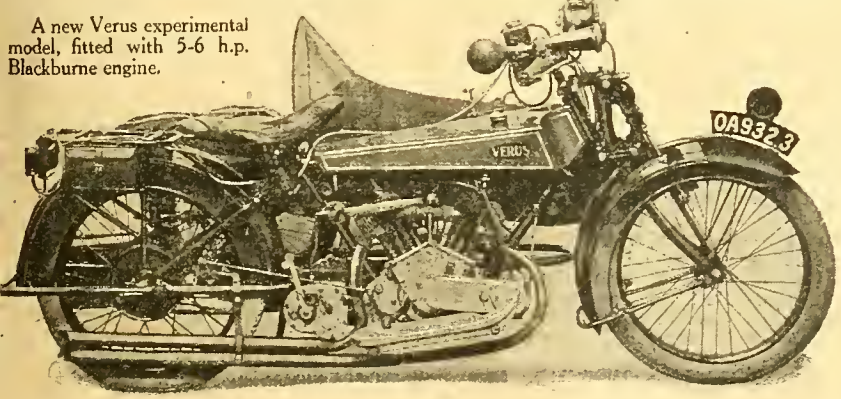
Undergoing test. A Verus model, fitted with an 8 h.p. Blackburne engine, that will undergo prolonged trials before being placed on the market.

An Extending Range.

Although better known for their lightweights, Messrs. Alfred Wiseman, Ltd., the makers, have given serious attention to larger engined machines. In fact, at the last Show they exhibited a very attractive 4 h.p. sidecar outfit. Next year the Verus range (which at present starts at a 2¼ h.p. two-stroke and ends at a 4 h.p. model) will include two twin outfits which promise to uphold the reputation created by their smaller sisters. The experimental models are now in existence, and will undergo a year's road test before being introduced to the public. One of these is a 5-6 h.p. model engined with a 696 c.c. Blackburne twin—a little-known engine which is, to all intents and purposes, two "2¾ h.p." cylinders on an 8 h.p. crank case. This machine is in daily use by Mr. T. Weaver, of the Verus Co., who, incidentally, won his class at the recent Redditch hill-climb with it.

Trying Them Out.

The companion machine is fitted with the 8 h.p. Blackburne engine, and is in use by Mr. B. Kershaw, the winner of the Victory Cup, who with it was successful in the South Birmingham M.C.C. Easter Trial to Lynmouth.



A new Verus experimental model, fitted with 5-6 h.p. Blackburne engine.

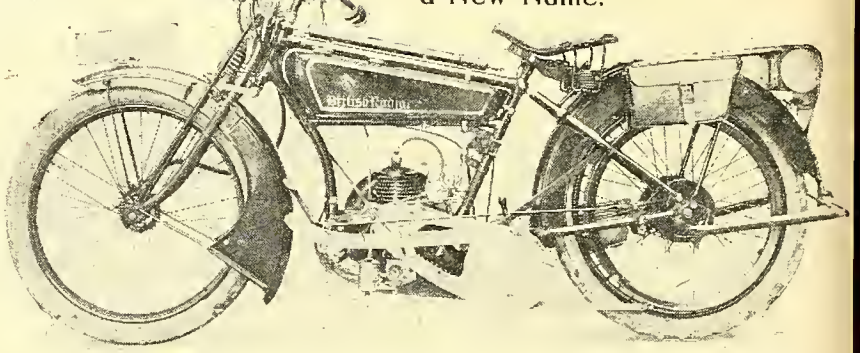
Both mounts are chain-driven, have Sturmey-Archer gear boxes, internal expanding brakes, saddle tanks, and exceptionally wide and well-designed guards. The saddle position is very low—in fact, the apparently long wheelbase is brought about by the construction of the frame. The distance between wheel centres, however, is rather longer than usual, which enhances the comfort when riding on indifferent roads.

There are many interesting details in the frame, the substantial head being one of them; but as many of them will be modified before the models are on the market, no purpose will be served by mentioning others.

In producing these machines—by the way, there are half a dozen of them on the road—so well in advance of the time when it will be necessary to decide upon their ultimate specification, the makers reveal a sound policy which very few follow. If there are any weaknesses or undesirable features in the make up of the machines, the two riders mentioned will find them in time for further experiments to be carried out. In this way, useless stocks of materials will be avoided.

A THREE-CYLINDER LIGHTWEIGHT.

Redrup Radial Engine as a Marketed Proposition under a New Name.



The 2¾ h.p. British Radial immediately strikes one as being a neatly-designed lightweight in spite of the unconventional position of several of the fitments.

BUT for the difficulty of accommodating a four-cylinder engine in a motor cycle frame, there would be more machines of this type on the market, if only on account of its smooth torque effect and its excellent balance. These effects are obtained to a certain degree in a flat twin—hence its popularity.

The three-cylinder radial is a type which should offer possibilities as a step between the two, for it provides even firing and one more impulse every cycle of four strokes, *i.e.*, two revolutions.

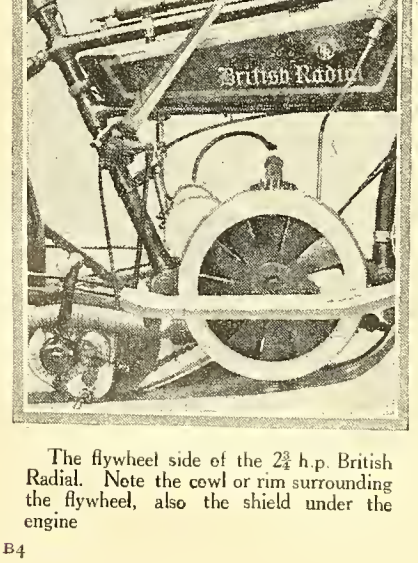
In our issue for February 5th last year, we published details and illustrations of the 309 c.c. Redrup radial, which, incidentally, made its *début* in competitions in the A.C.U. Six Days Trial.

As announced in last week's issue, the manufacture of the Redrup has been taken over by the Radial Engine Co., Lacland Place, 429b, King's Road, Chelsea, London, S.W.10, who are producing quite a taking little mount, which we are now able to describe.

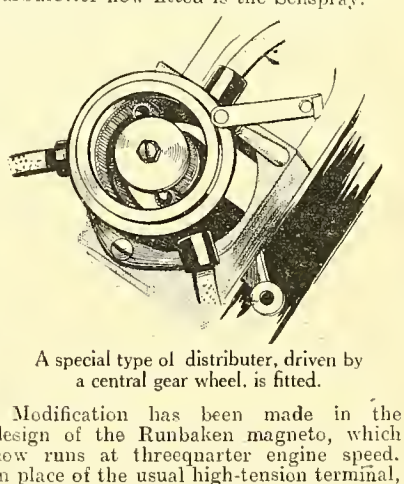
An Ingenious Timing Gear.

The three cylinders have detachable heads, are 50.8×50.8 mm. bore and stroke, and form a single casting with the crank case. Two crank case ends are screwed into the crank case shell, and these serve to support the bearings and also the eccentrics actuating the ingenious timing gear. The valves are reached by removing the cylinder heads; inlet and exhaust are on opposite sides of the cylinder, and the exhaust valves are so disposed that they are nearest to the draught set up by the vaned flywheel. Certain modifications have been made to the original design, the chief being the arrangement of the exhaust pipes, which now form a complete circle, thereby doing away with the acute bends in the original triangular exhaust pipe design. The oil sump and mechanical oil pumps have been eliminated; and the lubricant is now delivered to the engine through a Best and Lloyd drip-feed lubricator to a point in the crank case over one of the timing gears.

Another alteration is being made in the disposition of the carburetter, which will now take the position previously occupied by the magneto, while the magneto will be located behind the saddle tube of the frame. In its present position the carburetter is situated too near the ground, where it is liable to receive damage. The carburetter now fitted is the Senspray.



The flywheel side of the 2¾ h.p. British Radial. Note the cowl or rim surrounding the flywheel, also the shield under the engine



A special type of distributer, driven by a central gear wheel, is fitted.

Modification has been made in the design of the Runbaken magneto, which now runs at threequarter engine speed. In place of the usual high-tension terminal, a flanged steel gear wheel is fitted as an extension of the shaft. Surrounding the wheel is an internally toothed fibre case in which there are three equidistant brass segments, and between the case and the wheel there run two toothed steel rollers, which distribute the current at correct intervals.

Both Brakes on Rear Wheel.

Constructed chiefly of Chater-Lea parts, the frame has a sloping top tube, Chater-Lea forks, and two band brakes on the rear wheel, one operated by hand and the other by pedal. In general appearance the machine is distinctly attractive. Comfortable footboards are fitted, and the polished aluminium cowl surrounding the flywheel is designed to direct a blast of air on to the engine.

Points of convenience have been well studied, the mudguards are valanced, and the machine is thoroughly equipped. There is a shield under the engine, while the gear box is the Sturmey-Archer two-speed, incorporating clutch and kick-starter.

On the road we found the engine to have ample power and to run extraordinarily smoothly, and we are looking forward to a more extended trial. Incidentally, a member of *The Motor Cycle* staff has had one of the original Redrup engines in use for some time.

FUTURE MOTOR LEGISLATION.

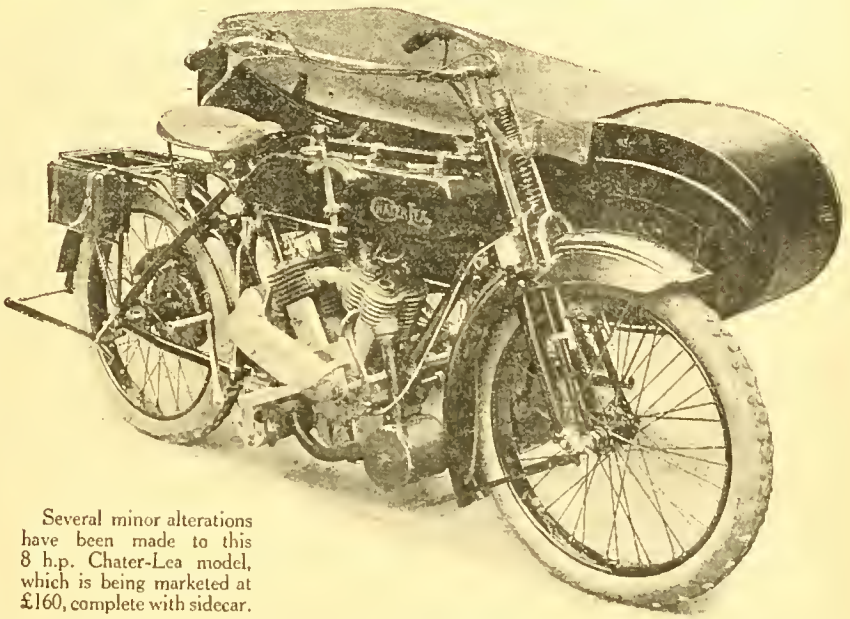
THROUGHOUT the latter part of last year motorists were repeatedly buoyed up with semi-official statements to the effect that early in 1921 a new Motor Car Bill would be introduced in the House of Commons. This measure was to codify and bring up to date the various regulations that have been hung to the Motor Car Act of 1903, and the automobile community at large was (says *The Autocar*) looking forward with considerable eagerness to the appearance of a Bill which would, for the first time, do away with anachronisms and generally eliminate absurdities. One of the most important points to be dealt with in the new Bill was the maximum speed at which motor vehicles of all kinds might be driven. A Government Committee has within the past few weeks been taking evidence on the subject, and while there seems to be a possibility that in the case of private motor vehicles all speed limits will be abolished, in which event the authorities would rely upon a clause prohibiting the driving of cars to the danger of the public, we are still of opinion that, even if such a recommendation be made to the Minister of Transport, and inserted in a Bill, it will not receive the sanction of the House of Commons. It seems to us far more likely that the Bill will embody clauses in which the speed limits now in force for the various types of motor vehicles will be considerably increased. Perhaps the maximum speed permissible for private cars and motor cycles will be raised from 20 to 30 m.p.h., and for heavy commercial vehicles running on rubber tyres from 12 to 16 or 18 m.p.h.

A Moderately Priced Big Twin Sidecar.

Elimination of Non-essentials is the Keynote of the No. 10 8 h.p. Chater-Lea Outfit.

IN motor cycle circles the name Chater-Lea has always indicated high quality in material and finish, and the new No. 10 sidecar outfit will naturally uphold the excellent traditions of the firm. It has been produced in response to a demand for a high-grade outfit complete with all the features necessary for serious touring, but sold at a moderate price.

The new model is fitted with a Chater-Lea 50° V twin engine of 964 c.c. (85 × 85 mm.) with silent valve mechanism, adjustable tappets, interchangeable valves, and large diameter bearings. It also has a three-speed car type gear box bolted to a rigid hanger, giving perfect alignment. The shafts run in large ball bearings, while the Chater-Lea ball bearing metal-to-metal multiple disc clutch, which has 130 sq. in. of contact surface, is retained. It is fitted to the engine-shaft, and thus runs at engine speed.



Several minor alterations have been made to this 8 h.p. Chater-Lea model, which is being marketed at £160, complete with sidecar.

Detachable but not Interchangeable.

The rear wheel is of the quickly detachable Chater-Lea pattern, while the front wheel can be removed by means of the knock-out spindle (they are not interchangeable); 700 × 80 mm. Dunlop heavy tyres are fitted on flat base rims.

An internal expanding rear brake is located in the hub, the drum being combined with the chain ring. It is 7in. in diameter, and has segments 1¼in. wide.

The tank holds over two gallons of petrol and two quarts of oil, and has a semi-automatic lubricator. The front, back, and sidecar mudguards are specially stayed, and, fitted independently of the hub axles, are of ample section, and allow plenty of clearance.

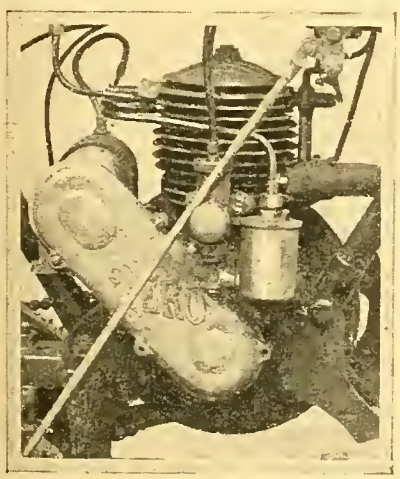
The sidecar embodies the Chater-Lea girder design of chassis, and is of great strength, while the body is well upholstered and comfortable.

Including the usual tools and accessories, this outfit sells at £160.

A New Two-stroke Engine.

Very Sturdy Construction is a Feature of the 2½ h.p. Pero Power Unit.

DESPITE the remarkable vogue of the two-stroke motor cycle, there are not so many *different makes* of two-stroke engines on the market as one might imagine. Therefore, a new design, even although mainly following conventional lines, is not without interest.



Neat lines and evidences of durability are features of the new Pero two-stroke engine

Simplicity and durability are the main aims of the Pero engine, and, as the cross section shows, all the bearings are on very ample lines. Plain phosphor bronze bushes are used throughout. Lubrication, controlled by a Best and Lloyd drip-feed, sends oil straight to the cylinder wall; thence it runs into a well in the top of the crank case. It is now led down two oilways to the main crankshaft bearings; the remaining parts are lubricated by splash.

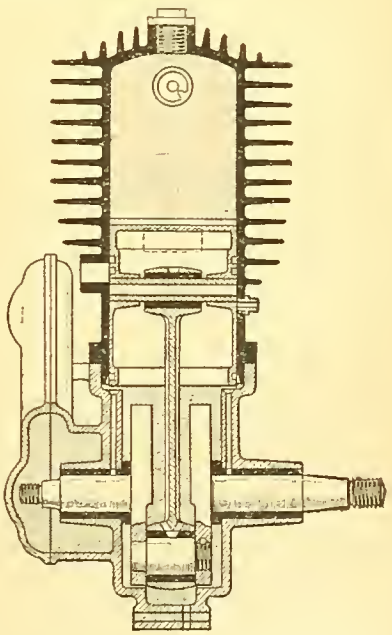
A two-piece crankshaft, with no loose balance weights, and very deep radiating fins, are other minor but yet important points.

Carried on an aluminium platform, which is cast integrally with the magneto chain cover, the magneto it·'s is placed in a protected position behind the engine. Following the best modern practice, the release valve gases are led by a neat passage to the main exhaust pipe.

The overall dimensions of the Pero engine are less than the average of similarly sized (70×70 mm.=269 c.c.) power units; the weight, too, is only 34 lb.

In order better to judge the capabilities of this new engine, we carried out a fairly extended test on the road. Remarkable power and flexibility proved to be its chief virtues; petrol consumption was not at all excessive.

The makers are the Pero Works Co., 23, Potter Street, Birmingham.



Cross section, showing very large plain bearings and the built up crankshaft.

SECOND-HAND PRICES.

How to Find at a Glance an Approximate Value for any Motor Cycle.

In "The Motor Cycle" for March 3rd we printed a very ingenious formula, proposed by a reader (Mr. Frank Hall, of Stockton-on-Tees), for determining the value of a second-hand machine. This formula aroused considerable interest, but met with the inevitable complaint that, to use it, one must possess a fair knowledge of mathematics. To overcome this, "C.F." has devised the accompanying chart, which is based on Mr Hall's formula, and which may be used without the help of either higher mathematics or of a slide-rule.

NO one will deny the ingenuity of Mr. Frank Hall in attempting to solve by means of a formula the difficult problem of ascertaining the approximate value of a second-hand motor cycle. It is not, however, to be taken for granted that every owner or prospective buyer of a second-hand machine is a good enough mathematician to be able to perform the simple operation of raising 0.9 to 5.5 power.

To those then to whom such an operation is a mystery, the accompanying chart will be useful, or at least interesting. Indeed, so simple is the working of the chart that there seems to be no reason why Mr. Hall's formula, when reproduced in this form, should not become of universal utility.

The three curves Nos. 1, 2, and 3 for the different months of the year are plotted from Mr. Hall's formula

$$V = \left\{ \frac{(y-1)^n}{y^n} \right\}$$

To many it will seem to give too high a figure for the second-hand machine, but it may be assumed that the values given by these three curves are for a machine which is in good condition considering its age. This, unfortunately, is very seldom met with in machines which have changed hands once or twice, and the older the machine the more likely is it that it has received more inconsiderate treatment.

No. 4 curve has therefore been plotted from the formula $V = x \cdot 0.86^n$, which has been adopted as giving a fair average value of second-hand machines of this latter class: that is, of machines which are still in good running order but have not been kept in first-class condition. It is to be feared that this class is lamentably large. The method of using the chart is as follows:

From the bottom left-hand corner A of the chart draw a line to the stroke on scale B denoting the present-day price of the machine, sidecar, etc., as explained by Mr. Hall for the use of his formula.

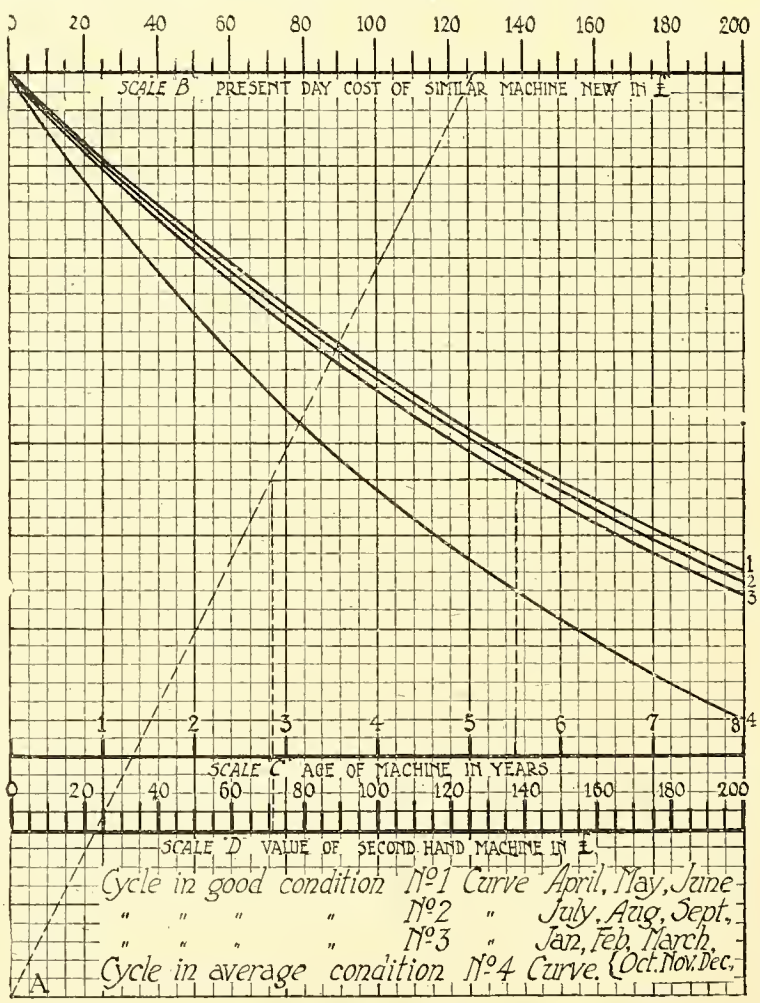


Chart for finding approximate values of second-hand machines.

From the stroke on scale C denoting the age of the machine in question draw a vertical line to whichever curve corresponds to the prevailing conditions (that is, if the machine is in first-class condition, and the month in which the purchase is being made is August, No. 2 curve is used; if the month is May, No. 1 curve is used; and if the month is December, No. 3 curve is used. On the other hand, if the machine is not in first-class condition, a fair average value is obtained by using No. 4 curve).

From the point where this line cuts the curve to be used draw a horizontal line to cut the line first drawn from the mark A to scale B, and from the intersection of these two lines draw a vertical line to scale D at the bottom of the chart. The reading on this scale gives at a glance the value of the machine in pounds sterling.

This chart can be used for exactly the same purposes as the formula—in fact, it is but a graphical method of working out the formula, the method of arriving at the result being the same as that described by Mr. Hall.

The dotted lines on the chart show graphically the example given by Mr. Hall as No. 1. C.F.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

AN ANOMALY IN GEARS.

Sir,—I am surprised to see that the great majority of makers are continuing to fit two-speed clutch gears to lightweights. A cheap, simple dog two-speed is in order, but when a clutch and kick starter are included, why on earth not three speeds instead of two, or better still, four speeds? The additional weight would only be a very few pounds, and would completely alter the capabilities of the machine. New manufacturers would hardly dream of making a "3½" with only two speeds, yet the poor little 2½ h.p. lightweight has to jog along on two. I think most purchasers would be prepared to pay a pound or two extra for the third ratio.

G. T. NEWBOULD.

CHAIN LUBRICATION.

Sir,—Though I cannot claim to have tried Mr. Henry Evans's tip (in your issue of April 7th) for keeping a naked chain clean, it seems that the oily paint brush would collect the mud and grit off the chain, and some of it would adhere. Thus I should think that no advantage is gained, for there would be a continual "sand-papering" effect produced by this grit-laden brush. In fact, it would be better, in my opinion, to let it alone. H.S.P.

Osborne.

Sir,—After reading the many various tips *re* naked driving chains, I cannot refrain from sending you mine, in the hope that it may prove useful to other readers. Mix fine powdered graphite with any stiff gear grease to form a stiff paste, mostly graphite. Apply with a paste brush. After ten miles the grease will have gone and the rollers have an oxidised look, which I find remains on for at least 150 miles, and sometimes more. I have used this method for a long time, and find it cheaper and better than any other patent product I have tried. I get a very long life from my back chains, which I put down to my treatment.

Gosport. J.B.M.

QUEER BEHAVIOUR OF A TYRE.

Sir,—Can any of your readers offer a solution of the following? Starting in the morning with tyres hard, the back wheel commenced to bump on the rim after covering about a mile. I pumped up in hopes of being able to return to the garage for repairs, which I accomplished and found tyre still board hard.

After half an hour's wait without further signs of leakage, I decided to resume the journey, and after a couple of hours running about town, the tyre was still O.K.

I then went for a spin, and on clearing the tram lines, opened up, when the tyre instantly deflated. On removing the tube I could find no trace of a leak, even with the greatest care. I refitted the tyre and pumped up and ran machine for about two and a half hours fairly slowly, being in a lazy humour. But, on again opening up to approximately 25 m.p.h., the air in the tube immediately disappeared without the usual unpleasant hiss. On applying the inflator I found that the tube refused to hold even the slightest trace of air. Again removing the tyre I found no leak, and, refitting it, was able to pump up as usual after travelling another three or four miles further, and this performance was repeated, identically, when I managed to reach home.

As further information, the tube is in perfect condition. The few patches on it are all secure. The valve and its seating are both all right. C.P.V.T.

Dublin.

THE PERSONAL ELEMENT IN TRIALS.

Sir,—Mr. Basil Anderson has brought up a question which is often asked, and the reply generally infers that the machine sold to the average man will not do what machines ridden by trials riders will do, and that the latter machines are all special models.

Now regarding reliability trials riding, with a very few exceptions this opinion is entirely wrong. The real trouble is that the average man who owns a motor cycle does not keep his machine in good tune, is a bad or inefficient driver, or will not compete in competitions for fear of damaging his machine or knocking it about. And, lastly, there is the man who either thinks competitions are too strenuous, or to whom they do not appeal.

Regarding Mr. Anderson's remarks in his last paragraph, namely, "Should any manufacturer be bold enough to allow and advertise the fact that his machines were to be ridden by men culled from the ranks of ordinary motor cyclists . . . the public would take a greater interest. . . ." I am afraid it would be of very little value either to the manufacturer or the public, because most of the failures would be caused through bad handling of the machines, owing to this class of rider not being used to negotiating such difficult pieces of country as are necessarily put in to make up a trial course. The personal element only comes in to show that if the machine is handled properly it is capable of doing the work required of it.

If Mr. Anderson were buying a piano, and he heard me make a noise on it with one finger, and then heard a musician play on a similar instrument, would not the musician's performance be the deciding factor? It is the trials rider who shows the public what the modern motor cycle will do if handled properly, and so makes it more perfect and better for those who are not so expert.

Perhaps Mr. Anderson has not yet heard that an amateur won the Colmore Cup, and, I think I am correct in saying, not on a special machine. R. W. DUKE.



Another squad of Belgian motor cycle police. In this case their mounts are Triumphs, all two-strokes, except in the case of the sergeant, who chooses to ride a 4 h.p. model.

A PRIVATE THIEF-PROOF DEVICE.

Sir,—I notice in a recent issue details of an ingenious petrol tap lock, and this makes me wonder whether the users of certain variable jet carburetters are aware that they can make their machines more or less thief-proof in one second by simply turning the adjusting screw sufficiently to close the jet orifice. So long as the screw is marked it can be turned on again, just as quickly, to the usual setting. I have always followed this practice with such carburetters as the Schebler, B.S.A., etc., and also with the W.R.S. new attachment. It is advisable, however, not to forget what has been done when one wishes to resume the journey. I recently nearly broke the kick-starter and also my own starting mechanism in vigorous attempts to start my machine, all of which were ineffectual until a brain wave made me recollect my thief-proof (but evidently not foolproof) gadget.

ERNEST McCREA.

A.A. PATROLS AND BREAKDOWNS

Sir,—With regard to the A.A.'s demand for increased subscriptions, I should like to state my experience of a recent Sunday. I was riding a borrowed machine along the London Road from Rugby to Coventry, when the back tyre burst. As there was no repair outfit in the tool bag I pushed the machine two miles back to the A.A. filling station on Blue Boar Corner, expecting to find any aid I required on production of my membership card, but was amazed to find the patrol had no repair outfit or tools other than his own private cycle kit. The place was not even on the telephone and I had to push the machine the remaining three and three-quarter miles into Rugby. I have been a member of the A.A. for some time, but this was the first occasion on which I have needed its service; and until this sort of thing is remedied and some serious attempt made to give members something more than a brass badge and a guide book (which contains one or two inaccuracies) in exchange for their subscription it certainly will not get any more money from me. I remain (until March 31st),

Rugby. ANOTHER UNGRATEFUL MEMBER.

WHY OBJECT TO MUD?

Sir,—It would be interesting to know why so many people are clamouring for better mudguarding on motor cycles, and leaving the question of hoods entirely on one side. Surely so long as one is content to be drenched every time one goes for a run and it comes on to rain, one should not mind a little mud on one's overalls; and, as a hood is obviously both undesirable and impossible, why grouse about mudguards? Let those riders who object to the discomforts of motor cycling purchase a scooter, and for ever after hold their peace! A motor cycle is *not* a car on two wheels, and never will be—it is not designed or intended as such. To my mind, a motor cycle is represented by a machine faster and handier than a car, more economical to run, and easier to look after, but having a certain amount of discomfort attached to it.

My ideal is almost realised in the machine I own at present. The machine to which I refer is a 1920 3½ h.p. three-speed Norton with B.R.S. engine, Binks carburetter, and Lucas Magdyno, also a Brooks B225 saddle.

It is very fast, very economical—I average over 100 m.p.g. on half benzole and petrol in a very hilly district—develops really extraordinary power, and is exceedingly easy and pleasant to handle under any conditions: a very great point, to my mind. It is the essence of simplicity, and any adjustment can be made with the minimum of trouble. For instance, when decarbonising, the cylinder will *really* come off, and will not stick halfway. The tick over, hot or cold, is wonderful, starting is easy, and acceleration and power all that can be desired. I do a great deal of hard riding, often with a heavy passenger on the carrier (*not* the "one and only"), and a twenty miles run almost every night. The Magdyno has always worked perfectly, and gives a splendid light and a first-rate spark at high or low speeds. The riding position is comfortable, and gives extreme steadiness in grease, and all the controls are in a natural position. *But*—one certainly does get muddy! I admit, however, that I do not mind very much, for, after all, almost every form of sport has its unpleasant side—in fact, it would cease to be a sport if it had not.

May I conclude by saying I have no connection whatever with Nortons nor with any of the other firms mentioned?

Cockermouth. UNAPPROACHABLE

PRICES IN INDIA.

Sir,—Being particularly interested in Indian business, perhaps a few words of enlightenment would be of service in dealing with the question of prices charged by agents for machines in the various parts of India.

Your correspondent from Allahabad (*vide* page 887 of your issue dated December 30th, 1920) points out that a B.S.A. outfit, Model K, is being advertised for Rs. 2,150. He maintains that this figure is extortionate, but before one can arrive at such a decision it would be wise to take into consideration the rate of exchange ruling at the time this machine was received in India, as all agents in that country cannot sell at present at a fixed figure.

The rate of exchange for the past twelve months or so has fluctuated from 2s. 9d. down to 1s. 4d. per rupee, and, taking a B.S.A. machine at the rates your correspondent names, viz., £150 for the outfit, plus £10 for duty, plus £15 for importation costs, a sum total of £175 sterling is made. Basing this sterling price on both the highest and lowest rate of exchange, you get the following actual cost delivered in India: Rs. 1,273 and Rs. 2,625.

I trust that you will be able to find room in your journal for these few remarks, as no doubt many purchasers overlook this fact. Moreover, the majority of manufacturers in this country are not aware that the fluctuation of exchange prevents their agents from selling machines at a fixed price year in and year out.

E.W.G.

Palmers Green, N.

Sir,—With reference to Mr. Mukerji's letter, which you quote under heading of "Comparative Prices" on page 877 of your issue of December 30th, this is most misleading. Your correspondent has taken the rate of exchange as 1 rupee equals 2s. It is quite some time since the rupee was worth this. Current rate is 1s. 4½d. Mr. Mukerji allows the agent £175 for catalogue price and duty and importing charges, which, at the above rate of exchange, works out at about Rs. 2,500. Anyone who has lived in India during the war knows that, owing to Government restrictions, no British cars could be imported, and the Americans therefore had a clear field.

F. H. HAWKINS.

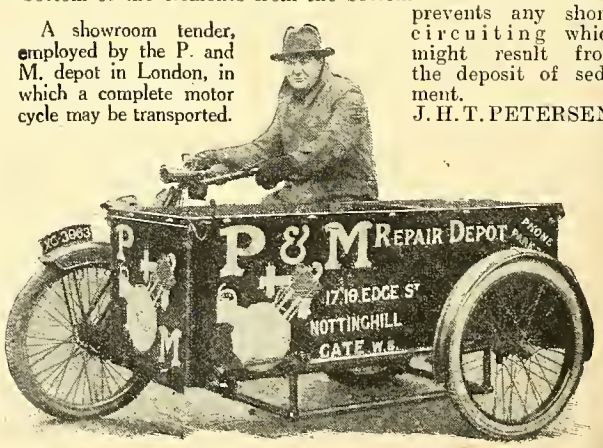
(TWENTY-ONE YEARS IN INDIA.)

SHORTING AN ERITH BATTERY.

Sir,—With reference to your correspondent "T.D.L.'s" letter in a recent issue of *The Motor Cycle*, re accumulators for motor cycle lighting, we note that he remarks that with the round plate type manufactured by the Erith Battery Co., Ltd., a dead short does not appear to harm it in the least.

As sole selling agents for these accumulators we would, however, like to warn users of these that, although this type will withstand such treatment to a very great degree, it is not a practice which should be adopted, as even this type will in time deteriorate if persistently ill-treated in this manner. The fact that these accumulators will withstand dropping is due not only to strength in construction of the elements, but to the fact that the whole of the elements are insulated from shock from the celluloid case by patent rubber buffers at top, bottom, and sides to ensure a long life under all conditions of vibration. The base buffer, moreover, since it raises the bottom of the elements from the bottom of the celluloid case, prevents any short-circuiting which might result from the deposit of sediment.

J. H. T. PETERSEN.



A showroom tender, employed by the P. and M. depot in London, in which a complete motor cycle may be transported.

TANDEM OR TWO-SEATER MOTOR BICYCLES.

Sir,—I consider there is a decided opening for a two-seater motor bicycle, and I quite expected to see one on the market this year. It need not be a long ugly thing, as the length need only be 12in. to 14in. longer than the single-seater, and the extra length should be an advantage both for the springing and the transmission. It would make a very economical two-seater, as half the motor cyclists of to-day have not the convenience for keeping a sidecar; and to keep a sidecar away from home means, perhaps, another £12 per year. One would be far more likely to go for a run on a dull day if one could take a friend with one, comfortably seated on the cycle. Take a week-end run, for instance; the pleasure is doubled if one has company.

RAYMOND C. HOWES.

SPEEDS ON KOP HILL.

Sir,—Might I raise a point with regard to the last Essex M.C. hill-climb at Kop Hill on April 2nd?

The fastest time of the day was given as 30.4s., and several others as 32s. and upwards. The nature of the hill should be considered—it is not a Porlock, but nevertheless it is rough, several gulleys running across it, two slight bends, a fairly steep gradient, and a final gradient of 1 in 5½. Now the distance covered was given as nearly threequarters of a mile, and is it not a little astonishing that this was covered in 30.4s. (and upwards), thus giving us a speed of about eighty miles an hour, and also for the competitors, motor cycle and car, to cover this distance in such short times? I think that the distance covered must have been nearer a half or five-eighths of a mile to be accomplished in such short times.

I might say that I know the hill well, but was unable to attend on the day. I do not wish to discredit the competitor, machine, or the Essex M.C., but I think that the distance covered in the times given must set a few readers of *The Motor Cycle* thinking and wondering if both times and distance are correct.

W. BEDGGOOD.

[The measured course on Kop Hill used by the Essex M.C. was 41 chains in length (902 yards, or .513 mile); therefore de la Hay's speed was approximately 60.7 m.p.h. The total length of the hill is 58 chains (1,276 yards, or .725 mile). It was not stated in *The Motor Cycle* that the climb measured nearly threequarters of a mile.—ED.]

WHERE ARE THE SCOOTERS?

Sir,—In a recent issue "Ixion" asks, "Where are the Scooters?" Well, personally, I am glad to say that one of them is still in my possession, and I should be very sorry indeed to be without it. I have had it now a little over a year and done about two thousand miles on it, and it is running better than ever. Of course I do not for a moment pretend that a scooter can compete with a motor cycle, but if you live in a hilly country, as I do, and a few miles from the nearest town, and get a good scooter, simply to take the place of a bicycle—then I have no doubt that you will find it, as I do, a joy and a comfort. As for those wonderful tales about scooters I have a suspicion that "Ixion" manufactured them to amuse his readers, but if this is not so, then all I can say is that, either they must have been very bad scooters, or else very incompetent owners. My machine will do over twenty miles an hour, but as I only care to go at a cycling pace I ride at ten to fifteen, and at that pace I climb all the hills about here—and this, as I have said before, is a hilly country. Last summer, after tea I used to go for little two-hour joy rides of twenty to twenty-five miles, and very pleasant they were. At the present moment, while I am away from home, my little Skootamota is being repainted and overhauled, for I think it has well earned this. So that looking back on my past year and realising how admirably my machine has fulfilled my needs, I think I may say on my part that these strictures leave my withers quite unwrung.

E.F.

Tunbridge Wells.

ALL-WEATHER RIDING.

Sir,—A doctor must ride in all weathers and still appear presentable. His coverings must be easily removed.

I find the legs are best protected by Brooks "leggings," and I cannot speak too highly of their value. I use the long pattern for rainy days and the short pattern otherwise. The strap under the instep should be cut away, as it is not essential, and the long leggings can then be put on in eight seconds. The short leggings take less time.

These leggings are efficient in the wettest weather, though snow is sometimes blown under the flap covering the foot.

In heavy rain water is apt to collect in one's lap and run through the join of the waterproof. To avoid this I use a stout waterproof sheet 1¾×3½ft., which is fixed to the forks above the tank by two small straps. A brass stud is incorporated in each strap. This stud pierces the waterproof, which is here reinforced by a disc of leather. The strap encircles a cross member of the forks, and the stud is then pushed through a slit in the strap. This fixes the sheet securely to the forks, and leaves the buckle and strap end free to fasten round the sheet when rolled up.

At the rear end of the sheet on the right-hand side is a stud or push-button, such as is used in gloves. On the left-hand side is a buckle and adjustable tape an inch broad, having the push-button cover at its end. This tape embraces one's back, and the "cover" is pushed on to the push-button with the right hand. This produces an apron effect, which is very efficient and instantly releasable.

Not the least important use of the apron is as a saddle cover. The tape then passes round the carrier to prevent the apron being blown off. The cycle may then stand in the heaviest rain without the saddle getting wet. When not required it is rolled forward and strapped up in a moment.

Two things I should like to know—how to prevent one's front mudguard becoming packed with snow, thus "braking" the wheel, and how to cross a stream without having to put one's foot into the water?

I use a two-year-old 3½ h.p. Sunbeam. It has never failed me since I inserted an Apollo mica-insulation plug, which has now been in use for 5,000 miles, and has never given any trouble.

I have no interest in the firms named other than as a satisfied user of their goods.

M.B.

Midlothian.

SUMMARY OF CORRESPONDENCE.

Two letters dealing with road courtesies have reached us. In one of these a reader (Mr. G. S. Applebee) revives the old suggestion that motor cyclists, resting by the roadside, should exhibit a white handkerchief sign to denote that they do not require help. Our second correspondent, who signs himself "Mechanician," suggests, among other things, that there should be special signs to denote, "You are running on the wrong side of the highway; get over to your own side!" and "I will report you to the A.C.U. (or A.A.)!"

Inspired by a recent letter headed "Under Difficulties," "Relic" sends a report of a 200 mile run on a 1908 3½ h.p. Rex, which he accomplished with only two stops *en route*. We are inclined to agree with him that such runs are more "sporting" than those made on brand new machines.

Mainly for the benefit of Surrey readers, Mr. R. Malcolm points out a danger spot not far from the main Wimbledon Common road. It lies at the junction of Calonne, Somerset, and Burghley roads.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*

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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d. stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

A STANDARD TIMING.

I have an Arno motor cycle of 3½ h.p. or 4 h.p. It is fitted with a three-speed S.A. hub gear, and by its general design and appearance I conclude it is either a 1913 or 1914 model. I wish to convert this machine into the sporting single-geared type, so should be much obliged if you would furnish me with particulars of most suitable valve timing for general running.—F.L.H.

The engine is a 3½ h.p. model, and we recommend you to keep to the standard timing. Set the exhaust valve so that it is just closing and the inlet just commencing to open when the piston is on top dead centre of the stroke.

BALANCING.

Some months ago I purchased an out-of-date machine. It runs very well up to 20 m.p.h., but between that and 25 m.p.h. the handle-bars vibrate badly, so much so that the lamp-bracket has broken three times. I first made certain that the engine was secure in the frame. Finding it so, I dismantled the engine entirely. The previous owner, I presume, had lightened the engine, as I found the flywheels were drilled and weighted with lead, the connecting rod drilled, and the piston had only one ring and slot at the top. I have weighed everything on a pair of scales, and find that the weight of piston, including ring and gudgeon pin, is 1 lb. 10 oz., and the weight of connecting rod 1 lb. The weight that balances the bob-weights on flywheels is 1 lb. 12 oz., which includes the crank pin of 4 oz. I arrived at this by the following method: I disconnected the flywheels, and took out the connecting rod, and reassembled. I then made a pair of runners for the ends of the shafts to run on, and made a hook of wire to fit the crank pin by placing 1½ lb. on this hook. The flywheels balanced perfectly, so, the crank pin weighing 4 oz., I presume the balance weights on flywheels weigh 1 lb. 12 oz. Now, what I wish to know is, should I drill out some of the lead from the flywheels or from piston (which seems to be very soundly constructed)?—A.L.F.

Judging by the weights you give, the engine is slightly under-balanced, and we would suggest that you add from 1¼ to 2 oz. to the balance weights on the flywheels. Add an equal amount to each flywheel, and test the effect with the smaller quantity before adding more weight.

TWO-POINT IGNITION.

Shall I be liable to damage my magneto if I insulate the sparking plug from the engine, then run a wire to another plug in the exhaust cap, the current thus running through both plugs? It is my contention that with this arrangement no harm can take place if the current flows positively through the high-tension wire, as the second plug will be fired momentarily after the first, and not as if the gap were doubled.—A.G.

You will not damage the magneto provided that the combined gap of the two plugs is not more than ⅛in. You are wrong in your assumption that the spark occurs at the second plug. The sparks may be considered to take place simultaneously, and the resistance to the flow of current is the same as if one gap equal to the combined gaps were used.

LOW POWER AND TOP GEAR CLIMBING.

I have a 2 h.p. overhead valve Mead-Precision, and would like you to tell me what is a suitable gear ratio for hilly country. The engine-shaft has fifteen teeth geared into thirty teeth on camshaft geared into thirty teeth on driving-shaft for high gear; and eighteen teeth on camshaft geared into forty-two teeth on driving-shaft for low gear, with 4in. belt pulley and 14in. belt rim.—J.B.

The sizes of the pinions give a top gear of 7 to 1 and a low gear of 16.3 to 1. These gear ratios should be about right. Owing to the small capacity of the engine, you cannot expect a very good performance on high gear. You are perhaps unaware that the particular model which you have was only on the market for a short time before the makers increased the size of the engine.



WHERE CHAIN DRIVE SCORES.
G. H. Tucker (4 Norton sc.) navigates the watersplash between Rhayader and Devil's Bridge in the Western Centre Two Days Trial

MAKING A DYNAMO.

? I have a U.H. magneto which I intend to turn into a dynamo for lighting a motor cycle. The field magnets are 2in. wide, and the armature is 1¾in. diameter. What size wire and what ratio of gearing from the engine do you recommend for using the H armature that is already in the magneto to light six-volt lamps?—A.J.L.

You will have to find out the amount of wire by experiment. Use 22G double cotton-covered copper wire, and get as much on to the armature as you can. It is doubtful whether you will be able to light six-volt lamps; four-volt are more likely. Run the armature at about one and a half times the engine speed.

LOOSE FLYWHEEL.

? Since fitting a new 2¼ h.p. Levis cylinder, piston rings, gudgeon pin, and rebushing, I have run about 800 miles without trouble, until recently the big end came undone through the screw breaking. I finished my journey without mishap, except clatter, and was somewhat surprised to find no damage done, so far as I could see. However, upon putting things together again, although everything appears to be in order, it will only fire as though pre-igniting, or as if an explosion occurred in the crank case or downward stroke of the piston about every second revolution. It appears to hold the piston from descending, but, by going to the top of a steep pitch and "blinding" down, I managed once only to obtain correct firing for about two and a half miles at all speeds from six to thirty miles per hour, after which period pre-iguition again returned, which, of course, in every case resulted in the flywheel running loose. What is the cause?—F.E.

We should imagine that the whole trouble is due to the flywheel being insecure upon the mainshaft, and would strongly recommend you to return the engine to the makers for attention, as it is doubtful whether you will be able to rectify it yourself.

TWO-STROKE HINTS.

? (1.) I have a 2½ h.p. Royal Ruby (Villiers engine) with Amac carburetter and C.A.V. magneto, which sparks well, but the engine is occasionally subject to a popping back through the carburetter, which is thoroughly clean. I have tried careful adjustments of the air lever, but have failed to remedy this nuisance. (2.) What is the capacity of the engine? (3.) How often should the engine be taken down? (4.) How many revolutions does the engine run per minute?—W.D.

(1.) The blow-back through the carburetter is probably caused by the fuel supply being slightly starved. Either the jet is too small or there is some restriction of the flow of petrol either between the tank and the carburetter or between the float chamber and the jet. (2.) The cubic capacity of this engine is 269 c.c. (3.) The cylinder and piston should be decarbonised about every 1,000 miles. (4.) The normal speed of this engine is about 1,500 to 1,800 r.p.m., but the actual rate of revolution, of course, depends on the road speed and gear.

READER'S REPLY.

BELT SLIP.

The following may be of assistance to "W.W.," whose query you publish in the issue of April 7th. My first motor cycle was a well-known 2 h.p. lightweight with a ⅝in. belt. I had much trouble with belt slip in wet weather, but obtained relief by the simple expedient of drilling a row of holes (I think 1/16in. diameter) in the flange of the pulley, care being taken that the holes were drilled in the track of the belt. Further, I rubbed the belt with a sticky compound called Belticum.—L.W.C.

EXPERIENCES WANTED.

"E.S.E." (Sheffield).—Use of Spots on 2¾ h.p. J.A.P. engine; also average consumption with Amac or other carburetter.

"L.S.L." (Brondesbury).—Beardmore-Precision motor cycles.

RECOMMENDED ROUTE.

REDHILL TO PINNER.—C.E.R.

Redhill, Reigate, Burgh Heath, Ewell, Surbiton, Kingston-on-Thames, Richmond, Kew Bridge Station, Gunnersbury Lane, Ealing Common, Hanger Lane, Alperton Station, Harrow-on-the-Hill, Pinner. Approximately 33 miles.

Important Dates.

Sat., April 23rd—Midland Centre A.C.U Open Reliability Trial.

Wed., April 27th—A.C.U. One-day Trial

Fri., April 29th and Sat., April 30th—Ealing and District M.C.C London-Holyhead Open Reliability Trial.

Sat., April 30th—Newcastle and District M.C. Travers Challenge Trophy Open Reliability Trial

Sat., April 30th—Surbiton and District M.C.C Open Inter-Team Trial (Private Owners only).

Sat. May 7th—B.M.C.R.C. Open Meeting at Brooklands.

Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.

Sat. May 21st—Western Centre A.C.U. Open Hill Climb.

Wed., May 25th—A.C.U. Silencer Trial at Brooklands.

Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.

Tues., June 14th—Junior T.T. Race

Thurs. June 16th—Senior T.T. Race.

Sat., June 25th—M.C.C Inter-team Trial for "The Motor Cycle" Cup

Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.

Sat., July 2nd—North-Western Centre A.C.U. Open Speed Trials.

Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.

Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials.

Sat., July 9th—St. Andrews Speed Trials

Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.

Sat., July 16th—Yorkshire Centre A.C.U. Open Reliability Trial.

Sat., July 23rd—East Midland Centre A.C.U. Open Speed Trials.

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland

Mon., Aug. 29th, to Sat., Sept. 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

SPARKLETS

An Amended Award.

George Brough, who rode an 8 h.p. Brough Superior and sidecar in the Colmore Cup Trial, and was awarded a bronze medal, has now been informed by the committee that this award was due to an error; actually he gained full marks, and a high position in the acceleration test.

Ball Bearings.

In order to facilitate repair work generally, the Skefko Ball Bearing Co., Ltd., of Luton, has organised a special "garage supply department," so that small orders for replacement purposes can be filled immediately. Garage proprietors and repairmen should avail themselves of the special postcard order forms which the firm supply.

Catalogues Received.

Maplestone Cantilever Spring Forks, Ltd., Stirchley, Birmingham: A description of the Maplestone adjustable spring fork.

S. A. Newman, Ltd., 49-53, Lichfield Road, Birmingham: Ivy 2¼ h.p. and 3 h.p. models, also the 3 h.p. model K sidecar outfit, are described in the latest catalogue, which contains some details of the hill-climbing performances of these excellent little outfits. Two photographs of the Ivy sidecar climbing the Old Wyche at Malvern are reproduced from *The Motor Cycle*.

A.C.U. Publications.

"The A.C.U. Handbook and Touring Guide": A compact book containing a vast amount of information of use to motor cyclists. It tells the reader all about the Auto Cycle Union, it gives the rules in full, particulars of the affiliation scheme, the A.C.U. Consular service, and much information concerning touring, such as suggested tours and a map of a circular tour in England, Wales, and Scotland, a table of main road distances between important towns in England and Wales, and some hints concerning foreign touring. A large number of hotels and repairers now carry the A.C.U. sign, and a list of these is included in the book.

A legal section is of special interest at the present moment, as it tells the motor cyclist all about the new licensing, registration, and taxation regulations.

"The A.C.U. Handbook" is free to members, but non-members can obtain a copy, price 3s. 6d., from E. J. Burrows and Co., Ltd., Cheltenham.

"The Auto Cycle Union Competition Rules" (1s., the Auto Cycle Union, 83, Pall Mall, London, S.W.1): In this publication the A.C.U. open competition rules are published in their entirety. They have been drawn up with the idea of keeping the sport clean, and ensuring open competitions being carried out in a thoroughly regular manner.

CURRENT CHAT

Times to Light Lamps.

April	21st	... ...	8.33 p.m.
,,	23rd	... ...	8.36 ,,
,,	25th	... ...	8.39 ,,
,,	27th	... ...	8.43 ,,

Cycle Cars in the B.A.R.C. Whitsun Meeting.

One race at the B.A.R.C. meeting on Whit-Monday is open only to motor cars and cycle cars, the engine capacity of which does not exceed 1,100 c.c.

Ex-D.R.'s.

Ex-D.R.'s are now scattered over the four quarters of the world, and every mail brings letters from them. This week K. E. Tulloch, late of the 20th Signals, R.E., who writes from Hadeija Kano, N.P., West Africa, wishes to hear from old comrades of his corps.

Was it Ignorance?

According to *The Birmingham Mail* of April 11th, a Birmingham motor cyclist was summoned recently for "failing to have a rear-light sufficiently illuminated as to keep the identification plate easily distinguishable." No effort appears to have been made by the defence to point out that it is unnecessary to illuminate the rear number-plate, at all, on any motor cycle weighing less than 3 cwt., provided the front plate is distinguishable.

England v. Holland.

Considerable interest is being manifested in Holland in the forthcoming visit of the team of Dutch riders to compete against a representative team of British riders in England next August. During June the Dutch Motor Cycle Club will hold its Dutch Championship Trials, extending over four days, which are to serve as eliminating trials to determine the team to represent Holland in the International Trial.

The Belgian Grand Prix.

Among the many important Continental events this year there will be the Belgian Grand Prix, to be held on August 12th. It will be organised by the Belgian Motor Cyclists' Federation over a course approximately nine and a half miles long, triangular in shape, of which the three apices are Francorchamps, Malmedy, and Stavelot.

There will be two classes, the Senior (not exceeding 500 c.c.), which will have to cover the course twenty times; and the Junior (not exceeding 350 c.c.), which will have to cover the course fifteen times. The rules are very similar to those of the T.T. race, even to the 250 c.c. class being included, which will be eligible for special awards.

Entries at ordinary fees (500 francs) close on May 31st, and should be sent to Dr. Lamborelle, President of the Competitions Committee of the F.M.B., 14, Rue Charles-Martel, Brussels, Belgium.



Proposed Alteration of Date.

It has now been arranged to hold the North-western Centre A.C.U. open speed trials, fixed for July 2nd, at Morecambe; and the Centre is also endeavouring to alter the date to June 18th, and thus to attract returning T.T. competitors.

Yorkshire Centre A.C.U. One Day Trial.

"This trial is the best one day sporting trial ever . . . " is how the Yorkshire Centre event, to be held on May 7th by the Sheffield and Hallamshire M.C. and L.C.C., is described in a footnote on the regulations. Entries must reach the hon. trials secretary, Mr. A. Handford, 646, Abbeydale Road, Sheffield, before Saturday, April 30th.

Special Features.

A HOLIDAY WEEK-END.

SECOND-HAND VALUES AT A GLANCE.

T.T. NOTES AND NEWS.

Fastest Time on Kop Hill.

Most famous hills have their records. The fastest time ever made on Kop Hill is T. C. de la Hay's 30⅖s. on his Sunbeam. The previous best was L. P. Openshaw (Zenith), 32⅗s.

Silence.

If the authorities are really anxious to reduce traffic noises—and it would appear to be so since they are constantly worrying motor cyclists concerning their silencers—they might turn their attention to London electric trams, which are deafening in certain districts.

Scottish Open Hill-climb.

There are no fewer than twenty-two classes in the open hill-climb to be held by the Glasgow Western M.C.C. on Saturday, April 30th, on Garshake Hill, Dumbartonshire. Entries, which must be sent to Mr. J. R. Bell, 240, Great Western Road, Glasgow, close definitely on the 26th inst.

Modern Prices.

Triumph prices are down, the chain drive 4 h.p. model now being £125, and the chain-cum-belt £115. The lightweight is £70. The price of the 6 h.p. B.S.A. is £133 solo, £175 sidecar. The Royal Ruby sports 2¾ h.p. model has been reduced from 85 to 80 gns., and the 8 h.p. spring frame outfit from £235 to £220.

Playing to the Gallery.

In many cases, where fast machines are entered in reliability trials, there appears to be a tendency for the drivers to risk their non-stop performances by attempting spectacular ascents of difficult hills. This practice, while demonstrating the rider's personal adroitness, may easily cause a quite erroneous impression of a machine's reliability if a skid results in a stop. It is a practice not conducive to good propaganda for the whole movement.

They Get Things Done.

South African motor cyclists must be very like those in Great Britain. According to a South African journal, *The Motor Weekly*, "There are no keener or more enthusiastic motorists in South Africa than motor cyclists. They are probably a larger body than even car owners; from the social, sporting, and club standpoint they are certainly more active. They get things done. They are motorists for the love of it, and they are as devoted to their machines as the coster is to his donkey. They are the very soul of motoring in South Africa, as they are in most countries."

Comparative Motor Cycle Performances.

A Paper read before the I.A.E. on a Subject of Interest to all Motor Cyclists.

IT is not uncommon to hear extravagant claims made with regard to speed performances on the road. At these the engineer smiles, but many of the non-technical are deceived. Consequently, the paper on "Comparative Motor Cycle Performances" read by Mr. D. S. Heather, B.Sc., A.M.I.A.E., before the Institution of Automobile Engineers is of particular interest. The paper, which was delivered at Glasgow on Monday, will be repeated at Birmingham on the 28th, when an interesting discussion should take place. Below we give extracts from the most important parts of this interesting work:

The subject necessarily divides itself to three main sections: Tractive Resistance, Engine Performance, and Road Performance. These three sections are dealt with in the paper in the order named.

Tractive Resistance.

It has been shown by Wimperis and others that the resistance to motion of a vehicle at varying speeds may be expressed with quite reasonable accuracy by the formula:

$$Tr = A + Bv^2$$

where Tr = resistance to motion (tractive resistance)

v = speed of vehicle.

A and B are constants depending on the particular vehicle and road.

This formula is not strictly true, since it is likely that there are certain resistances which vary directly as the speed of the vehicle, so that $Tr = A + Cv + Bv^2$. Experimental data, however, show that the Cv factor has so small a constant as to be negligible. Unfortunately, it is not possible to determine the constants analytically, by reason of their complex character. An analytical determination being impossible, the only possible method is to proceed experimentally.

In a paper read before the Institution in 1914,* Mr. Wimperis gave particulars of the method which he adopted. This consisted essentially in allowing the vehicle to decelerate with the clutch disengaged, measurements of the deceleration being made at intervals, by means of an accelerometer, as the car slowed down. These figures are then plotted on a velocity base, the resultant curve being, of course, a deceleration-velocity curve. The weight of the vehicle being known, and a suitable allowance being made for the inertia of the rotating parts, such as the road wheels, it is only necessary to alter the scale of ordinates to convert this deceleration-velocity curve into a resistance-velocity curve.

For example, suppose that the car to be tested weighed 1,900 lb. complete, and that the equivalent weight of the rotating parts was 100 lb., so that the total weight for deceleration purposes could be taken as 2,000 lb., and that testing in the manner described above gave the following decelerations at the noted speeds, as plotted in fig. 1:

*See Proc. I.A.E., Vol. VIII., p. 281.

M.P.H.	Deceleration, ft. per sec. per sec.
10	0.82
15	0.91
20	1.11
25	1.33
30	1.60
35	1.91
40	2.27

Now it is evident that the deceleration at any particular speed bears the same ratio to the acceleration due to gravity that the decelerating force bears to the total weight of the car, so that, at 20 m.p.h., for instance, the tractive resistance

$$Tr = \frac{\text{deceleration}}{g} \times 2{,}000 = \frac{1.11 \times 2{,}000}{32.2} = 69 \text{ lb.}$$

In other words, it is only necessary to multiply the deceleration at any particular speed by 2,000/32.2 = 64.1 to obtain the tractive resistance at this speed, and to this the scale on the right of fig. 1 corresponds. Examination of the curve shows it to follow the law $Tr = 45 + 0.06\,v^2$, and it is, therefore, legitimate to say that the resistance to motion of the car is given by that equation.

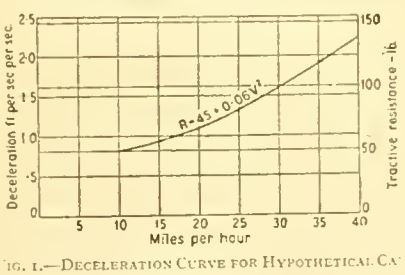


FIG. 1.—DECELERATION CURVE FOR HYPOTHETICAL CAR.
Weight of car, 1,900 lb.
Equivalent mass of rotating parts, 100 lb.

The large number of tests which have been made on cars and lorries with the Wimperis and Lanchester accelerometers, therefore, cover the ground fairly well so far as four-wheeled vehicles are concerned; but, unfortunately, the author has failed to find any published results of tests on motor cycles or sidecar outfits, and he has, therefore, been constrained to obtain the necessary experimental data himself.

The following alternative method of obtaining the desired information was, therefore, adopted. This method is simplicity itself, and requires no special instruments, since the whole of the figures required are obtained from an ordinary Bonniksen Isochronous speedometer. For practical purposes, it is sufficient to say that the instrument gives the speed of the vehicle every five seconds. When carrying out the tests, the machine is taken to a perfectly level stretch of road on a substantially windless day. It is then accelerated up to its maximum speed, and the gear lever slipped into neutral, the successive readings of the speedometer as the machine comes to a standstill being noted.

The following figures were obtained in this manner on a 6-7 h.p. B.S.A. sidecar outfit fitted with a windscreen of

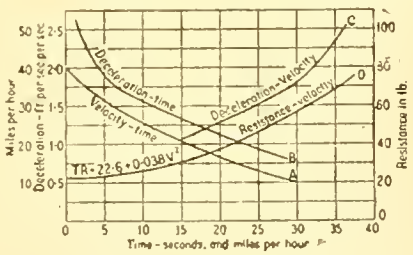


FIG. 2.—6 H.P. B.S.A. OUTFIT.
Easting type screen, right up.
Total weight, 950 lb.
Road, perfect tarmac, dry.

the Easting type. The total weight of the outfit loaded, including an allowance for the inertia of the wheels, was 950 lb., and the tests were made on a stretch of perfect tar macadam. Successive readings of the speedometer as the machine slowed down were as follows: 40, 31, 25, 21, 17, 13, and 10 m.p.h. These are plotted in the lower left-hand curve A in fig. 2 on a time base. Now it is evident that the slope of this velocity-time curve will give the deceleration-time curve, which is the upper left-hand line (B) in fig. 2, and from the two curves it is a simple matter to draw the deceleration curve on a velocity base (upper right-hand line (C) in fig. 2). This is the exact equivalent of the accelerometer curve given in fig. 1. In the particular case under consideration, this curve, when measured off by the correct scale, gives the values for tractive resistance stated in the second column of Table I. Examination of these figures shows that the curve is substantially that represented by $Tr = 22.6 + 0.038\,v^2$, the figures given

Comparative Motor Cycle Performances—

by this equation being given in the third column, while the fourth column gives the percentage error.

TABLE I.

Speed, Miles per Hour.	Resistance in lb.		Error per Cent.
	From Curve.	$R=22.6+0.038v^2$.	
15	31.0	31.0	0
20	37.6	37.6	0
25	45	46.1	2.4
30	53.1	56.4	6.2
35	68.6	68.7	0.15

The author suggests that this method of obtaining the tractive resistance curve is probably quite as accurate as the accelerometer method, since it involves the reading of one instrument only, and that instrument gives absolutely dead beat readings.

It is perhaps desirable to give some idea of the weight distribution on a typical sidecar combination, since the weight available on the driving wheel is often the limiting factor in climbing freak hills. The appended figures are

	Total.	Back Wheel.		Front Wheel.		Sidecar Wheel.	
		Weight.	Per Cent.	Weight.	Per Cent.	Weight.	Per Cent.
Empty	504 lb.	203 lb.	40	182 lb.	36	119 lb.	24
Driver only	658 lb.	318 lb.	48	227 lb.	34	113 lb.	17
Full load	840 lb.	350 lb.	42	276 lb.	33	214 lb.	25

for a 4¼ h.p. B.S.A. combination with an 11 stone driver and a 13 stone passenger.

It will be observed that with the outfit fully loaded 42% of the total weight is on the rear wheel. Therefore, if the coefficient of friction between the tyre and the road is 0.5, the tractive effort available is 21%, or, in other words, the

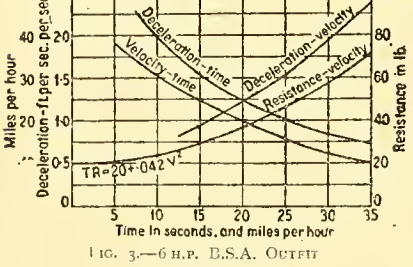


FIG. 3.—6 H.P. B.S.A. OUTFIT
No windscreen.
Gross weight, 950 lb.
Road surface, perfect.
$Tr=20+0.042v^2$.

maximum grade which can be climbed is about 1 in 5. The situation, however, is not so bad as this, because the effect of the gradient is to increase the rear wheel loading, and this tendency is still further helped by the driving torque, which is, of course, tending to lift the front wheel, and consequently to increase the load on the rear wheel. When it is remembered, however, that a really greasy surface probably gives a coefficient as low as 0.1 between the tyre and the road, it is easily seen that the proportion of total weight on the rear wheel is a most important matter.

To return to the question of tractive resistance, figs. 3, 4, and 5 represent the results obtained from a series of tests on a 6 h.p. B.S.A. combination, which, with driver and passenger, and an allowance for the inertia of the rotating parts, had a gross weight of 950 lb. The sidecar was fitted with a windscreen of the Easting type, and tests were made with the screen removed, with the screen in

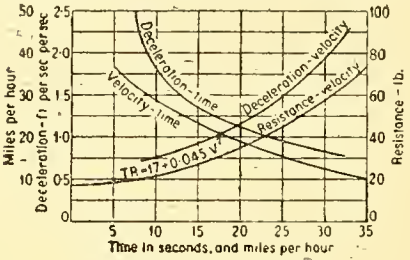


FIG. 4.—6 H.P. B.S.A. OUTFIT.
Easting type screen, in normal position
Gross weight, 950 lb.
Road surface, perfect.
$Tr=17+0.045v^2$.

the normal position, and with the screen thrown right up, in order to determine what effect, if any, the screen had on the wind resistance. Figs. 3, 4, and 5 represent the conditions in the order stated, the resistance curves being: $Tr=20+0.042\ v^2$, $Tr=17+0.045\ v^2$, $Tr=22.6+0.038\ v^2$.

These three resistance curves are plotted together in fig. 6 for purposes of comparison. It is notable, in the first place, that there is a considerable variation in the constant factor. This is difficult to explain, but it has been noticeable in all the tests which have been made, and the author is inclined to think that it is due to the fact that the Bonniksen instrument reads only to the nearest mile per hour. The possible error thus introduced is unimportant at relatively high speeds, but may be of sufficient importance at low speeds to affect the constant factor. An independent check is easily made by finding the friction angle of the outfit—that is, the slope on which it will just keep rolling at a steady speed without either accelerating or decelerating. In this case it was found that 20 lb. was the correct figure. The equations may, therefore, be restated as:

No screen ..... $Tr=20+0.042\ v^2$
Screen normal ... $Tr=20+0.045\ v^2$
Screen up ..... $Tr=20+0.038\ v^2$

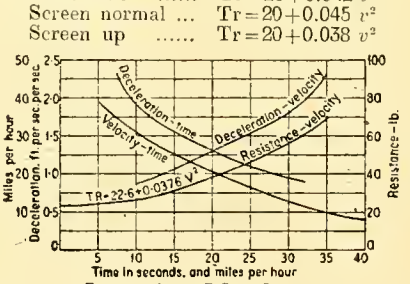


FIG. 5.—6 H.P. B.S.A. OUTFIT.
Easting type screen, right up
Gross weight, 950 lb.
Road surface, perfect
$Tr=22.6+0.0376v^2$.

The second point worthy of note is the very small effect of the screen on the v^2 factor, which shows that a curved screen of the Easting type has very little effect at all on the wind resistance. Actually, the resistance is slightly less when the screen is thrown right up than when no screen is fitted, which is to be expected in view of its streamlining effect. With the screen in the ordinary position the resistance is slightly increased, but only to a negligible extent. These statements, of course, apply only when there is a passenger in the sidecar.

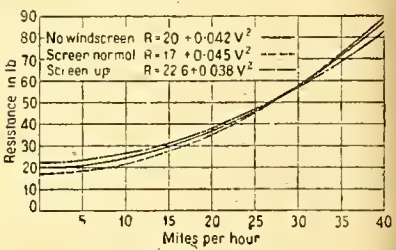


FIG. 6.—6 H.P. B.S.A. OUTFIT
Resistance velocity curves.

A similar series of tests was made on a 10 h.p. four-cylinder Henderson combination, fitted with a coach-built sidecar, the gross weight being 850 lb. In addition to the tests without a screen and with an Easting screen in the two positions, a test was made with a flat screen 18in. high by 24in. wide, set at about 70° to the horizontal. The resulting resistance curves are plotted in fig. 7, and give the following results:

No screen ..... $R=16+0.04\ v^2$
Easting screen, normal position ..... $R=16+0.04\ v^2$
Easting screen, right up $R=16+0.036\ v^2$
Flat screen ..... $R=16+0.044\ v^2$

It will be noted that in this case the addition of the Easting screen made no

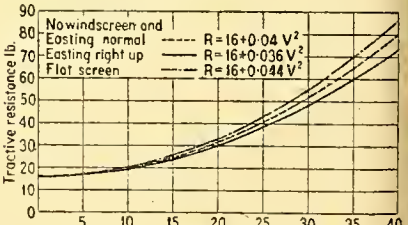


FIG. 7.—10 H.P. HENDERSON OUTFIT
(coachbuilt sidecar).
ractive resistance curves
Gross weight, 850 lb.
Road surface, perfect

difference whatever to the resistance when set in the normal position, but that when right up it decreased the resistance as in the previous case. The use of a flat windscreen, however, increased the v^2 factor by exactly 10%, as would be expected.

The sidecar was then removed and replaced by a smaller cane sidecar, the gross weight of the outfit then being 780 lb. Tests were made with no screen, with a flat screen as before described, and also with the sidecar empty and covered by a tightly stretched apron so as to streamline it as far as possible. The resulting curves are shown in fig. 8, and give results as follows:

Comparative Motor Cycle Performances—

No screen ...	$Tr = 14 + 0.032\ v^2$
Flat screen ...	$Tr = 14 + 0.037\ v^2$
Sidecar empty	$Tr = 10 + 0.028\ v^2$

It may be noted here that the reduction in weight from 850 lb. to 780 lb.

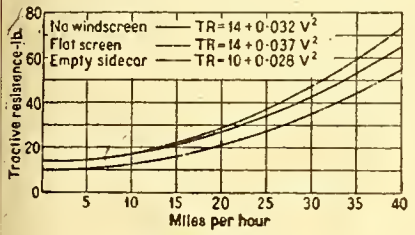


FIG. 8.—10 H.P. HENDERSON OUTFIT (cane sidecar).
Tractive resistance curves.
Gross weight, 780 lb.
Road surface, perfect.

gives a reduction of 2 lb. in the constant factor, while the further reduction of 140 lb. in weight due to the absence of the passenger reduces the constant by a further 4 lb. This would appear to indicate that the constant might be taken at 2 lb. for every 70 lb. of weight. If this were the case, however, the constant factor for the outfit at 850 lb. would be 24.3 lb. instead of the actual 16.

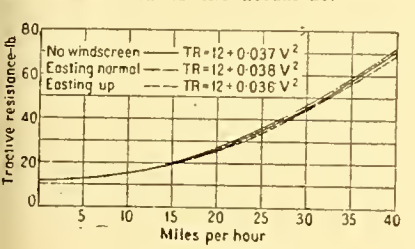


FIG. 9.—4¼ h.p. B.S.A. OUTFIT.
Tractive resistance curves.
Gross weight, 780 lb.
Road surface, perfect.

A 4¼ h.p. B.S.A. outfit gives very similar figures :

No screen	$Tr = 12 + 0.037\ v^2$
Easting, normal	$Tr = 12 + 0.038\ v^2$
Easting, up	$Tr = 12 + 0.036\ v^2$

The weight of this outfit was 780 lb., and the wind resistance perhaps rather less than usual for that type of vehicle, since the sidecar body was set very close in to the machine. The same machine was tested solo, with the rider sitting upright, and then with head down in as near a racing posture as possible, in view of the fact that the speedometer had to be kept in view. Resistances were as follows :

Sitting up	$Tr = 8 + 0.02\ v^2$
Semi T.T.	$Tr = 8 + 0.015\ v^2$

These figures are plotted in figs. 9 and 10 respectively.

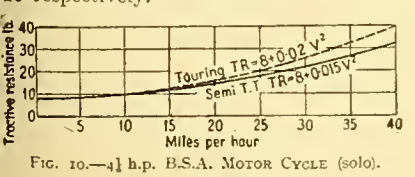


FIG. 10.—4¼ h.p. B.S.A. MOTOR CYCLE (solo).
Tractive resistance curves.
Gross weight, 440 lb.
Road surface, perfect.

Table III. gives a summary of the results in general terms, and covers all types and sizes of machines. In the case of sidecar outfits, the projected area of the outfit, with driver and passenger seated, is given in order that the comparative sizes of the three classes for which figures are given may be realised. While, of course, these figures are not likely to represent very accurately the tractive resistance of any particular machine, yet the author feels sure that they are good average figures, which may fairly be used for any analysis.

Engine Performance.

It is not an easy matter to obtain a representative set of power curves which will cover all sizes of engines. Some of the curves considered in the paper have been obtained by the author himself on a Froude dynamometer, but for others he is indebted to various outside sources.

TABLE III.

Machine.	Windage.	Tr.
	sq. ft.	
Large sidecar outfit	20	$20 + 0.042v^2$
Medium sidecar outfit	18	$16 + 0.04v^2$
Small sidecar outfit	16	$12 + 0.037v^2$
Large solo touring	—	$8 + 0.02v^2$
Large solo semi-T.T.	—	$8 + 0.015v^2$
Large solo racing	—	$6 + 0.01v^2$
Small solo touring	—	$6 + 0.015v^2$
Small solo semi-T.T.	—	$6 + 0.012v^2$
Small solo racing	—	$6 + 0.009v^2$
Large sidecar racing	12	$10 + 0.02v^2$
Small sidecar racing	10	$8 + 0.018v^2$

In connection with this, however, it must be remembered that air-cooled engines are difficult to test on a dynamometer, because the power output varies somewhat with the cylinder temperature. A side-valve engine of normal design will often show a difference of 10% in brake mean effective pressure between dead cold and steady hot running. The author's method is to vary the velocity of the cooling air with the engine speed,

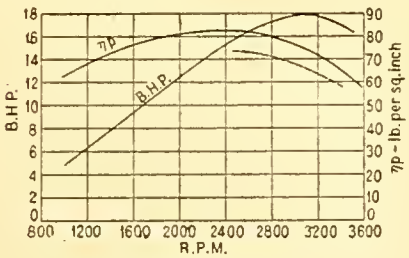


FIG. 11.—1918 HARLEY-DAVIDSON 7-9 H.P. ENGINE.
Power curves.
Capacity, 989 c.c.
Compression ratio, 3.7 to 1.

and to wait until the engine has reached a steady temperature before taking any readings. Figures obtained in this way are evidently the only ones of real value.

In fig. 11 is given a power curve for a 1918 Harley-Davidson 7-9 h.p. twin-cylinder engine. The dotted line is the ηp curve for a 1916 Henderson. This curve has been deduced from the known tractive resistance and the known maximum speed of the machine on various gear ratios. If an allowance of 90% is made for the efficiency of the Henderson transmission, the Henderson curve approximates to that for the Harley.

Fig. 12 shows the results obtained from a standard 6 h.p. B.S.A. engine, 76 mm. bore × 85 mm. stroke = 770 c.c. The lowest curve is for petrol consumption with full throttle, in pints per brake horse-power per hour of No. 1 petrol.

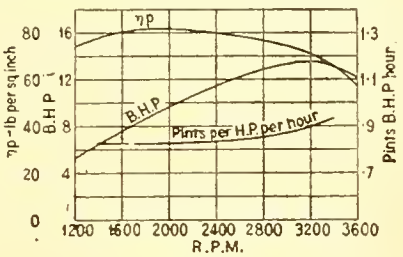


FIG. 12.—6 H.P. B.S.A. ENGINE.
Power curves.
Capacity, 770 c.c.
Compression ratio, 3.6.

The curves in fig. 14 are for a 1920 type 4¼ h.p. B.S.A. single-cylinder engine. Curve A, shown as a full line, is for a standard engine with the usual compression ratio of 3.52 to 1. The test was made after the engine had been carefully tuned up to give the best results,

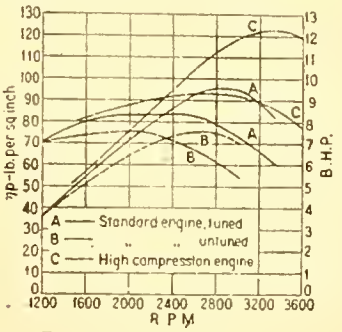


FIG. 14.—4¼ H.P. B.S.A. ENGINE.
Power curves.
Capacity, 557 c.c.
Compression ratio, 3.6 to 1.

the only alteration from standard being that a few holes had been drilled in the piston skirt. After several thousand miles running, the engine was again tested, without being tuned up, and curves B were obtained, giving a maximum ηp of 76 lb. per sq. in. and a maximum brake horse-power of 7.6 at 2,700 r.p.m. Curves C are for a similar engine with a dome-topped piston, giving a compression ratio of 4 to 1, and light reciprocating parts. Both these engines are of the standard side-valve type, with cast iron pistons and ordinary cams. The valve timing of the engine to which curves A and B apply was as follows :

Inlet opens 8° late, closes 55° late.
Exhaust opens 57° early, closes 14° late.

It may be mentioned that a bench test of another make of 4 h.p. single-cylinder engine 85 mm. bore × 97 mm. stroke, equal to 550 c.c. capacity, gave a maximum ηp of 76 lb. per sq. in. and a maximum brake horse-power of 9.2 at 2,900 r.p.m., which is not quite so good as curve B in fig. 14. With an open carburetter, the petrol consumption of the 4¼ h.p. B.S.A. engine with the standard compression ratio is about 0.9 pint per brake horse-power per hour. With the standard air gauze fitted it falls to 0.8 pint, and if a special hot air pipe be fitted it may even be as low as 0.7 pint at full load.

(To be continued.)

Time Trials and Racing.

First 1921 B.M.C.R.C. Members' Meeting at Brooklands. A Disputed Finish in 500 c.c. Three-lap Race.

BROOKLANDS enthusiasts were intensely relieved to hear that the transport strike was "off" last Friday evening, for, if it had not been so, there would have been no racing on Saturday.

The weather was not too unkind, because all the snow showers considerately avoided Brooklands, but at times it was too cold to be pleasant. First came the kilometre and mile time trials, starting at noon. To be eligible for the gold medal awarded for the best aggregate performance in each class during the 1921 season, members must have competed in all but two of the series of time trials (flying start). Only one record was broken, and this was by Kaye Don, who signally distinguished himself.

CLASS A.—NOT EXCEEDING 250 c.c.

	Kilom. sec.	Kilom. m.p.h.	Mile. sec.	Mile. m.p.h.
1. *K. Don (Diamond) ...	32.13	69.62	51.73	69.59
2. J. V. Prestwich (Diamond-Jap)	35½	63.55	57⅛	62.28
3. R. N. Judd (Veloce) ...	36⅛	61.79	58⅛	61.22
J. W. Tollady (Velocette)	42⅜	52.51	71½	50.56

*British record. Previous best, D. R. O'Donovan, Velocette (62×83 mm., 249 c.c.), March 9th, 1921, 33.3 sec., 67.72 m.p.h. Mile, J. V. Prestwich, Diamond-Jap (70×64.5 mm., 249 c.c.), 56.6 sec., 63.60 m.p.h.

CLASS B.—EXCEEDING 250 c.c., NOT EXCEEDING 350 c.c.

1. E. Remington (Blackburne)	30⅛	72.63	49⅛	73.17
2. T. Thompson (Douglas) .	36⅛	60.79	59⅛	60.20
3. E. Longden (Dot-Jap) ..	39	57.36	69⅛	52.02
V. Longden (Coulson-B.)	43⅛	51.07	69⅛	51.72
W. L. S. Aitken (Martin-Alecto)	41⅛	49.93	73	49.32

CLASS C.—EXCEEDING 350 c.c., NOT EXCEEDING 500 c.c.

1. G. Dance (Sunbeam) ...	25⅛	86.70	41⅛	86.12
2. *R. N. Judd (Norton) ..	26⅜	84.10	43	83.72
3. H. Thorpe (Douglas) ...	28	78.89	45⅝	78.95
V. E. Horsman (Norton)	30⅛	74.07	47⅛	76.27
J. Emerson (Zenith-Bradshaw)	30⅛	74.07	49⅜	72.87
F. A. Longman (Ariel) ..	37	60.46	59⅛	60.20
F. Collard (Rover)	37⅜	59.81	59⅛	60.20
W. L. Gard (Norton) ...	39⅜	56.49	64⅜	55.73
J. Carter (Zenith)	41⅜	54.29	71⅛	50.14

*Judd collided with the boundary post marking the 50ft. line on his first attempt, and caught his footrest in the timing tape. He was slightly hurt, and allowed a second run, which is given above. His first run for the kilom. was 26⅜ sec., 83.47 m.p.h.; mile, 42⅜ sec., 84.11 m.p.h.

CLASS E.—EXCEEDING 750 c.c., NOT EXCEEDING 1,000 c.c.

1. H. Le Vack (Indian) ...	24	93.21	40	90
2. J. Woodhouse (Martin) .	25⅛	88.77	41⅛	87.38
3. D. H. Davidson (Harley-D.)	25⅛	86.70	42	85.71
C. F. Temple (Harley-D)	26	86.04	42⅜	84.51
H. R. Harveyson (Indian)	26⅛	85.38	42⅜	84.11
S. F. Garrett (Harley-D.)	29⅜	72.57	51	70.59
K. Don (Zenith)	30⅜	73.58	—	—
C. H. Mocatta (Harley-D.)	43⅛	51.78	72	50

CLASS F.—WITH SIDECAR, NOT EXCEEDING 600 c.c.

1. G. Dance (Sunbeam) ...	32	69.90	53⅜	67.42
2. V. E. Horsman (Norton)	38⅜	57.95	62⅛	57.51

CLASS G.—WITH SIDECAR EXCEEDING 600 c.c., NOT EXCEEDING 1,000 c.c.

1. H. Le Vack (Indian)	30⅜	72.63	49⅜	72.58
2. J. Marchant (Zenith) ...	33	67.79	53⅛	66.91
3. S. E. Longman (Harley-D.)	34⅛	64.28	56⅜	63.38
J. A. O'Sullivan (Harley-D.)	35⅜	63.19	57⅛	62.28
O. de Lissa(Motosacoche)	34⅛	65.41	59⅜	60.4
R. Dequin (Zenith)	38	58.87	61⅞	58.63
A. J. Rowe (Harley-D.) .	38⅛	57.65	56⅛	63.38



BROOKLANDS, A POPULAR RENDEZ VOUS.—Visitors' motor cycles at the fork last Saturday, when some good sport was witnessed.

CLASS H.—CYCLE CARS, NOT EXCEEDING 1,100 c.c.

	Kilom. sec.	Kilom. m.p.h.	Mile. sec.	Mile. m.p.h.
1. E. B. Ware (10 Morgan-Jap)	31⅛	70.34	51⅛	69.50
2. E. Longden (8 Morgan-Jap)	48	49.63	73⅛	48.78

Racing proper began at the conclusion of the time trials, and provided some excellent sport. As is customary in the case of members' meetings, the events started and finished at the fork, so that all that happened took place in full view of the spectators. As the races were of three laps only, the meeting was bright, and provided a number of close finishes. There were several absentees owing to the strike. Col. R. N. Stewart, who was to have ridden the newly-revived Trump-Jap, had gone back to his old regiment the Gordon Highlanders, and the Martin works had been commandeered that morning.

There was some delay in starting the first event, caused by the time taken to unscrew the electrical timing tapes; but, owing to the strenuous work of the officials, the later races were run off to schedule. The first of the three-lap scratch races was for machines not exceeding 250 c.c.

Fast Lightweights.

Prestwich's Diamond-Jap had a large aluminium inlet valve cap and a fir cone pattern radiator over the exhaust valve cap. It also had an ingenious handlebar-controlled oil pump fitted to the rear end of the tank. Don's engine, a Diamond, was of a new type, and had overhead valves. At the start the Velocette got away first, but was well behind at the end of the first lap. Prestwich was leading, but Don appeared to be pressing him hard. On the second lap Prestwich increased his lead, and won easily. Don finished in trouble, and Tollady completed the course. Result: 1, J. V. Prestwich (Diamond-Jap), 60.10 m.p.h.; 2, K. Don (Diamond); 3, J. W. Tollady (Velocette).

All made a good start in the second race, which was for motor bicycles not over 350 c.c. capacity. Remington was riding a Blackburne with overhead valves, while Preston's Singer had an aluminium cooling plate on the cylinder head, and a Bowden extra air inlet in the inlet pipe.

Overhead Valve Engines to the Fore.

The first lap order was Thompson, leading easily, Remington, E. Longden, T. Eve, V. Longden, Tollady, Aitken, and Preston. In the second lap Thompson was still leading, but Remington was gaining on him. E. Longden ran third, and then followed V. Longden and Tollady. Remington won comfortably. Result: 1, E. Remington (Blackburne), 61.69 m.p.h.; 2, T. Thompson (Douglas); 3, E. Longden (Dot-Jap).

The next race was for Class C motor bicycles (500 c.c.) and marked the first public appearance of the Zenith with the flat twin Bradshaw oil-cooled engine; however, it suffered from oil getting on the belt. Dance's overhead valve Sunbeam was fitted with a mechanical oil pump. The acceleration of his engine, which has two valves with outside tappet rods, was tremendous.

Horsman led the field at the end of the first lap, followed by Kennedy, Dance, Emerson, Thorpe, F. A. Longman, Carter, and Ayres. Kennedy gained first place on the second lap, with Horsman second, and with Thorpe and Emerson striving for second place, then followed Longman and Ayres well in the rear. It was a close finish, and Horsman was clearly the winner, but owing to an error of judgment Kennedy was declared by the judge to have come in first. Not a single soul among the spectators agreed with this decision, but it was duly given out, and bets were consequently paid. Eventually the judge had to acknowledge that he had made a mistake, but this unfortunate incident created much discontent and not a little adverse comment on the decision. Result: 1, V. E. Horsman (Norton) 73.78 m.p.h.; 2, P. Kennedy (Norton) 3, H. Thorpe (Douglas).

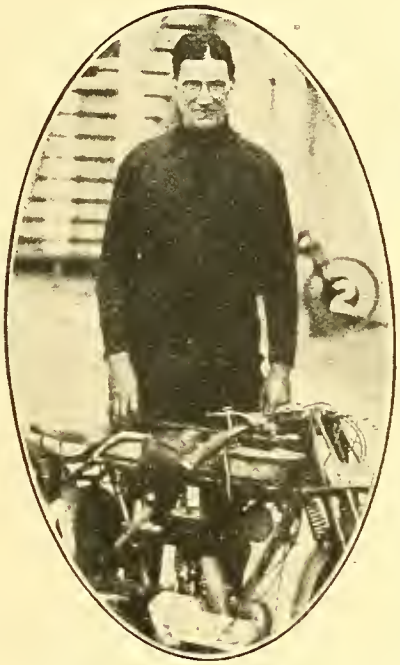
ne Trials and Racing—

Next came the Class D (750 c.c.) race motor bicycles not exceeding 750 c.c. rsman again distinguished himself, as kept first place throughout. At the d of the first lap he was followed by orpe, Emerson, and Collard; in the xt lap by Emerson and Collard; and ished first easily. Result: 1, V. E. rsman (Norton), 73.56 m.p.h.; 2, J. nerson (Zenith-Bradshaw).

Starting Difficulties.

A genuine trial of the new B.M.C.R.C. e to the effect that machines must t be pushed off more than thirty rds from the starting line occurred the Class E race. This proved some- at difficult in the case of the 1,000 . engines, but all got off somehow, but oodhouse and Le Vack did not find the rt too easy. It was a truly exciting e. Davidson, who was first away at start, kept his lead, but Woodhouse lowed him closely at the end of the first ; then came Le Vack and Harveyson. mple was clearly in trouble, and Garrett ired. At the end of the second lap vidson increased his lead, Le Vack s second, and next came Woodhouse. rveyson, and Don. Davidson won by out three lengths. Result: 1, D. H. vidson (Harley-Davidson), 80.66 m.p.h.; H. Le Vack (Indian); 3, J. Woodhouse artin).

In Class F scratch race (sidecars not ceeding 600 c.c.). Horsman not only ain proved himself to be a fine rider endidly mounted, but somewhat of a morist. Longman (Ariel sc.) was the y man to arrive to time at the start, d was sent off as a walk-over. Horsman rived later and was surprised to find nself alone. He then had an argument



V. Horsman (3½ Norton), winner of the 500 c.c. three-lap race at 73.78 m.p.h.

with Mr. J. L. Norton as to whether he should start, and by the time he was persuaded Longman was two miles ahead at least. Horsman then got to business, and, lapping at 61½ m.p.h., easily won his self-imposed handicap. It was hard luck on Longman, who must have been unaware of his rival until passed by him. Result: 1, V. Horsman (Norton sc.), 45.48 m.p.h.; 2, F. A. Longman (Ariel sc.).

The three-lap scratch race for Classes F and G for motor cycles with sidecars not exceeding 1,000 c.c. was well supported and worth watching. J. Marchant, one of the co-designers of the Flexi carburetter and the Blériot-Whippet cycle car, was riding the Zenith, which was fitted with a special engine with overhead valves and mechanical oil pump; this machine was entered by Mr. F. W. Barnes.

Le Vack and Marchant fought hard for the lead at the end of the first lap, and then followed Horsman, S. E. Longman, de Lissa, O'Sullivan, Rowe, and Dequin. In the second lap Le Vack still led the field, with Marchant, Longman, Horsman, de Lissa, O'Sullivan, Rowe, and Dequin behind him. Le Vack won by about four lengths. Result: 1, H. Le Vack (Indian sc.), 63.20 m.p.h.; 2, J. Marchant (Zenith sc.); 3, S. E. Longman (Harley-Davidson sc.).

Only two cycle cars, the Morgans entered by Ware and Longden, took part in the last race. Ware's mount had side-by-side valves, but a larger cylinder capacity than Longden's, which had the old type overhead valve J.A.P. engine. Ware just played with his rival, and won comfortably. Result: 1, E. B. Ware (10 Morgan), 52.15 m.p.h.; 2, E. Longden (8 Morgan).

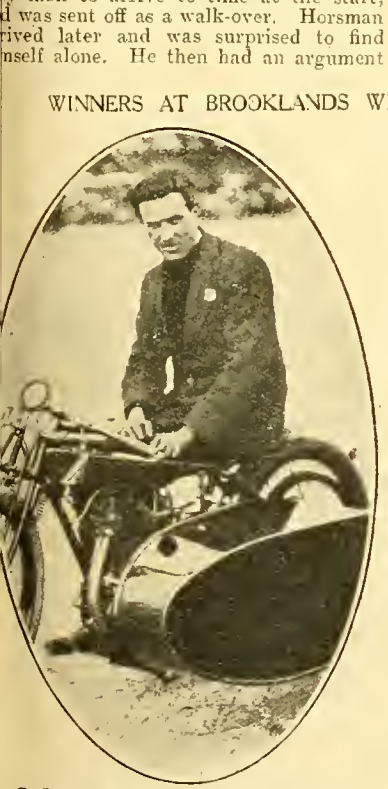
The following records fell during the meeting:

250 c.c. FLYING FIVE MILES (world's record if confirmed).—J. V. Prestwich (2½ Diamond-Jap), 4m. 53⅘s. = 60.95 m.p.h. = 98.09 k.p.h.

500 c.c. SIDECARS FLYING FIVE MILES (British record and world's record if confirmed).—V. Horsman (3½ Norton sc.), 4m. 41⅗s. = 64.01 m.p.h. = 103 k.p.h.

1,000 c.c. SOLO FLYING FIVE MILES (British record).—H. H. Davidson (7-9 Harley-Davidson), 3m. 30⅗s. = 85.44 m.p.h.

WINNERS AT BROOKLANDS WITH OVERHEAD VALVE ENGINES WHICH MAY COMPETE IN THE T.T



G. Dance (Sunbeam), fastest in the 350 c.c. class time trials at 86.70 m.p.h.; in the races he rode a 3½ h.p. machine but was not placed



Kaye Don (2½ Diamond), who beat O'Donovan's Velocette record and made fastest time in the 250 c.c. time trials. His speed was 69.62 m.p.h.



E. Remington (2¾ Blackburne), winner of the 350 c.c class race at 61.69 m.p.h. His machine is a new model with overhead valves.

CURRENT CHAT (Continued from p. 498).



An unlucky competitor in the York and District M.C. open hill-climb at Sutton Bank prior to stripping his second gear. Incidentally the illustration depicts L. Mitchell mounting the steepest portion just an unusual viewpoint.

A Reunion.

The second annual reunion dinner of the 37th Divisional Signal Company will take place on Saturday, May 7th, at the Swan Hotel, Stafford. Ex-members interested should write T. S. Anderson, Queensville, Stafford.

T.T. Entries.

To the lists already published of intending competitors in the T.T. races must be added the Velocette entry in the Junior event, George Denley being the nominated rider; while in the Senior Morton H. Edmonds has entered a Triumph.

A Product of Southport.

Last week we described and illustrated on page 458 a folding cycle car known as the Dandy; this machine is manufactured by James Sumner and Sons, 2, Latham Road, Southport.

The London-Edinburgh Run.

Entries closed for the M.C.C. Whitsuntide run to Edinburgh on Tuesday, and it was confidently expected that the 400 mark would be reached. 150 entries for motor cycles and three-wheelers had been received up to last week end, approximately half of which number were solo riders. Among the three-wheelers to make their *début* in competition will be the Scott Sociable and the Dandy cycle car.

Faith in our Omniscience.

Our queries department is frequently taxed to the utmost by the complication and vagueness of some of the problems propounded, but it is occasionally taken right outside the motor cycle field by some trustful reader. A recent example is the case of one who wishes to know how to remove the chalk-like deposit of "fur" from the inside of the domestic copper kettle. A water-cooling enthusiast on our staff tartly suggested that the answer was a lemon!

Motor Fuels from South Africa.

There are several motor fuels made in Africa, and among these the best known is Natalite, which we tried, with some success, during the war. It had, however, one disadvantage, and that was that it apparently had a very adverse effect upon the carburetter of the machine on which it was tested, which was constructed of an aluminium alloy. Unfortunately, Natalite is mainly composed of alcohol, and as this is the case, if imported into this country, it would be subject to a duty of £2 15s. a gallon.

Another fuel is known as Penrol, and is made by the Penrol Motor Fuel Ltd. The fuel has been subjected to very severe tests, including some 5,000 miles actual running in motor cars, motor cycles, and lorries, and it is stated to be non-corrosive, has no unpleasant smell, is colonred blue, does not stain, and is smokeless. It also develops high power, starts easily from cold.



A lady competitor who rode well at the York and District M.C. Open Hill-climb at Sutton Bank. Miss F. E. Dent rounding the bend on her 3¾ h p. Scott Squirrel.

High Speeds on Axe Edge.

Re-run of the Stockport Open Hill-climb.

ALL the classes in the Stockport and District M.C. open climb on Axe Edge, which had to be abandoned on March 19th, were re-run on Saturday. Formula results have not yet been verified, but the following are the time results in the open and closed events. The closed classes were run on time only. G. W. Walker (3½ Norton) made fastest ascent of the day in the surprising time of 57s. Several of the previous entrants were absentees. Results :

Open Events.

CLASS 3.—SOLOS TO 500 c.c.

		M.	S.
1.	G. W. Walker (3½ Norton) ...		57⅘
2.	H. R. Davies (2¾ A.J.S.) ...	1	3⅘
3.	T. Simister (3½ Norton) ...	1	5⅘

CLASS 4.—SOLOS TO 750 c.c.

1.	H. R. Davies (2¾ A.J.S.) ...	1.	0	⅘
2.	G. W. Walker (3½ Norton) ...	1	2	⅘
3.	T. Simister (3½ Norton) ...	1	3	

CLASS 5.—SOLOS TO 1,000 c.c.

1.	G. W. Walker (3½ Norton) ...		57	
2.	H. R. Davies (2¾ A.J.S.) ...	1	2	
3.	T. Simister (3½ Norton) ...	1	2	⅘

CLASS 6.—SOLOS (Unlimited c.c.).

1.	G. W. Walker (3½ Norton) ...		57	⅘
2.	H. R. Davies (2¾ A.J.S.) ...	1	2	
3.	T. Simister (3½ Norton) ...	1	3	⅘

Closed Events.

CLASS 2.—SOLOS TO 350 c.c.

1.	E. Cowley, jnr. (2¾ Dallon) ...	1	22	
2.	B. Parkinson (2¾ Douglas) ...	1	26	⅘
3.	F. Cheetham (2¾ Dot)	1	28	⅘

CLASS 3.—SOLOS TO 500 c.c.

1.	E. S. Abram (3 A.B.C.)	1	16	⅘
2.	E. Cowley, jnr. (2¾ Dallon) ...	1	19	⅘
3.	F. Cheetham (2¾ Dot)	1	23	

CLASS 4.—SOLOS TO 500 c.c.

1.	G. W. Walker (3½ Norton) ...		57	⅘
2.	T. Simister (3½ Norton) ...	1	1	⅘
3.	F. H. Andrews (3½ Norton) ...	1	10	⅘

CLASS 5.—SOLOS TO 750 c.c.

1.	T. Simister (3½ Norton) ...	1	1	⅘
2.	F. H. Andrews (3½ Norton) ...	1	7	⅘
3.	E. S. Abram (3 A.B.C.)	1	14	

CLASS 6.—SOLOS (Unlimited).

1.	T. Simister (3½ Norton) ...	1	1	⅘
2.	F. H. Andrews (3½ Norton) ...	1	8	⅘
3.	F. Boulton (7-9 Indian) ...	1	10	⅘

CLASS 8.—SIDECARS TO 500 c.c.

1.	T. Simister (3½ Norton sc.) ...	1	24	
2.	W. Preston (3½ Sunbeam sc.) ...	1	39	

CLASS 9.—SIDECARS TO 1,000 c.c.

1.	T. Simister (3½ Norton sc.) ...	1	21	
2.	W. Preston (3½ Sunbeam sc.) ...	1	34	⅘
3.	E. Cowley, jnr. (3½ Norton sc.)	1	44	

CLASS 10.—SIDECARS (Unlimited).

1.	T. Simister (3½ Norton sc.) ...	1	23	⅘

100 m.p.h. AND THE "3½."

AS the outcome of our paragraph in last week's issue regarding the possibility of the speed of a 3½ h.p. motor cycle touching 100 m.p.h. this year, Mr. C. Binks, of carburetter fame, writes us that it is his intention to present a silver cup, value £50, to the first rider who accomplishes this speed.

"The matter is one of the very greatest importance to motor cyclists," says Mr. Binks in writing us about his offer, "as it not only shows that the machine capable of accomplishing this speed is of the very highest efficiency, but is one that is likely to last practically for ever under ordinary touring conditions."

We agree with Mr. Binks that very few riders have any conception of the terrific strain to which an engine is subjected in maintaining such a high speed.

Conditions applying to this award may be obtained from C. Binks, Ltd., Church Street, Eccles, Manchester.

THE PARIS-PYRENEES-PARIS TRIAL.

AS has already been mentioned in *The Motor Cycle*, owing to difficulties with the Spanish authorities, the Spanish portion of the Paris-Madrid Trial has been cut out. Consequently, the competition has been altered to a week's trial from Paris to the Pyrenees and back again.

THE PROGRAMME OF THE RUN.

Saturday, April 30th.—Paris to Poitiers.
Sunday, May 1st.—Poitiers to Bordeaux.
Monday, May 2nd.—Bordeaux to Pau.
Tuesday, May 3rd.—Pau among the Pyrenees to Toulouse.
Wednesday, May 4th.—Toulouse *via* Castelsarraziu, etc., to Bordeaux.
Thursday, May 5th.—Exhibition of competitors' machines at Bordeaux.
Friday, May 6th.—Bordeaux to Poitiers.
Saturday, May 7th.—Poitiers to Paris.

The trial is open to constructors or owners of motor cycles, but private owners will, of course, have to sign a declaration that they are not connected with the trade. Entries cost 250 francs for those in the trade, and 125 francs for private owners. These close at double fees at midnight, April 24th, and should be sent to the organising committee of the Paris-Pyrenees—Paris Trial, offices of *Moto-Revue*, 5, Rue Saint-Augustin, Paris.

The machines must belong to the usual classes, and must conform with the F.I.C.M. regulations as regards equipment.

LAST SATURDAY'S YORK AND DISTRICT M.C. OPEN HILL-CLIMB AT SUTTON BANK.



R. W. Stanfield, who obtained second place in Class 4, on his 3¾ h.p. Scott.

TESTING INTERNAL COMBUSTION ENGINES.

PROF. A. M. LOW, lecturing at Wolverhampton Engineering Society last week, explained several new methods which he considered might be adopted with great advantage by some makers, who seem to rely too much upon the private user to test their machines.

The lecturer pointed out how various parts of the frame of a motor cycle or chassis were linked with the engine itself, and explained that a fault in transmission, springing, or rigidity might lead to engine trouble apparently not in any way connected with the real cause. Prof. Low instanced the case of racing motor cycles, which will break a piston often at the same bump on a track, due to absorption of stored energy. He explained how easy it was to measure periodicity of vibration in an engine, and thus to detect the cause and properly damp it out.

A demonstration was given of the method employed to indicate beats in an exhaust pipe, and, finally, a method of determining the exact moment when the opening of a valve becomes effective was shown by the oscillographic manograph.

The Motor Cyclists' Parliament.

First Meeting (1921-22 Session) of the Auto Cycle Union General Committee.

THE Royal Automobile Club was the venue for the first meeting of the A.C.U.'s new year. Other meetings will be held in the provinces—Taunton in July on a Friday, and on certain Saturdays at Leicester in October and Bournemouth in December.

At the beginning, the chair was occupied by the Hon. Sir Arthur Stanley, G.B.E., C.B., M.V.O., who, as was customary, occupied that post until the new chairman was elected. Lieut.-Col. A. E. Davidson, D.S.O., was, unfortunately, kept away owing to urgent military duties, and it is with regret that his retirement from the post of chairman of the A.C.U. has to be announced.

The first business was to elect a new chairman, and Col. F. S. Brereton, C.B.E., was unanimously chosen to fill the vacancy. On occupying the chair, Col. Brereton affirmed he would do everything in his power to support the Union, and concluded by speaking most eulogistically of the excellent work carried out by his predecessor.

The four new vice-presidents of the A.C.U. are the Rev. E. P. Greenhill, Messrs. H. P. E. Harding, E. J. Bass, and W. H. Wells.

Mr. Stanley Carter was re-elected hon. treasurer.

During the ballot for these officials, the Secretary mentioned the necessity of motor cyclists who would care to represent England in the International Touring Trial in Switzerland sending in their names at an early date.

Announcements of Closed Trials.

Mr. W. H. Wells raised a point concerning Competition Rule 107 dealing with the power of the Auto Cycle Union to disqualify any entrant advertising extensively performances made in a closed trial.

Mr. Loughborough, in reply, said that he considered this rule to be both good and sound, but it was only intended to be enforced when such a trial was organised directly against the interests of the Union.

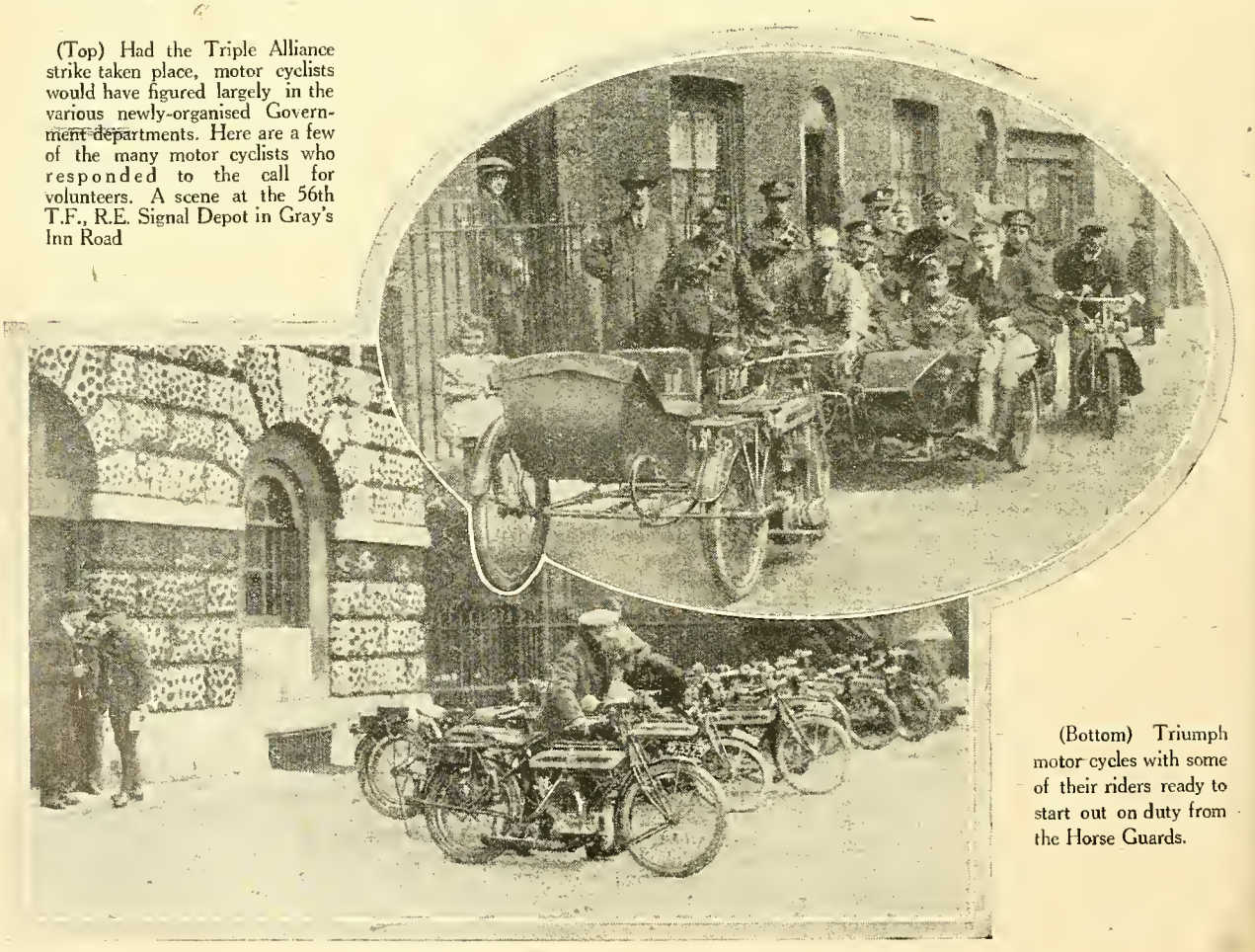
The next item on the agenda was the election of the Competitions and Touring Committee, and in this connection some discussion ensued regarding the re-election of a certain member of the former who was directly connected with the manufacture of engines, and it was finally decided that he was not eligible.

The new Competitions Committee now consists of Messrs. F. H. Bevan, E. Featherstone, Alec S. Ross, A. V. Ebblewhite, A. G. Reynolds, W. Cooper, N. Longfield, J. W. G. Brooker, Lieut.-Col. F. Lindsay Lloyd, C.M.G., Lieut-Col. D. F. Nicholl, D.S.O., Major J. R. Potter, and Dr. A. M. Low, D.Sc. The Rev. E. P. Greenhill is an *ex-officio* member of this committee.

The 1921 Touring Committee is composed of Messrs. E. B. Ware, J. W. G. Brooker, S. R. Axford, E. M. P. Boileau, H. Johnson, D. H. Noble, R. I. M. Samuel, B. Marians, T. Rutherford, Major R. V. C. Vernon Brook, and Lieut.-Com. G. H. Pierce, R.N.R.

The proceedings terminated with an urgent appeal by the Chairman for assistance in the present national crisis from the A.C.U. in the shape of motor cycle despatch riders. He trusted members would do their utmost to help the Management Committee in this direction.

Under the heading "Other business," Major Axford brought up the subject of motor cycle championships, suggesting that this question should be deputed to the Centres, but the matter was deferred until the next meeting.



(Top) Had the Triple Alliance strike taken place, motor cyclists would have figured largely in the various newly-organised Government departments. Here are a few of the many motor cyclists who responded to the call for volunteers. A scene at the 56th T.F., R.E. Signal Depot in Gray's Inn Road

(Bottom) Triumph motor cycles with some of their riders ready to start out on duty from the Horse Guards.

54 Entries in A.C.U. One Day Trial.

BELOW we give a list of entries in next Wednesday's A.C.U. One Day Trial. On point of numbers the entry is, perhaps, a little disappointing, especially as only one four-wheeled cycle car is down to compete, and this a monocar. Examination of the list will show that the majority of entrants will ride solo machines, less than a dozen being included in the passenger class. The proportion of lightweights is about 40%. "Stock" machines could be specially entered in this event, and eleven manufacturers are taking this opportunity of convincing demonstration.

Entrant.	Rider.	Machine.
R. M. Dixon	Entrant	3½ Norton.
J. R. Watkins	Entrant	3 Enfield.
R. L. Richardson	Entrant	3½ Alecto.
G. Richardson	Entrant	2¾ Velocette.
C. C. Labin	Entrant	4 Indian Scout.
F. C. Townshend	Entrant	6 Zenith-Jap
Phelon and Moore, Ltd.	P. Cunningham	3½ P. and M.
A. J. Stevens and Co. (1914), Ltd.	Eric Williams	7 A.J.S.
A. J. Stevens and Co. (1914), Ltd.	H. R. Davies	7 A.J.S.
Raleigh Cycle Co., Ltd.	G. W. Hartwell	5-6 Raleigh.
Raleigh Cycle Co., Ltd.	A. G. Fenn	5-6 Raleigh.
Raleigh Cycle Co., Ltd.	F. W. Viles	5-6 Raleigh.
Sun Cycle and Fittings Co., Ltd.		2½ Sun-Vitesse.
Sun Cycle and Fittings Co., Ltd.		2¾ Sun-Vitesse.
Sun Cycle and Fittings Co., Ltd.		2¾ Sun-Vitesse.
Triumph Cycle Co., Ltd.	F. G. Edmonds	4 Triumph.
H. D. Hinde	Entrant	6 A.J.S.
B. E. Lewis	Entrant	5-6 A.V. Monocar
J. T. A. Temple	Entrant	3½ Norton.
W. H. Jenks	Entrant	2¾ Douglas.
F. Jones	Entrant	3½ Rover.
A. G. Wall	Entrant	2¼ Cedos.
Vivian Olsson	Entrant	3½ Sunbeam.
A. Prestwich	Entrant	2¾ New Imperial-Jap
A. B. W. Thomas	Entrant	2¾ New Imperial-Jap
Morgan Motor Co.		8 Morgan-Jap.
Morgan Motor Co.		8 Morgan-Jap.
Morgan Motor Co.		8 Morgan-Mag
F. S. Waters	Entrant	2¾ Douglas.
J. E. Maynes	Entrant	3 British Radial.
C. D. Michaelis	Entrant	7-9 Harley-Davidson
Humber, Ltd.	L. Crisp	4½ Humber.
A. B. W. Thomas	Entrant	2¾ New Imperial.
W. A. Schooley	Entrant	5 Bennett.
H. F. Fellowes	Entrant	4 Coulson-B.
L. B. Freeman	Entrant	8 Sunbeam-Jap.
P.V. Motor Cycles, Ltd.	R. T. Steytler	2½ Villiers-P.V.
F. J. Ellis	Entrant	7 Matchless sc.
Bat Motors	S. T. Tessier	8 Bat sc.
Butterfields, Ltd.	F. W. Applebee	2½ Levis.
Butterfields, Ltd.	H. Newey	2½ Levis.
Butterfields, Ltd.	P. Pike	2½ Levis.
F. A. McNab	Entrant	3½ Trump-Jap.
F. H. Luker	Entrant	3½ P. and M
J. Hall	Entrant	4½ B.S.A.
F. A. Duplock	Entrant	6 A.J.S.
Norton Motors, Ltd.	H. Hassall	3½ Norton.
British Radial Co.	D. Doudet	3 British Radial.
Velocc, Ltd.	R. G. Mundy	2½ Velocette.
J. F. Hull	Entrant	2½ Wooler.
W. S. Jameson	Entrant	3½ Norton.
H. R. Harveyson	Entrant	4 Indian Scout.
Metro-Tyler Cycle Co.	J. S. Bennett	2½ Metro-Tyler.
Metro-Tyler Cycle Co.	G. E. Cuffe	2½ Metro-Tyler.

The following manufacturers have entered "stock" machines :

A. J. Stevens, Ltd. (A.J.S.)	2	J. Marston, Ltd. (Sunbeam)	3
Triumph Cycle Co. (Triumph)	1	Humber, Ltd. (Humber)	1
Raleigh Cycle Co. (Raleigh)	3	Butterfields, Ltd. (Levis)	3
Norton Motors, Ltd. (Norton)	1	Sykes and Sugden (L.S.D.)	1
Sun Cycle Fittings (Sun)	3	Morgan Motors (Morgan)	3
Phelon and Moore (P. and M.)	1		

CLUB NEWS.

Saltcoats and District M.C.C.

There is already a membership of forty in this newly-formed club. Mr. J. Kirkland, of Thornley, Saltcoats, is the hon. secretary.

Essex County and Southend A.C.

At a recent meeting it was decided to re-name the Southend-on-Sea A.C. as above. This club, in conjunction with the Essex M.C., is holding open speed trials at Southend on July 7th.

Burton and District M.C.C.

Only fourteen competitors were attracted by the recent trial in the Peak District. A difficult course and adverse weather conditions reduced the finishers to five. Results: 1, P. B. Cheston (3½ Norton sc.); 2, R. G. Redfern (6 A.J.S. sc.); 3, N. A. Findlay (7 A.J.S. sc.).

Halifax and District M.C.C.

Over a course of 168 miles, the trial on the 10th inst. included such well-known Yorkshire hills as Greenhow, Keighley Gate, and Holme Moss. The results are now to hand, and are as follows: 1, C. Adams (4 Triumph sc.); 2, F. E. Jackson (7-9 Harley-Davidson sc.); 3, A. Youngman (6 W.D. Clyno sc.).

North-eastern Centre A.C.U.

The entry fees for the open trial for the Travers Trophy (value 200 guineas), which will be held on the 30th inst., have been reduced as follows: Trade entry, £2 2s.; trade members of club, £1 10s.; private riders, £1 10s.; and club members, £1 1s. Entries close on April 23rd. The secretary for this event is Mr. Stanley Bell, Newcastle and District M.C.C., 77, Pilgrim Street, Newcastle-on-Tyne.

Wellingboro', Rushden and District M.C.C.

About forty attended the first annual dinner last Friday, which was a distinct social success.

Leeds M.U.

Official results have now been announced of the ninety-mile trial for Mitchell Trophy: 1, R. A. Bonner (3½ N.U.T.); 2, F. E. Palmer (2¾ Edmund); 3, C. Woodhouse (3½ P. and M.); 4, S. Jepson 6 A.J.S. sc.); 5, P. Richardson (4 Triumph).

Lancaster and Morecambe M.C.C.

Results of the seventy-six miles reliability trial (*via* Kendal, Sedbergh, Dent, Whiteshaw Moss, Thornton, and Linnesdale) are as follows:

SOLO CLASS.—1, W. E. Atkinson (3½ B.S.A.); 2, J. Garlick (3½ Sunbeam), who both survived the test without loss of marks.

SIDECAR CLASS.—1, G. W. Read (6 A.J.S. sc.).

BRONZE MEDALS (for losing under 20 marks).—A. K. Gill (4½ B.S.A.) and E. Varley (3½ Norton).

Sheffield and Hallamshire M.C.C.

There were twenty-three entries in the trial for the F.B. Roper Amateur Shield on Saturday, of whom eighteen completed the course. Considering the nature of the route, it is great credit to the men that so many finished, as it was a stiff test, and there were really very few marks lost. The first three men all lost no marks at known checks or on hills, and it was only by bringing in the secret checks that they could be separated and the final results marked out (subject to final confirmation). Results:

1, L. Padley (3½ Norton), the Roper Shield and club gold medal; 2, P. H. Dudley (4¼ B.S.A.), half-pint e.p.n.s. tankard; 3, E. S. Sneath (2¾ Levis), half-pint e.p.n.s. tankard; 4-5 (tie), R. May (4 Norton sc.) and F. Marks (3½ Rudge), club bronze medal; 6, S. C. Ashby (3½ Scott), club brooze medal.

Whitchurch M.C.C.

It is proposed to form a club in this district, and a meeting will be held for that purpose at the Swan Hotel, Whitchurch, Salop, on Monday, April 25th.

Plymouth and District M.C. and L.C.C.

To race over thirteen miles of the wild ruggedness of Dartmoor was certainly a test of endurance which required some achievement, but such was the task set and successfully accomplished by two members of the club last week for a silver cup presented by Major H. Moon, while the second man received a club medal. The course selected was over the moorland from South Brent station to the Duchy Hotel, Princetown. Glorious sunny weather prevailed, and eight competitors lined up at the starting point for the race, being accompanied by five horsemen as pilots. Six competitors retired after covering about three miles, but S. L. Snell (hon. sports secretary), riding a 4 h.p. Triumph, and M. Dawes, on a 3 h.p. A.B.C., plodded determinedly onwards, following sheep and pony tracks, and wending their ways through the clitter and patches of marsh. Dawes maintained the lead until about a mile from Princetown, when by hard driving the Triumph rider forged ahead, and just managed to win by fifty yards.

Blackpool and Fylde M.C.

At the monthly meeting of the above club, arrangements were made for a hundred miles non-stop run on May 22nd. Mr. Sharples mentioned the possibility of the old trotting track at Whitegate Park being enlarged and banked. If such a track were laid out, it might pay for itself by being used for various trials for North of England clubs.

Club News.—

Blaina and District M.C.C.

On Wednesday, the 13th inst., the club held its first competition—a speed-judging event. Results: 1, W. Jennings (7-9 Harley-Davidson sc.), 30s. error; 2, A. Lawley (4¼ B.S.A. sc.), 1m. 30s. error.

Rochester, Chatham, and District M.C.

Rumours have gained currency that this club has been disbanded. This is not so; for, as a matter fact, reorganisation finds the body in a very strong position. It is still affiliated to the A.C.U. Any further information will be supplied by the assistant hon. secretary, Mr. H. J. Lawrence, 300, High Street, Chatham.

Standard M.C.C. (Coventry).

Inclement weather somewhat reduced the attendance at the recent flexibility hill-climb on Chesterton Mill Hill. W. Wilday (4 Triumph) took the highest award, while B. Edwards (3½ Norton sc.) and G. Thomas (4 Triumph sc.) actually made respectively fastest and slowest times.

Wolverhampton M.C.C.

From the final results (given below) of the trial on the 9th inst., it will be observed that the locally-built machines had quite a "day out."

1. F. W. Giles (7 A.J.S. sc.), Corke Cup and gold medal.
2. W. Worrall (3½ Sunbeam), Shepherd Cup and gold medal.
3. A. Bennett (3½ Sunbeam), gold medal.
4. T. C. Greenwood (3½ Sunbeam), Club Silver Cup.
5. A. H. Mee (2¼ Diamond), silver medal.
6. A. E. Ford (2½ Diamond), silver medal.

North London M.C.C.

Tabulated results are now to hand of the petrol consumption test held on the 9th inst. round an eighteen-mile course from Radlett:

CLASS A (Solo under 500 c.c.).—R. L. Richardson (3 Alecto) and G. Richardson (2¼ Velocette), 144 m.p.g., tied for first place.

CLASS B (Solo over 500 c.c.).—M. J. Wilkes (5 Zenith), 106 m.p.g.

CLASS C (Sidecars under 750 c.c.).—W. J. Henderson (5-6 James sc.), 76 m.p.g.

CLASS D (Sidecars over 750 c.c.).—S. Hunt (8 Matchless sc.), 49 m.p.g.

North Lindsey A.C.

Formula results of the hill-climb on the 9th inst. are now available, and are as follows:

CLASS 1 (up to 350 c.c. on Formula).

	Fig. merit.
1. Mrs. M. C. Jennison (2¼ Velocette) ...	628
2. W. Froggitt (2¾ Verus)	1114

CLASS 2 (351 c.c. to 500 c.c. on Formula).

1. L. F. Harrington (3 A.B.C.)	527
2. S. G. Jennison (3½ Sunbeam)	1002

CLASS 3 (501 c.c. to 600 c.c. on Formula.)

1. W. Brompton (4¼ B.S.A.)	1327
2. H. Taylor (4 Triumph)	1511

CLASS 4 (above 601 c.c. on Formula).

1. H. Jarvis (6 Bat)	1181
2. F. G. Howard (8 Zenith)	1213

CLASS 5 (up to 600 c.c. on Time).

1. L. F. Harrington (3 A.B.C.)	23s.
2. L. Bainton (3½ Norton)	26⅘s.

CLASS 6 (Solo, Unlimited, on Time).

1. {L. F. Harrington (3 A.B.C.) / F. G. Howard (8 Zenith)}	23s.
3. S. G. Jennison (3½ Sunbeam)	25⅗s.

CLASS 7 (Sidecars above 351 c.c. on Formula).

	Fig. merit.
1. J. Eves (4 Triumph sc.)	1496
2. J. R. Clark (5 Rudge sc.)	1863

Forty-six entrants actually faced the starter, which is an excellent result considering the bad weather.

Week-end Club Events.

April 22.—Dewsbury and District M.C.C. Supper Run.
April 23.—Loughborough and District M.C.C. Hill-climb.
April 23.—Cardiff M.C.C. Speed Trials.
April 23.—North West London M.C.C. Speed Trial.
April 23.—Surbiton and District M.C.C. Hill-climb.
April 23.—Bath M.C.C. Hill-climb.
April 23.—North Wales M.C.C. Petrol Consumption Test.
April 23.—Ivy M.C.C. (Wolverhampton). Club Run to Wellington Wrekin.
April 23.—Surrey M.C.C. Inter-team Trial.
April 23-24.—Public Schools M.C.C. Touch-nothing Run.
April 24.—Standard M.C.C. (Coventry). Reliability Trial.
April 24.—Rugby and District M.C.C. Reliability Trial.
April 24.—Rochester, Chatham, and District M.C.C. Club Run to Birchington.
April 24.—Sheffield and Hallamshire M.C. and L.C.C. Traders' Team Trial.
April 24.—Warrington M.C. Reliability Trial.
April 24.—Aocrington and District M.C.C. Reliability Trial.
April 24.—Leeds M.U. Club Run to Malham Rocks.
April 24.—Canterbury and District M.C.C. Club Run to Hastings.
April 24.—Exeter M.C. and J.C.C. Club Run to Becka Falls.
April 24.—Sheffield M.C.C. Club Run to Cresswell Crags.
April 24.—Leeds and District M.C. Petrol Consumption Test.
April 24.—Northern M.C. Club Run to Blanchland.
April 24.—Essex M.C. Captain's Social Run.
April 24.—West Birmingham M.C.C. Hill-climb.
April 24.—Wolverhampton M.C.C. Club Run to Great Haywood.
April 24.—Basingstoke and District M.C. and L.C.C. Club Run.
April 24.—Leicester and District M.C. Paperchase.
April 24.—Portsmouth and District M.C. and L.C.C. Club Run to Compton Downs.
April 24.—Berwick and District M.C. Hill-climb.
April 24.—West Kent M.C. Surprise Run.
April 24.—Woolwich, Plumstead, and District M.C. Club Run to Canterbury.
April 27.—Ilkeston and District M.C.C. Club Run to Newark.
April 27.—Reigate, Redhill, and District M.C.C. Club Run.
April 28.—Taunton and District M.C. and L.C.C. Opening Run to Lyme Regis.
April 28.—Eastern Valley M.C.C. Speed-judging Contest.

A Section devoted to Club Announcements will be found on Page xlii.

Plymouth and District M.C. and L.C.C.

A very large number both of spectators and competitors attended the hill-climb at Peak Hill, near Princetown, Dartmoor. The distance measured nearly half a mile, which Lieut. Ross on a 3½ h.p. Norton negotiated in 30⅖s. M. P. Pike on a 2¼ h.p. Levis won the 300 c.c. class, and M. T. Fallon on a 7-9 h.p. Harley-Davidson and sidecar the sidecar class.

Midland Centre A.C.U.

Regulations and rules are now available for the Centre inter-team trial scheduled for April 30th. Each team will consist of seven riders, mounted on four solo and three passenger machines (sidecars or cycle cars not exceeding 8 cwt. and 1,100 c.c.), or three solo and four passenger. The performance of the best five only will be taken into account, irrespective of type. There will be several circuits, totalling 100 miles, of the one course, each rider's time on his first round, between limits of 17 and 20 m.p.h., to be his schedule speed for the remaining circuits. The trial will be non-stop throughout.

Yorkshire Centre A.C.U.

At a well-attended meeting in Leeds on April 11th, arrangements were confirmed for the Sheffield and Hallamshire Club's Centre reliability trial on May 7th.

Sheffield and Hallam M.C. and L.C.C.

The date of the annual Sheffield Traders' Team Trial is fixed for April 24th; the same course in the Stocksbridge district will be used. Three circuits of approximately twenty miles each will have to be covered, non-stop regulations throughout.

Leeds Motor Union.

Eighty sat down to tea on the occasion of the president's invitation run to Barden Towers. The weather was very favourable, and a most enjoyable day was spent in the neighbourhood of the pretty village of Burnsall.

North-western Centre A.C.U.

To find a champion to represent the centre, a trial, with Knutsford as a base, will be held on May 8th. A large entry is anticipated; and a considerable number of "qualified officials, marshals, and observers" is required in order to make the event a success.

Cheltenham M.C. and L.C.C.

About fifty members took part in the opening run, and enjoyed tea at the Swan Hotel, Bibury. After tea a very enjoyable and interesting time was spent by some members in inspecting the trout farm, while the younger element enjoyed an hour "stunting" on an adjoining bank.

Amersham, Chesham, and District M.C.C.

An interesting programme is now in course of preparation, and the opening run will take place on the first week-end following the settlement of the transport crisis. The present secretary is Mr. U. K. Goodwin, Heath House, Hyde Heath, Amersham.

Dewsbury and District M.C.C.

Held recently at Burfleet Hill, a fast and slow climb resulted as follows: Fast climb.—1, N. Kitchen (3½ Premier) and S. M. Haigh (3½ Ariel) tied, 38s.; 2, D. Flynn (4 Triumph), 40s. In the re-run, Kitchen recorded 42s. against Haigh's 46s. In the slow event the placings were the same.

Public Schools M.C.C.

Besides the winner (G. G. Gardner, on a 4 Triumph), only C. Keith Robinson (3 A.B.C.) was successful in climbing Old Chalky in the surprise competition held recently. A bad patch of deep leaf-mould "brought off" D. Crawford and W. Bishop (both on 5 Zeniths), who had surmounted the greasy portion at the bottom.

Eastbourne and District M.C.C.

By an arrangement the club met members of the Lewes Club at Five Ashes on the occasion of the opening run, and altogether proceeded to the Hand and Sceptre Hotel for lunch, where a most enjoyable time was spent by over sixty members. After lunch some of the party proceeded to Lamberhurst for tea, while the remainder went to Uckfield.

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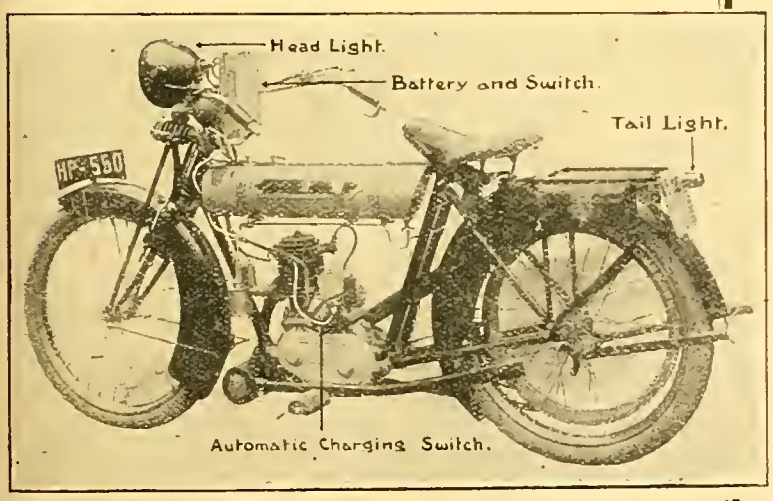
ELCE CUP—S. A. McCARTHY on 10 h.p. Morgan

LESTER CUP—R. H. JONES on 12 h.p. A.B.C.

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The suit is put on and off in a few seconds, no pulling over dirty boots, nor soiling your hands. They open right down outside of leg, and are fastened with two springs. There is absolute freedom and comfort, combined with neatness, and they are guaranteed to keep you dry under all conditions of weather. This is the only suit that kept out the terrible wet weather in the Reliability Trials at Copenhagen, when clothing was included in these trials.

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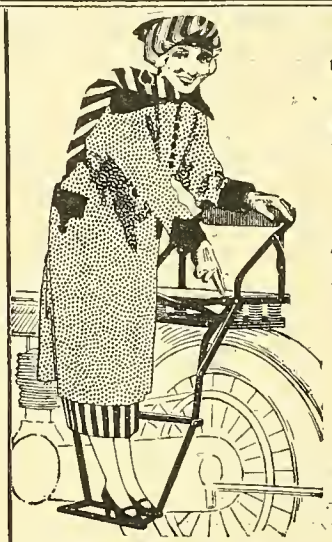
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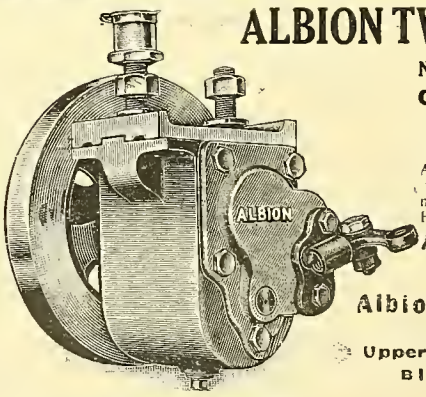
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Any model supplied for conversions.

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A.B.C., 1921, 12 h.p., 2-stroke and dickey £383
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MORRIS-COWLEY, 1921, 4-stroke, new £425
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MORRIS-OXFORD DE LUXE, fully equipped. Just overhauled and repainted £250
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NEW COMBINATIONS.

A.J.S., 7 h.p. £215
A.J.S., 6 h.p. £180
EXCELSIOR 8 h.p. DE LUXE, dynamo lighting £243
EXCELSIOR, 6 or 8 h.p. £160
ZENITH, 8 h.p. £204
ARIEL, 3½ h.p. £152 10
P. & M., 3½ h.p. £155
RALEIGH, 5-6 h.p. £184 16
MATCHLESS, 8 h.p., run 20 miles £195
ENFIELD, 8 h.p. £160
B.S.A., 6-7 h.p. £175
B.S.A., 4¼ h.p. £152
TRIUMPH, 4 h.p., S.D. Model £175

NEW SOLO MOUNTS.

ZENITH, 5 h.p., Sports Model £123
EXCELSIOR-BLACKBURNE, 2¾ h.p. £96
EXCELSIOR, 2½ h.p., 2-speed £67
EXCELSIOR, 2½ h.p., open frame, single-speed £49 15
O.K., 2½ h.p., single-speed £50 8
ENFIELD, 2¼ h.p., 2-speed £65
DOUGLAS, 2¼ h.p., 2-speed £85
SUNBEAM, 3½ h.p., 3-speed £155 8
SCOTT 3 h.p. £130
TRIUMPH, 4 h.p., S.D. £135
O.K., 2½ h.p., 2-speed £59 17
O.K., 2½ h.p., 2-speed, clutch kick-start .. £67 4

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A.J.S. 1920 6 h.p. Combination, Cowey Speedometer, horn, acetylene equipment, Condition like new £185
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Costing say	100	0	0
Deposit	36	0	0
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All reconstructed Machines, supplied during this month only, will be completely equipped with Lamps, Horn, Tools, Pump, Pannier Bags, and Licence Card Holder. NO EXTRA CHARGE.

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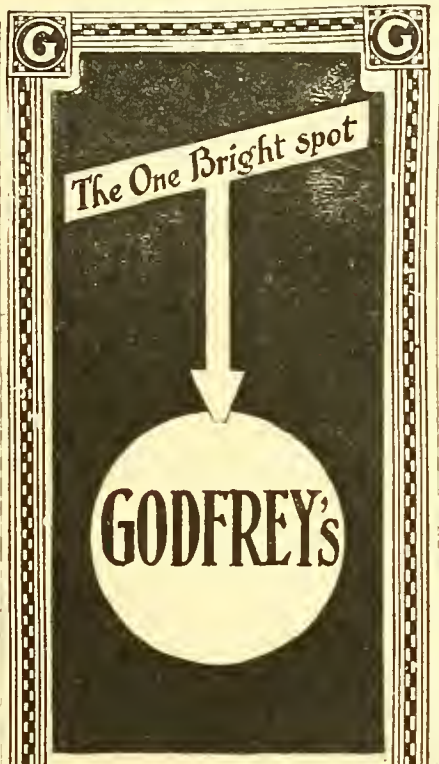
MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., new models, from stock, 1920; best cash offer entertained.—A. J. Young and Co., Ltd., ewmarket. [1057

A.B.C., brand new, kick start model, £98; new combination, £128.—Edwards, 50, Harrington Rd., outh Kensington. 'Phone: Kensington 3709. [4174

A.B.C.—Special machine by Sopwith, very fast, Lucas lamps, never used, perfect condition; nearest £120. -Lewis, Motor Cycle Expert, Malvern Link. 'Phone: 2 [3301



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MOTOR CYCLES FOR SALE.

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A.B.C. 1920, new condition and appearance, only done 400 miles, tax paid; bargain, £85.—Wheaton, Fairlight, Maybury Rd., Woking. [3835

A.B.C. 3h.p., 1920 model, only done about 1,000 miles, in perfect condition throughout, complete with lamps, horn, etc.; £95.—P. J. Evans, 81-91, John Bright St., Birmingham. [3422

A.B.C., 1920, latest kick start model, fully equipped, Lucas lamps, Klaxon, tools, etc., tax paid, condition as new; £110, or exchange lightweight and £60.—73, Victoria Rd., Stroud Green, N. [3777

100 GNS. Each.—Three A.B.C.'s, one T.T., done 150 miles, Dunlops, specially tuned by Emerson, one been used for a few competitions only, 2½in. Wood-Milnes, Senspray extra air, knee grips, 2 big pipes, many extras and spares, etc., guaranteed 75 m.p.h.; one brand new standard semi-T.T.—Reg. Lucas, of Mansfield. Tel.: 315. [3139

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ABINGDON King Dick 4h.p., lately overhauled, new carburetter, belt, tyre, and toolbox, in excellent condition; nearest to £40 secures.—East Grinstead Motor Garage. [9522

1920 Abingdon King Dick 5-6h.p. Combination, 3 speeds, clutch and kick starter, all lamps, disc wheels, mileage 800, guaranteed; £130; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4080

A.C.E.

£166.—1920 Ace, 4-cyl. model, 3-speed, kick start, hand and foot clutch, shop-soiled only; list price £210, rare bargain.—Colmore Depot, 31, Colmore Row, Birmingham. [X1922

Acme.

UNUSED 1921 8h.p. Acme Combination, taken by owner in exchange who does not require same; for immediate cash will accept £169.—Write F., 41, Palmerston Rd., Coventry. [X1974

1920 Acme Combination, 8h.p. J.A.P. engine, spare wheel, electric lighting, cost £225, not done 1,000 miles, condition as new; £150.—The Premier Motor Co., Aston Rd., Birmingham. [4150

A.J.S.

ARE You Requiring a New Combination for Whitsun?

JULIAN'S, of Reading, have 1921 A.J.S. in stock.

SECURE One Early, otherwise you may be disappointed. [0477

JULIAN'S, of Reading, have 1921 A.J.S. in stock. [0532

DAN GUY, Weymouth.—1921 A.J.S. in stock; £215. [0549

LONGMAN, of Salisbury.—A.J.S. combinations and 2¾h.p., 1921 models. [1748

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [4557

A.J.S. 4h.p. Combination, 3 speeds, condition perfect; 95 gns.—4, The Square, Carshalton. [3990

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. Combination, new condition, tax paid; £95.—Mosedale, 30, Canterbury Rd., Kilburn, N.W.6. [3751

A.J.S. Spares prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

DAN GUY, Weymouth.—A.J.S. agent for Dorset; earliest deliveries new 2¾h.p.; provisional price £100. [0557

CYRIL WILLIAMS for immediate delivery of 1921 A.J.S. combinations.—Chapel Ash Depot, Wolverhampton. [X9609

DAN GUY, Weymouth.—A.J.S. 6h.p. combination, 1917, recently re-enamelled, splendid condition throughout; £120 [0558

A.J.S. Combination, 2-speed, kick, countershaft, fully equipped, genuine, reliable; £70.—41, Gellatly Rd., New Cross. [3889

1915-16 A.J.S. Twin Combination, disc wheels, lamps, just overhauled; £95; tax paid.—Fox, 12, Conduit St., Lichfield. [4193

A.J.S. 6h.p. Combination, 1914, lamps and spares, ready for road; £85; seen by appointment.—Taylor, Union Offices, Aylesbury. [3232

A.J.S. 2¾h.p., 1916, K.S., hand clutch, 3-speed, good condition; £55; lamps, tax paid, tools, etc.—D. T. Bond, Lion Hotel, Blaina, Mon. [3214

LATE 1920 A.J.S. Combination, mileage 1,200, equipped regardless, tax paid, exceptional engine; £170; exchanges.—60, Wallingford Av., North Kensington. [3667

MOTOR CYCLES FOR SALE.

A.J.S.

1920 A.J.S. Combination, lamps, horn, hood, small mileage; any trial; guaranteed; £155.—45, Malden Rd., New Malden, Surrey. 'Phone: 39 Malden. [3916

A.J.S. Brand New 8h.p. Sidecar Combination, complete with spare wheel, wind screen, just delivered, pnnsed; what offers?—Steele, 55, High St., Omagh, Co. Tyrone. [3369

A.J.S. 4h.p. Combination, late 1916, condition equal to new, done 7,000 miles, interchangeable wheels, nearly new tyres; £130.—42, St. Margaret St., Bradford-on-Avon. [3603

A.J.S. 1920 6h.p. Combination, equal new, spring seat, Lucas lamps, horn, screen, spare wheel, unused, luxurious outfit; £180.—2, Aubrey Rd., Small Heath, Birmingham. [X2064

1916-1917 4h.p. A.J.S., K.S., clutch, 3-speed, equipped, tyres as new, thoroughly overhauled, new Henderson sidecar; gift, 98 gns.—Apply, Brynmaer, Throwley Rd., Sutton, Surrey. [3967

1920 A.J.S. Combination, fully equipped, tax paid, splendid condition, any trial, dynamo lighting; £180, or near offer.—F., 155, Golders Green Rd., N.W.11. Tel.: Finchley 614. [3908

A.J.S. 2¾h.p., new condition, beautifully equipped, Lucas head and rear lamps, Stewart speedometer and horn; what offers; seen any time.—Leggett, 306, Fulham Rd., South Kensington. [3898

6h.p. A.J.S. Combination, Nov., 1919, 1,500 miles, spare wheel unused, owner driven, Lucas and P. and H., completely overhauled; trial; £150, or offer.—Barton, Silverdale, South Farnborough. [3495

1920 (Nov.) A.J.S. Combination, complete with wind screen, luggage grid, and unused spare wheel, Lucas lamps and horn, tax paid, guaranteed perfect; £170.—Williams, Bakers, Shortlands, Kent. [3476

1920 (late) A.J.S. Combination, electrically equipped, spare wheel, speedometer, done only 1,200 miles, magnificent outfit; £185.—James, over Bradmore's, 482, Harrow Rd., Paddington. Tel.: Willesden 1744. [3796

A.J.S. 6h.p. Combination, luxurious outfit, condition as new, spare wheel, Easting wind screen, 3 lamps, horn, speedometer, numerous spares, mileage 2,200, tax paid; £155.—50, Church Lane, Normanton. [3673

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

A.J.S. Combination, new November, 1919, very little used since June, 1920, when it cost owner £220, several accessories added since, just overhauled, very powerful; price £200.—Colonel Corbett, 14, Embankment Gardens, Chelsea. [3966

A.J.S. Combination, 6h.p., about 1918, 3 speeds, gear box, hand clutch, kick starter, interchangeable wheels, lampe, generators, speedometer, horn, hood, tax paid; £82.—110, Upper Richmond Rd., East Sheen, S.W.14. Putney 2622. [3737

A.J.S. 1921 6h.p. Combination, brand new, not shop-soiled, complete with interchangeable wheels and spare £195; also immediate delivery of the new 7h.p. model, £215; Lucas dynamo lighting set, £28 extra.—P. J. Evans, 81-91, John Bright St., Birmingham. [3420

A.J.S. 6h.p. Combination, electric large searchlight lamps with dimmers, cost £8/8, spring seat pillar, spare wheel, Stewart signal, Smith's speedometer, mirror, Sterling leg shields, hood cover, apron, side curtains, tax and insurance £230 till November, transferred, all good as new; highest offer, £200, bargain.—Robinson, 10, Shepherd's Bush Green, London, W.12. [3468

Alldays.

E. KICKHAM for Allon, sole agent for Bristol and district.—Stokes Croft, Bristol. [3356

1920 Allon, 2-speed, clutch, kick start, lamps; £65: Exchanges.—H. Rock, Cradley, Staffs. [3506

ALLON 2-speed, good condition, accessories; £50, or offer.—45a, Manor Park Lee, S.E.13. [3156

1919 Allon, 2-speed, lamps, horn, tax, spares, lovely condition; trial by appointment; £50.—Senior, 234, London Rd., Northwich. [3498

BARGAIN, 1917 2¾h.p. Alldays-Allon, perfect order, lamps, horn, tax paid, must sell; £40, or offer.—29, Sedgmoor Place, Camberwell. [3153

ALLDAYS-VILLIERS 2¾h.p., 1916, engine as new, lamps, etc., good tyres, tax paid; ride away; £35, or offer.—Stratford, 148, Marlborough Rd., Upper Holloway. [3229

1920 Allon de Luxe, 2¾h.p., 2-speed, kick starter, practically new, perfect condition; bargain, £70, or exchange with cash for good combination.—Gammon, Perfumer, Ilfracombe. [3113

ALLDAYS Allon de Luxe, 2-speed, kick starter, clutch, front and rear lamps, horn, leg shields, excellent condition; price £70.—Carpenter, Horbling, Billingborough, Lincs. [3266

American X

BIG Valve Racing American X, 1920, just been overhauled, perfect, tax paid, very fast, winner in speed hill-climbs; offers.—27, St. John's Rd., Putney Hill. [3724



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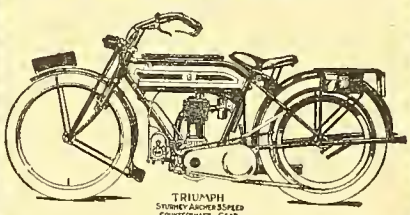
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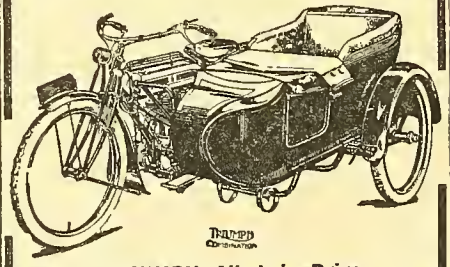
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American X

AMERICAN X Combination, 7-9h.p., 1916 mod acetylene equipment, spares, tax paid, in g condition; trial; accept £120.—Hatton Coombe H Rd., Kingston Hill, Surrey. [35

AMERICAN X. Combination, 1917, 7-9h.p., mile 2,900, accessories, handsome appearance, white a crimson, perfect mechanically; bargain, £142.—Pho particulars, 179, Osmaston Rd., Derby. [37

A WONDERFUL Bargain.—Brand new 1921 Am can X, standard model, 7-9h.p., 3-speed, w Millford de luxe sidecar, 27×3½in. tyres; list pr £217, offered as slightly shop-soiled at £170.—T Premier Motor Co., Aston Rd., Birmingham. [X14

Ariel.

JULIAN'S, of Reading, have 1921 Ariel in stock [05

DAN GUY, Weymouth.—Ariel agent; early deliv dates. [05

1921 Model Ariels in stock.—Pinn's Garage, High St., Fulham. [3

LONGMAN, of Salisbury.—Ariels, solo and co binations, 1921 models. [17

3½h.p. 1920 Ariel Combination, only 2 months use; price £110.—Woods, Ltd., Sligo. [33

ARIEL 5-6h.p. Combination, 3 speeds, K.S., exc lent condition; £100.—4, The Square, Carsh ton. [39

ARIEL 1921 4½h.p. Combination, from sto price £162/10.—A. J. Young and Co., Ltd., N market. [10

ARIEL 3½h.p. Combination, 1914, 3-speed, spee meter, lamps, etc.; £55.—Fear, The Neche Staines. [35

3½h.p. Ariel Combination, 3-speed, kick starter, sh soiled only; £140.—John C. Beadle, Ltd., Spi St., Dartford. [23

ARIEL 1920 Combination, unscratched, few mi only, Easting, registered; £110.—Clark, Exhibition Rd., S.W.7. [41

ARIEL 1920 New 3½h.p. Solo; list price £120, price £105.—Ratcliffe Bros., 200, Gt. Portla St., W. Langham 1704. [04

1919 Ariel 6-7h.p. Combination, 1921 forks, lam Easting screen, speedometer, accessories; £145 E. Pool, 56, Abel St., Burnley. [19

1920 3½h.p. Ariel Combination, only done 4 miles, tax paid, £105; also 1914 T.T. mod £39.—Roes, 86, High Rd., Lee, S.E. [33

£95.—1920 Ariel 3½h.p., 3-speed, kick start, clut real bargain, shop-soiled, list price £110.—Colm Depot, 31, Colmore Row, Birmingham. [X19

ARIEL 3½h.p., 1919-20, Millford sidecar, lamps, gine in excellent running order; £100, or n offer, bargain.—Kelly, The Laurels, Camden Rd., Sutt [40

ARIEL 3½h.p., actually in stock; also other g makes, both new and second-hand.—Antovey Ltd., Service Depot, 12, Palmer St., S.W.1. Vic. 3 [04

NEW 1921 4½h.p. Ariel Combination, 3-speed, e mechanical oiling, list price £162/10; exchan entertained.—Bambers', Eastbank St., Southpo Tel.: 607. [X20

ARIEL Combination, 3½h.p., late 1920, comple wind screen, legshields, lamp, tools, etc., un 500 miles, not scratched; £110.—T. Stacey, Ca Fields, Buckingham. [35

ARIEL, 3½h.p., 1918, lamps, pillion seat, sp tube, belt, valves, hand control clutch, k guards, perfect condition; £85. — Write, 143, George's Rd., Coventry. [X20

1919 Ariel 3½h.p., with luxurious coach sidecar, lamps, Easting, speedometer, new tyres round, tax paid, guaranteed; £115; exchanges Homac's, 243, Lower Clapton Rd., N.E. 'Phon Dalston 2408. [40

ARIEL 3½h.p., B. and B., Bosch, best over £3 also Rudge, clutch, Senspray, C.A.V., near £36; both semi-T.T., with horns, lamps, good tyr overhauld, licensed; after 5, 1 Saturday.—Clemets 18, Church St., Maidstone. [35

ARIEL Service Depot.—Orders now booking for t new all-chain models, which are the Rolls-Roy of motor cycles. All spares stocked. Prompt attentio —F. Speakman, Ariel Expert, 7, Rochdale Rd., H purbey, Manchester. Tel.: 325 Cheetham Hill. [82

ARIEL.—This is the machine for reliability. We s practical riders and gold medal winners with t wonderfully efficient and reliable motor cycle. We c give you immediate delivery from stock. All spares stock. Trade supplied.—Jones' Garage, Muswell H and at Woodside Parade, N. Finchley. [03

Arno.

1915 Arno 4h.p., just been thoroughly overhaul painted red; £40, or near offer.—Oakhill Gara East Putney, London. [30

Bat.

BAT 6h.p., 3-speed, 1920, brand new; £125.—Cle 7, Exhibition Rd., S.W.7. [91

MOTOR CYCLES FOR SALE.

Douglas.

20 Douglas Combination, 4h.p.; £100 gns.—Frank Whitworth, Ltd., 139, New St., Birham. [X2039

15 Douglas 2¾h.p., fully equipped, licensed, splendid order; £48.—78, Warwick Rd., Bowes N.11. [3811

.—3-speed 2¾h.p. Douglas, fully equipped, as new, not W.D.—436, Whitehorse Rd., Thornton , S.E. [3814

UGLAS, 1916, legshields, speedometer, F.R.S. lamps, undershield; bargain, £50.—202, Munster Fulham. [3493

UGLAS, 2¾h.p., 1916, equal to new, mileage about 300, equipped; £50.—207, Blackshaw Rd., ng, S.W.17. [1173

16 Douglas and Sidecar, not W.D., tax paid, ready to drive away; £100.—Rose, 86, High Lee, S.E. [3588

. Douglas Combination, 1917, mechanically perect; cash required; offers.—4, Elm Gardens, nersmith. [3723

20 2¾h.p. Douglas, 3-speed, clutch, and K.S., licence, equipped; £85.—Asten's Garage, y, Surrey. [3919

UGLAS 2¾h.p., 1915, completely overhauled, engine new, full kit, several spares; £55.—38, Manor Hackney. [3933

UGLAS, 1911, good order, lamps, horn, tax paid; after 6; offers over £15.—108, Babbacombe Rd., ley, Kent. [4012

UGLAS, new 1921, 3-speed, fully equipped. £105; tax paid.—7, Exhibition Rd., S.W.7 ngton 4096. [1579

B, Gloucester, can give immediate delivery Douglas 1921 models and spare parts from —'Phone: 852. [6340

UGLAS 2¾h.p., speedometer, fully equipped, licensed, no rubbish; £56; after 6 o'clock.—8, ar Rd., Acton. [3215

20 2¾h.p 3-speed Douglas and accessories, in good condition; £82/10.—Bounds, 223, High Kilburn, N.W.6. [3274

4 Douglas 2¾h.p., mileage 9,000, Binks (1920), good condition, licensed, speedometer, lamps.—ide, South Godstone. [3087

UGLAS, 1913-14, 2¾h.p., lamp, etc., excellent condition, fast, tax paid; £48.—Hopkins, 46, ell Av., Highgate, N.6. [3911

. Douglas Combination, 1920 model, shop-soiled. -speed, kick starter; £153.—John C. Beadle, Spital St., Dartford. [2309

UGLAS, 1917, 2¾h.p., enamel, plating, and mechanical condition splendid; £47.—30, Crystal Park Rd., Sydenham. [4011

UGLAS 4h.p. Combination, everything now condition, not done 3 months' work; 90 gns.—Pace, , Centre Av., Acton. [3692

10.—Douglas 2¾h.p., 1916, like new, perfect condition throughout; first cash secures. — 4, Gardens, Hammersmith. [3722

CEPTIONAL.—1918 2¾h.p. 2-speed Douglas, eautifully equipped; £50; exchanges.—60, Wall- l Av., North Kensington. [3666

-ON Douglas Models from Stock; 2¾h.p. 2-speed, £95; 3-speed clutch, £105; combination, £170.— , Yeovil. 'Phone: 50. [5043

6 2¾h.p. Douglas, 2-sped, Amac, lamps, accessories, licence, enamel and plating, unscratched; 63, Solon Rd., Brixton. [4102

9 4h.p. Douglas Combination, equipped, little used, makers' receipt shown; what offers.—149, Rd., Palmers Green, N.13. [3870

p. Douglas Motor Cycle, in running order; owner bought another cycle; £60, or nearest offer.—High St., Burnham, Bucks. [3360

8-19 4h.p. Douglas Combination, in first-class condition; any examination or trial; 80 gns.—Pine Cottage, Weybridge. [3808

UGLAS 1916 2¾h.p., 2-speed, electric lighting, Klaxon, speedometer, excellent condition; £68.— s, 20, Gloucester Rd., Bristol. [3472

UGLAS 2¾h.p., 1916, 2-speed, perfect, any trial; £44; private owner.—Apply, The Garage, Lytcott Lordship Lane, East Dulwich. [3716

9 4h.p. Douglas Combination, electric, tax paid, overhauled by makers, ridden 20 miles since; —Box 3,481, c/o *The Motor Cycle*. [3325

—Douglas, 1914, 2¾h.p., 2-speed, lamps, horn, various new parts, first-class order and appear- 50, Malvern Rd., Hornsey, N. [3645

UGLAS 1919 4h.p. Combination, splendid order; £95.—Newnham Motor Co., 223, Hammersmith W.6. 'Phone: Hammersmith 80. [3446

UGLAS 4h.p., 1917, with special 2-seated sidecar, excellent condition; £80.—Buntings Motor nge, Wealdstone. Closed Sundays. [3994

9 2¾h.p. Douglas, 2-speed, Amac, C.A.V., original enamel lamps, accessories, licence, new ion; £65.—63, Solon Rd., Brixton. [4101

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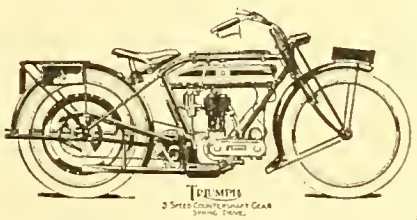
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Douglas.

DOUGLAS 1920 2¾h.p., 3-speed, footrests, lamps, Klaxon-Veeder, tax paid, condition new; £80.—Porter, The Square, Fairfield, Manchester. [3194

2¾h.p. T.T. Douglas, 2-speed, lamp, splendid condition, tax paid; £53, offers.—Graham, 27, Wandle Rd., Wandsworth Common, S.W. [3747

4h.p. Douglas, late model, mechanically perfect, overhauled, stoved, and plated, 50% new fittings, condition as new; £75.—Garage, Woolpit, Suffolk. [3264

DOUGLAS 2¾h.p., 1916, uncrated May, 1920, unpunctured, perfect, original owner, insurance, licence; £65.—Rowdon, 43, Bell Rd., Hounslow. [3233

4h.p. Douglas, 1920 model, 3-speed, fully equipped with lamps, horn, etc., only completed 1,150 miles; £130.—John C. Beadle, Ltd., Spital St., Dartford. [2312

1917 Douglas 2¾h.p., not W.D., fully equipped, tax paid, tyres almost new, enamel and plating excellent; £52.—Lawn Villa, Holly Walk, Enfield. [3810

DOUGLAS 2¾h.p., 2-speed, 1918 (authentic), perfect running order, lamps, pumps, etc.; £55, or offer; London S.W. district.—Box 3,496, c/o *The Motor Cycle*. [3570

1916-17 4h.p. Douglas, electric lighting, tyres good, Easting, mechanically excellent; £85, solo £70.—Woodward, Lexwood Cottage, Sundridge Av., Bromley, Kent. [3595

DOUGLAS Combination, 4h.p., 1920 model, scarcely used, complete with accessories, owner no use; no reasonable offer refused.—Cox, Lynwood, Uttoxeter, Staffs. [3925

DOUGLAS 2¾h.p., 2-speed, clutch, smart appearance, tyres hardly cut, lamps, and tax paid; £31, no offers; takes two; trial willingly.—R.A., 66, Church Rd., Acton. [3946

DOUGLAS, 2¾h.p., fully equipped, aluminium chain guard, 1915, £55; ditto, 1919, £70; guaranteed.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0547

DOUGLAS 4h.p. Combination, C.A.V., Amac, lamps horn, new Dunlops, Easting, hood, luggage grid, tax paid, perfect, trial; £100.—13, Charles St., Barnes, S.W.13. [3863

DOUGLAS 4h.p., 1917, clutch, K.S., 3-speed, overhauled February, lamps, tools, spares, etc., tax paid, excellent condition; £80, near offer.—164, Shooter's Hill Rd., Blackheath. [3317

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

1920 4h.p. Douglas Combination, as new, lamps, horn, legshields, Easting, licensed; £122.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [4175

4h.p. Douglas Combination, licence fitted, with luxurious Sandum body, Easting screen, petrol carrier, grid, etc., insurance policy included; £95.—336, Gray's Inn Rd., W.C.1. [0540

1917-18 Douglas Combinations, absolutely as new throughout, guaranteed; £100; inspect before buying elsewhere.—Banister and Botten, 341, Upper St., N.1. 'Phone: North 2480. [4214

1918 Douglas Combination, 1920, new, all steel frome, Binks, discs, leg shields light blue sidecar, splendid condition, licence paid; £95, lowest.—Raistrick, 1, Bryanstone Rd., Laisterdyke, Bradford. [3792

DOUGLAS 4h.p. Combination, hood, wind screen, horn, lamps, Tan-Sad, splendid running order, tax paid; £85, or near offer.—L. Stratford, 203, Junction Rd., Upper Holloway, N. [3279

DOUGLAS 2¾h.p., also 4h.p. combinations, delivery ex stock; specially low prices, cash or terms.—Harford, Ltd., 5, New Burlington Place, Regent St., London, W. 'Phone: 4090 Regent. [X2067

1919¾ Douglas 4h.p. Combination, mileage 1,200, dry plate clutch, Klaxon, Bonnikson, Bluemel wind screen, many spares, unpunctured, guaranteed perfect order.—On view 39, Newman St., W. [3237

2¾h.p. 1916 2-speed Douglas, horn, lamps, pump, footboards, spare chain, belt, and valves, Tan-Sad, and footrest (optional), tax paid, condition perfect; £65.—109, Mackenzie Rd., Beckenham. [3891

1918 Douglas Combination, just overhauled, enamelled and upholstered, fully equipped, splendid condition; any trial; £95, or near offer.—17, Colville Sq., W.11. Saturdays Fair View, Tonbridge. [3257

1920 4h.p. Douglas Combination, fully equipped, electric lighting, mechanical horn, legshields, wind screen, etc., condition as new; £125; take lightweight part.—17, Shaftesbury Rd., Coventry. [X2056

4h.p. Douglas Combination, electric lighting, speedometer, hood, screen, apron, mat, new belt, good tyres, £100; also 2¾h.p. 2-speed Douglas, £50; taxes paid, insurances.—90, Albion Rd., Stoke Newington. [3410

2¾h.p. 1920 Douglas, all necessaries, kick start, clutch, 3-speed gear, only run 1,000 miles; sellar purchasing more powerful machine; condition as new; bargain, £95.—Bunford, Midland Bank, Newcastle Emlyn. [3514

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IMMEDIATE Delivery of any Douglas Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0505

1919 Douglas 4h.p. Combination, not war model, complete all lamps, speedometer, tyres like new absolutely perfect, only done 6,000 miles; £105 net.—4, Station Buildings, Woodside, S.E.25. 'Phone: Croydon 36. [3439

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2¾h.p. Sporting Douglas, August, 1919, tax paid, stored six winter months, aluminium discs, long plated exhaust, Lucas lamps, Klaxon, knee-grips, like new; worth £80, accept £68.—Roberts, 18, Florence Rd., Maidstone. [3116

33 GNS., real bargain, compare the price; Douglas 1913-14, 2 speeds, excellent tyres, lamps, speedometer, mechanical horn, leg shields, footboards, smart, any examination, trial.—Garage, Hansler Rd., E. Dulwich. 10-5. [3350

DOUGLAS 4h.p. Combination, late 1918, 3-speed, clutch, kick start, complete with tool kit, lamps, watch, Klaxon, cover and tube, enamel, plating, and upholstery as new throughout, tax paid; £86, or near offer.—Clare, 242, Brixton Hill. [3300

1919 (late) Douglas 4h.p. Combination, well equipped, accessories, spares, speedometer, fitted electric (accumulator) and acetylene throughout, tyres perfect, extra heavy Dunlop side and rear, specially good machine, perfect running order, tax paid; £115.—4, Middle St., Yeovil. [3225

BARGAIN.—Douglas 1921 2¾h.p., 3-speed, hand clutch, kick start, delivered February this year, run 200 miles, makers' guarantee; cost £115, take £100, no offers; first £5 deposit secures, owner having combination.—Witham, Red Lion, Spalding Rd., Holbeach, Lincs. [3522

F.O.C.H. have a 1920 Douglas Combination, almost new, completely equipped, cheap; also 1919 2¾h.p. solo, fully equipped, tax paid, new condition.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3425

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EDMUND, 1920, J.A.P., Enfield 2-speed, lamps, and horn, condition excellent; £65.—Below.

EDMUND, 1920, J.A.P., Enfield gears, licence paid, lamps, condition good; £60.—The Layton Garages, 90, High St., Oxford. Tel.: Integrity, Oxford. 'Phone: 784 Oxford. [X2135

1921 2¾h.p. Edmund, spring frame, shop-soiled; £90.—Ross, 86, High Rd., Lee, S.E. [3393

EDMUND-J.A.P., 1920, brand new, Enfield gears £65.—Clark, 7, Exhibition Rd., S.W.7. [9168

EDMUND Lightweight, 2-speed, spring frame; £48.—Platts, 602, King's Rd., Fulham, S.W.6. [3935

EDMUND-J.A.P., cost £100; mileage 150, complete; £70; offers.—Ferrymans Farm, Northmoor, Oxfordshire. [3907

Elswick.

2¾h.p. Elswick-Precision, new condition, tax paid; £28.—27, Fox St., Scunthorpe, Lincs. [3680

Enfield

JULIANS of Reading have 1921 Enfields in stock. [0478

LONGMAN, of Salisbury.—Enfield combinations and 2¼h.p., 1921 models. [1751

ENFIELD 2¾h.p., 2-speed, twin, good condition; 30 gns.—4, The Square, Carshalton. [3991

1915 Enfield Combination, tax paid, for lightweight, £50 cash.—Plaistowe, South Rd., Southall. [3787

ENFIELD 2¼h.p., 2-stroke, 1920, ridden 200 miles; £55.—Spencer, 6, Fisher St., Birmingham. [X1765

ENFIELD 2¼h.p. 2-stroke, new machine, only ridden 50 miles; £59.—134, Bargery Rd., Catford. [9031

2¾h.p. Enfield Twin, 2-speed, good condition; £40. Bissells, Warwick St., Leamington Spa. [X2055

1921 Royal Enfield Combinations.—Delivery of all models from stock.—Stacey, 12, Ecclesall Rd., Sheffield. [0575

1917 Enfield Combination, 8h.p., fully equipped; any trial; £100, offers.—Coffin, Holwell, Sherborne. [3486a

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A.J.S. 7 h.p. Combination	£215	0
B.S.A., all Models	£107 to £175	0
DOUGLAS, all Models	£85 to £170	0
DIAMOND, all Models	£60 18s. to £89	5
ENFIELD, all Models	£65 to £182	0
TRIUMPH, all Models	£115 to £189	0
X, 7-9 h.p., 3-speed, electric	£185	0
X, 7-9 h.p., 3-speed	£165	0
ZENITH, 5 h.p., sports	£123	0
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HENDERSON, SWAN, MILLFORD, & WHITLEY.

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TRIUMPH Outfit, nearly new	£130	0*
DOUGLAS Outfit, nearly new	£145	0*
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HENDERSON (electric), 1921, nearly new	£170	0*
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DOUGLAS, 2¾ h.p., 3-speed	£89	0
DIAMOND, 2¾ h.p., 2-speed	£79	0
DIAMOND, 2-stroke, 2-speed	£73	0
LEA-FRANCIS, 3½ h.p. twin M.A.G.	£115	0

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We have a considerable number of
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2¾ h.p. FLAT TWIN
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ROBERTSONS MOTORS Ltd.
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TELEPHONE LANGHAM 1592.

MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD 6h.p. Combination, mechanically sound, paid, insured; £60.—Elphick, 316, Portobello W.10. [4

ENFIELD Combination, 6h.p., tax paid, excel condition, speedometer; £95.—11, The Par Watford. [3

ENFIELD 1921, all models for immediate deliv —Ratcliffe Bros., 200, Gt. Portland St., W. La ham 1704. [0

2¼h.p. 1920 Royal Enfield, brand new; will se £65 to clear; all carriage paid Liverpool.—We Ltd., Sligo. [3

1918 Enfield Combination, 8h.p., privately ow hardly used, all as new; £120:—21, Newton Acton, W. [3

£23.—2¼h.p. Enfield Twin, rebushed, good runn order, tax paid.—323, St. Margaret's Twickenham. [3

ENFIELD Lightweight, 2¾h.p., 2-speed gear, in cellent condition; £25.—Bunting's Excha Wealdstone. [3

2¾h.p. Enfield, overhauled, etc., good condition, licensed, carriage paid; £32.—A. Grist, Mer Westbury, Wilts. [3

ENFIELD 3h.p., working order, nearly new t seen any time; £55.—Goodhouse, 102, Broad East Dulwich, S.E. [3

1920 Enfield 2¼h.p. 2-stroke, lamps and horn, paid, engine, enamel, tyres as new.—Dr. Lap Hailsham, Sussex. [3

ENFIELD 1916 3h.p. Twin, 2-speed, kick s lamps, tax paid; any test; £44.—371, Earls Rd., London, S.W. [3

ENFIELD Lightweight, guaranteed 1920, 2-sp excellent condition; 43 gns.—Fersfield, W bury Rd., New Malden. [3

1921 Royal Enfields.—8h.p. combination, £ 2¼h.p. 2-stroke 2-speed, £65.—Stacey, Ecclesall Rd., Sheffield. [0

ENFIELD Dynamo Combination, Easting, licen Klaxon, lovely order; £112.—Clark, 7, Exhibi Rd., South Kensington. [3

ENFIELD 3h.p., 2-speed, splendid order; £55.—N ham Motor Co., 223, Hammersmith Rd., 'Phone: Hammersmith 80. [3

NEW 1921 8h.p. Enfield Combination; list £160; exchanges entertained.—Bambers', East St., Southport. Tel.: 607. [X

1920 Royal Enfield, Lucas Magdyno, combina condition as new, small mileage; £165.—Sta 12, Ecclesall Rd., Sheffield. [0

BRAND New 1920 (November) 8h.p. J.A.P. En Combination, unused; what offers?—Steele, High St., Omagh, Co. Tyrone. [3

1917 Enfield 6h.p. Combination, splendid condit wind screen, speedometer, lamp, etc., tax p £115.—12, High St., Fulham. [3

ENFIELD Twin, 3h.p., overhaul recently cost tax paid, any trial, like new; sacrifice £65.— Dersingham Av., Manor Park, E. [3

1920 Royal Enfield Combination, complete lamps, horn, etc., in perfect condition; £12 Stacey, 12, Ecclesall Rd., Sheffield. [0

ENFIELD Combination, perfect condition, enamelled, engine as new; any trial; £10 Copus, 26, Halstead St., Brixton, S.W.9. [3

ENFIELD, 1917, 3h.p., o.h.v., 2 speeds, P. and lamps, speedometer, tools, tax paid, like n £60, offer.—21, Windsor Rd., Denmark Hill. [4

PULLING'S Garage for Enfield. Spare parts repairs a speciality.—Sole Croydon and Dis agent, London Rd., Croydon. 'Phone: 1619. [1

1919 Enfield, 3h.p., condition as new, orig tyres, Tan-Sad, Lucas accessories, genuine; after 5 o'clock.—4, Daventry Av., Walthamstow. [3

BRAND New Enfield Lightweight in stock for mediate delivery; £65.—Broom and Whiteh Ltd., Authorised Agents, 88, Gt. Portland St., W. [9

2¼h.p. Enfield, new Oct., 1920, mileage only lamps, horn, tax, and insurance; bargain, —Holland, 48, Barcombe Av., Streatham Hill, S. [3

ENFIELD Combination, 6h.p., 1917, complete all lamps, sidecar screen, several spares; £ offers.—Lt. Richardson, c/o Dan Guy, Weymouth [0

1919 6h.p. Enfield Combination, all accesso speedometer, Easting wind screen, tax paid good condition; £130.—Bounds, 223, High Rd., burn, N.W.6. [3

1914 6h.p. Enfield Combination, excellent condit lamps, horn, Easting, licensed; £75.—Edwa 50, Harrington Rd., South Kensington. 'Phone: sington 3709. [4

1921 Enfield Combination, dynamo lighting, or without dynamo; in stock, immediate livery; list price.—J. Smith and Co., 52-54, Ha stead Rd., N.W.1. [0

1920 Enfield Lightweight, 2-speed, splendid co tion, 2 lamps, 2 generators, mechanical h variable jet, tax paid; £55.—H.T., 43, Northfield East Ham, E.6. [3

MOTOR CYCLES FOR SALE.

Enfield

UTCHOPE'S, 9, Shoe Lane, London, E.C.4.—Royal Enfield models from stock, combinations lightweights, from £65; supplied on our easiest payment system. [2941

IELD 1916 6h.p. Combination, Easton wind screen, accessories, excellent running condition; buying car; £115.—Wadlow and Wright, Chisle-Rd., Orpington. [3283

IELD August (1919) 6h.p. Combination, fully equipped, acetylene lamps, wind screen, all spares ols, etc., tax paid; £130.—Write 8, Findon Rd., rd's Bush, W.12. No dealers. [3530

IELD 8h.p. and Sidecar, nearly new, 1,100 miles. any accessories, electric lighting (no dynamo) as acetylene, hood, screen, etc., perfect condition; -Box 3,451, c/o *The Motor Cycle.* [3181

Enfield and Sidecar, 6h.p., horn, lamps, speedometer, hood, and wind screen, tax paid, Tan- splendid order; £155.—Homac's, 243, Lower n Rd., N.E. 'Phone: Dalston 2408. [4083

Excelsior, 2¾h.p., 2 speeds Sturmey-Archer, J.A.P., clutch and K. starter, Cowey horn, abso- as new; £75; exchanges.—Homac's, 243, Lower n Rd., N.E. 'Phone: Dalston 2408. [4082

IELD Combination, 6h.p., new sidecar body just tted, Lucas lamps, very nice condition; accept cence paid, or exchange piano or lightweight.— les, 277, Camberwell Rd., S.E.5. Hop 4913. [3816

AL ENFIELD Combinations, reconditioned and aranteed; immediate delivery, cash or terms, onally favourable prices.—Harford, Ltd., 5, New gton Place, Regent St., London, W. 'Phone: egent. [X2068

IELD Combination, 1920, 8h.p., accessories, and een'n later lighting, an extremely desirable out- really good condition; £140.—The Lorton Garages, h St., Oxford. Tel.: Integrity, Oxford. 'Phone: xford. [X2146

Model 8h.p. Enfield Combination, special engine, fast, quiet, Airtite valve sleeves, Lucas mps, Easting screen, spare tubes, valve, chains, sed, new condition; any trial, examination; Shayler, Dunkeld, Brimscombe, Glos. [3208

IELD 8h.p., 1920 model, complete with hood and reen Lucas dynamo lighting set, horn, etc., £160; e 6h.p. combination, 1919 model, complete with horn, lamps, Easting wind screen, £100; both l condition.—P. J. Evans, 81-91, John Bright rmingham [3424

IELD Combination, 6h.p., September, 1916, ahner tyres, lamps, wind screen, mirror, pillion otal mileage by original Stewart speedometer spares, new tyres, new Renolds driving chain, rence paid; London district; £130.—Box 3,500, *Motor Cycle.* [4031

IELDS.—The cheapest twin on the road. We e North London agents, and can supply from tandard models £160, electric £182, cash, or d payments. All spares in stock. Trade sup- Jones' Garage, Muswell Hill, and at Woodside N Finchley [0380

IELD 6h.p. Combination, as new, dynamo light- g, large head light, latest Tan-Sad pillion seat ddle, large copper exhaust, Klaxon, eversize aluminium dash in sidecar, hood and cover, screen, luggage carrier, etc., smartest outfit on ny trial; £135, or exchange lower power.—C.S., nton Rd., Bow, E.3. Tel.: E3155. [3996

Excelsior.

.—Excelsior 3h.p., mechanically good, less belt Ball, 49, High St., Kingston-on-Thames. [X1946

British Excelsior, new, 2-stroke, 2 speed clutch, kick starter, models just arrived.—S pham (Motors), 27, Stockwell St., Greenwich [5634

F.N.

2½h.p., 2-speed, clutch, tax paid; £35.—Pen- lly, 7, Bayford Rd., Willesden, N.W. [3298

2¼h.p., shaft drive, 2-speed, clutch, recently over- hauled; £30.—Holloway, North Bradley, Trow- [3900

New 7h.p. Combination, in stock, shaft drive, speeds, hood, screen; £180. — Crow Bros., rd. [4050

1921 Models, now arriving.—Send enquiries to E. Clapham (Motors), 27, Stockwell St., Green S.E.10. [4129

Combinations in stock; call for a trial run.— imes and Co., 18, Bruton Place, Bond St., W. 4792. [7645

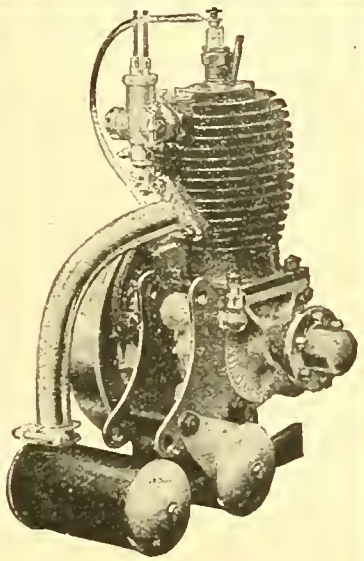
2¼h.p., shaft drive, 2-speed, perfect, all acces- ries; offers.—Brade, 65, Mulberry St., Hulme, ster. [3293

4-cyl., 2-speed gear, free engine, good order, 17; also new sidecar, £7.—68, Gloucester Rd., Town. [3779

5-6h.p., 4-cyl., clutch, 2-speed shaft drive, Bosch, mac, just overhauled; £50.—14, Fairlawn Rd., lier, Bristol. [3702

GUY, Weymouth.—F.N., 4-cyl., 3-speed, clutch, sidecar, Easting screen, tax paid, absolutely mileage about 400; cash offers. [0568

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FLYWHEEL
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1921 F.N. 2¼h.p., 2 speeds, clutch, and kick-starter, brand new, in stock for immediate delivery; £84; exchanges or easy payments.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4074

IMMEDIATE Delivery of any F.N. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0500

2½h.p. F.N., 1914, kick start, completely overhauled, plated, enamelled, fully equipped, aluminium footboards, licensed, perfect condition, only 3 years' use; £48; will ride reasonable distance to purchaser.—Chapman, 71, Talbot St., Nottingham. [3104

Francis-Barnett.

JULIAN'S, of Reading, have 1921 Francis-Barnett in stock. [0479

Gamage.

GAMAGE-VILLIERS, 2-speed, late 1920, perfect condition, just overhauled, tyres equal to new; accept £48.—Mills, Longbridge, Farnham. [3518

Grandex.

GRANDEX, 1916, 6-8h.p. J.A.P. engine, Enfield gears, hood, screen, and all spares; £110; owner buying car.—Railway Inn, Enfield Town, N. [3912

Green.

2¾h.p. Water-cooled Green, o.h.v., 350 c.c., exceptionally fast and perfect throughout; £65.—Garage, 175, Merton Rd., Wimbledon. [3625

Harley-Davidson.

4h.p. Harley-Davidson, new, in stock; will accept £140.—21, Hobson St., Cambridge. [4099

1920 Flat Twin Harley, sporting sidecar; £145.—Ross, 86, High Rd., Lee, S.E. [3397

HARLEY Sports, brand new, equipped; £145.—Clark, 7, Exhibition Rd., S.W.7. [9175

1919 7-9h.p. Harley-Davidson Solo, excellent order; £80.—Daw, 114, Brixton Hill, S.W.2. [3689

HARLEY 1918 Combination, in good order; £105. —324, Whitehorse Rd., Croydon. 'Phone: 660. [4048

HARLEY Combination, 1918, perfect; £120, or exchange Triumph and cash.—76, Dolling Rd., Hammersmith. [3357

IN Stock.—1917, 1919, and 1920 Harley-Davidson combinations; from £120 to £200.—Stacey, 12, Ecclesall Rd., Sheffield. [0577

£75.—Harley-Davidsons, 1918 models, good appearance and in running order.—Owen, 59, Scholefield Rd., Upper Holloway. [X2050

HARLEY Electric 1920, C.B. Montgomery, hood, speedometer, insured 1921, paid perfect 150 gns. —54 Coval Rd., Mortlake. [X2070

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', Southport, Lancashire. Tel.: 607 [5009

1915 7-9h.p. Harley-Davidson Combination, coach-built, splendid going order, licensed for one year; £80.—Batten Bros., Cullompton. [3707

1920 4h.p. Flat Twin Harley-Davidson, perfect condition, fully equipped, speedometer, etc.; £112.—Box 3,497, c/o *The Motor Cycle.* [3571

HARLEY-DAVIDSON 1920 4h.p., fully equipped, guaranteed; £100, or near offer.—Reckman Bros., 37, Shepherd St., E.C. East 1143. [3147

1918 Harley Combination, 7-9h.p., lamps, Klaxon, mirror, new tyres, perfect condition, tax paid; £110 cash.—Underhill Farm, Bornet. [3311

HARLEY-DAVIDSON 1917, electric model, not W.D., 2-seater sidecar, fully equipped; £120.—22, Princess Rd., Finsbury Park, W.4. [3705

£205.—1920 Harley-Davidson combination, brand new, shop-soiled only, list price £230.—Colmore Depot, 31, Colmore Row, Birmingham. [X1923

£100, or near offer.—Late 1915 7-9h.p. Harley-Davidson combination, electric, engine perfect.—Walker, Hillside, Hambrook, near Emsworth, Sussex. [3082

1920 Harley-Davidson de Luxe Combination, original tyres, disc, outfit perfect, practically new; £170; exchanges.—60, Wallingford Av., North Kensington. [3665

1919 Harley Combination, new condition, fully equipped, hood, wind screen, speedometer, lamps, etc.; £160; tax paid.—12, High St., Fulham. [3763

1920 Harley-Davidson 7-9h.p., unused, acetylene lights, dynamo, kick start, 3-speed, free wheel, solo; price £160.—S. Kirchner, 21, Sunnyside Rd., Ilford. [9648

1917 7-9h.p. Harley Combination, fast, reliable, lamps, Klaxon, screen, luggage grid, Tan-Sad, tax paid; £105, or offer.—145, Liverpool Rd., Islington. [3769

HARLEY (late, 1920 Dynamo Combination, speedometer, discs, hood, screen, mileage 900; £180, as new; cost £280.—Tintern, Norman Rd., Sutton, Surrey. [3607

MOTOR CYCLES FOR SALE.

Harley-Davidson.

HARLEY Combination, 1919, first-class condition, with 12 gn. electric lighting outfit; first comer with £120 secures same.—Connolly, 165, Pentonville Rd., N. [4093

1915 4½h.p. Harley-Davidson Combination, lamps, horn, in excellent condition; £68; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [X2013

HARLEY Electric Combination, speedometer, licensed, excellent condition, appearance as new; £140; after 7.—Ground Floor, 28, Granville Gardens, Shepherd's Bush. [3381

LATE 1917 Harley-Davidson Combination, hood and screen, electric, fully equipped, just been completely overhauled; £125—A. J. Young and Co., Ltd., Newmarket. [1064

LATE 1918 Harley Combination, electric lighting, Lucas horn, just overhauled, smart appearance, tyres nearly new, tax paid; £120.—48, Burchall Rd., Peckham, S.E.15. [3551

1920 Harley Combination, electric model, discs, spares, licensed, speedometer, perfect order; £160.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: 3709. [4180

HARLEY-DAVIDSON Combination, electric, speedometer, fully equipped, wind screen, machine and tyres excellent; £130.—Averys, 2, King Edward Parade, Norbury, S.W.16. [3965

HARLEY-DAVIDSON 1920 4h.p. Model, Swan sporting sidecar, electric lighting, in good condition, as new: £185.—Parker's, Bradshawgate, Bolton, and 245 Deansgate, Manchester. [X1990

7-9h.p. Harley Combination for sale, tax paid, Easting's, D.A. lighting, Cowey speedometer, foot horn, everything perfect; price £100; any trial.—Edwards, Chester Rd., Winchester. [3259

1919 Harley-Davidson, Mead and Deakin special coachbuilt sidecar, thoroughly overhauled, really smart lot, like new; £130.—85, Shirland Rd., Paddington. 'Phone: Padd. 3889. [4065

HARLEY-DAVIDSON, 1918, 7-9h.p., coachbuilt sidecar, all good condition, and ready to ride, tax paid, 3 lamps; £125, going at nearest offer.—45, Eltham Rd., Lee Green, S.E. [3646

1920 Harley Combination, disc wheels, speedometer, Klaxon, lamps, bulbous sidecar, special screen, licence; 175 gns.—Seen, 80, Junction Rd., Highgate. 'Phone: Hornsey 2611. [3753

1919 Harley-Davidson 7-9h.p. Combination, almost new, fitted with expensive sidecar, all lamps, Klaxon; any trial; must dispose, £155, or exchange lower power and cash.—365, King St., Hammersmith, W.6 [2792

1919 Harley-Davidson 7-9h.p. Combination, electric light and horn, speedometer, Easting wind screen, disc wheels, overhauled, excellent condition; any trial; £165.—Apply, Harbrow, 214, Rotherhithe New Rd., London. [3212

HARLEY-DAVIDSON 7-9h.p. Combination, magneto model, disc wheels, new sidecar, electric lamps, licence paid; accept £97; exchange piano or lightweight.—Edwardes, 277, Camberwell Rd., S.E.5. Hop. 4913. [3817

1919 W.D. Harley, excellent order, just overhauled, Lucas lamp, horn, licence holder, tax paid for sidecar, Corbin and Browo speedometer; snip, £95. See Sidecar column.—Maynard, St. Hilda's Station Rd., Hampton Wick. [3644

HARLEY-DAVIDSON 1915-16 T.T., clutch and kick start, racing Schebler carburetter, very flexible, will pass anything, perfect mechanically, tyres as new, rather shabby in appearance; £52/10, bargain.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. [3878

£175.—Harley-Davidson 7-9h.p., Nov., 1919, electric model, tax paid, Henderson Elite sidecar, all tools, spares, Easting wind screen, gold medal London-Land's End this year; any trial; perfect.—4, Station Buildings, Woodside, S.E.25. 'Phone: Croydon 36. [3438

HARLEY-DAVIDSON Combination, 1919, absolutely as new Mills-Fulford De Luxe sidecar, 29×3½ Goodyear's all round, D.A. and electric lighting, too large for owner; 150 gns.; exchange considered; tax paid.—Heath, 54, Cumming St., King's Cross. [3920

1917 Harley Combination, no trouble, electric light, horn, wind screen, luggage grid, spare tubes, chain, tools, been stored 2 years, grand condition, smart turnout, ready for any tour; £135, or near offer; must be sold.—H.C., 35, Feudall St., Grange Rd., Bermondsey, S.E.1. [3580

TWO 1919 Harley-Davidsons, re-enamelled and plated, thoroughly overhauled, including numerous new parts, tyres good, lamps, horn, number plates and licence holder, complete with unused Mansfield speedometer; bargain, 110 gns.—Maynard, St. Hilda's Station Rd., Hampton Wick. [3642

7-9h.p. Harley, 1920 model, speedometer, Klaxon, acetylene lamps, fully equipped, Mills-Fulford de Luxe sidecar (latest chassis), Avon extra heavy steel combination back tyre, specially made Easting wind screen; cost £250, price £160.—Kirk, 40, Kathleen Rd., Hay Mills, Birmingham. [X1763

Hazlewood.

HAZELWOOD-J.A.P., £55, combination, 4-5h.p. twin, 3-speed, clutch, tax paid.—63, Arlington Rd., Brixton. [3308

Burlington Motor Cycle Co. Ltd



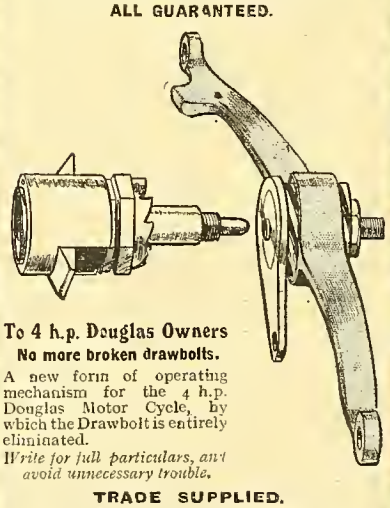
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1921 **DIAMOND-VILLIERS,** 2¾ h.p., 2-sp., 2-stroke, clutch, and kick starter. NEW ..... 78 gns.
1921 **WOLF,** Model D, 4 h.p. Blackburne engine, Sturmey-Archer 3-sp., clutch, and kick starter, Brampton forks, Amac carburetter. NEW £110 0
1920 **COULSON-B.,** 4 h.p., 2-speed £90 0
1920 **PRIORY.** 2¾ h.p., 2-stroke, Arden engine, Lamps, Horn, etc..... £55 0
1920 **SCOTT,** sports model, 2-sp. NEW. £120 0
1921 **CALTHORPE** Com., Sturmey-Archer 2-speed, and kick starter, dynamo lighting. NEW ..... 110 gns.
1919 **TRIUMPH** Combination, complete with electric lighting £130 0
1920 **A.J.S.** Combination, C.A.V. electric lighting, complete with hood, screen, side curtains, speedometer, handlebar watch and mirror, leg shields, spare wheel, etc. Used as demonstration machine. Tax paid £175 0
1919 **WOOLER.** Tax paid £65 0
1921 **LEVIS,** Sturmey-Archer 2-speed, clutch, and kick starter, horo, tools, etc. Tax paid. NEW £62 0

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To 4 h.p. Douglas Owners
No more broken drawbolts.

A new form of operating mechanism for the 4 h.p. Douglas Motor Cycle, by which the Drawbolt is entirely eliminated.

Write for full particulars, and avoid unnecessary trouble.

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(50 yards from Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

H.B.

H.B., 2¾h.p. Blackburne engine, 2-speed, kick and clutch, lamps, horn, and tax paid; £67 Newaham Motor Co., 223, Hammersmith Rd., 'Phone: Hammersmith 80.

Henderson

E. KICKHAM for Henderson, sole agent for and Bath districts.—Stokes Croft, Bristol.

HENDERSON Combination, 3-speed, elect equipped.—Searle, Ivy Villa, Carshalton Sutton.

HENDERSON 1920 Sporting Bulbous Combi dynamo lighting, splendid condition; £16 Carleton Rd., N.7.

HENDERSON 1920, Henderson Elite sidecar, speedometer, discs, etc., luxurious outfit £275; accept £175.—114, Brixton Hill, S.W.2.

1919 Henderson 4-cyl. 10h.p. Combination, el model. first-class condition, little used, going abroad; £140; licensed.—W.F.L., 8, Van Finsbury, E.C.

1920 Henderson with Large Bulbous Sidecar to hood, screen luggage carrier, electric l battery in beautiful order; £190—Home's 243, Clapton Rd., N.E. 'Phone: Dalston 2408.

1916 Henderson 4-cyl., Swan sidecar, lamps recently thoroughly overhauled, excellen ning order, tax paid; offers invited; North Yorkshire.—Box 3,493, c/o *The Motor Cycle.*

£160.—1920 Henderson combination, 10h.p., bulbous back sidecar, electric lighting, us few demonstrations runs only, not done 1,000 appearance and mechanical condition equal to The Premier Motor Co., Aston Rd., Birmingh

Hobart

1921 Hobart, J.A.P. engine, Sturmey-Archer shop-soiled; £84.—Rose, 86, High Rd., Le

£65.—1920 Hobart 2¾h.p., 2-speed, brand new soiled only, list price £75.—Colmore Dep Colmore Row, Birmingham.

HOBART-VILLIERS, late 1919, single-speed, Dunlops, fully equipped, tax paid; £38; a meet.—Hickford, Rosary Cottage, Rosary Esta field Wash.

1916-17 2¾h.p. Hobart-Villiers, 2-speed, M-L, Druids, heavy Dunlops, lamps, acce practically new; £50; exchange 2¾h.p. Dougl Solon Rd., Brixton.

Humber

HUMBER 3½h.p., excellent running order, ne lop tyres, tax paid; £30.—4, Surrey Lane, sea, S.W.11.

3½h.p. Humber, 2 speeds, tax paid, perfect 2 for 2-speed lightweight, or sell; £40.—7 rock Rd., Carlisle.

3½h.p. Humber Combination, 3 speeds, clut 2 hill, perfect condition; trial; £70, off Harpenden Rd., S. Wanstead, E.12.

FOR Sale, 1921 Humber combination, all acce not done 500 miles, tax paid; £165.—Dic Moor House, Farnley Tyas, Huddersfield.

HUMBER 3½h.p. Coachbuilt Combination tyres, perfect condition; £48/10; must Mosedale, 30, Canterbury Rd., Kilburn, N.W.6

HUMBER Water-cooled 6h.p. Flat Twin Co tion, in perfect condition, complete with Easting screen; 85 gns.—Springett, Billericay,

HUMBER Combination, 1912, 3½h.p., 2-spee engine, handle start, in good order; £35, —Holdway, Derby Rd., Ponders End, Enfield.

HUMBER 1914 3½h.p., clutch, 3-speed, kic new coachbuilt sidecar, wind screen; Marshall, 1213, Western Rd., Southall, Middle

3¾h.p. Twin Humber, 3-speed, clutch, lamps, 4 new Senspray, hot stuff engine, registratio £50, or offer.—F. White, R.M. College, Camb

HUMBER Combination, 4h.p. flat 1920, lamps all round, Lucas horn, sidecar speedometer, condition as new; £155; close off Burton, c/o Dan Guy, Weymouth.

3½h.p. 3-speed Humber, overhauled, first-class tion, new parts include piston, cam whee starter, tyres, Montgomery coachbuilt sidecar re any reasonable offer considered.—13, Copha Wembley.

Indian.

£140.—1920 electric Indian and sidecar. S change.—16, Highgate Rd., London.

INDIAN 7-9h.p., 3-speed, K.S., as new; Stackard, 25, Outram Rd., Southsea.

INDIAN Combination, splendid condition, elect fit; £70.—3, Wallingford Av., W.10.

INDIANS.—1921 models new ready.—Davies Deansgate, Manchester. 536 Central.

E. KICKHAM for Indian, sole agent for and district.—Stokes Croft, Bristol.

MOTOR CYCLES FOR SALE.

Indian.

1915 Indian Clutch Racing Model, excellent condition; £35.—17, Heaton Rd., Mitcham. [4197

INDIAN 5-6h.p., clutch model, needs overhauling; nearest offer 25 gns.—309, Roman Rd., Bow. [3975

INDIAN Combination, 7-9h.p., kick start, new tyres, very powerful; £65.—Surgery, 484a, Fulham Rd., S.W.6. [3408

INDIAN, 5h.p., clutch model, new tyres, running order; £30; exchanges. — 13, Cadogan Rd., Romer. (D) [3504

POWERPLUS Indian, 1919, condition excellent; £68 for quick sale.—Holliday Bros., 20, Queen St., Hammersmith, W.6. [3733

1919 7-9h.p. Indian, 3 speeds, K.S., clutch, spring frame, as new; £72/10.—Collard, 12, Station Parade, Muswell Hill. [3937

INDIAN 7-9h.p., clutch, 2-speed, overhauled (cost £20), electrically equipped, perfect; £70.—30, Homestead Rd., Fulham. [2096

LOOK!—Indians, 1918 7-9h.p., 3-speed, clutch, spring frame, like new, £60; ditto, 1919, £65.—32, Lena Gardens, Hammersmith. [3137

INDIAN 1915 Combination, 7-9h.p., good condition; reasonable offer accepted quick sale.—Apply (letter) 0, Adolphus Rd., Finsbury Park. [2388

INDIAN 7-9h.p. Coachbuilt Combination, 2 speeds, perfect order; offers invited; appointment.—Northfield, Manor Estate, Hemel Hempstead. [9595

1915 5-6.p.h Indian, fine condition, new tyres, fully equipped, perfect running order, 3-speed; £70.—Clarke, Amhurst, Holden Rd., N. Finchley. [3320

1920 Indian, complete electric equipment, perfect condition, with Millford sidecar, £155; solo, £125.—Crook, 96, Dudley Rd., Grantham. [4060

1918 Powerplus Indian Special Racing Combination. Swan torpedo, beautiful outfit, equipped; £115 lightweight part.—20, Canterbury Rd., Croydon. [2046

SPEECHLEY, late of Gunnersbury Lane Acton, new premises 86, Churchfield Rd., Acton, London, W.3: 1919 Powerplus Indian, 3 speeds, etc.; £75. [3352

1917 Powerplus Indian, spring frame, 3-speed, foot and hand clutch, kick start, as new throughout, tax paid; £65.—156, Stockwell Rd., Brixton, S.W. [3859

1948; 1915 7-9h.p. Indian, clutch model, in excellent tune, F.R.S., all accessories, tax paid; bought combination.—64, Clifton Rd., Peckham, S.E. [4212

INDIAN 1916 7-9h.p., spring frame, 3 speeds, clutch, kick start, good condition; £65.—Parker's, Brodhawgate, Bolton, nod 245, Deansgate, Manchester. [X1995

INDIAN, 7-9h.p., 3-speed, K.S., clutch, £45 sidecar de luxe, mag. model, like new mechanically; £125 west; solo allowed for.—Reiffer, 62, Knighton Park, Sydenham. [3469

FINE 1919 Indian Powerplus, Grindlay spring wheel sidecar, full equipment, tax, electric lamps; photo; £125, or lighter outfit.—The Oaks, Woodlands Park, Netherhead. [3294

INDIAN Combination, 7-9h.p. Powerplus, mileage under 100, as new, any trial, £150, offers; also sidecar chassis, £7.—B., 91, Altenburg Gardens, Clapham Junction. [3284

INDIAN Powerplus 7-9h.p., brand new, and special Indian sidecar, £125; another, nearly new, with new Indian sidecar, £110.—Tuck Bros., 154, Blackhorse Rd., Walthamstow. [2459

1919 Powerplus Indian Combination, electrically equipped, perfect condition and appearance; £125, exchange for solo mount and cash.—East End Farm, Hanner, Middlesex. [3140

INDIAN 5-6h.p., 1916, 3-speed, hand-foot clutch, kick starter, overhauled, in good condition, too fast for owner; £75, or near offer.—W.D., 47, Netherford Rd., Clapham, S.W.4. [3526

INDIAN 1915-16 7-9h.p., 3-speed, K.S., clutch, speedometer, electric lights and hooter, just overhauled, tax paid; nearest £75.—W. V. Adams, The Alders, Ifield, near Tonbridge. [3941

5-6h.p. Indian, 1915, 3-speed, clutch, kick starter, electric lighting, torpedo sidecar, splendid condition; bought car; sacrifice quick sale.—Duffy, 56, Borthgate St., Leicester. [1955

1920 7-9h.p. Indian Combination, bulbous sidecar, dynamo lighting, speedometer, Easting wind screen, all spares, 6,000 miles; £160, or offer.—Gifford, Inglefield Green, Surrey. [3207

INDIAN 1921 Powerplus, magnificent de luxe combination, dynamo lighting, fully equipped, absolutely new, unridden; £200, or near offer.—Holly, Blue Bros., Wolston, Coventry. [X1643

INDIAN 1915 Powerplus Combination, speedometer, and all accessories, accumulator lighting; £65.—The Layton Garages, 90, High St., Oxford. Tel.: Integrity, Oxford. 'Phone 784 Oxford. [X2145

INDIAN 7-9h.p., 1919, with best Indian sidecar, all accessories, tax paid; £115.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3456

INDIAN Powerplus 1919 7-9h.p., 3 speeds, clutch and kick start, all accessories on, licence paid, thorough new condition, ready to ride away; price £90. Apply, 11, Royal Parade, Muswell Hill, N.10. [3216

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1920 7-9h.p. Indian Combination, dynamo lighting, horn, speedometer, discs, screen, very small mileage, licence paid; £145; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [X2009

1918 Indian 7-9h.p., 3-speed, spring frame, hand and foot clutch, as new, not run 300 miles, with new 1921 bulbous back sidecar, full accessories, tax paid; 130 gns.—R. Welch, Great Missenden, Bucks. [3470

1920 Indian Powerplus, Millford bulbous sidecar, dynamo lighting, speedometer, Easting wind screen, tax paid, perfect order throughout; £155.—Ellam, 2, Phoenix Place, Addison Av., Holland Park, W. [9957

INDIANS, 1918-1919, 7-9h.p., Powerplus, 3-speed gears, spring frames, overhauled, rebuilt, re-enamelled, replated, equal to new; £76, subject to being unsold.—Eloc Cycle Works, Gedney Drove End, Wisbech. [2200

INDIAN Combination, 1917, 5-6h.p., 3-speed countershaft, condition as new, recently overhauled, lamps, horn, Corbin trip, tax paid; only wants seeing; £90, or exchange late 2¾h.p. Douglas and cash.—Merrett, Sunninghill, Ascot. [3374

1916 Indian Combination, electrically equipped, speedometer, Easting, tax paid, thoroughly overhauled; £95, or exchange 2¾h.p. Douglas (not earlier 1916) and £65.—Write, E.L., Wychwood, Upper Tooting Park, S.W. [4126

1920 Indian Combination, electric, speedometer, Cameo, new spare tube, chain, valve, just overhauled, used carefully, brand new appearance, buying car; first reasonable offer secures.—Heywood, Draper, Brighouse, Yorkshire. [3851

1919 Indian 7-9h.p. Combination, dynamo lighting, Binks carburetter, Swan sidecar, Easting screen, tax paid 1921, in splendid condition; open to any trial or examination; £95.—Ward, South Western Garage, New Malden, Surrey. [3806

INDIAN Scout, 1920, P. and H. lamp and generator, mechanical horn, low mileage, carefully used, perfect mechanical condition, exceptional value; £110.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4158

SMITH'S Sensation.—A few 1919 (date guaranteed) Powerplus Indians, practically indistinguishable from new, spring frames, 3 speeds, at £69/10 each.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). Hampstead 2767. [3640

INDIAN Powerplus 1920 7-9h.p., electric lighting and horn, speedometer, total mileage 3,000, enamel, tyres and mechanical condition perfect, any trial; £115.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4159

1920 Indian Scout, ridden few times when purchased last August, absolutely unused since, T.T. bars, horn, etc., guaranteed equal to new; only selling through illness; Lincolnshire; £115, or nearest offer.—Box 3,495, c/o *The Motor Cycle.* [3565

1919 Indian Combination. Powerplus, 3-speed, kick start, hand and foot clutch, spring frame, electric lighting, perfect mechanical condition, and appearance as new, bulbous back sidecar with locker, tax paid; £125.—Kiner, 8, Grenville St., W.C. [3585

INDIAN Combination, 7-9h.p., fitted with special Bramwell coachbuilt sidecar, dynamo lighting set, whole outfit in new condition, smartest in london, only wants seeing, guaranteed in perfect running order; £150. — Haswell, 38, Granville Sq., King's Cross. [1939

1919 (late) 7-9h.p. Indian Powerplus Combination, dynamo lighting, speedometer, mileage under 5,000, new and spare tyres and chains, special mudshields, tools, spares, exceptionally good condition; £140.—Taylor's Garage, Sedgley Park Kersal, Manchester. [2690

1918-19 7-9h.p. Powerplus Indian Motor Cycles, 3-speed, K.S., newly overhauled and renovated. They are like new and in posh condition. These are going like hot cakes. I have only three left now. Price £65.—Please apply to J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [3340

1917 Powerplus Indian 7-9h.p., with sidecar, 3 speeds, dynamo lighting, electric horn, lamps, speedometer, wind screen, few spares, disc wheels, excellent condition, small mileage, private owner; seen by appointment York; £150, or near offer.—Box 3,456, c/o *The Motor Cycle.* [3250

BLUE Indian, 7-9h.p., spring frame, 2-speed, clutch, new Binks, leg shields, 3 lamps, new tyres, speedometer, horn, mirror, all English controls, 1920 Gloria C.B. sidecar, hood, screen, splendid order, tax paid; £98, or close offer.—Flowers, Myers Farm, Church Broughton, Derby. [X2061

Invicta.

INVICTA-VILLIERS 2½h.p. 2-stroke, condition as new; trial; £35; tax paid.—239, Edward St., Nuneaton. [3517

1920 (June) Invicta, 2¾h.p. J.A.P., 2-speed Sturmey-Archer, clutch, and K.S., lamps and Klaxon, original tyres and belt, condition as new; £70; seen after 6 by appointment; tax paid.—Sprake, 6, Epple Rd., Parson's Green, S.W.6. [X2049

1920 Invicta-Abingdon King Dick 3½h.p., Millsfulford combination, new June, condition perfect, 400 miles, cost complete £145; accept £95; includes £3/10 policy.—The Olympia Motor Co., 1, Hammersmith Rd., W.14. 'Phone: Western 4140. [3168

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IVY 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5006

Ixion.

IXION-VILLIERS, 1915, 2½h.p., any trial, licensed; £29.—56, Ormeley Rd., Balham. [3759

IXION, 1921 model, 2¾h.p., 2-speed, kick starter, lamps, horn; cost £85 three months ago, sacrifice £65; exchange higher power.—Adie, Wales, Ltd., Oozells St., Birmingham. [X1973

James.

DAN GUY, Weymouth.—James agent, early delivery dates given. [0552

1916 4¼ James Combination; £75; tax paid.—Ross, 86, High Rd., Lee, S.E. [3400

1920 James Twin Combination, coachbuilt sidecar, excellent condition, kick starter, complete; £145; trial.—Loves, Walton-on-Thames. [3249

1920 4¼h.p. James Combination, all Lucas lamps, tax paid, used only 2 months; £115, cost £185.—Fox, 12, Conduit St., Lichfield. [4196

1916 James 4¼h.p. Combination, lamps, accessories, £90; exchange higher power, cash adjustment.—Chatterton, Hucklow, Tideswell, Buxton, Derbyshire. [3205

JAMES 1919 3½h.p., 3-speed, licence paid, no accessories, splendid value; £60.—The Layton Garages, 90, High St., Oxford. Tel.: Integrity, Oxford. 'Phone: 784 Oxford. [X2142

JAMES 4¼h.p. Combination, 3-speed, clutch, K.S., chain drive, all good condition, ready for road, tax paid; nearest £75 secures.—Thomas, Nurseries, Upper Hallifford, Shepperton. [3359

JAMES Lightweight, 1920, 2-speed, lamps, horn, licence, tools, spare belt, cash required, quick sale, perfect condition; best over £50. — Morton, Droitwich House, Henley-in-Arden. [X2057

JAMES 5-6h.p., late 1919 condition as new, luggage grid, speedometer, lighting set, leg shields, Cowey horn, and child's sidecar seat, all on, at £150.—The Dining Rooms, Warple Way, Acton, W.3. [3653

DAN GUY, Weymouth.—1920 5-6h.p. James combination, complete, Lucas head lamp, Lucas horn, Lucas sidecar lamp, tail lamp, speedometer, Easting screen, mileage 1,195 only, as new; cash offers wanted. [0553

IMMEDIATE Delivery of any James Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0503

JAMES 6h.p. Combination, very late model, new condition, electric lights, K.S., 3-speed, clutch, wind screen, tyres as new, all spares, tax and insurance paid; any trial; cash required.—Bradock, The Lodge, Marple, near Stockport. [3109

JAMES 5-6h.p. Combination, 1920 model, complete with lamps and horn, hood, and screen, perfect condition throughout, £130; also one 1919 model, complete with Easting screen, lamps, etc., £110.—P. J Evans, 81-91, John Bright St., Birmingham. [3415

J.E.S.

J.E.S. 1921 Models from stock.—Gibb, Gloucester. 'Phone: 852. [0441

J.E.S., 1h.p., in strong frame, tyres new, condition new, Whittle belt, Amac carburetter, Brooke saddle, lamps, horn; £16/10.—9, Buckingham Rd., Woodford. [3282

J.E.S. 1½h.p. Motorcyclette, late 1920, perfect condition, lamps, accessories, spares, Magnums, carrier, licence paid; £25/10.—O'Neill, 35, Venn St., Clapham, S.W. [3637

Kerry.

3½h.p. Kerry-Abingdon, with coachbuilt sidecar, tyres good, N.S.U. 2-speed, licence 1921 paid; £36, bargain.—Rivett, 236, High Rd., Leytonstone. [3403

Lea-Francis.

1920 Lea-Francis, M.A.G., new condition, complete; £112.—Downing, 19, West St., Ryde. [3655

LEA-FRANCIS 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2436

LEA-FRANCIS 3¾h.p., absolutely new and unused; 100 gns.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X2037

1914 3½h.p. Lea-Francis, Canoelet sidecar, Lucas accessories, twin J.A.P., speedometer; £70.—114, Brixton Hill, S.W.2. [3686

LEA-FRANCIS 1921 models, immediate delivery, 3-speed £125, 2-speed £115.—Ratcliffe Bros., 200, Gt. Portland St. 'Phone: Langham 1704. [0431

LEA-FRANCIS 1920 3½h.p. Twin, kick start, faultless condition, taxed; £87/10; consider exchange lightweight and cash.—164, Broadfield Rd., Catford. [4055

£80.—Lea-Francis 1920, 3½h.p. twin J.A.P. engine, kick starter, clutch, licence paid, just overhauled at factory; a bargain.—The Premier Motor Co., Aston Rd., Birmingham. [4151

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DAN GUY, Weymouth.—Levis 1921 models in stock £60. [055

YEOVIL.—Moffat, Town Hall Garage.—Levis, 19 models.—'Phone: 50. [33

1921 Levis, used once; cost £60, £55.—Fox, 1 Conduit St., Lichfield. [41

LEVIS 1919 Popular, like new; £45; all on.—45 Duntshill Rd., Earlsfield, S.W. [39

1921 Levis, Model S, 2-speed; £68.—A. J. You and Co., Ltd., Newmarket. [10

LEVIS, 2½h.p., Enfield 2-speed, all-chain driv £40.—H. Rock, Cradley, Staffs. [35

1919 (Sept.) Levis 2¼h.p., full equipment; £48 Shand, 14, Brandram Rd., Lee, S.E. [32

1916 2¼h.p. Levis, overhauled, lamps, horn, too £33.—34, Springfield Rd., Tottenham, N.15. [34

1919 Levis, new condition, tax paid, lamps, ho £42; after 6 p.m.—4, Staines Rd., Twickenha [35

£27.—2¾h.p. Levis, powerful, fast, tax paid, ri away anywhere; photo. stamp.—181, Newt Rd., Burton-on-Trent. [40

LEVIS 1920 2½h.p., equal to new, with speedomet horn, lamps, Dunlop heavy, spares, tax paid; £ —Cripps, 40, Bridge St., Maidenhead. [33

1919 Levis, aluminium lamp set, Lucas ho licence paid, exceptionally good engine, very fa £46.—Sawmills, Duntshill Rd., Earlsfield, S.W.18. [X19

LEVIS 1920 Popular, lamps, horn, footboards, too W.S.R. jet, spare new tyre, everything grend c dition, almost as new; £57.—Kempton, Fore Hill, E Cambs. [30

1920 Levis, licensed, all accessories, machine hard used, enamelling and plating new, tyres punctured; £50; after 6 o'clock.—Cooke, 8, Mildm Park, Islington, N. [40

1921 Levis Popular, the super 2-stroke; immedi delivery from stock; £60; easy payments or hanges.—Official agents, Homac's, 243, Lower Clap Rd., N.E. 'Phone: Dalston 2408. [40

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Lincoln-Elk.

LINCOLN-ELK 3½h.p., 2-speed, kick start, Bos meg., gears new; £30.—9, St. John's Rd., B row. [34

LINCOLN-ELK 4¼h.p. Combination, 2-speed, clut K.S., tax paid; £55.—138, Church Rd., Baft sea. [37

L.M.C.

6h.p. L.M.C., 3-speed, K.S. and clutch, chain-cu belt, spring saddle suspension, 1920 model, sho soiled only; list price £160, my price £119; real opportunity for a sidecar machine.—Davies, 22 Deansgate, Manchester. [05

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2¾h.p. Marloe-Blackburne, Burman 2-speed ge box, hand clutch, kick starter, very fast spo ing lightweight; list price 98 gns.; bargain; sho soiled only, at £76; a Blackburne-engined mount the price of a 2-stroke.—London Motors, 61, Holbo Viaduct, E.C.1. City 4230 [40

Martin.

MARTIN-J.A.P. 1914 4h.p., T.T., enamelled r adjusteble pulley, largest P. and H. head, lo exhaust, discs, Klaxon, Pedleys, new belt; £30, offer.—8, Woollaston Rd., Harringay. [31

1915 2¾h.p. Martin-Jap, 2-speed, clutch, fu equipped, excellent condition, fast, comfortab machine, tax paid; £48, or near offer.—T.G., 59, Lyn hurst Rd., Thornton Heath, Surrey. [38

Martinsyde

JULIAN'S, of Reading have 1921 Martinsyde stock. [04

MARTINSYDE Combination, never been ridde offers over £150; view by appointment.—Gl dinning, Holmside, West Byfleet, Surrey. [32

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20 Martinsyde with sidecar, 6h.p., electric lamps, hood, screen, horn, etc., tyres unpunctured, magent condition; 137 gns.—Julian's, 84, Broad St., ding. 'Phone: 1024. [0535

ARTINSYDE 1921 Standard Combination; £175; actually in stock; other models early delivery. e your orders now with the authorised agents.—Moreton Garage, 2, Moreton Terrace Mews, Pim- S.W. 'Phone: Victoria 7164. [9922

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21 Combinations, any model from stock or in few days. Gradual payments can now be arranged. y outfit personally tested by the Matchless ialists. Spares of all dates in stock.—J. Tassell, Blomfield Rd., Plumstead. [6881

20 Matchless, Magdyno, brand new; £190.—Below.

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BB, Gloucester, can deliver 1921 Matchless models from stock.—'Phone: 852. [0443

OVIL.—Moffat, Town Hall Garage, Matchless agents; immediate delivery.—'Phone: 50. [3331

20 Model H Matchless, electric, screen, etc., any trial; £155.—Rootes, Ltd., Maidstone. Tel.: [4095

21 Matchless Combinations in stock for immediate delivery; £205. — Stacey, 12, Ecclesall Rd., field. [0574

ATCHLESS Combination, 1913, 2-speed, good order throughout; £80; tax paid.—88, Park Rd., ych. [3860

ATCHLESS 1920 Dynamo Combination, speedometer, hood, practically new; £175.—114, Brix- Hill, S.W.2. [3685

20 Model H Matchless Combination, electric lighting, all accessories; £180.—Atkins, 25, West , Eltham, S.E.9. [3094

ATCHLESS Combination, Fulford (new coach), 6-8 h.p. J.A.P., Grade; £50, snip.—Taylor, 637, Seven ers Rd., Tottenham. [3960

ATCHLESS Combination, late 1920, hardly used, all accessories, cost £230, licence paid; £170.— Sutherland Rd. West Ealing. [1962

19 Matchless, apron, wind screen, speedometer, spare wheel, electric light, Klaxon, tax paid; 0.—6, Charlwood Rd., Putney. [3380

ATCHLESS 1921 Models; orders now accepted for immediate delivery.—Ratcliffe Bros., 200, Gt. land St., W. Langham 1704. [0424

ATCHLESS 1913 4h.p. J.A.P. Combination, screen, just overhauled, excellent condition; accept £60.— toson, 404, Uxbridge Rd., W.12. [3531

20 Matchless, Magdyno, completely equipped, mileage only 2,500, perfect condition; £190, ear.—90, Crofton Park Rd., S.E.4. [3494

ATCHLESS, Model H, 1920, Magdyno, J.A.P. engine, perfect condition; £175.—Sewell, 16, es Rd, West Bridgford, Nottingham. [3728

ATCHLESS, 1920, J.A.P., mileage 3,000, spare wheel, screen, hood, S.C. step, almost new con- n; £165.—Humphries, 89, High St., Egham. [3622

ATCHLESS Model H., Magdyno lighting, spare wheel, hood, screen, mudshields, tax paid; quick £165.—Fauler, Cromwell's House, Woodstock, Oxon. [2029

ATCHLESS, Model H, late 1920, J.A.P. engine, fully equipped and tax paid, small mileage; 0.—Wainwright, Millfields, Wolverhampton. [X2043

ATCHLESS Combination, 1914, 8h.p., chain drive, in good condition; £65, or nearest offer.—Bow- c/o Taylor's Garage, Wood St., Walthamstow. [3936

ATCHLESS 1920 Model H. Combination, Magdyno lighting, hood, screen, speedometer, spare l; £165.—Spurling, 8, Courthope Rd., Hampstead, .3. [3379

20 Matchless, Magdyno lighting, speedometer, Cameo screen, tyres unpunctured, under 2,000 ; sacrifice £165; apply after 7.—Pembury, Weston , Thames Ditton. [3561

ATCHLESS Combination, late 1920, as new, only ridden 100 miles, spare wheel and tyre, screen, er; bargain, £180.—16, Newport Rd., Balsall h, Birmingham. [X2042

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1916 Matchless Combination, 8h.p., just overhauled, excellent condition, hood, screen, grid, spare tyre, new tank, lamp sets, mechanical horn, painted, lined, tax paid; £150.—Cox, 37, Winstanley Rd., Sheerness. [3661

1920 Matchless Combination, M.A.G. engine, Lucas dynamo lighting, horn, speedometer, leg shields, special screen, sidecar step, original tyres, perfect; £160; exchanges.—60, Wallingford Av., North Kensington. [3668

MATCHLESS, 8h.p. twin J.A.P., 2-speed countershaft gear, chain drive, Matchless sidecar, wind screen, Lucas lamps, luggage grid; £105; excellent condition.—Eagles and Co., 275, High St., Acton, London. [3842

1916 Matchless-Jap 5h.p., 3-speed, clutch, kick starter, low mileage, enamel good as new, guaranteed perfect everywhere, new belt; price £70, including all accessories.—E. J. Gardner, Church St., Purton, Wilts. [4221

MATCHLESS, M.A.G., Aug., 1920, electrically equipped, hood, screen, grid, step, special exhaust, discs, tools, spares, unpunctured, tax paid; £174; view any time; trial 6 p.m.—252, St. Ann's Rd., Tottenham. [3854

MATCHLESS Combination, M.A.G., dynamo lighting, electric horn, speedometer, front hand brake, double sidecar, step, Sandham screen, spare wheel, one month old; £230.—150, Upper Richmond Rd., East Sheen, S.W.14. [3766

1920 Matchless Combination, with step, screen, Lucas horn, legshields, electric lighting, spare wheel, licence paid, excellent condition; £185 cash.—Apply, after 6, West Kent Main Sewerage Board, 14, Durham Rd., Sidcup. [3594

MATCHLESS Combination, 1918-19, 8h.p. J.A.P., 3-speed, clutch, kick starter, detachable wheels, oversize tyres, accessories, speedometer, perfect running order; £130; tax paid.—Kinsey and Co., 352, Lower Addiscombe Rd., Croydon. 'Phone: 1129. [4053

F.O.C.H. have a 1920 Matchless Combination, Magdyno, small mileage, fully equipped, hood, screen, spare wheel, luggage carrier, tax paid; £175.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3435

8-10h.p. Matchless-Jap Coachbuilt Combination, 1914, stored 1916-20, then overhauled and re-enamelled regardless of expense, including new tyres, chains, sprockets, handle-bars, gear box, engine parts, all accessories, spares; £90.—Harris, Mortimer, Berks. [3947

MATCHLESS 1920 Standard Combination, Lucas Magdyno, Easting wind screen, Lucas horn, speedometer, Binks carburetter, 70 m.p.g., tyres, unpunctured, mileage 1,500, spares, tools, perfect condition; £190.—116, Maida Vale, by appointment. [3977

MATCHLESS Late 1920 M.A.G. Combination, Magdyno lighting, hood, screen, speedometer, horn, legshields, sidecar step, spare wheel, luggage carrier, just decarbonised, mileage 1,700, perfect condition; £185; licence paid.—25, Ashburton Av., Addiscombe, Croydon. [3612

1920 Matchless, Model H2, mag., acetylene lamp set, horn, speedometer, hood, Triplex screen with side wings, perfect condition, 1,000 miles only, £160; another, with Magdyno lighting, electric horn, speedometer, leg shield, perfect, £170.—Tassell, 1a, Bloomfield Rd., Plumstead, S.E.18. [2342

MATCHLESS (Believed 1914) Racing Solo, 10h.p. J.A.P. o.h.v. engine, Binks, variable gears, 7 speeds, adjustable pulley, long copper exhausts, re-enamelled and plated, very fast and sporty 'bus, ideal for speed merchants; £80, or best offer.—40, Warren Drive, New Brighton, Cheshire. [3269

MATCHLESS 1918, 8h.p. J.A.P., electric lighting, speedometer, spare wheel, large glass wind screen to sidecar, back rest, horn, tools, 2 luggage carriers; £130; this machine is an absolutely sound and reliable touring vehicle, and will take 2 persons with luggage anywhere; owner has bought car.—19, St. Mary's Mansions, Paddington. [3126

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock, for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0381

MATCHLESS Service Depot, Greenwich. 'Phone: 751. Our record Easter sales of 1921 models. Once again we score. Why? Satisfied clients. To ensure delivery and personal attention to every detail, send your orders along to the firm that are agents only for high-class makes and guarantee satisfaction.—Note address: Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [1732

Metro.

1920 Metro-Tyler, perfect running order, disc wheels, long plated exhaust, lamps and Klaxon; £50; see anywhere.—Prismall, Ogbourne, Wilts. [3310

MOTOR CYCLES FOR SALE.

Metro.

METRO-TYLER, shop-soiled, 1920 model, new and unused, 2-speed model with enclosed gear box and magneto drive; bargain, £70; reduced from £95.—P. J. Evans 81-91, John Bright St., Birmingham [3419

Minerva.

SALE or Exchange, 2¾h.p. Minerva, Fisher mag., tax paid.—Cardwell, 5, Rosary Av., Blackpool. [3378

3½h.p. m.o.v. Minerva, engine nearly new, Bosch, drop frame, Druids, Armstrong 3-speed, clutch, smart; £32; been pulling sidecar.—A., 5, Castle St., Sligo. [3326

Monarch

MONARCH Motor Cycle, late 1919, J.A.P. engine, ridden 1,000 miles, splendid condition; £50, or nearest offer.—McFuters, Alexandra Hotel, Moville, Co. Donegal. [3943

Motosacoche

MOTOSACOCHE 2h.p., Bosch, Amac, perfect running order; £19.—9, Newcomen Rd., Leytonstone. [3815

MOTOSACOCHE Lightweight, good running order, overhauled, new belt; £20.—48, Royal Oak Rd., Woking. [3913

New Hudson.

JULIAN'S, of Reading, have 1921 New Hudsons in stock. [0534

1914 3-speed New Hudson, new condition; £36.—Ross, 86, High Rd., Lee, S.E. [3394

NEW HUDSON 1920 Lightweight, 2-speed, tax paid, good as new; £60.—Rogers, 42, Church Rd., Hendon. [3719

NEW HUDSON 6h.p. Coachbuilt Combination, 1914, Bosch, B.B., accessories, tax paid; £65.—48, York St., Bolton. [3195

NEW HUDSON 2-stroke, 2-speed, dual lighting, pillion seat, good condition, tax paid; £40.—Oraddock, Belton, Grantham. [3210

NEW HUDSON 2¼h.p. 2-stroke, new Dunlop and Clincher, tax paid; £31.—J. W. Hambridge, 36, Parkstone Rd., Foleshill, Coventry. [X2045

NEW HUDSON 6h.p. Combination, fully equipped, speedometer, lamps, wind screen, etc.; £85; 6-8 p.m.—Meek, 177, Archway Rd., London. [2131

1919 4h.p. New Hudson Combination, speedometer lamps, as new; £88.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [4178

NEW HUDSON 1920 2-stroke, 2-speed, lamps, good condition; £47/10.—The Layton Garages, 90, High St., Oxford. Tel.: Integrity, Oxford. 'Phone: 784 Oxford. [X2138

NEW HUDSON 4h.p. C.B. Combination, 3-speed, clutch, starter, chain-cum-belt, overhauled, enamelled and plated, all on; £72.—25, Grove Hill, Woodford, E.18. [3407

£55.—3½h.p. New Hudson combination, 1914, 3-speed, clutch, accessories, thoroughly sound throughout, will take 3 anywhere.—Langford's, 37, Cricklewood Broadway, N.W.2. [3880

NEW HUDSON Lightweights, all models, on view Popular, 50 gns.; de luxe, 65 gns.; Ace, 75 gns Spares for 2¼h.p., 3½h.p., and 6h.p. machines stocked. Catalogues and any information by return —New Hudson Depot, 45, Gray's Inn Rd., Holborn. W.C.2 [1652

New Imperial

JULIAN'S, of Reading, have 1921 New Imperial in stock. [0485

NEW IMPERIAL Agents.—Lightweights and spare parts in stock.—Crow Bros., Guildford. [4709

1921 New Imperial 2¾h.p., 2-speed, 250 miles; £65. —Collier's Motories, Horton St., Halifax. [3462

1919 New Imperial-Jap 2½h.p., 2-speed, perfect; £55.—Castle, Boundary Rd., Wooburn, Bucks. [3905

NEW IMPERIAL 2¾h.p. 1915, 2-speed, new Amac carburetter; £38.—91, Truro Rd., Wood Green, N.22. [4115

NEW IMPERIAL 1916 2¾h.p., 2 speeds, lamps, accessories, licensed, new condition; £40.—17, King's Rd., Edmonton. [3363

1919 8h.p. New Imperial Combination, makers' colours, lovely outfit, fully equipped; £110.—Coffin, Holwell, Sherborne. [3486

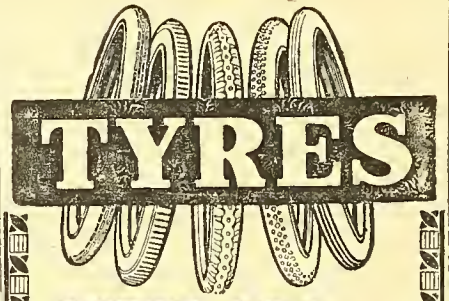
NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, kick-starter, clutch, never been used, shop-soiled only; to clear, £79.—Central Garage, Henley-on-Thames. [3187

1919 New Imperial Combination, fully equipped, tax paid, not W.D.; what offers; exchange Morgan.—Tompkins, Frogmoor, High Wycombe. [3871

1917 New Imperial 2¾h.p., J.A.P. engine, new covers, lamps, tools, in good running order; £40, or nearest offer.—H. S. Turner, High St., Rhyl. [3313

NEW IMPERIAL-J.A.P., 2¾h.p., -2speed, 1916, lamps, Klaxon, tools, etc., excellent condition, tax paid; £45, or nearest.—78, Station Rd., West Byfleet, Surrey. [3110

8h.p. New Imperial, 1919, engine No. M64766, 3 speeds, K.S., W.S.R. jet, specially tuned, one of fastest on road, lamps, etc.; £90, bargain.—Herring, Fruitmarket, Lincoln. [3794



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New Imperial.

1918 New Imperial, fitted 1920 sidecar, first us 1919, 8h.p. J.A.P. engine, 3 speeds, chain dri first-class order, accessories; £110.—Mrs. Dixon, Buckland Av., Dover [14

NEW IMPERIAL.—All models in stock for immedi delivery, including the new 2¾h.p. 3-speed mo —Newnham Motor Co., 223, Hammersmith Rd., W 'Phone: Hammersmith 80. [3

NEW IMPERIAL Combination, 8h.p. J.A.P., n tyres, lamps, speedometer, tool kit, perfectly sou condition; genuine offer; £130, or offer.—8, Bin Rd., Shepherd's Bush, W.12. [3

NEW IMPERIAL 1919 Combination, 8h.p., ab lutely new, electric lighting, Easting, spe ometer, sprung pillion, accessories; £140, or offe 32, Hambledon Rd., Southfields, S.W.18. [3

1917 New Imperial-Jap 2¾h.p., 2 speeds, Lucas ho tools, new Dunlop tyre, overalls, leather c little used, splendid condition; £44.—New Coll Hampstead (opposite Swiss Cottage Station). [3

IMMEDIATE Delivery of any New Imperial Mod cash or deferred payments; book your order n and avoid disappointment later.—Burlington Moto Ltd., South Side, Clapham Common, S.W.4. 'Phon Brixton 2417. [0

1920 New Imperial 8h.p., with Henderson side wind screen, acetylene head and tail lamps, to etc., in perfect condition; any trial; owner-abro price £150.—R. Howett, White Lodge, Market H borough. 'Phone: 3. [X1

NEW IMPERIAL, 1921, 2¾h.p. J.A.P., 2-spe clutch, and kick starter, slightly shop-soiled; price £89/5, offered at special price for cash, £7 Elce and Co., 15-16, Bishopsgate Av., Camomile E.C.3. 'Phone: Avenue 5548. [0

F.O.C.H. have a brand new New Imperial, 2¾h.p., k starter, shop-soiled; £78 cash; exchanges or e payments arranged.—5 Heath St. Hampstead Hampstead Tube Station). 'Phone: Hampstead 37 Hours 9-7, including Saturdays. [3

1921 New Imperials in stock for immediate delive combination £186/18, lightweight Model £80/17, Model 2 £89/5; exchanges and easy payme arranged.—Official Agents, Homac's 243, Lower C ton Rd., N.E. 'Phone: Dalston 2408. [4

NEW IMPERIAL 8h.p., W.D., delivered May, 19 large 2-seater sidecar, speedometer, lamps, tools, tax paid, splendid condition, £150; also side 28in. wheels, off New Imperial, £17.—H. T. Day 52, First Av., Bush Hill Park, Enfield. [3

NEW IMPERIAL, Sept., 1919, 8h.p. model, 3 spe kick start, hand-controlled clutch, all chain dr attached to 1920 Dunhill sidecar, wind screen, F.I electric lighting throughout, speedometer, etc., not d 2,000 miles, excellent condition; £155, tax paid. N. Band, 4, George Row, Northampton. [3

New Scale

SCALE. 3½h.p. Precision, £80; 4h.p. Blackbu £100; motor cycles you will hear more about have always a stock of each model; trade supplies Davies, 229, Deansgate, Manchester. 536 Central. [2

Norton

PREMIER Motor Co. for 1921 Nortons.

ANY Model Norton delivered to your address, carri paid, within twenty-four hours.—The Premier Mo Co., Aston Rd., Birmingham. [X1

JULIANS of Reading, have 1921 Nortons in stoc [0

YEOVIL.—Moffat, Town Hall Garage, Norton age —'Phone: 50. [3

GIBBS, Gloucester, can deliver 1921 Nortons fr stock. 'Phone: 852. [0

DAN GUY, Weymouth. Norton official agent. Bi combination in stock. [0

WESTON-SUPER-MARE.—Jack Pruen, Oxford for Nortons.—'Phone: 440. [6

NORTON 1921 Models.—Sole district agents, Wes Motors, Ltd., 60, Catherine St., Salisbu 'Phone: 72. [5

NORTON 1915, excellent condition, perfect runni £50; between 10-5.—Mus. 2142.—138, Highle Rd., W.10. [3

NORTON Big Four, Nov., 1919, chain drive, lsp horn, mileage 1,000; £100, or offer.—Pyke, Hea tage, Netley Abbey. [3

NORTON 1921, the famous No. 16H speed mo used twice, guaranteed, too fast for owner; £1 licensed.—Moss, Wem. [X2

NORTON 1919-20 Big Four Model, fully equipp £110.—Parker's, Bradshawgate, Bolton, and Deansgate, Manchester. [X1

NORTON Big Four de Luxe Combination, D 1919, Easting, perfect; £130, or offer.—8, Avenue, Chingford, E.4. [3

NEW 1921 3½h.p. Norton, 3-speed, kick start, l model, in stock; list price £132; exchanges tertained.—Bambers', Eastbank St., Southport. T 607. [X0

MOTOR CYCLES FOR SALE.

Norton.

TORTON 1920 (October) 3½h.p. Colonial Model, 3-speed, licence paid, speedometer, and all accessories, excellent condition; £115.—Below.

TORTON 1920 T.T., Philipson, speedometer, licence paid, tyres as new, condition good, fast; £95.—Below.

TORTON 1920 Big Four, all accessories; a gift, £115.—The Layton Garages, 90, High St., Oxford. Integrity, Oxford. 'Phone: 784 Oxford. [X2141

TORTON 1921 Motor Cycles, brand new, all models in stock, immediate delivery.—Palin, Solo Agent, rne St. (nr. Spot), Osmaston Rd., Derby. [3181

LEC JACKSON for Nortons, ex dispatch rider and pilot; I can supply anywhere; one 1920 3½h.p. ., lamps, etc., perfect, £79, tax paid.—East Parade, ghley. [3544

RAND New 1921 T.T. Norton, fitted with Philipson pulley, and complete with tools as supplied makers; £90.—W. Gilmour Smith, 136, Renfield Glasgow [3146

TORTON 1920 Big Four Model, cancelet sidecar, fully equipped, low mileage, indistinguishable from new; 55.—Parker's, Brodshawgate, Bolton, and 245, Deansse, Manchester. [X1991

AVIES, of Manchester, can deliver 1921 Nortons from stock; the machine you will eventually buy. spares stocked, prompt attention.—229, Deansgate. one: 536 Central. [2432

TORTON Agents.—Motor cyclists in or near Oldham call. Our Mr. Mitchell will demonstrate to you finest machine in the world.—Bullroughs Motors, terloo St., Oldham. [2050

TORTON 3½h.p., No. 9, 1921, perfect, 6-60 m.p.h. easily, Bonniksen, Cowey horn, P. and H. and as lamps, knee-grips, ride 100 miles to cash buyer, used, reason sale; £98.—221, Anlaby Rd., Hull. [3711

TORTON Big 4 de Luxe Combination, 1916-16, hood, screen, electric and acetylene lights, 2 ns, speedometer, spares, excellent order, tax paid; 10, or near offer.—Lawton, 97, Rustlings Rd., Sheffd. [3624

TORTON, 1921, delivery from stock.—Big Four solo, £135; exchanges or extended terms anged.—Official Agents, Elee and Co., 15-16, hopsgate Av., Camomile St., E.C.3. 'Phone enue 5548. [0066

IG 4 Norton Combination, 1914, engine just overhauled, Sturmey-Archer 3-speed in hub, foot ch and handle starter, 2 new Dunlop heavy tyres 2 new tubes, spare tyre, belt, tools, 3 lamps, horn, tax paid, everything in perfect mechanical condi; £90, or nearest.—Butler, St. Ana's Villa, Main Darnall, Sheffield. [3254

N.S.U.

S.U. 3½h.p., sidecar machine, 17 gns., tax 30/-; Grado gear, £3.—12, Cheshire St., Bethnal Green. [3605

ARGAIN.—N.S.U. twin combination, Bosch, Senspray, N.S.U. gears, good tyres, belt, lamps, ker sidecar, in sound condition and fine running er, unlicensed; £29.—Keen, Leominster. [3726

N.U.T.

U.T. 4h.p., twin J.A.P., T.T., o.h. valves, 2-speed, very fast; £65.—4, The Square, Carshalton. [3988

920 N.U.T., in very good condition, engine running perfectly; £115.—Lt. Hope, R.A.F., Gosport. [3093

U.T., 1920, 3-speed, Magdyno, splendid condition; 105 gns.—30, Crystal Palace Park Rd., Sydenm. [4010

920 N.U.T., Magdyno, fully equipped, licensed condition perfect; nearest £130. — Beechlea, ringfield Rd., Altrincham. [4057

U.T. 3½h.p., Magdyno, 3-speed, used only once, under 100 miles, guaranteed perfect, registered; ellent reasons selling; £145.—A. Brewis, Svendsen Co., Newcastle-on-Tyne. [3111

O.K.

ULIAN'S, of Reading, have 1921 O.K. in stock. [0481

ONGMAN, of Salisbury. — O.K. Juniors, 1921 models. [1752

.K.-VILLIERS, nearly new, fully equipped, fast; £48.—Driscoll, 58, Woodfield Rd., Ealing. [3833

3hp. O.K. J.A.P., 2-speed, all accessories, good condition; £35.—Seen Jeffery's Motors, Dorchester. [3204

920 O.K.-Villiers, 2-speed, shop-soiled only; £55; fully equipped.—Gough's, London Rd., Gloucester. [X2026

AVIES, of Manchester, can deliver 1921 O.K.'s from stock — 229, Deansgate. 'Phone: 536 ntral. [2435

SPEED O.K., latest model, from stock; at list price.—A. J. Young and Co., Ltd., Newmarket. [1059

2h.p. O.K.-Union, single speed, 1920 model, shop-4 soiled; list price £50 8, my price £43.—Davies, 9, Deansgate, Manchester. [0528

O.C.H. have a brand new O.K., 2-speed, shop-soiled; £59 cash; exchanges or easy payments arranged.—Heath St., Hampstead (nr. Hampstead Tube Station). one: Hampstead 3752. Hours 9-7, including Saturys. [3427

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,,	Clincher de Luxe Heavy	35/-	43/6
,,	Wood-Milne Special	29/6	48/-
,,	Englebert Wired-on Rib	25/-	55/-
,,	Avon Lightweight Ribbed	25/-	—
,,	Palmer Ribbed	25/-	—
26×2½	Avon Combination	48/6	91/-
,,	Avon Sunstone	40/-	52/3
,,	Palmer Cord	39/6	53/6
,,	Wood-Milne or Spencer Moulton Extra Heavy	39/6	68/-
,,	Dunlop W.D. Heavy	39/6	53/6
,,	Beldam Extra Heavy	37/6	64/-
,,	Bates Special Heavy	37/6	60/-
,,	Clincher de Luxe Ex. Heavy	37/6	62/6
,,	Hutchinson Passenger	35/-	70/3
,,	Beldam Heavy	32/6	55/3
,,	Englebert Wired-on Rib	30/-	60/-
,,	Hutchinson T.T.	30/-	56/6
,,	Wood-Milne Special	29/6	53/9
26×2½	Dunlop W.D. Heavy	42/6	56/9
,,	Bates Special Heavy	39/6	72/-
,,	Palmer Cord Heavy	39/6	62/-
,,	Clincher de Luxe Ex. Heavy	39/6	68/6
,,	Beldam Extra Heavy	37/6	66/3
,,	Kempshall Anti-skid	37/6	52/6
,,	Wood-Milne Extra Heavy	37/-	63/9
,,	Wood-Milne Special	32/6	56/9
,,	Hutchinson T.T. R.-stud.	31/6	59/9
26×2½ ×2½	Wood-Milne Extra Heavy	44/-	86/-
,,	Palmer Sidecar Ribbed	35/-	—
,,	Hutchinson T.T R.-stud.	32/6	67/-
26×2½	Wood-Milne Combination	57/6	102/-
,,	Bates Special Heavy	45/-	76/-
,,	Avon Tricar Rubber-stud.	45/-	78/-
,,	Wood-Milne Extra Heavy	44/-	87/6
,,	Palmer 2-ply Ribbed	35/-	40/-
,,	Englebert Wired-on R.S	35/-	72/-
,,	Hutchinson T.T. R.-stud.	32/6	65/-
,,	Englebert Wired-on Rib	30/-	70/-
26×3	Wood-Milne Combination	65/-	105/-
,,	Wood-Milne Extra Heavy	52/6	86/-
28×2½	Goodyear A.W. Tread	45/-	84/-
28×2½ to fit 3in. Rim	Goodyear A.W. Tread	45/-	84/-
28×3	Bates Special Heavy	55/-	92/-
,,	Dunlop W.D. Extra Heavy	51/6	83/-
,,	Dunlop W.D. Heavy	48/6	74/6
,,	Avon 3-rib	45/-	90/-
,,	Wood-Milne Extra Heavy	35/-	81/-
,,	Kempshall Anti-skid	35/-	67/6
650×65	Wood-Milne Extra Heavy	50/-	83/-
,,	Bergougnan 3-rib Heavy	35/-	83/3
700×80	Wood-Milne Steel Studded	97/6	103/6
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,,	Wood-Milne Extra Heavy	60/-	93/-
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O.K.

O.K. Junior Dec., 1919, 2¾h.p., 4-stroke, 2-speed countershaft J.A.P. engine, new tyres (1 spare), horn and lighting set, machine in perfect condition; seen by appointment; £47.—142, Osborn Rd., Forest Gate, E. [3589

O.K. 1921, Villiers Mark IV., Albion 2-speed, 2¼in. Hutchinson, P. and H. lamps, cyclometer, all accessories, mileage under 400, splendid hill-climber, registered and insured, absolutely perfect order, whole outfit cost £72 two months ago; price £60.—Brewer, 7, Clifton Av., Wembley. [3218

Olympic.

OLYMPIC 2¾h.p., 2-speed, clutch, kick start, new October, 1920, only done 200 miles, perfect condition throughout, all on; £60, or near offer; must sell.—Apply, 7, Albany Rd., Stroud Green, N. After 7 p.m. [3253

Omega.

LONGMAN, of Salisbury.—Omegas; £50 to £170; 1921 models. [1753

OMEGA 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2438

OMEGA.—Immediate delivery of all models.—The Rochester Auto Supply Co., Corporation St., Rochester. [0465

P. and M.

JULIAN'S, of Reading, have 1921 P. and M. in stock. [0488

BRAND new P. and M., shop-soiled only; £100.—Fox, 12, Conduit St., Lichfield. [4192

P. and M. Combination, first-rate order, 1918, snip; 60 gns. -2, Austin Way, Uxbridge. [3559

1920 P. and M. Sidecar, Lucas lighting; £100.—Rootes, Ltd., Maidstone, Tel.: 460. [4097

48 GNS.—P. and M., 1918, in first-class condition; any trial.—24, Church Walk, Hampstead. [4131

P. and M., late type, excellent condition; 48 gns.—20, Sydney Mews, South Kensington, London. [4129

P. and M., 1918, in nice condition, fully equipped, all up; sale or exchange.—70, Balfour Rd., Ilford, Essex. [3121

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3½h.p. P. and M. and sidecar, 1919, tax paid; £105. [4173

1917 P. and M. Combination, thoroughly overhauled; £68 with lamps and horn. Rose's Garage, Uxbridge. [3678

P. and M. Coachbuilt Combination, in good running order, tax paid; £55, or near offer.—95, Luke's Rd., Tooting Junction. [3940

1920 P. and M. Combination, indistinguishable from new, Lucas lamps, horn; £120; tax paid.—26, London Rd., Gloucester. [X2025

P. and M. Late Combination, electric lighting, as new, luxuriously equipped; £120.—95, Cavendish Rd., Highams Park, E.4. [4039

P. and M. Combination, excellent condition, all accessories; any trial; bargain, £110.—Bennett, 49, High St., Wanstead, Essex. [3481

P. and M. Coachbuilt Combination, 1917, thoroughly renovated, in splendid condition; £75.—Butterworth's Garage, Brixton Hill. [3900

1920 3½h.p. P. and M. Combination, licence paid, insured to June; £105.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0341

1920 P. and M., done about 500 miles, tyres like new; what offers?—Seen and tried 202, Trinity Rd., Wandsworth Common, S.W.17. [3405

P. and M. 1917-18 Machines for Renovation, minus mag. and carburetter and small parts, £28; with new mag. and carburetter, £34.—Below.

P. and M. 1917-18 Machines, renovated as new, makers' colours, guaranteed 3 months; £55.—Inman, Othello St., Liverpool. [4108

1917 P. and M., Sandum sidecar, P. and H., Watford, Klaxon, mudshields, new chain and tyre; £75.—Write 38, Courtfield Gardens, S.W. [1781

1918 P. and M. Solo, R.A.F., hardly used, E.I.C., good tyres; snip, £45.—Banister and Botten, 341, Upper St., N.1. 'Phone: North 2480. [4216

P. and M., late 1920, absolutely new condition, Binks carburetter, lamps, etc.; £98.—G. A. S. Western, 76, Sedlescombe Rd., Fulham, S.W. [3162

P. and M., new 1920, 1919 model, perfect condition, all accessories, new spare tyre, thoroughly overhauled; £105, or nearest offer.—6, Cosbycote Av., Herne Hill. [3239

P. and M. 1918 3½h.p., as new, minus small parts, £32; 1919 combination, indistinguishable from new, offers.—35, St. Clement's Mansions, Lillie Rd., Fulham. [3828

1920 P. and M. Combination, lamps, horn, spares, licensed, perfect condition; £94.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [4176

3½h.p. P. and M., guaranteed new condition, mile-age 900,—original tyres unpunctured, Lucas lamps; bargain, £78.—31, Claremont Rd., Alexandra Park, Manchester. [X2031

MOTOR CYCLES FOR SALE.

P and M.

3½h.p. P. and M., Dec., 1919, not W.D., little and carefully used, appearance new, plated long exhaust, all on; £75; offers.—Evans, Street Farm, Preston, Canterbury. [3862

P. and M., 1920, Lucas lamps, and horn, mileage 500 only, almost new; £92/10.—The Layton Garages, 90, High St., Oxford. Tel.: Integrity, Oxford. 'Phone: 784 Oxford. [X2136

P. and M., 1918, re-enamelled and overhauled, in perfect condition, tax paid, all on, lamp, etc.; £55, or exchange lightweight.—Geo. A. Sax, 619, Garratt Lane, Earlsfield, S.W.18. [3951

P. and M., with or without coachbuilt sidecar, splendid condition, new tyres, what offers? seen and tried by appointment.—Pope, 62, Holland Park Av., London. 'Phone: Park 2955. [3885

1918 Government Model 4h.p. P.M., purchased new from Government last year, gears, clutch, guaranteed mechanically perfect, done about 2,000 miles only; price £55.—Butler, 82, The Broadway, Sheerness. [3538

ROYAL Air Force P. and M., rebuilt as new, guaranteed, delivery ex stock; cash or terms, £50 under list.—Harford, Ltd., 5, New Burlington Place, Regent St., London, W. 'Phone: 4090 Regent. [X2066

P. and M. Combination, R.A.F. renovated, new mag., carburetter, back tyre, chains, etc., etc., sidecar repainted, guaranteed perfect; £75, solo £65.—Colonial Motors, 104a, Finchley Rd., N.W.3. Hamp. 7822. [4187

£25; P. and M.'s, less mag. and carburetter and small parts, Thomson-Bennetts to suit. 45/-. These are not rusty, and did not come off Slough dump.—Banister and Botten, 341, Upper St., London, N.1. 'Phone: North 2480. [4213

P. and S.

P and S. 3h.p. 1921 Combination, as exhibited at the Show, discs, fully equipped, all on; £95, or exchange and cash.—Mr. H., 85, Rutland Rd., Katherine Rd., Forest Gate, Essex. [3122

UNIQUE Offer; all brand new.—Two 2¾h.p. J.A.P., P. and S. 2-speed, clutch, kick starter, £60 each; one 3h.p. Dalm P. and S., 2-speed, clutch, kick starter, £55; one 2½h.p. Villiers P. and S., 2-speed, £50. List price J.A.P. £90, Dalm £63/10, Villiers £73/10. Space wanted.—Norfolk Motors, Worthing. [3523

Paragon.

PARAGON, new 3h.p., 2-stroke, 2-speed; £45.—24, Townley Rd., East Dulwich, S.E.22. [3178

PARAGON 2-stroke, 2-speed, only done 50 miles; £45.—Can be seen and tried at 19, Wilcox Rd., South Lambeth, London, S.W.8. [3550

Peugeot.

PEUGEOT 3½h.p., B. and B., Bosch, fast, powerful, and reliable, guaranteed; trial.—51, Upper Richmond Rd., Putney, S.W. [4117

Precision.

3½h.p. Precision, 3-speed, Bosch, discs; £32.—158, London Rd., Kingston-on-Thames. [3893

2¾h.p. Precision 2-speed Engine Wanted, must be in perfect condition.—Cowie, 32, High Shore, Banff, Scotland. [3556

BARGAIN, Precision Junior, excellent condition; £20, or nearest offer.—Broomfield, Gasworks Cottage, Lymington, Hants. [3159

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Premier.

2½h.p. Premier, all on, perfect; £20, or near.—27, Dragon St., Petersfield. [3500

PREMIER 3½h.p., 2-speed; £25.—Speechley, late of Gunnersbury Lane, new premises, 86, Churchfield Rd., Acton, London, W.3. [3354

£23.—2¼h.p. Premier, Bosch, B. and B., splendid condition, tax paid; offers.—Graham, 27, Wandle Rd., Wandsworth Common. [3748

3½h.p. Premier Combination, 3 speeds (countershaft), Bosch mag., lamps, excellent running order; sacrifice £58.—Griffin, Queen's Rd., Watford. [3076

£23.—Premier 3½h.p. twin, m.o.i.v., very fast, smart machine, tyres, enamelling, and mechanical horn like new, Amac, Simms; not rubbish; tax paid.—Appleby, 3, Arlington Rd., Camden Town. [3520

4h.p. Premier Combination, 2-speed gear box, clutch, starter, Dunhill underslung touring sidecar, Bosch, B. and B., heavy Dunlops, Druids, footboards, licence, excellent condition; 60 gns.; 2¾h.p. Douglas part.—63, Solon Rd., Brixton. [4104

PREMIER 7-9h.p. Combination, 3-speed countershaft, double-seater sidecar, 3-fold wind screen, lamps, new tyres, clutch, kick start, just been overhauled, ready to ride away, tax paid; photo; 75 gns., or near offer.—2, Mascotte Rd., Putney, S.W.15. [4200

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—1921 Premier super unabout, 7-9h.p. twin engine, water-cooled, 3 speeds, reverse, detachable back wheel, spare wheel and tyre, fully equipped, hood, screen, etc., also fitted with several extras, not ridden 500 miles, tax paid; £225; easy terms arranged. [4171

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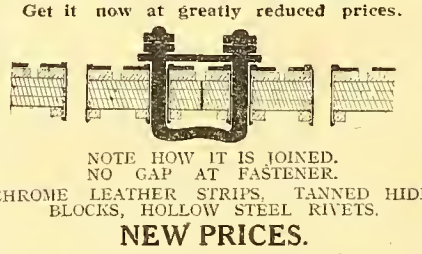
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1920 Quadrant Combination, nice order; £9 Ross, 86, High Rd., Lee, S.E. [3

QUADRANT 3½h.p., lamps, tax. perfect, climb thing; £30.—21, Fordel Rd., Catford. [3

1920 4½h.p. Solo Quadrant, good condition, paid; £60.—Clifford Wilson, 177, Westmin Bridge Rd., S.E.1. [3

1916 Quadrant 4½h.p. Combination, B.S.A. 3-s countershaft, speedometer, Klaxon, lamps, £75.—12, High St., Fulham. [3

QUADRANT 4h.p., 3-speed Armstrong, lamps, h Millford coachbuilt sidecar, licensed; £40; w sell solo, £25.—6, Dornton Rd., South Croydon. [3

£45.—4h.p. Quadrant combination, 3 speeds, clu all accessories; solo, £37; tax paid.—16, Mary Abbott's Terrace, Kensington High St., W. [3

QUADRANT Sole Distributers London, South and Eastern Counties; all models usually stock; all spares.—Clifford Wilson Mfg. Co., Westminster Bridge Rd., S.E.1. Hop 210. [3

1920 Quadrant Combination, 4½h.p., Stur Archer 3 speeds, Cameo screen, all lamps, h etc., mileage under 500, guaranteed; £125; easy ments or exchanges.—Homac's, 243, Lower Cla Rd., N.E. 'Phone: Dalston 2408. [

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1921 Raleigh 5-6h.p. Flat Twin Solo, 140 combination, 176 gns.; in stock.—Rose's Ga Uxbridge. [

RALEIGHS, solos and combinations in stock; changes entertained.—Hicking, Bromley Beckenham. [

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1916 Reading Standard Combination; £100.— 86, High Rd., Lee, S.E. [

10h.p. Reading-Standard, with coachbuilt sid perfect condition, tax paid; £90.—53, I St., Deptford, London. [

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READING-STANDARD Combination, all elect sporting sidecar, carrier screen and apron, lutely as new; £140. Call and see this bargain fore going elsewhere; would consider offer.— Portway, E.15. [

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REX 6h.p., 2-speed, Bosch, slight attention, ne timing; £20, bargain.—Whitney, 1, James 'P Northampton. [

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REX Combination (new coach), 6h.p., 2-speed, smart lot; £50, bargain.—Taylor, 637, Sisters Rd., Tottenham. [

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Rex.

BARGAIN.—3½h.p. Rex, Bosch, B.B., mechanical valves, good tyres, belt, unlicensed, sound and running order; £17.—Keen, Leominster. [3727

1921 Rex 8h.p. Combination, spare wheel, Sterling mudshields, good lamps and horn, perfect condition, small mileage; £175, or near offer.—2, Kenyon St., Wigan. [3240

6h.p. Rex, sound condition, wants enamelling and doing up, Bosch, tyres good, 2-speed Roc gear; good bargain, £15/10.—Beecher, 472, Archway Rd., London, N.6. [4141

Riley.

9h.p. Riley Combination, perfect, 2-speed countershaft, Bosch; nearest £40.—45, Walm Lane, Cricklewood. [3304

Roc.

1920 Motor Cycle, complete, less engine, 2-speed gear needs slight repair; bargain, £5/10, plus carriage.—56, Sutton St., Aston, Birmingham. [X1983

Rover.

3½h.p. Rover, 1914, 3 speeds, perfect order; £48.—255, High St., Hounslow. [4021

1922.—Rover, Bosch mag., lamps, Klaxon, tax paid.—Kieg, Egrove Farm, Oxford. [X2021

COVER T.T., Norton style tank, perfect condition; £35.—29, Moffat Rd., Tooting. [3804

1920 Rover, T.T., 3½h.p., single speed; £105.—A. J. Young and Co., Ltd., Newmarket. [1066

SPORTING Rover, 3-speed, polished discs, lamps; £34/10.—53, Watling St., Wellington, Salop. [3928

1915 Rover Combination, 3½h.p., C.S. gear, smart turnout; £70.—Ross, 86, High Rd., Lee, S.E. [3391

COVER 1920 T.T., Philipson, speedometer and lamps, small mileage, really as new in every respect, and very fast; £90.—Below.

COVER, 1914, Philipson, licence paid, all accessories; £45.—The Layton Garages, 90, High St., Oxford. Grams: Integrity, Oxford. 'Phone: 784 Oxford. [X2137

COVER Combination, 3-speed, K.S., engine No. 6247, excellent condition; seen week-ends; Berks.—Box 434, c/o *The Motor Cycle*. [3135

COVER Combination, 1914, 3 speeds, clutch, K.S., perfect condition; trial; Klaxon; £65.—8, Place Mews, Eaton Terrace, S.W.1. [4138

1919 3½h.p. Rover Combination, 3-speed, Lucas lamps, horn, good condition, tax paid; £140, or offers.—Kilby, 1, Museum Sq., Wisbech. [2114

COVER 3½h.p. T.T. with Philipson pulley, first-class condition; £69.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3450

COVER Combination, complete with accessories, excellent condition; owner going abroad; best offer secures.—McKenzie, 3, Summerlands Crescent, Acton. [3302

T.T. Rover, Philipson pulley, late 1920, perfect condition, enamel unscratched, 60 m.p.h., small mileage; £85.—Martin, 5, Malvern Rd., Sheil Rd., Liverpool. [3167

COVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery; hire-purchase if desired. — Collard, Cook's Garage, Shifnal. [2684

1921 3½h.p. 3-speed Rover Combination, accessories, ridden 500 miles only, appearance and mechanical condition as new; £115.—The Premier Motor Co., Aston Rd., Birmingham. [4152

1919 (late) Rover Combination, 6h.p., very little used, all-chain, P. and H. lamps, unscratched; bargain, £125.—James, ever Bradmore's, 48, Harrow Rd., Paddington. Tel.: Willesden 1744. [3799

COVER Combination, 5-6h.p., new in 1919, Sunbeam sidecar fitted with wind screen, hood, side curtains, aluminium disc wheels, Tan-Sad saddle, perfectly equipped, excellent condition; £145.—Wardrop's, Ashtead Surrey. [3281

COVER 1920 3½h.p., brand new, shop-soiled only, 3-speed, chain drive, £120; complete with Rover sidecar, £150; also one 5-6h.p. twin combination, shop-soiled, 1921 model, £175.—P. J. Evans, 81-91, John Bright St., Birmingham. [3421

SPEED! Cheap!—1919 T.T. Rover, Philipson, new engine except cylinder, 1st, 2nd, and three 3rds Worcester Speed Trials, 1920, polished aluminium discs with vermilion and gold rings in centre, anti-police pack mudguard, absolutely as new, very fast; £65.—R. C. Wickham, Boughton House, Boughton, near Faversham, Kent. [3079

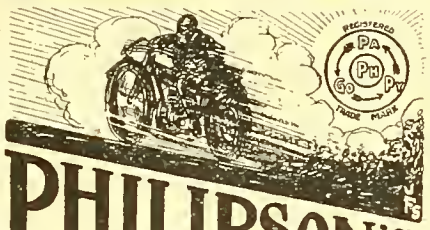
Royal Ruby.

3h.p. Royal Ruby, new, spring frame; list price £120, accept £95.—Young, Misterton, Somerset. [3958

R. D. VARTY, Thundersley, Essex.—Agent for Royal Ruby motor cycles; immediate delivery. [2487

ROYAL RUBY 2¼h.p. 2-stroke, Thomson-Bennett, Amac, single speed; £28/10; London.—Box 3,454, c/o *The Motor Cycle*. [3246

DAVIES, of Manchester, can deliver 1921 Royal Rubys from stock.—229, Deansgate. 'Phone: 536 Central. [2433



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1920 3h.p. Royal Ruby, spring frame, Binks, electric lamps, complete, as new, tax paid; £105.—22, Carlton Rd., East Sheen. [3118

ROYAL RUBY 2¾h.p. 1921 Sports Models, delivery from stock.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0542

8-10h.p. Royal Ruby, Gloria sidecar, J.A.P. engine, Bosch mag., running powerfully; nearest offer £90.—Redmond, 5, Harry St., Dublin. [3098

1920 Royal Ruby 8h.p. Combination, 3-speed, done 1,000 miles, completely equipped, Tan-Sad, etc.; £180.—Junction Garage, Silverhill, Hastings. [3107

1919 8h.p. Royal Ruby Combination (J.A.P. engine), condition and appearance as new, any trial and examination; £115.—2, Fortunegate Rd., Harlesden, N.W.10. [3604

1919 (Dec.) 8h.p. Royal Ruby Luxurious Combination, speedometer, screen, electric light, numerous spares, guaranteed in excellent condition, any trial, tax paid; £120, or near cash offer, or part exchange solo. — Garratt, Meer Hill, Loxley, Warwick. [X2128

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I.O.M. Rudge Multi, from stock; £85.—A. J. Young and Co., Ltd., Newmarket. [1060

RUDGE Multi, brand new, unused; £75; must sell.—Box 3,501, c/o *The Motor Cycle*. [4034

1919 Rudge Multi 3½h.p., taxed, good order; must sell; £55.—Rectory, Weymouth. [4033

7-9h.p. Rudge Combination, splendid condition; £120, or near.—151, Globe Rd., Bethnal Green. [3954

RUDGE Multi Combination, good condition, complete; £70.—Y., 2, Orb St., Walworth. [3491

RUDGE Multi 3½h.p., wicker sidecar, lamps, speedometer; £35.—Sumner, 70, Camden Mews, N.W.1. [X1980

RUDGE Multi 3½h.p., overhauled by makers, new tyres, belt, etc.; £55.—1, Oxford Rd., London, N.4. [4028

£50, offer.—Rudge Multi Combination, lamps, tax, insurance, good order, any trial.—21, Windsor Rd., Denmark Hill. [4014

1920 Rudge Multwin Combination, Rudge sidecar, all lamps, handsome outfit; £115.—Turnill and North, Peterborough. [3693

£32.—Rudge 3½h.p., clutch, K.S., enamelled and plated, as new, lamps, etc.—143, Ravensbury Rd., Earlsfield, S.W. [4091

BRAND New 3½h.p. Rudge, T.T., full guarantee; £85.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0543

1920 Rudge Multi Combination, 7-9h.p., brand new; first cheque for £150; bargain to clear.—Tillers, 31, South St., Dorchester. [3223

1921 Rudge, I.O.M. model, for immediate delivery; £85.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4071

RUDGE 3½h.p., just overhauled, very fast, accessories, ride away; £50, or nearest offer.—Kentes, 17, Myrtle Rd., Sutton, Surrey. [3633

RUDGE Multi, 3½h.p., re-enamelled, overhauled, new accessories, expert examination; £50.—Latham, 114, Junction Rd., Highgate. [3888

RUDGE 3½h.p. T.T., sleping tank, in perfect order, with sporting torpedo sidecar, all accessories; £75.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [3488

27 GNS. Only, real bargain; Rudge 3½h.p., hand clutch, powerful, fast, 1921 colours, fine condition.—76, Neate St., Albany Rd., Camberwell. [3351

1920 I.O.M. Rudge, fully equipped, low mileage, guaranteed perfect.—£75; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4076

VERY Handsome Turnout!—1920 5-6h.p. Rudge, Millford sidecar, electric lighting, Klaxon, discs, licence, go anywhere.—Beeson, Rose Bank, Lancaster. [3231

RUDGE Models for immediate delivery; list price £85; the cheapest 3½h.p.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3453

1914 Rudge Coachbuilt Combination, 2-speed, clutch, kick start, speedometer, etc., ride away; bargain, £60.—Castle, Boundary Rd., Woburn, Bucks. [3904

1920 Rudge Combination, 7-9h.p., F.R.S. electric lamps, very fast, guaranteed; £115; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4070

RUDGE 3½h.p., hand clutch, in excellent condition, lamps, horn, pillion, accessories, owner would ride anywhere within 40 miles; £30.—Fairleigh, Roe-green, Hatfield, Herts. [3175

RUDGE.—1920 Rudge Multwin, 7-9h.p., Klaxon, mileage 250 only, and in corresponding condition throughout; £97/10.—The Layton Garages, 90, High St., Oxford. 'Grams: Integrity, Oxford. 'Phone: 784 Oxford. [X2133

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Rudge

RUDGE and Coach Sidecar, 3½h.p., N.S.U. 2 speeds, good tyres, all lamps; sacrifice, £47/10; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4085

1916 3½h.p. T.T. Rudge Multi, handle-bar clutch, kick starter, speedometer, C.A.V., Sensspray, lamps, accessories, licence, excellent condition; £65.—63, Solon Rd., Brixton. [4105

1914 3½h.p. Rudge Multi and C.B. Sidecar, re-enamelled, new Cox-Atmos, 2 new tyres, P. and H. lamps, Stewart horn; £62; seen by appointment.—Bunnell, Hollies, Manorway, Blackheath. [3473

1920 Rudge, I.O.M. T.T. Model, all accessories, original tyres, unpunctured, tax paid, excellent condition; £73, or offer; any trial.—Morton, 31, Corsica St., Highbury, N.5. Between 9.30 and 6. Saturdays 9.30 and 1 p.m. [4116

1920½ T.T. Rudge Multi, pedal start, light C.B. sidecar to match, complete with double apron, lamps, horn, spare valves, Pedley grips, knee grips, leather belt, engine fitted with racing cam, outfit used a dozen times, health cause of sale; first £90 secures; would separate.—Write Box 484, c/o *The Autocar*. [X2075

Scott.

GIBB, Gloucester, can deliver 1921 Scotts from stock.—'Phone: 852. [0445

1921 Scott, sports model; £130; for immediate delivery; easy payments accepted.—Scott agents (below).

1920 Scott, with Rennoc sidecar, P. and H. lamps, Lucas horn, etc., magnificent condition, guaranteed perfect, tyres unscratched; £140; exchanges.—Scott agents Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4072

1914 Scott Motor Cycle with Sidecar, in splendid condition, complete with lamps and horn.—Brook Bros., Burnham-on-Sea. [3143

1915 Scott Combination, Easting wind screen, good tyres, excellent condition; £75.—248, Hither Green Lane, Lewisham, S.E. [3649

SCOTT, 1920 sports model, horn, tools, very small mileage, enamel as new, plating fair, perfect order; £100.—D. Lavin, Old House, Sonning, Berks. [9353

SCOTT 3¾h.p. Motor Cycle, solo, in top-hole condition, new 1920, very little used; price £105, or near offer.—Apply, Pearce, 77, High St., Sandgate. [2308

1914 Scott, Millford sidecar, screen, etc., spare tools, insurance and tax paid, splendid condition; £80, or offers.—Morrad, 14, Ringcroft St., Holloway, N.7. [3496

1919¾ Scott, semi T.T., Lucas lamps, Cowey speedometer, tax paid, tyres good, splendid condition, fast and reliable; £90.—199, Sumatra Rd., West Hampstead, N.W.6. [3631

SCOTT, 1920, T.T., with sporting sidecar, Lucas accessories; bargain, £125.—The Layton Garages, 90, High St., Oxford. Tel.: Integrity, Oxford. 'Phone: 784 Oxford. [X2134

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0510

1916 Scott, owing to accident has had new wheels, tyres, frame, radiator, sprockets, chains, etc., fitted, now perfect; price £55.—4, Station Buildings, Woodside, S.E.25. 'Phone: Croydon 36. [3440

SCOTT 1920½ Combination, Amac, lamps, horn, Bonniksen speedometer, spare tube, plugs, etc., licence paid, mileage 1,500, runs perfectly, good condition; £135.—6, Campbell Rd., W. Croydon. [3288

Singer.

1914 4½h.p. Singer C.B. Combination, 2-speed, new cylinder piston, nearly new chassis, just thoroughly overhauled, licence; £55.—21, Beech Rd., Luton, Beds. [3791

Sparkbrook.

1921 2-speed Sparkbrook, from stock; £77/10.—A. J. Young and Co., Ltd., Newmarket. [1063

SPARKBROOK 1920 2½h.p., 2-speed gear, shop-soiled only, excellent lightweight machine; £55.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A: Bicycles. [4156

Spur.

SPUR (Gros) 2-stroke Light Combination, 3½h.p. Dalm engine, E.I.C. mag., 2-speed Albion gear, fitted discs, all on, perfect condition, tax paid; a snip, £75.—A. Fraser, 83, East Surrey Grove, Peckham, S.E.15. [3579

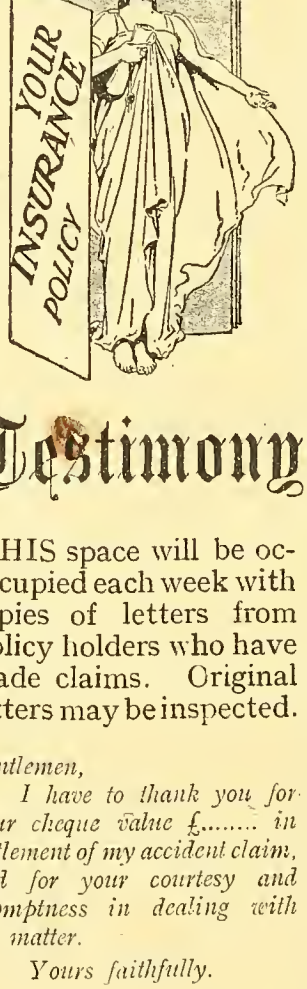
Sun.

SUN-VITESSE, 1920, Sturmey-Archer clutch and kick starter, 2-speed gear, lamps, horn, ridden 50 miles only, exceptional offer; £60.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4157

2¼h.p. Sun-Vitesse, 1920 (Aug.), 2-speed Sturmey-Archer, engine D912, Cowey speedometer, Cowey horn, lamps, Tynesider pillion seat (back, arm, and foot rests), tax paid, insurance, cost £88 complete; will sell for £65, no offers; purchased cycle car.—Davies, Mealin, Usk. [3220

THE MOTOR CYCLE

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MOTOR CYCLES FOR SALE.

Sunbeam.

YEOVIL.—Moffat, Town Hall Garage.—Sunbeam 1921 models.—'Phone: 50. [3

E. KICKHAM for Sunbeam, sole agent for Bristol and district.—Stokes Croft, Bristol. [3

1916 3½h.p. Sunbeam, as good as new; £90. Bounds, 223, High Rd., Kilburn, N.W.6. [3

1921 3½h.p. Sunbeam, fully equipped, under 1,000 miles; £150, offers.—Coffin, Holwell, Sherborne. [3

1916 3½h.p. Sunbeam, perfect condition, small mileage, tax paid; £85.—Nelson Smith, Whitley, Coventry. [X1

6h.p. Sunbeam Combination, J.A.P., Binks carretter; £110.—Curtis, Church Farm, Chalfont St. Giles, Bucks. [1

1916 Sunbeam 3½h.p., with B.S.A. sidecar attached, electric lighting, screen, all accessories; £1—Veare, Havant. [3

3½h.p. Sunbeam, 1915-16, stored during war, Lucas accessories, good condition; £80.—30, Royal Rd., Loughborough. [X19

SUNBEAM Combination, 3½h.p., excellent condition, ready for Whitsun.; £130.—Wallis, 4, Mitcham Lane, Streatham, S.W.16. [3

1920 (Nov.) 3½h.p. Sunbeam, Lucas lamps, perfect condition, only run 500 miles; £130.—B., Smith land House, London St., W.2. [3

SUNBEAM, 3½h.p., 1920, Sunbeam sidecar, lamps, tools, etc., in excellent condition; £165.—Warren, 175, Enfield Highway. [3

SUNBEAM Combination, 8h.p., spare wheel, Easting hood, lamps, tax paid; £140, or near offer.—Saver, 266, High Rd., Streatham. [3

SUNBEAM, June, 1920, 3½h.p. touring, Lucas accessories, Tan-Sad, perfect condition; £125.—Hewlett Lloyds' Bank, Aberavon, Port Talbot. [3

SUNBEAM and sidecar, complete, 1919, little use, heavy tyres; reasonable offer wanted after seen London.—Box 3,252, c/o *The Motor Cycle*. [1

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0

1920 3½h.p. Brand New Sunbeam and Sidecar, interchangeable wheels; at list price; from stock.—A. J. Young and Co., Ltd., Newmarket. [10

SUNBEAM 2¾h.p., 2-speed, K.S., 1915, overhauled and renovated, sporting equipment, spares; any trial; £65.—Bernard, Grappen Hall, Cheshire. [32

SUNBEAM, 1920, sporting, 3½h.p., electric lighting horn, speedometer, licence, insurance, excellent condition; £145.—2, Queen's Drive, Thames Ditton. [40

1916 6h.p. Sunbeam Combination, Gloria sidecar with hood, pillion seat attached, lamps, tools, spares, etc., perfect condition.—Lee, Dairy, Ansdell [32

NEW 1921 3½h.p. Sunbeam, 3-speed, kick start, clutch; list price £155/8; exchanges ouertaius.—Bambers'. Eastbank St., Southport. Tel.: 607. [X06

SUNBEAM 1919 3½h.p., 3 speeds, lamps, horn, tools, etc., complete, perfect machine, in tip-top condition; £120, or near offer.—Stow, Saw Mill, Shoreham, Sussex. [30

SUNBEAM 1915 3½h.p. Model with Sidecar, complete with all accessories, excellent condition: £110.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X19

1920 3½h.p. Sunbeam, 500 miles, stored without Cowey, leg shields, Lucas dynamo lighting, tax paid, as new; £150.—Lynworth, Farm, Prestbury, Cheltenham. [38

3½h.p. Aug., 1920, Sunbeam Combination, Lucas lamps and horn, Easting wind screen, tools, tax paid, 500 miles only; £165.—Apply, Braham, Holcombe, Bath. [37

SUNBEAM 1919 8h.p. Combination, complete with spare wheel, wind screen, etc., condition perfect and low mileage; seen any time; price £170.—Apply 346, Richmond Rd., Twickenham. [39

1920 (late) Sunbeam Combination, 3½h.p., Triplex screen, Lucas lamps and horn, luggage grid, mileage 400, indistinguishable from new; soip, £160.—4 Warlock Rd., Padington. Tel.: Willesden 1744. [37

3½h.p. Sunbeam Combination, Sept., 1919, black and gold, Lucas lamps, Tan-Sad, speedometer, etc., licensed and insured 1921, perfect condition, guaranteed; £150.—Whiteman, 8, Manor Rd., Chatham. [36

4h.p. Sunbeam, made especially for director of Sunbeamland, Bosch, Lucas lamps, Klaxon, leg shields, including tax and insurance, small mileage any trial, as new; £125.—Lovekin, Montgomery, Wales. [40

1919 Sunbeam 8h.p., double-seater Hendersoo sidecar, electric lighting, discs, Klaxon, speedometer, 2 new retread tyres, recently overhauled; price £17 owner purchased car.—Ernest Hobbs, Little Faringdon Lechlade. [38

8h.p. Black and Gold Sunbeam Combination, 192 battery lighting, Bonniksen speedometer, Cow horn mechanical oiling, spare wheel, wind screen, int changeable wheels, perfect condition; nearest £235 Sims, 15, Railway St., Chatham. Tel.: 450. [31

MOTOR CYCLES FOR SALE.

Sunbeam.

SUNBEAM 8h.p. Motor Cycle Combination for Sale late 1919 model, dynamo lighting set, interchangeable wheels, spare wheel, horn, speedometer, apron, screen, luggage grid, leg shields, perfect running order and excellent state of preservation.—Watkins, Bank, Overton Rd., Johnstone, Glasgow. [3608

T.D.C.

T.D.C. 20 2¾h.p. 2-speed T.D.C., enamel, plating as new; £47/10.—Horn, Long Buckby, Rugby. [3485

T.D.C. Motor Cycle, T.D.C. engine, 2¾h.p., E.I.C. mag., B. and B. carburetter, Albion 2-speed gear, all 20, perfect order; £30.—Bryant, Vicarage Rd., Bagshot, Surrey. [3694

Triumph

TRIUMPH Motor Co. for 1921 Triumphs.

TRIUMPHS at the new reduced prices now in stock.

WE Can Deliver to your address within 24 hours 2¼h.p. lightweight Triumph, £70; W.D.B. reconstructed, £95; Type H 4h.p., 3-speed, £115; Type S.D., chain drive, £126; sidecars from £25 to £50; buy your machine direct from the Triumph specialists.—The Premier Motor Co. Aston Rd., Birmingham. [X1419

TULIAN'S, of Reading, have 1921 Triumph in stock. [0487

1918 Countershaft Triumph, excellent condition; £67. —78, Sloane Av. Chelsea. [3972

TRIUMPH, 1914, smart coachbuilt sidecar; £52.—270, Croxted Rd., Herne Hill. [4032

1913.—1914 3-speed Triumph, perfect, tax, accessories. —5, Park Terrace, Headingley, Leeds. [3296

TRIUMPH Lightweight, 1921, lamps, horn; £65/10. —Bond, 245-247, Euston Rd., N.W.1. [X1979

1925.—3½h.p. Triumph, good appearance and running order.—King, Egrove Farm, Oxford. [X2022

3½h.p. Triumph, clutch, licensed, good running order; £2 £35.—Worsell, S. John's, Sevenoaks. [3228

TRIUMPH 4h.p., countershaft, 3-speed, clutch, K.S., as new; £75.—4, The Square, Carshalton. [3989

1914 Triumph, 3-speed hub, guaranteed condition; £47.—Hirst, 62, Southgate St., Leicester. [3071

TRIUMPH 1912 3½h.p., good tyres, guaranteed; £25.—Smith, 2, Forest Glade, Leytonstone. [3507

VAN GUY, Weymouth.—1921 Triumph combination, £182/10; Triumph 2-stroke, £75; in stock. [0555

1921 Renovated Triumph H and new Montgomery sidecar, guaranteed by makers 3 months; £12.

1921 Baby Triumph, new; £70.—365, King St., Hammersmith, W.6. [2794

CLUTCH Triumph, 1913-14, decompressor, perfect; offers. Combination wanted.—57, Stopfold Rd., £13. [3124

TRIUMPH 1914 for sale, good condition; £50, or near offer.—N. Wade, 26, Salterford Rd., Tooting, S.W. [3211

TRIUMPH, 1920, countershaft 3-speed, mileage about 2,000, lamps and spares, beautiful condition; £100.—Below.

TRIUMPH 1918 T.T., fast and powerful, just overhauled by makers, new tyres Dunlops, lamps and horn; £65.—Walker, 50, North St., Gosport, Hants. [3235

BRAND New 1921 Junior Triumph, unused; what offers?—Steele, 55, High St., Omagh, Co. Tyrone. [3371

TRIUMPH-GLORIA Combination, like new, any trial; £130.—3, Ladysmith Rd., Cradley, Staffs. [3856

BABY Triumph, 1920, accessories, tax paid; £60, offer.—Palmer, Moorstock, Sellindge, Hythe, Kent. [3639

TRIUMPH 1920 4h.p. Combination, tax paid, very complete; £125.—Gummer, Parkmount, Rotherham. [3329

1913 3½h.p. 3-speed Triumph; sell, exchange combination, adjustment.—510, Whipendell Rd., Watford. [3692

TRIUMPHS.—Fine assortment at prices to suit all; 3 months' guarantee given.—Ross, 86, High Rd., Peckham, S.E. [3395

W.D. Countershaft Triumph, lamps, etc., 4h.p., 3-speed; great bargain, £55.—114, Brixton Hill, S.W.2. [3687

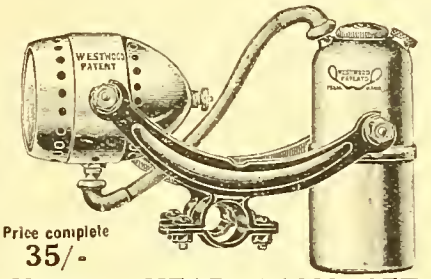
1919 Triumph Countershaft, lamps, horn, splendid condition.—Smith, 555, Fulham Rd., Fulham, S.W.6. [4119

1912 Triumph, 3½h.p., N.S.U. gear, reconditioned, perfect mechanical order; £35.—12, High St., Fulham. [3764

1913 Clutch Model Triumph, adjustable pulley, perfect order; £36.—Sinclair, Bleacathra, Walton-on-Thames. [3355

TRIUMPH, 1914 (late), 3-speed, little used, been stored 1918 improvements; £55.—26, Graham Rd., S.W.1. [4137

TRIUMPH 3½h.p., 2-speed, free engine, overhauled, smart, perfect running order; £37.—82, Battersea Rise, London. [3593



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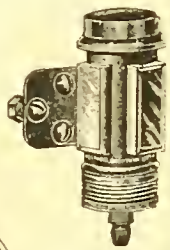
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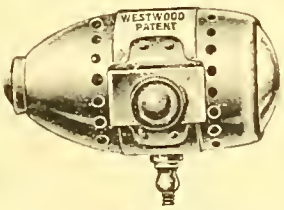
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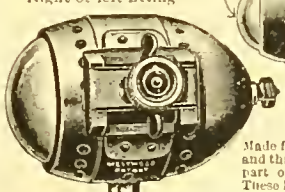
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MOTOR CYCLES FOR SALE.

Triumph

TRIUMPH 3½h.p., in good order, fitted with 2 new tubes, new belt, registered; £40.—Hunt, Appleton Lodge, Widnes. [X1976

TRIUMPH Late Model H, new condition, fully equipped; sacrifice £82/10.—353, King St., Hammersmith, W.6. [2795

TRIUMPH Combination, 4h.p., Binks, Klaxon, wind screen, complete; £55; must sell.—Turner, 106, Park Av., Mitcham. [3573

TRIUMPH 2-speed, good order, £35; Auto-Wheel, £6; lightweight motor cycle, £7.—Hall, Hockman, Whetstone, London. [3140

BRAND New 1921 Triumph Gloria Combination unridden, tax paid; £170.—44, Longfield St., Southfields, S.W.18. [3276

1918 Countershaft Triumph Combination, perfect £85; solo, £65; exchanges.—60, Wallingford Av., North Kensington. [3669

BRAND New 1920 Triumph, with new cane sidecar, £120; or with new coachbuilt sidecar; £130.—Battea Bros, Cullompton. [3708

TRIUMPH 3½h.p. C.B. Combination, 3-speed, licensed, good order, any trial; £60. — 102, Kenyon St., Fulham. [4007

TRIUMPH, 1914, with smart sidecar, Sturmey 3-speed gear, excellent condition; £55.—Bunting's Exchange, Wealdstone. [3981

TRIUMPH Junior, 1920, absolutely perfect condition, lamps, horn, and licence paid; £62, or nearest.—Tippen, Marden, Kent. [3964

1920 Model H Countershaft Triumph, indistinguishable from new, small mileage; £90.—Fitt, nr Pikes, Church St., Chelsea. [3974

1920 4h.p. Triumph, 3-speed, brand new; £120; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [X2012

1916 C.S. Triumph, good condition, lamps, etc., any trial; £72, offers.—Mitchell, Beacen, Chelwood Gate, East Grinstead. [4015

TRIUMPH Combination, 3-speed, engine 52576, lamps, tax paid; £95; after 7 p.m.—Broadley, 37, Amesbury Av., Streatham Hill. [3511

TRIUMPH, 4h.p., 3 speeds, all on, tax and insurance, tools, spares; 38 gns.—47, Goldington Buildings, Crowndale Rd., N.W.1. [3921

TRIUMPH Junior, overhauled and re-enamelled, aluminium footboards, spares; bargain, £45.—Meadow Farm, Abram, Wigan. [3192

£29/10.—Triumph motor cycle, tax paid, in good running order, 1912 model; carriage paid.—W. Rainford, Church St., Garstang, Lancs. [3194

TRIUMPH 1918 4h.p., 3-speed, lamps and horn; £67.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3458

1919 Triumph Gloria Combination, condition as new, lamps, horn, licence, Auster screen and scoop; £127.—39, Warren Rd., Wanstead. [3342

1919 Triumph-Gloria Combination, 3 lamps, horn, spare tube, mileage about 500, condition as new; £125.—Taylor, 37, Derby St., Leek. [3193

TRIUMPH, 1914, 4h.p. 3-speed, clutch, very little used, perfect condition; £55. — Watson, Bank House, Kew Bridge Rd., Brentford. [3756

1918 Triumph Combination, all accessories, good condition, for lightweight and cash.—Waverley, Southampton St., South Farnborough, Hants. [3375

1919 Countershaft Triumph, overhauled, replated, enamelled, tax paid; £85.—1, Magazine Quarters, Harrow Manorway, Abbey Wood, S.E.2. [3597

TRIUMPH 4h.p., 1914, fixed, Bosch, adjustable pulley, and lamps, good condition, tax paid; £45, or offer.—Cotton, 15, Vale Rd., Surbiton. [3252

BRAND New 1921 Triumph 4h.p. Model H., with Whitley No. 20 sidecar, unused; what offers?—Steele, 55, High St., Omagh, Co. Tyrone. [3372

£60.—Triumph combination, 3½h.p., Hillford sidecar, 3-speed and clutch, in good running order, tyres good.—Giles, West Wycombe, Bucks. [3867

TRIUMPH, 1918, renovated, new sidecar, £85; another, £82; both first-class order.—Clark, 7, Exhibition Rd. South Kensington, S.W.7. [4142

TRIUMPH, 1918, freshly renovated, first-class running order, £65; another, £68.—Clark, 7, Exhibition Rd., S.W.7. 'Phone: Kensington 4096. [4143

4h.p. Triumph, 3-speed, countershaft, K.S., delivery last August, splendid condition; £75, for quick sale; Bucks.—Box 3,498, c/o *The Motor Cycle*. [3614

TRIUMPH 1913, 3-speed, clutch, overhauled, stoved, new gears by Sturmeys, long exhaust, condition guaranteed; £55.—Garage, Woolpit, Suffolk. [3265

1920 Triumph Gloria Combination, electric light, Lucas horn, Dunlops, little used, tax paid, unscratched; £140.—40, Park Av. South, Hornsey. [4041

TRIUMPH 1918 Combination, fitted commercial box and pleasure body, reliable lot; reasonable offer; lightweight part.—2, Station Rd., Egham, Surrey. [3297

TRIUMPH 3½h.p., new Feb., 1914, 3-speed, engine and gears thoroughly overhauled by makers, tax paid; nearest £55.—Smith, 67, High St., Taunton. [3119

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1920 4h.p. Model, Triumph sidecar, Watford speedometer, equal to new; £160.—Parker's, Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X1989

TRIUMPH, countershaft models, thoroughly renovated and overhauled, few only; £60 each.—Holliday Bros., 20 Queen St., Hammersmith, W.6. [3734

3½h.p. Triumph Combination, C.B. sidecar, N.S.U. gear, lamps, splendid condition, specially fitted up by owner; £50.—77a, Cambray Rd., Balham, S.W. [3868

TRIUMPH, 1915 (stored war), 4h.p., 3-speed, clutch, K.S., tax paid, accessories, splendid running order; 60 gns.—41, Woodlands Rd., Walthamstow. [3729

4h.p. Countershaft Triumph, Sunbeam-Millford sidecar, electric lighting, excellent condition, tax paid; £90.—Lynworth, Farm, Prestbury, Cheltenham. [3896

NEW (not W.D.) 1920 Triumph, 3-speed, fully equipped, licensed, any trial (after 6.30); £108.—Rhodes jun., 199, Algernon Rd., Ladywell, S.E.13. [3600

TRIUMPH, all models in stock, W.D., fully guaranteed by makers; £90 and £95.—Ratcliffe Bros., 200, Gt. Portland St., W.1. 'Phone: Langham 1704. [0436

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, very small mileage; £65.—D. Lavin, Old House, Sonning, Berks. [9354

1913 3½h.p. Triumph, engine perfect, new belt, Stewart signal, tyres good; £36; exchanges considered.—End, 26, South St., Wellington, Somerset. (1) [4038

1918 Triumph 4h.p., nearly new, C.S., all on, guaranteed; £70; private owner.—Apply, The Garage, Lytcott Grove, Lordship Lane, East Dulwich. [3715

LATE 1919 Triumph, sporting Canoelet sidecar, wind screen, disc wheels, Cowey speedometer, long copper exhaust; cost over £185, take £125.—White, Chippenham. [3112

1918 Triumph, 3-speed countershaft engine, No. over 55000, perfect condition throughout, as new; £65.—71a, King Henry's Rd., Hampstead. 'Phone: 6552. [4189

TRIUMPH 1918 4h.p., countershaft, indistinguishable from brand new, must be sold; what offers? —Barnett, 21, Rodborough Rd., Golders Green, London. [3586

1918 Triumph, C.B. sidecar, fully equipped, excellent order, tax paid; 100 gns.; after 6; appointment.—W., 14, Braxted Park, Streatham Common, S.W. [3479

3½h.p. Triumph, renovated, nearly new N.S.U. 2-speed, adjustable pulley, large lamps, tax (30/-) paid; any trial; nearest £50.—S. Grubb, Fingringhoe, Colchester. [3513

1913-14 T.T. Triumph 3½h.p., clutch, very little used, makers' colours, electric light, all accessories, tax paid; £47.—3, Fyfield Rd., Upper Walthamstow, E.17. [3201

1918 Countershaft Triumph Combination, fully equipped, hood, screen, thoroughly overhauled; any trial; tax paid.—Seen, 104, Dersingham Av., Manor Park, E. [3591

TRIUMPH, date about 1919, 4h.p., 3-speed, countershaft gear box, hand clutch, indistinguishable from new; £75.—24, Grosvenor Av., East Sheen, S.W.14. [3739

1918 and 1917 Trimmphs, reconditioned, new tyres and belts, perfect running order; £60.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [4177

1920 4h.p. Triumph, Gloria sidecar, hood, screen, Tan-Sad, Cowey horn, all lamps, spares, tools, splendid condition; £150.—78, Locksley St., Burdett Rd., Bow, E.14. [3125

TRIUMPH Combinations, 1918, overhauled, re-enamelled, plated, and fully equipped, £110; 1916, as above, £85. — Owen, 59, Scholefield Rd., Upper Holloway. [X2051

1921 Triumph Combination, Model H., mileage 500, unscratched, fully equipped, tax paid, as new; bargain, £140.—48, Warlock Rd., Paddington. Tel.: Willesden 1744. [3797

TRIUMPH, 3½h.p., new top feed carburetter and magneto, re-enamelled, semi-T.T. bars; £25.—110, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Putney 2622. [3738

1919 Triumph Model H and 1920 Spring Wheel Grindlay Sidecar, lamps, etc., tax paid, condition almost new; £126, or near offer.—Bateman, Bridge St., Deeping St. James. [X2065

1914 Triumph, Sturmey hub, clutch, B. and B. variable jet, 1919 tank, spares, new tyres, overhauled completely, fine condition; £66, or nearest.—Penrose, Borrowby, Thirsk, Yorks. [3361

TRIUMPH, countershaft, 55991, fully equipped, speedometer, Tan-Sad, insurance, tax paid, renovated last December; £85, or near offer.—Church Farm, Wentworth, Cambs. [3160

1917 Triumph, 3-speed countershaft, clutch, kick start plating and tyres as new, perfect condition and running order; £62/10.—71a, King Henry's Rd., Hampstead. 'Phone: 6552. [4190

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CROYDON Agents for Triumph motor cycles. A models in stock, ready for immediate delivery. Moore's Presto Motor Works, Ltd., 145, North En Croydon. 'Phone: 2624. [134

TRIUMPHS 4h.p. Countershaft, 1917 and 1916, overhauled and fitted with new parts, guarante in new mechanical condition; £60 each.—Dowell, T Crescent, Pyrford, Surrey. [343

COUNTERSHAFT Triumph, 1918, re-enamelled, plated, thoroughly overhauled, accessories, £ near offer; Sunbeam sidecar, £10.—Lawrence, Dab Place, Cobham, near Gravesend. [39

TRIUMPH, W.D.B., renovated by makers, in sto 1 r immediate delivery, new tyres, £95; anoth £90; Montgomery sidecar to match, £25.—The Premi Motor Co., Aston Rd., Birmingham. [X142

TRIUMPH 4h.p., tyres brand new, not done 50 mil 3-speed clutch, kick start, all-weather model, excellent condition throughout; £88, or offer.—Walk 769, Romford Rd., Manor Park, E. [360

1921 Triumph, all chain drive, brand new, just livered and not now required; list price, b year's licence given with it.—Lees, Wholesale Tob conist, Northampton. 'Phone: 670. [X19

TRIUMPH 1916 4¼h.p., countershaft model, wi coachbuilt sidecar, complete with all accessori in excellent condition; £95.—Alfred Wastoage, 65, G Portland St., W. Tel.: Langham 2172. [30

1920 Triumph Combination, 3-speed, K.S., counte shaft, hand clutch, all equal to new, Cam screen, Stewart horn, tax paid, tools, etc.; £120, ne offer.—Dudley House, Park Rd., Wembley. [35

TRIUMPH, 4h.p., 1918, 3-speed countershaft ge box, kick starter, nearly new condition, acce Sheen, S.W.14. 'Phone: Putney 2622. [37

TRIUMPH (1919, Dec.), Montgomery No.1 1920 si car, hood, Triplex screen, grid, F.R.S. and Luc tax paid, beautiful condition; expert examination vited; £140.—240, Fleeming Rd., Walthamstow. [33

1919 Triumph Combination, dynamo lighting, hor tools, Dunhill sidecar, hood, wind screen, liceos insured, mileage 2,800, excellent condition; barga £108.—Jeffery, Chaldon, Clarence Rd., Walhington. [30

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£68.—Triumph 1918 Model H., recent overhaul makers, perfect, lamps, horn, licensed, or wi 1920 sporting sidecar, Zeppelin body, Easting wi screen; £84.—20, Treen Av., Hoggers Corner, Barn [36

TRIUMPHS.—We are the North London agents, a can give immediate delivery; chain drive, chai cum-belt, and renovated models.—Jones Garage, Mu well Hill, N.10; and at Woodside Parade, Nor Finchley. [03

TRIUMPH, 1921 models, in stock for immedia delivery at makers' reduced prices; exchang arranged; also Triumph H Models, renovated as ne £90 and £95.—Eagles and Co., 275, High St., Acto London. [38

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IMMEDIATE Delivery of any Triumph Model; ca or deferred payments; book your order now, a avoid disappointment later.—Burlington Motors, Lt South Side, Clapham Common, S.W.4. 'Phone: Bri ton 2417. [C5

1912 Triumph 3½h.p., overhauled, light Montgome wicker torpedo sidecar, clutch, Philipsou pull speedometer, Lucas lamp, horn, tools, tyres good, t (50/-) paid; £35.—Watt, 102, Esmond Rd., Bedfo Park, W.4. [35

F.O.C.H. are Triumph Agents.—Combinations a solos, new and second-hand, in stock; barga prices.—5, Heath St., Hampstead (near Hampste Tube Station). 'Phone: Hampstead 3752. Hours 9 including Saturdays. [34

£140.—Triumph-Gloria combination, 1920, 4h.p., speed, Lucas electric lighting, Bonnikson spee meter, mileage 2,000, specially picked machine, m chanical condition as new.—The Premier Motor C Aston Rd., Birmingham. [X14

1920 Triumph (May), privately owned, mileage l summer 800, stored since October, Lucas ho lamps, Tan-Sad, knee grips, and all accessories, ca fully ridden, condition as new; £100, lowest.—Pickn 25, Leigh Hall Rd., Leigh-on-Sea. [X20

TRIUMPH Coachbuilt Combination, 3½h.p., Grad gear, kick, Lucas lighting set and ho licensed, pump, tools, spare valve, just been co pletely overhauled and rebushed, splendid conditio £55, cash.—19, Spring St., Cannock. [X20

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4 Triumphs, all models in stock, new chain driv new chain-cum-belts, solos and combinations; also 4h renovated models, £90 and £95; immediate deliver supplied on easiest of easy terms; trade supplied [29

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RIUMPH Gloria Combination, 1920, not renovated model, extra air fittings, separate hot air induc- n, 125 m.p.g. solo, tyres excellent; money refunded dissatisfied; all lamps, valuable parts; bought car; 10; by appointment.—Taylor, 11, Thorncliffe Grove, ilworth Park, Manchester. [3064

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h.p. Triumph Combination, 1914 engine, Sturmey- Archer hub gear, hand and foot clutch, all latest provements, including tank, T.T. bars, etc., P. and lighting set, electric horn, pannier bags, complete tools, sidecar light sporting coachbuilt on Mills- lford chassis, coverall apron, the whole in perfect dition, tax paid; £87.—Wythes, c/o 148a, The rade, Leamington. [X2027

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ULIAN'S, of Reading, have 1921 Velocette in stock. [0486

919 Velocette, 2-stroke, 2-speed, all chain drive, complete; £44.—Donovan, 24, Union St., Ryde. [3656

915 Velocette, 2-speed, perfect running order, lamps, horn, toolbags, tax paid; bargain, 42 gns.; after 0.—Lawrence, 86, Hargwyne St., Stockwell, S.W.9. [3484

MMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¼h.p., 2-speed, all-chain ve; £75.—Agents, W. Sparrow, Ltd., Osborne rage, Yeovil. [1632

920 Velocette, 2 speeds, all-chain drive, tax paid, in perfect order; £65; guaranteed; exchanges.— mac's, 243, Lower Clapton Rd., N.E. 'Phone: lston 2408. [4084

921 Velocette, Model D3, 3-speed, £85; Model D2, 2-speed, £75; Model DL2, lady's open frame, 3; all in stock for immediate delivery.—The Premier tor Co., Aston Rd., Birmingham. [X1422

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ERUS 1920 2-stroke, 2-speed, no accessories, as new; £50.—The Layton Garages, 90, High St., ford. Tel.: Integrity, Oxford. 'Phone: 784 Oxford. [X2143

920 Verus Lightweight 2½h.p., 2-speed, kick start, clutch, lamps, and horn, a beauty; £65; could ange terms.—Bunting's Exchange, Wealdstone, sed Sundays. [3986

ERUS-BLACKBURNE, 2-speed, kick start, brand new, real bargain, tax paid; £84.—Turner, West- rne House, Richmond Rd., Twickenham. 'Phone: 7 Richmond. [3758

MMEDIATE Delivery of any Verus Model; cash or deferred payments; book your order now, and id disappointment later.—Burlington Motors, Ltd., th Side Clapham Common, S.W.4. 'Phone: Brix- 2417. [0502

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Villiers.

ILLIERS 1919 2-speed 2-stroke, licensed, equipped, perfect fast; £36.—54, Coval Rd., Mortlake. [X2072

Vindec.

6h.p. Vindec Coach Combination, 2-speed, all-chain, electric lighting, fully equipped, mechanically perf., smart appearance; £50.—5, Macclesfield Rd., S. rwood [3813

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8h.p. W.C. Williamson Combination, 2-speed, K.S., lamps, Cameo wind screen, perfect order; £90.—255, High St., Hounslow. [4020

WILLIAMSON, 1915, 3-speed clutch, kick start, water-cooled, coachbuilt sidecar, hood, screen, lamps; £100.—Moffat, Yeovil. 'Phone: 50. [3332

WILLIAMSON Combination, 8-10h.p., 1916, dynamo lighting, kick start, wind screen, hood, luggage carrier, good running order, tax paid; £125.—84, Lincoln Rd. East, Peterborough. [3080

Wolf.

3½h.p. Wolf, 3-speed countershaft, C.B. sidecar, all-chain drive, complete with speedometer, lamp, horn, and tools; £70 for immediate sale.—Woods, Ltd., Sligo. [3375

WOLF-J.A.P., 1913-14, engine thoroughly overhauled, new cyl., U.H. mag., Senspray carburetter, perfect running order; £20.—Snodgrass, 18, Junction Rd., Brentwood. [3489

WOLF.—Sole agents for London, South of Thames, and district. We are now fixing sub-agencies, and invite enquiries.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4 'Phone: Brixton 2417. [0508

Wooler.

1919 2¾h.p. Wooler, complete, perfect condition.—Apply, W. Oyer, Malt House, Lynsted, nr. Sittingbourne, Kent. [3322

1920-1 Wooler, splendid condition, lamps, horn, just overhauled by makers, all latest improvements; £80.—Eric Guy, Sarum Hill, Basingstoke. [X2054

1920 Wooler, new condition, head and tail lamps, Klaxon, speedometer, watch, aluminium footboards and rests, tools; a snip, 70 gns.—Whittingham, Glen Doone, Staplehurst [4067

Zenith

JULIAN'S, of Reading, have 1921 Zenith in stock. [0482

DAN GUY, Weymouth.—Zenith agent, early delivery all models. [0556

1914 Special 6h.p. Zenith, C.S. gear; £65.—Ross, 86, High Rd., Lee, S.E. [3399

5-6h.p. Twin Zenith, countershaft K.S., as new, very fast; sacrifice, £95.—38, Park Rd., Coventry. [X2127

1920 8h.p. Countershaft Zenith Combination, only done 2,500; £145.—17, Garden Av., Mitcham, S.W. [3956

1921 Zenith 4-5h.p. Sports Model, all lamps, etc., in new condition; £90.—21, Hobson St., Cambridge. [4100

NEW 5h.p. Zenith; accept £105; exchange for countershaft Triumph, Norton.—Oakleigh, Edgware, Middlesex. [3092

ZENITH Combination, replete accessories, licensed.—Apply, Adams, Ham Common Garage, Kingston Rd., Ham. [3953

ZENITH 1916 6h.p., splendid condition, very fast, lamps, tax paid, after 6 p.m.; £55.—156, Browning Rd., East Ham. [3609

ZENITH 1915 Combination, K.S., excellent condition, speedometer, horns, lamps, tax paid; £85.—Rogers, 42, Church Rd. Hendon. [3718

ZENITH-GRADUA 8h.p., Dec., 1919, tools, lamps, and horn, guaranteed perfect; £110.—Wenham, 18, Longport St., Canterbury. [3309

ZENITH 8h.p. Combination, beautiful condition, equipped; £68; exchange lightweight or 3½h.p. —10, Plover St., Hackney Wick. [3897

ZENITH 4h.p., first-class condition, tax paid; £49.—Newnham Motor Co., 223, Hammersmith Rd., W6. 'Phone: Hammersmith Rd., 80. [3457

ZENITH Late 1919 3½h.p. Single, T.T. model, excellent condition, lamps, horn, licence paid; £75, or nearest.—Tippen, Marden, Kent. [3963

5h.p. 1920 Sports Zenith, perfect condition; no reasonable offer refused; lamps, speedometer, etc.—Bilney, Wykeham Hall, Lee-on-Solent.. [3659

ZENITH Combination (new), 8h.p., clutch, kick starter, accessories; £170.—Dr. Maitland, Hill Cottage, Fairmile Park, Cobham, Surrey. [3365

1921 Zenith 5h.p. Sports Model Combination, tax paid, only done 500 miles; bargain, £160.—McKay, 51, Peel Rd., Wealdstone, Middlesex. [3528

ZENITH Combination, 4h.p., Gradua gear, disc wheels, long exhaust, in tip-top condition; price £85, or nearest offer.—East Grinstead Motor Garage. [9523

ZENITH 1914 Combination, C.B., Bosch, speedometer, lamps, tyres excellent, tax paid; trial any time; £65.—217, Vicarage Rd., Leyton, E.10. [3086

1917 5h.p. Zenith Sports and Sidecar, usual equipment, tyres nearly new, fine running order; £90.—105, Holmdene Av., Herne Hill, S.E.24. [2597

ZENITH 1920 5h.p., sporting sidecar, would pass for new, a very dainty outfit; £120; cash terms or exchange.—Bunting, Wealdstone Closed Sundays. [3933

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ZENITH (Oct., 1919) 8h.p., clutch, Henderson Elite sidecar, Cowey, Klaxon, lamps, pair D.A. cylinders; £165.—Brandon, Furnishers, Berkhamsted. [3676

ZENITH 1920, shop-soiled models, a few still in stock at greatly reduced prices.—Zenith Motors, Ltd., Hampton Court, adjoining Hampton Court Station. [3234

ZENITH 1921 Models, orders now accepted for early delivery; 1920 models at greatly reduced prices; write or call.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [6437

ZENITH Combination, 1920, 8h.p., clutch, kick starter, lamps, speedometer, etc., mileage 1,600, exceptional condition; £150.—Phillips, Clive Lodge, Bedfont, Middlesex. [3477

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1915 6h.p. Zenith-Gradua, clutch, excellent condition, new Canoelet sidecar, luggage carrier, wind screen, lamps, new tyres; £110, or nearest.—Rogers, 31, Sydenham Hill, S.E. [3283

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1920 6h.p. Countershaft Zenith, clutch, kick starter, Henderson Elite sidecar, Lucas accessories, tax paid, new condition; £130.—Clifford Wilson, 177, Westminster Bridge Rd., S.E.1. [3847

1920 8h.p. Countershaft Zenith Combination, fitted with Zenith sidecar, and complete with electric lighting, etc., tyres and engine as new; £150.—Apply, Capt. Evans-Lombe, R.F.A., Ewshott, nr. Aldershot. [3641

ZENITH 1920 6b.p. Sporting Combination, Lucas head, rear, and sidecar lamps, Cowey speedometer knee-grips, Ace disc wheels, luggage grid, equal to new; £160.—Parker's Bradshawgate, Bolton, and 245, Deansgate, Manchester. [X1988

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LADY'S Douglas, plain, 2-speed, all on; £45, or offer. —8, Victoria Park, Fishponds, Bristol. [3968

LATE 1915 Lady's Douglas, 3 speeds, clutch model, not ridden 2,000 miles; offers.—Marshall, High St., Esher. Tel.: 50 Esher. [4006

LADY'S 1919 Velocette, 2¼h.p., 2-speed, free engine, perfect condition, as new; £60, or nearest offer.—Kendall, Storrs Hill, Windermere. [3795

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EWEN'S Garage, King's Lynn ('phone: 122), for Morgans, Richardsons, Triumphs, Douglas, James, etc. [1440

£20.—3½h.p. combination, needs silencer and mudguards, cane sidecar, apron.—Chapman, Mendham, Harleston, Norfolk. [3319

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ARIEL, 3½ h.p., solo	£110 0
ARIEL, 4½ h.p., solo	£120 0
ARIEL 6-7 h.p. Combination	£130 0
B.S.A., 4½ h.p., H.2, solo	£110 0
B.S.A., 4½ h.p., K.2	£107 0
B.S.A. 6-7 h.p. A. Combination	£175 0
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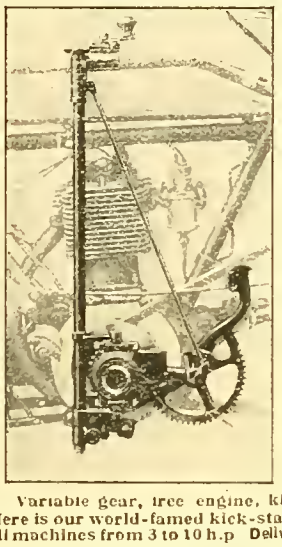
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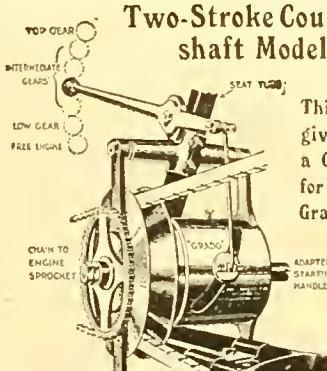
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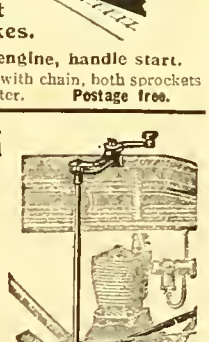
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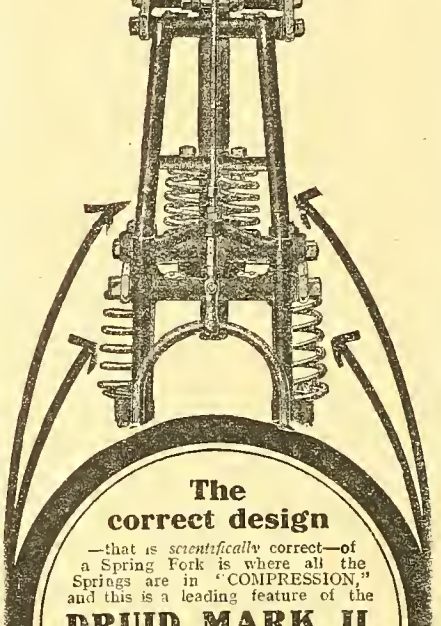
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BARGAINS.—Shop-soiled £27/10 sidecar, Triumph or B.S.A.; £18/15.—Booth's Mo Halifax.

BARGAINS.—Nearly new Henderson sidecar Rudge, £16/15; Millford 27 gn. sidecar, new, £16/10.—Booth's Motories, Halifax.

BARGAINS.—New full-size coach body, under seat, £6/19/6; cane body, 25/-.—B Motories, Halifax.

MILLFORD Sidecar, new body, complete; Stock, 107, Coningham Rd., Shepherd's

1920 Watsonian R34 Sidecar, Easting, new L £18.—20, Treen-Av., Hoggers Corner, Ba

CANOELET Minor Sidecar, electric light, apron, almost new.—Greyhound, High St., sea.

HARLEY-DAVIDSON Sidecar, Henderson new; £39.—Turpin's, 29, Preston Rd., ton.

THE MOTOR CYCLE

ESTABLISHED IN 1903

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Short Distance Records.

DOES racing improve the breed? Undoubtedly; provided that the means by which races are won can be rendered applicable to touring machines without detriment to reliability or comfort. Such events as the Tourist Trophy and many of the long-distance races at Brooklands have done much to improve the cooling, reliability, and general efficiency of the touring motor cycle; but what of the short-distance records? Let it be understood that we have no intention of disparaging the fine performances which have been accomplished over short distances. On the contrary, these phenomenal speeds are most interesting and instructive, and are productive of new ideals and new standards of performance. At the same time, it is evident that some of these records are of little immediate advantage to the average motor cyclist, since they are incapable of being sustained for any useful period. Provided the manufacturer of the record-breaking machine sets to work to incorporate the lessons he has learned in his touring mounts, well and good; but if he merely concentrates on obtaining an extra mile per hour on the track but little progress will be made.

"Following the Sport on Paper."

IT is not necessary to own a motor cycle to be a motor cyclist!

Possibly the younger generation provides the greater number of non-motoring enthusiasts for the pastime, to remove the paradoxical character from our opening statement; but, as recent letters from readers have shown, there are many of more advanced years who must, perforce, be content "to follow the sport on paper." Some have been owners in the past, while others have yet to taste the actual joys of the throttle-lever. For the present, both classes gain much pleasure from anticipation and imagination.

After all, as the "real" motor cyclist will confess, one of the greatest joys is choosing the new machine. And one may *choose* without *buying*. To the motor cyclist at heart, owner or not, nothing is more interesting than to follow the improvements, developments, and performances of his favourite machine. In this, motor cycling is unlike, and is superior to, any other hobby.

A Test for Non-slip Tyres.

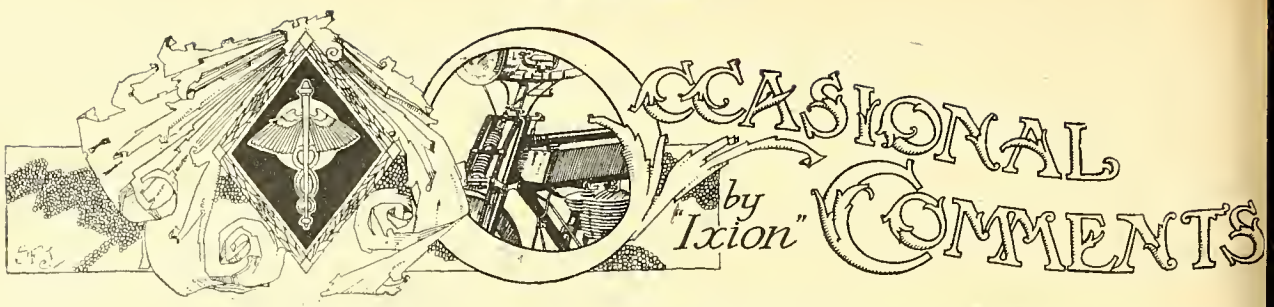
LAST Saturday's Midland Open Trial proved that present-day motor cycles, provided that they are suitably shod, will climb any gradient likely to be found where roads are made. Since so much, then, depends upon the tyre fitted, it would seem that in issuing results of any important trial, organisers of competitions should in future make public the particulars of the tyres fitted.

Further, the trial suggested that interesting and informative data could be obtained if a trial were organised, at a time when greasy surfaces could be depended upon, with tyre performance as its chief function.

At present, tyre manufacturers are able to announce successes of motor cycles fitted with their tyres, but little light is thrown upon the failures due to unsuitable treads. The comparatively large number of retirements in last Saturday's trial may give an erroneous impression as to the reliability of modern motor cycles, and we are constrained to remark that a very large percentage of those who did not finish failed owing to the exacting requirements of the regulations.

Those unable to make clean ascents of some of the sixteen slippery hills realised that they had lost so many marks that all hope of an award was gone, and therefore elected to watch their more lucky contemporaries. Most of the failures on the hills were due to lack of wheel adhesion, hence the necessity for some record which will guide the public in the purchase of tyres. If prospective buyers require that their machines shall be able to ascend the steepest hills, then they should be told of the importance of correct tyre selection.

An Index to the advertisements in this issue will be found on the page facing the back cover.



Carrying Batteries.

DURING the last year or two I have made it my business to try most of the electrical equipments on the market, and experience has quite cleansed my mind of the ancient prejudice against carrying a battery which coil and accumulator ignition had burnt into the brains of most veterans. The average modern battery is quite astonishingly good. It doesn't shed its paste, or spill its electrolyte, or evaporate its charge secretly and rapidly. You can almost play football with it, if you want to, and it regards the vibration of a motor cycle at speed as a pleasant, tickly kind of massage, which merely makes it feel good. My sole criticism on the resurrection of the battery has nothing to do with the cells themselves, but rather with their minor accessories. I have experienced infinite trouble on most installations with flimsy wiring, gimcrack switches, and metal cases which were too tight a fit for their contents. The other day, for example, it took three of us an hour to get the battery out of its case. The designer would state that the battery was meant to be left alone. Doubtless. But if makers will send a machine by rail with an obvious and naked switch, the railwaymen will play with it and leave the switch on. The machine will then arrive with its cells juiceless. So we *had* to take the cells out. We have already spent much precious time trying to get them back again.

Electric Connections.

IN this particular instance the designer had obviously been obsessed by three noble ideals: he wanted to get (1) a cheap set; (2) a lightweight set; (3) a waterproof set. He therefore employed a metal battery case, with its only joint in a position where wind could not force rain to penetrate. He made it small to keep the weight down. He twisted up the ends of his wires to avoid the use of special terminals (surely an unpardonable anachronism!), and he secured his wire-ends to tiny brass screws, because there was no space for substantial binding posts. As a nett consequence I would rather tackle a 750 piece jigsaw than assemble that battery, duly wired up, into its case. When it was assembled, most of the contacts were bad, thanks to our playing pulley-hauley with the wires to make room for the battery to enter; several short circuits were created in the process, and without the aid of a Röntgen ray apparatus, it was quite impossible to tell where the shorts were, for the case was hermetically sealed when its lid was on. "No connections on the lid" should be an invariable rule. I daresay cylindrical batteries are more costly to make than the rectangular types, but the nicest case I ever owned was cylindrical, and when you lifted off the cover, every connection lay revealed. What is the objection to a rectangular case, carried in the stern prong of a double bracket, and so designed that the lid takes off without disturbing any connections? I have had this set under test for a month without getting any light out of it, and the battery has already been charged up twice at a power station, and run down as a direct result of the problems of installing it on the 'bus.

A Scrap.

WHICH would you rather handle in a scrap over British roads—a fast car or a fast motor cycle? The other day two of us had a royal dust-up across twenty miles of country, the respective mounts being a 65 m.p.h. car and a 65 m.p.h. T.T. bicycle. No, Mr. Paterfamilias, you need not address an indignant letter to the editor. We observed an unwritten law that the speeding was to be strictly reserved for such stretches of highway as were empty and safe. The contest ended when the motor cyclist exaggerated the speed at which he could round a certain bend. It turned out to be rather pot-holey, and by the time his front wheel had finished its buck-jumping, he was confronted by a sheer impossibility in the way of a steering arc. So he ran through a gate which was conveniently open at a tangent to the curve, while the car slid round the bend at speed with its brakes squealing. I will not say which of the two mounts I was on; but I am pretty certain that the car has the best of it on empty roads which are tolerably flat, but that the bicycle should win every time if the gradients are at all pronounced or if the roads are not quite empty.

Impromptu Dust-ups.

THE scrap described in the last paragraph reminded me of many a chance encounter with speed-loving strangers, encountered haphazard along the roads on all sorts of motors. Nothing is commoner than to receive a mute challenge from a rider travelling in the same direction, and these silent challenges reveal human nature at its best and at its worst. For example, one is touring on a 2 h.p. two-stroke, and runs into the dustcloud of, say, a 20 h.p. Austin, which is pottering along. You are going 5 m.p.h. faster, and hoot your way past. The driver scowls down at you, accelerates, repasses, and slows down again. Obviously a cad of the first water. Or again, you are on a T.T. Norton solo, and you sail up alongside a ditto. He glances hastily at your tank, and down goes his nose on the lamp bracket. All well and good. In a mile or two you approach a village, a nurse wheeling a pram, or an elderly woman

Ixion's "MOTOR CYCLE REMINISCENCES" have lately been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4

Occasional Comments.—

driving a frisky pony—anything which counsels a gentleman to slow down. The enemy puts over a barrage of hoots, and passes the obstacle at full throttle. You let him go rather than imitate his bad example; let him have his brag about mopping you up, and content yourself with the reflection that you have observed the courtesies of the road. But it is in a car *v.* cycle scrap that decency is most called for. I recall one such scrap years ago which began near Exeter and lasted into the London suburbs. I was a passenger in the car. Now a car should slow where a motor cycle need not, and should slow more than a motor cycle need. For two main reasons—the car makes more dust, and the car needs a wider safety clearance than a cycle. All through that prolonged scrap our unknown adversary on an I.O.M. Rudge observed the decencies of warfare. At every rational slow down he called a truce, adjusted his lead or default at the end of the slow to what it had been at the start of the slow, and then crouched and "revved" once more. We road-raced for well over 150 miles on a summer day without running any risks or making ourselves a nuisance to anybody; and no rules or regulations could have maintained fairer conditions.

Three-speed Baby Two-strokes.

THE three-speed gear box will be just about standard on baby two-strokes within another year. I do not agree with some authorities that the average baby can stand a higher gear—I find that most "babies" soon slow down towards a crawl on longish slopes with their present top ratio. It is surely at the lower end that a two-speed box wants improvement. Either its bottom is so low that the machine cannot catch a snail when it is forced off top, or else the bottom is so high that you dare not take the 'bus into really difficult country. A three-speeded baby pleases me, because it will climb modest hills swiftly and steep hills surely. The bottom ratio of a two-speeder is always a compromise. But, Mr. Maker, do not forget to list the two-speed as an option; you know you will probably charge an extra fiver for that extra gear, and some of us cannot afford it. Production will not be affected so long as you make your gear boxes interchangeable.

The Export Trade.

A SOLDIER serving in India writes me a pathetic letter anent the struggle between patriotism and economy which tears the breast of a Britisher abroad. In his case economy has won, and he has bought a 16 h.p. Reading Standard with full electric equipment at Rs. 1,662, or say £110 at current exchange rates. He finds it a thoroughly satisfactory machine, and can criticise no detail whatever from a practical standpoint; perhaps the enamelling of the frame is not first-class, and perhaps the dynamo drive (round leather belt) would give more trouble in moist England than it does in dry India.

If his patriotism had towered above all pecuniary obstacles, he would of course have bought a British machine. The cheapest British machine on offer at the time of his letter was priced at Rs. 1,750, or say £117; but this machine was only of 3½ h.p., and its price included neither a hooter nor a lamp.

Incidentally, the entire lighting outfit of the Yankee machine, complete with lamps, is priced at forty-five dollars; the new rich alone can be patriotic at these terms.

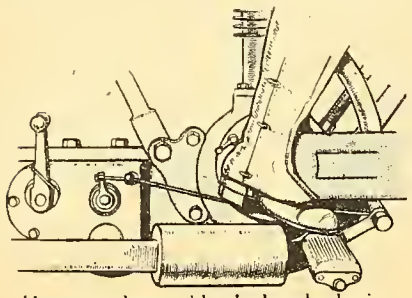


Already the trees are taking on their summer cloak of leaves and the sidecarist is prospecting picnic grounds.

IDEAS: Useful and Ingenious.

For Broken Clutch Wires.

THIS temporary method of overcoming a clutch wire breakage may interest those readers who possess machines fitted with Sturmey-Archer gear boxes. Remove the broken wire from outer

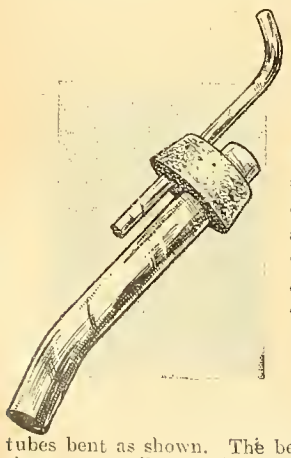


How to get home with a broken clutch wire.

sheath. Now fit nipple into the retaining slot in clutch actuating arm and thread the other end of wire through screwed adjuster. If the free end of the wire is now attached to the front footrest rod or an adjacent nut, it will be found quite easy to use the clutch by merely bearing down with the heel of one's boot on the wire—quite a small movement sufficing to disengage the clutch.—Q.E.D.

A Non-splash Tank Filler.

BENZOLE has a reputation for damaging tank enamel if allowed to overflow or splash when filling-up. Therefore the device illustrated should be of considerable benefit to users of that fuel. It consists simply of a cork to fit in the orifice of the can and two glass

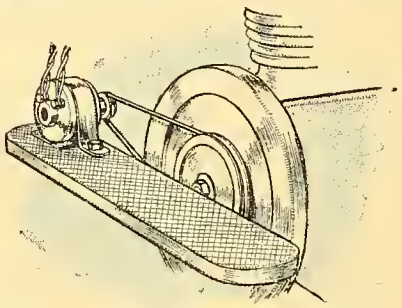


An easily made non-splash filler, consisting of a cork and two lengths of bent glass tube.

tubes bent as shown. The bending operations are easily carried out with the application of a little local heat. Naturally this filler may also be used with petrol; but it is somewhat too fragile to carry about on the machine.—G.M.

Lighting with a Miniature Dynamo for City Riding.

THE footboard of any machine with an outside flywheel is an excellent position for a small dynamo for lighting purposes, for it is usually easy to fit an extra pulley, as shown. In this case, an Alterna cycle generator was used.

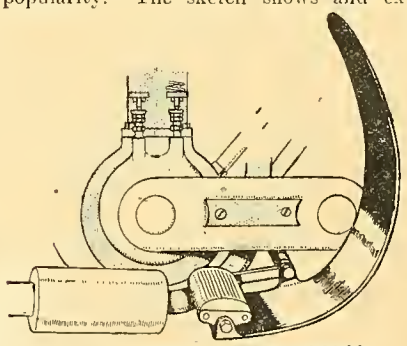


Many two-strokes readily adapt themselves to a simple form of dynamo drive such as this.

and has been converted from friction wheel to pulley drive. Beyond the fact that the dynamo is bolted down on a rubber pad to minimise vibration, the other details are made clear in the drawing.—C.T.

Simple Legshields.

LEGSHIELDS are at times worth their weight in gold, but the fact that they are often clumsy and awkward to fit prevents their more general popularity. The sketch shows and ex-

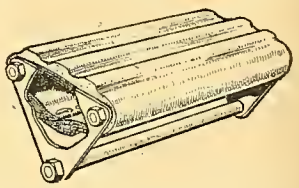


A neat fastening for a light mudshield

plains a simple idea for a legshield, which applies particularly to a Triumph. Obviously, the height to which the shields may be raised depends on the strength and weight of the metal used, since no top support is employed.—T.W.

Simply-made Footrests.

INEXPENSIVE and useful footrests may be constructed from the simplest materials if the plan illustrated be followed. Each rest is simply made of

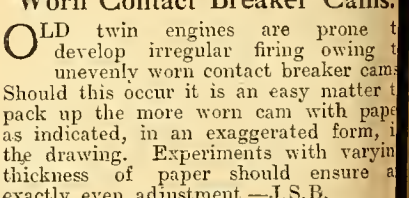


Utilising a section of discarded tyre for constructing or re-covering footrests.

three rods and two triangular end-plates the rubber portion being a length of discarded tyre laced taut over the upper two rods.—P.F.B.

Silencing When Required.

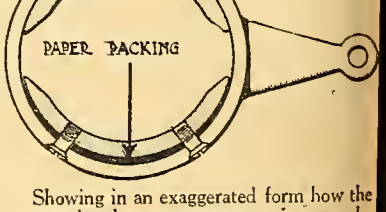
AS there are numbers of machines about nowadays fitted with open exhausts, it is rather convenient to be able to quieten the note down for town work, or passing restive animals etc. The device illustrated consists simply of a butterfly valve in the exhaust pipe.—C.H.H.



Simple baffle for long exhaust pipes.

Worn Contact Breaker Cams.

OLD twin engines are prone to develop irregular firing owing to unevenly worn contact breaker cams. Should this occur it is an easy matter to pack up the more worn cam with paper as indicated, in an exaggerated form, in the drawing. Experiments with varying thickness of paper should ensure an exactly even adjustment.—J.S.B.



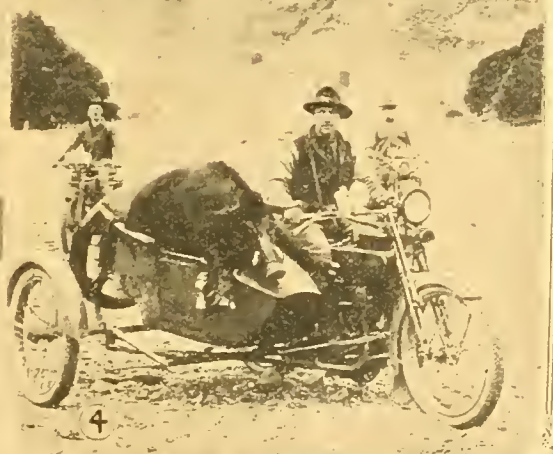
Showing in an exaggerated form how the contact-breaker cams on a twin may be evened up with paper packing.

Scenes from Four Countries.



(1) Motor cyclists who have toured the Continent will be familiar with the picturesque bullock waggons which frequently caused a halt on the narrow roads. A Triumph outfit in a village of the French Alps.







(2) A pretty scene on the banks of Loch Long. In both Scotland and Wales the mountain sheep are surprisingly tame. The sidecar is an A.J.S.

(3) A pastoral scene in Warwickshire, the county of wooded lanes and old-world cottages. A Brough Superior sidecar awaits the leisure of the shepherd with his flock.

(4) A Californian scene. A Harley-Davidson bringing home the spoils of the hunt, a well grown wild boar.

Lightweights for Hard Service



In the Elan Valley near Rhayader.

Through a Big Trial on a 350 c.c. Two-stroke.

Some Random Jottings from a Pressman's Log.

FOR some time past the writer has accompanied a number of important trials on a variety of machines; the selection of the mount, however, always inclining to something of fairly high power—in most cases, indeed, a sidecar outfit being used.

Although a pressman engaged on a reliability trial may not be condemned to adhere to strict averages, his work compels him to be at a number of places *en route* at definite times. The start, lunch stop, and finish are all essential points of interest where information is to be gleaned, while the chief of the observed points must also be attended whilst the bulk of the entry pass so that the majority of performances may be seen and compared.

Qualms, at the Start.

This sort of work demands a machine at once reliable, speedy, and controllable, so that the choice of something with an ample reserve of power and seldom worked up to its capacity is a foregone conclusion. A machine which *might* fry innumerable sparking plugs on a hard blind, which *might* consume gallons and gallons of petrol, which *might* fail on every hill, and which *might* dry up on three-mile low-gear mountain crawls, would distinctly not do for the job.

Now, there are plenty of people ready to say that small air-cooled two-stroke engines will play all these disconcerting tricks, and that engines of this type over 250 c.c. may be even cursed with still greater frightfulness. Judge then the writer's alarm when, allocated to the recent Western Centre two-day trial in Wales, his own hefty single was hung up on the railway at the eleventh hour, a general transport strike was in the air, and the only machine available was a 350 c.c. two-stroke, so new that it was doubtful whether its bearings had been run in.

According to all reports the trial was to be, in the American tongue, one of the "worst ever" (it was!), and with the whole staff looking on dolorously a start was made from Coventry, with lightest possible equipment (in pockets) in readiness for running alongside and an extra two gallon tin of "juice" on the carrier just in case the strike happened and supplies for the homeward journey were stopped.

Astonishing Economy.

The journey from Coventry to Hereford is a good main road run of sixty-five miles, and on arrival inspection revealed that just over a half-gallon was needed to bring the spirit up to its previous level in the tank. 110 m.p.g. And a time for the journey which would not bear investigation! Surely the critics of two-strokes must be astray somewhere!

Description of the actual trial need not be given here, for it was thoroughly dealt with in the issue of April 14th. Thanks to the good petrol consumption, the spare tin on the carrier was not called upon, except to help out one or two unfortunate competitors; indeed, during the course of the two days the writer came to be known as "the gentleman with the green can," but whether the name was prompted by gratitude or irritation at his slow, wobblesome, and impeding progress on certain sections where he was determined neither to get on nor get out, despite the fact that schedule time was being lost, is not known.

Top Gear Climbing.

However, as for hill-climbing, the 350 c.c. two-stroke certainly proved its worth; on a 6½ to 1 top gear it accounted for the greater part of such hills as Caio, Stay-a-Little, Panne Hill (near Garth), and the direct Llanrhystyd-Lampeter road. In the trial itself only two two-stroke machines were really in the running, and both deserve mention for their performances; one, a 2½ h.p. Connaught, lost time, but a 350 c.c. Beardmore-Precision, driven by T. B. G. Vale, plodded along consistently, and finally came home to

Lightweights for Hard Service.—

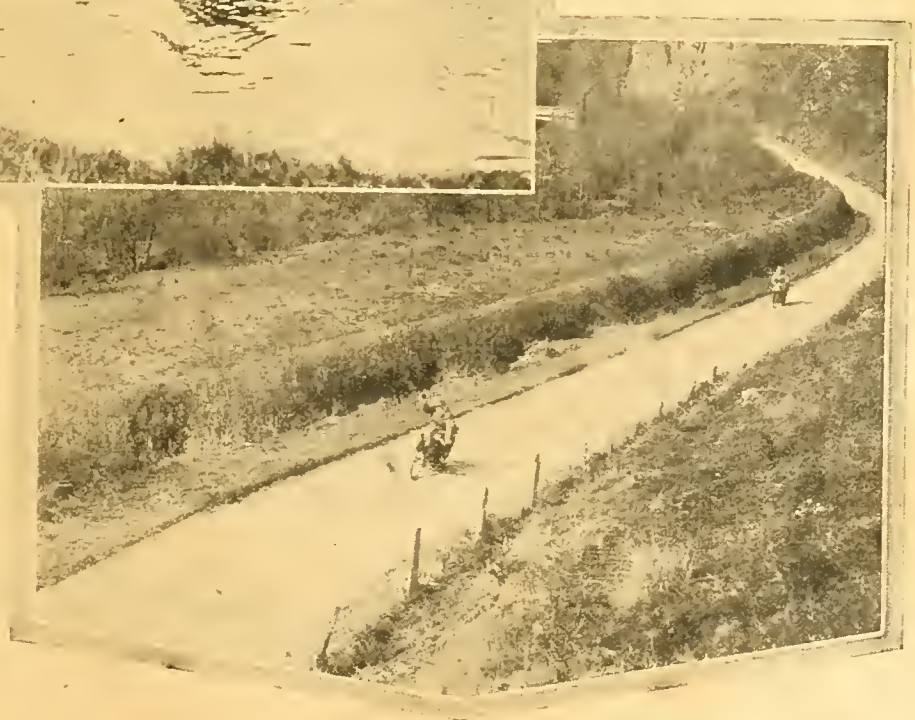
earn a "gold." Other air-cooled two-strokes in the trial fell out, it is true, but none of them apparently from causes or defects said to be peculiar to the type of engine.

Watersplash Stories.

In watersplashes (except those with footbridges!) the chain-drive fitted to our 3 h.p. Ivy (the cat is out now!) was appreciated, for it was agreed that one observed river-crossing was indeed like a certain competing camouflaged American car—a sporting Ford, but some belt-drive entrants would not see the joke.

Another amusing experience befell the writer when plugging up the apparently endless winding slope from Dyffryn Castell on the road to Llanidloes. A ten-knot breeze was blowing down from Plynlimmon, and far ahead a car could be seen proceeding slowly upwards, perhaps doing "15" on second. Slowly overhauling it at perhaps 18 m.p.h., it was alternately sighted and lost to view as the road twisted and turned, then rounding a further bend it still remained hidden, but a round object was merrily bounding down the pass; it was a hat, scudding merrily before the breeze. Instinct prompted an attempt to meet it with the front wheel, but second thoughts pictured the owner's chagrin at receiving the wreckage of a battered velour—presumably it was from the car in front. Next round the bend came a lady, running gamely, but not the most gallant of sports would have backed any fancy but the hat in that curious race. Nothing for it, brakes on hard and off the machine just as the hat went by. No joke sprinting downhill with legs stiffened by 150 miles freak trials route; can the hat be caught before it goes over the edge at the next bend? Yes! Just missed it. No! Over it goes, down the valley on the side of Y Glog (that's a mountain!) and it looks as though it will go with the wind as far as Devil's Bridge. Excellent; it was caught between Tyn-y-ffordd and Yspytty Cynfyn (notice local colour!), then a painful climb back on to the high road, where the hat was returned to grateful owner, compliments exchanged, and once more on the track of that confounded trial. It meant a really hard blind to catch up, but no plugs were "fried," and the pocketful of spares were not wanted. Fie upon the old trials rider who vowed before we left Hereford that all the plugs would be used before lunch stop on the first day!





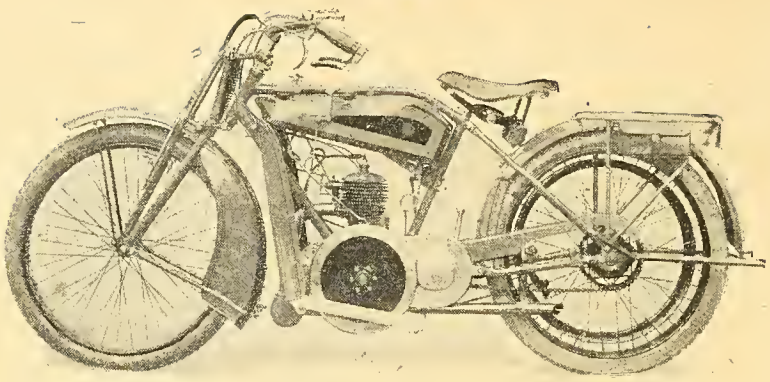
A MODERN TRIAL—CONTRASTS IN "ROAD" CONDITIONS.

In the Western Centre trial in Wales, all kinds of roads were encountered. Here are shown two extreme samples on which time might be lost and gained respectively. The picture at the head of the article conveys an idea of the loose slaty surface peculiar to the country.

Lightweights for Hard Service.—

And there were no more incidents worth mentioning, except "adjusting" a dented back rim with a boulder as big as a 56 lb. weight—and that didn't necessitate opening the tool bags; so for purely solo riding over any sort of roads or over the top of Plynlimmon, where, as the soldier said of Sahara, "there's miles and miles of sweet nothing at all," the 350 c.c. two-stroke seems to be the very 'bus, having all the power needed, yet weighing little enough to be in no way tiring to handle.

In view of the top gear performance and lack of speed on low, however, three speeds would seem desirable.



The writer of the accompanying article found that a 350 c.c. two-stroke was capable of accomplishing a strenuous trial. This is the 3 h.p. two-speed Ivy which he used.

A TRAILER CARAVAN.

A Light Collapsible Outfit to Accommodate a Family Sidecar Party.

WHETHER it is the "cost of living" in boarding houses or a love of the open air born of experience during the war, it is a fact that camping and caravanning have become very popular of recent years. There are several excellent trailer caravans—replete with every convenience—designed for towing behind a car. There are also many self-contained motor caravans to be found in secluded glades during the summer months, but, so far, the motor cyclist interested in a holiday in the open has had to be content with a tent.



The caravan shown erected. Sleeping accommodation for two adults and two children is provided.

Mr. Archie Cocks, the Beardmore-Precision competition rider, has now introduced a trailer caravan for motor cyclists, and as the cost approximates to that of a sidecar attachment (*i.e.*, about £40), it seems to offer possibilities of which many motor cyclists may take advantage.

One's first thought on examination of the illustrations is that the weight will be a severe handicap for any but the most powerful machine, but this can be dismissed, since Mr. Cocks tows one behind a 350 c.c. Beardmore-Precision sidecar.

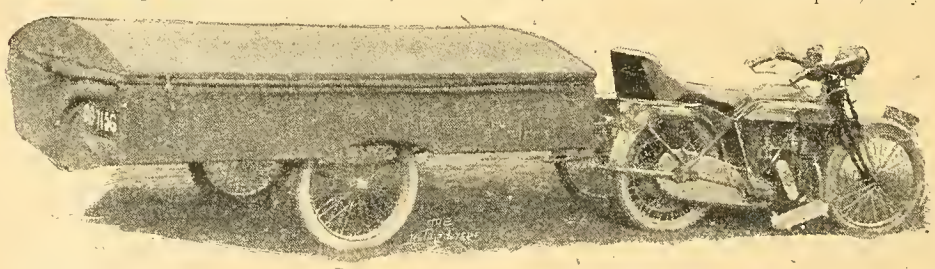
Long distances in a short time would not be covered with a caravan in tow—for the caravanner is an easy going individual as a rule, and as he carries his house with him he can stop to sleep wherever he pleases.

Sleeping Accommodation for Four.

The overall dimensions of this trailer caravan are 7ft. 6in. × 5ft., and when collapsed its height is about level with the back of the sidecar. With the roof raised—an operation which takes about five minutes—there is 6ft. headroom and sleeping accommodation for two adults and two children.

Two hinged upholstered beds are fitted, which in the day-time form seats on each side, and four folding legs support the body. As will be seen, there are two celluloid windows, and the back flap can be adjusted to any desired opening.

The outfit is far from being merely a tent on wheels. The "top" is constructed of durable hood material, so the weather "bogey," which so often deters would-be campers, may be dismissed.



Following "car campers'" practice, we have now a motor cycle trailer that holds the complete camping equipment. This is one of a fleet that will soon be available for hire in North Wales.

Arrangements are in hand whereby a fleet of these caravans will be available for hire in Wales—a project which may appeal to those who wish to experience the joys of motor cycle caravanning before investing in one for themselves. Mr. Cocks's address is Clwydfa, Aberdovey, N. Wales.

OVERSEAS SECTION

A Commentary based upon Practical Experience and a Study of Overseas Opinions.

British Motor Cycles Popular.

THE undoubted popularity of British motor cycles Overseas, and, everything considered, the satisfactory export figures for the past year, go to show the possibilities of motor cycling abroad. Our foreign mail bag each week echoes the preference for British machines in every market. Quality must come first in out-of-the-way corners of the world where so much depends upon reliability, and our manufacturers are adopting the right policy in refusing to export motor cycles built to a price.

What is being done, however, is only a small percentage of what could be done if British manufacturers gave the same attention to Overseas riders as to those nearer home.

An impression after perusing the many letters we receive from our distant readers, is that it is not uncommon for these riders on the frontiers of the Empire to ask themselves whether British manufacturers are doing everything in their power to encourage Overseas trade. An oft reiterated complaint is that manufacturers constantly omit to mention prices in their announcements.

A reader in Nigeria supports other correspondents whose complaints on this score have been published in our "Letters to the Editor," and points out that in places like Nigeria a motor cyclist interested in an article has to wait perhaps ten weeks to obtain a quotation. On receipt of this it may be another two weeks before there is an outgoing mail, and then a further ten weeks or more to obtain delivery. By this time the need for the article may have passed. In any case, one can appreciate the tendency to be apathetic regarding anything the delivery of which may be fully six months ahead.

We presume our correspondent is referring to accessories, but, in any case, it seems to be a point well worth the consideration of those who would foster Overseas trade.

Many are the difficulties of manufacturers catering for Overseas motor cyclists, and "trade" opinion seems to be divided as to whose wishes are to be fulfilled—the rider's or the agent's. At the present time, no doubt, sales departments are chiefly interested in the man to whom they sell their goods, *i.e.*, the trader, leaving it to that individual to interest the rider. Conditions vary so much in different countries that it is impossible to make a rule applying to all, but the opinion is prevalent that the particular requirements of the thousands of keen motor cyclists scattered Overseas wherever roads of any kind exist do not receive the detailed consideration that their numbers merit.

There also appears to be a tendency for manufacturers to resign themselves to the present unfavourable rates of exchange, and to wait until they improve. We have recently met Overseas buyers who maintain that prices of complete motor cycles abroad could be made more favourable if they were decided by the manufacturer instead of by the agent. This, of course, is a matter for the industry to decide and,



33 M.P.H. FOR 9½ HOURS OVER COLONIAL ROADS.

The finish of the recent race from Durban to Ladysmith and back, held by the Natal M.C.C. On a 7-9 h.p. Harley-Davidson and sidecar, C. C. Smith covered the course of 310 miles in 9h. 36m.—a good performance considering the nature of the course. P. Flook, a former winner, again won the solo class on a 2¾ h.p. Douglas.

Overseas Section.—

after all, those with the most at stake should be better able to fix a policy than the onlooker.

Another Overseas reader firmly asserts that most of the export business comes automatically to manufacturers without very great effort to themselves, the reputations gained in the home country and the keenness of the rider abroad to follow British events being responsible. If greater efforts were made to bring British motor cycles before the notice of motor cyclists and potential motor cyclists in the Dominions and Colonies—our correspondent affirms that there would shortly be at least two to every one British motor cycle at present in use. The manufacturer is directly in touch with the riders of his product in this country, and it is thought that a good purpose would be served abroad by permanent or periodical direct representation.

A Selection of Letters from Readers scattered all over the World.

Spring Frames for Desert Work.

Writing from Mesopotamia, LIEUT. C. P. GUISE suggests the fork girder position for the licence holder. In this respect he has anticipated popular fancy in this country. Continuing, he says :

"I brought a 4 h.p. Coulson B three-speed out to this country with me, and find the spring frame wonderful for cross-desert work. The engine, of course, is magnificent as regards smooth running. Only when the engine is up against a stiff pull does it thump like the ordinary four-stroke single.

"I take in *The Motor Cycle* each week, and it helps to pass no end of dull hours."

A Comprehensive Ideal.

MR. E. H. PRESTON THOMAS, New Zealand, writes : "As I was unable to visit Olympia, your Show Number was of exceptional interest to me. There seem to be a great number of useful fitments on the new machines, but very few of them have a great many improvements. I have amused myself by making out a list of the different components I should like to have fitted on my 'ideal' motor cycle.

"ENGINE.—4½ h.p. horizontal twin, as in Humber.

"GEAR BOX.—Ariel type ; change speed lever as on 4 h.p. Douglas.

"CARBURETTER.—Automatic, one lever.

"MAGNETO.—Lucas Magdyno.

"TRANSMISSION.—All-chain, in oil bath, as on Sunbeam.

"BRAKES.—As on A.B.C.

"CYLINDER HEADS.—Detachable.

"TAPPETS AND VALVE SPRINGS.—Enclosed.

"SILENCER.—Largest possible.

"SHOCK ABSORBER.—On engine-shaft sprocket.

"LUBRICATION.—Mechanical.

"KICK STARTER.—With exhaust valve release cam, as on Matchless.

"WHEELS.—Interchangeable, including sidecar wheel.

"TYRES.—Dunlop 28×3in.

"FRAME.—Back part Raleigh springing, front as on A.B.C.

"STANDS.—Front, as on B.S.A. ; back, as on Sheffield-Henderson.

"HANDLE-BARS.—As on Bat-Jap.

"TANK.—Round, as on N.U.T. or Bat.

"TOOLBAG.—As on Zenith.

"UNDERSHIELDS.—As on Cedos, to turn up in front of footboards.

"MUDGUARDS.—As on 6 h.p. B.S.A. ; back guard to have bottom shield like front one, and to be jointed for easy tyre repair, as on Abingdon King Dick.

"SPEEDOMETER.—To drive direct from gear box.

"SIDECAR.—Bulbous back, to open from outside, box under car for golf clubs, mudguard on side of body, not on chassis ; screen as on A.J.S. sidecar.

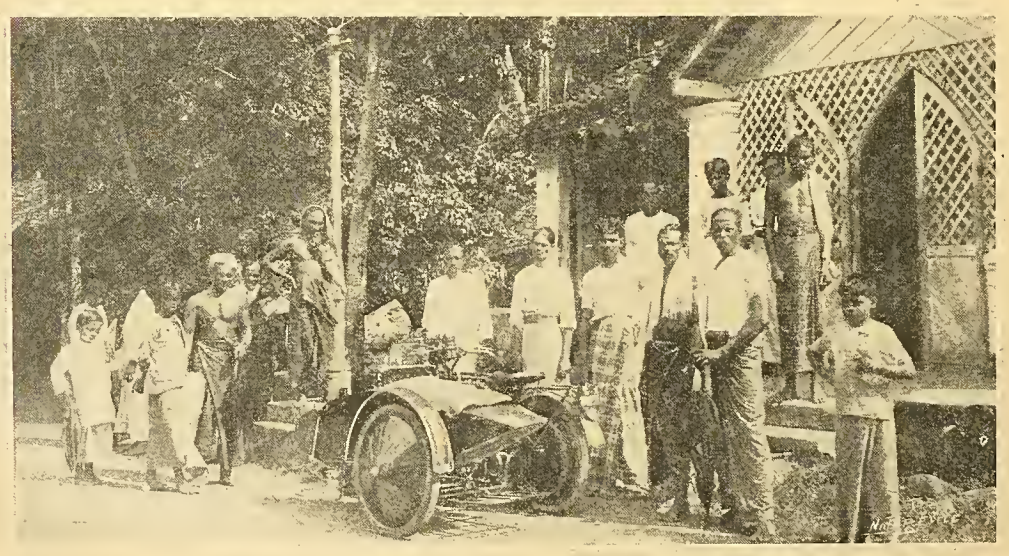
"GROUND CLEARANCE.—Not less than six inches.

"I am an ordinary rider, with an hour or two at odd times during which I can ride ; hence my insistence on good mudguarding. It is very irritating, after a few miles' run in a shower of rain, to have to spend an hour or so cleaning one's machine."

Holiday-making in the Sahara Desert!

That there might be worse places for motor cycles than Algeria is the opinion of Mr. G. N. BELL. But fancy spending one's holidays in the Sahara! He writes :

"The number of motor cyclists in this country is very small, and my friend Mr. Lester and myself came quite a sensation in the interior when out touring on our B.S.A.'s. It is marvellous what surfaces a motor cycle will stand up to. This holiday we have been out into the Sahara Desert, for a distance of 300 kilometres, and without a hitch, too. The only English machines available here are B.S.A. and Triumph, so choice is very limited. The French machines, in my opinion, are almost useless for hard work. I have owned two previously and discarded them with disgust. Roads are very good all along the coast districts, but a bit rough as one goes inland, and eventually dwindle away to mule tracks. If some of your crack 'six days' men did a few of the stunts we perform sometimes they would consider the A.C.U. event an amusement only!"



It would be easy to inscribe this photograph as illustrating the interest that the native population of Ceylon take in a modern sidecar outfit. It is too obvious, however, that the native gentlemen are more interested in the photographer than the sidecar. The building in the background is a petrol station on the main Kandy-Colombo road, and the machine an 8 h.p. Zenith, regarding which its owner, Mr. K. de B. Smart, who sends us the picture, expresses great satisfaction.

T.T NOTES AND NEWS.

This Year may Prove the Vexed Question—Side-by-Side versus O.H.V. Engines. Rumours of Remarkable Speeds.





IN seven weeks' time the T.T. races will have been won and lost. Small wonder that the engine experts are now having a busy time.

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As is usual, there is an atmosphere of mystery surrounding the experimental departments of most of the firms who are vieing with each other for the Blue Riband of the motor cycle world.

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Over a hundred entries have already been received by the Auto Cycle Union, and it is not at all improbable that the list will close with an extra twenty-five.

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Never has such secrecy been exhibited by manufacturers in regard to T.T. machines, and particularly engines. Most of the large entry have their plans well forward, but few definite T.T. designs are available for review.

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Those who were disappointed that the lessons of the war were not discernible in last year's T.T. will have no cause to complain this year, we fancy. Four-valve engines, cylinders of cast iron and steel, and some with aluminium shroudings are in preparation.

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The Motor Cycle has been privileged to inspect several very advanced T.T. designs, but no details can be divulged at present, without committing a breach of confidence.

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Many applications have already been received from agents all over the country for *The Motor Cycle* service of Tourist Trophy telegrams. Interest in this year's event, according to custom, promises to far outstrip the remarkable interest in the Blue Riband event of former years.

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One regrets that the event will not have a truly international character. One hoped to see a team of Swiss riders on the latest that M.A.G. can produce. An Italian team was also expected.

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A number of firms have already been over the course in the Isle of Man, in order to try out the engines in preparation for *the* event.

The Nortons will be standard machines, and as road-worthiness is as important as super-speeds, they should have a good chance. That is not saying that Nortons are not fast—they are probably the speediest mounts obtainable by the public to-day.

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A day or so ago G. E. Stanley was at Brooklands with the prospective Triumph T.T. riders, and our track correspondent intimates that the new 500 c.c. Triumph machines are remarkably fleet.

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To encourage the development of lightweight motor bicycles, a valuable silver cup (to be won outright) is again offered by *The Motor Cycle* to the winner of the 250 c.c. class in the Junior T.T. Race. Last year, R. O. Clark, riding a 250 c.c. two-stroke Levis, won our award.

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Last year, it was possible fairly accurately to forecast the winners. This year, however, there are several "dark horses" embodying much that has been learned by aero engine designers during the war.

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As to whether the scientifically perfect engine will beat the type evolved from practice remains to be seen. Certain it is that some o.h.v. engines are not proving their superiority over the side-by-side types. The o.h.v. Jap, for one, does not appear to have come up to expectations, and it has been practically decided that the side-by-side valve system will be adopted for the races.

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In the meantime several riders have been over to the Island, and as a result there are the usual rumours of men who have broken all lap records in the early hours of the morning, notwithstanding the necessity to open gates on the mountain section.

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Every keen rider will be sorry if the new Bradshaw oil-cooled engine is not represented in the T.T. From all reports there is doubt on this score at the moment, for, apparently, a positive drive is necessary with so powerful an engine. Belts, it was discovered last year—ask Duggie Alexander!—have a limit.

T.T. Notes and News—

The B.S.A. Co. has had a full year in which to experiment, as the machines entered were designed for last year's event, but withdrawn in view of the fact that it was appreciated that a racer cannot be produced in a day. From all accounts they are exceedingly fast, and are of the o.h.v. type.

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The Rover, too, have something "especially fast." Of late years the Rover name has not been associated with speed events, but results of recent experiments leave little doubt that the new racing Rovers will give a good account of themselves.

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The Velocette designers are busy on their T.T. machine, which will be ridden by George Denley, while the Levis is reputed to have a good chance for the 250 c.c. class award with a 65 m.p.h. machine.

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Indian T.T. machines are already in this country, and they are reputed to be even faster than last year, when insufficient time was available for them to be tuned up.

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Recent performances—and last year's T.T.—bring the o.h.v. A.J.S. and the Sunbeams among the prime favourites, while the new o.h.v. Douglas mounts are not to be overlooked.

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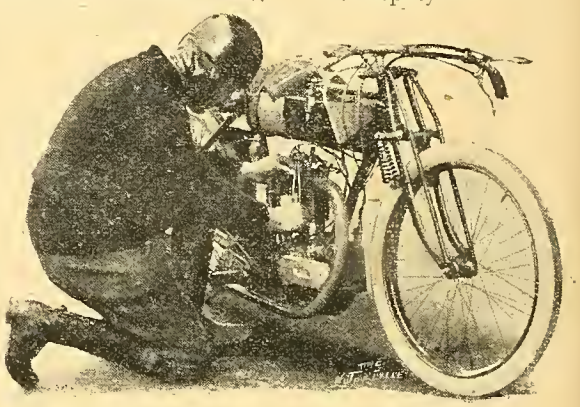
Last year the 350 c.c. Blackburne came near to winning the Junior event—finishing second and third. This year it will have an overhead valve engine—one has already appeared at Brooklands.

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Coventry does not intend to allow Birmingham and Wolverhampton to have all the honours as last year. The racing Triumphs are among the "dark horses," and, despite the veil that has been over his activities in recent years, Stanley is still a potentiality to be watched.

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An agent who has entered the T.T. now finds that he will not be able to ride. The machine will be in readiness, and the entry has been made and fee paid, and there is an opportunity for an ambitious rider with the necessary qualifications to take his place. Arrangements can be made for the free use of the manufacturer's garage and tuning shop in the Isle of Man, and the only expense to which the rider would be put would be personal hotel expenses. Letters to the Editor on this subject should be marked clearly in left hand corner of the cover, "T.T. Deputy."



PRELIMINARY TUNING FOR THE T.T.

Following up their success in last year's T.T., Messrs. Burney and Blackburne have produced a new o.h.v. engine for the Junior event. Here is shown E. Remington, of the Blackburne staff, "tuning" the machine at Brooklands.

A "Mystery" Mount at Brooklands.

The Lighter Side of a Serious Matter.

MOST people think that the professional racing motor cyclist spends his time laboriously tuning an engine to obtain colossal speeds, practising with that engine, or setting out long and complicated mathematics involving all the powers of calculus in search of the reason for things.

In reality the life has its lighter moments. Take, for example, a matter which even now convulses the trade. A certain firm, having an eye to the Tourist Trophy, has two engines, one the product of scientists, the other of its own racing man. Of these engines one is so secret that the employees go about saying "hush," and walking tip-toe in felt slippers. Both engines recently were taken out for a track trial. Now, certain unbelievers, rivals and humorists combined, no sooner learned of the arrival of this new engine than they laid plans to find out all about it. True, the machines to which the engines were fitted were taken to the far side of the track accompanied by draughtsmen, highbrows, mathematicians, and experts with water cooled slide rules, to say nothing of *the* racing rider and another of his kin to ride the "Hush" machine.

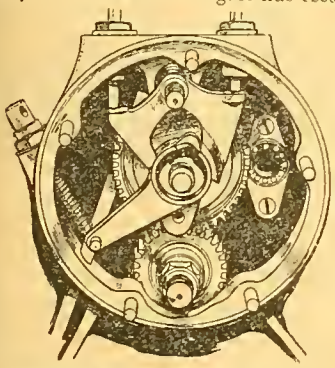
Suddenly the roar of an exhaust broke the stillness of the air. Never before had such a crackling note been heard. Then every blade of grass seemed to hide a peering figure, while the morning air resounded to the click of stop watches. This effectually prevented a full-power trial and somewhat annoyed the works staff. But worse was in store, for machines of rival-makes appeared suddenly from the paddock and their riders, making speed, attempted to get level with the "Hush" machine in order to obtain a glimpse of the engine and its special features. This was defeated, for no sooner did one of the inquisitive range alongside than the new machine was pulled up, leaving the others to career at 70 m.p.h. into the blue. Then came one limping along on a racing motor cycle with a tyre flat—flat, so 'tis said, because its valve had been unscrewed—the rider came to the side, stopped and walked towards the secret lair, piteously soliciting the loan of a pump. Instantly the staff ranged in a thick group around the jealously guarded engine, so this came to naught. But the tests were not final, so the position of both sides is "as you were." Once again silence reigned at Brooklands, broken only by the murmurs at rival conferences.

Further humour is added to a situation already funny, because after all this, the professional racing rider eased his soul of its pent-up feeling to the assembled and delighted populace. Meantime the staff chased press photographers who kept occurring, accidental-like, near the "Hush, Hush."

J.A.P. ENGINES FOR THE T.T.

Improvements in Engine-cooling and Valve Mechanism.

FOR the T.T. races the brains of the technical department of Messrs. J. A. Prestwich and Co. are pinning their faith to what are practically standard engines with side-by-side valves. Not that the overhead valve engine has escaped their attention, but the winning of a road race needs more than sheer speed. The credit of the making of the fastest lap avails the rider but little if his mount is no stayer; and it is consistent running *combined with speed* which wins the race.



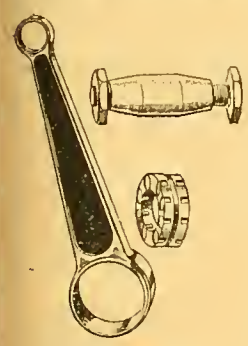
Simplicity is the keynote in the design of the 2½ h.p. J.A.P. engine timing gear.

For the Junior event there is a 70×90 mm. (346 c.c.) single with an entirely new valve gear, the valves themselves being of exceptionally generous dimensions.

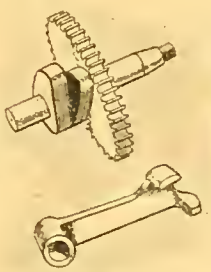
Adequate cooling is assured by the size of the radiating fins. A new position has been found for the sparking plug behind the engine and at a slight angle to its horizontal plane. This has been proved by experiment to give better results than the more conventional location, and also to eliminate pre-ignition. A really bad plug, which refused to give any satisfaction at all in the inlet cap, ran for 10m. 32s. in the new position, and allowed the little 2¾ h.p. engine to develop 7.75 h.p.

Quite the most remarkable feature of the engine, however, is the simplicity of the timing gear. There are only two gear wheels, the larger of which carries the inlet and exhaust valve cams. The small gear wheel on the main shaft is mounted on a taper and held by a key, but has three keyways so spaced that a fine adjustment, equal to a variation of one-third of a tooth, may be obtained if desired. The tappets are adjustable, and the valve guides are a push fit in the cylinder, while experiments are being made towards the adequate lubrication of the valve stems, which has always been a difficult problem.

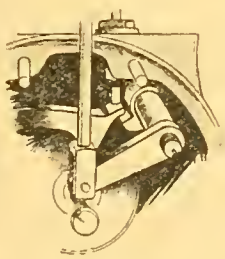
There is a ball bearing on the pulley side of the engine, while the connecting rod has double roller bearings so as to reduce friction to a minimum. The gudgeon pin is a press fit in the aluminium piston, and is prevented from scoring the cylinder by means of brass caps.



Roller bearing connecting rod of the 2¾ h.p. J.A.P. engine.

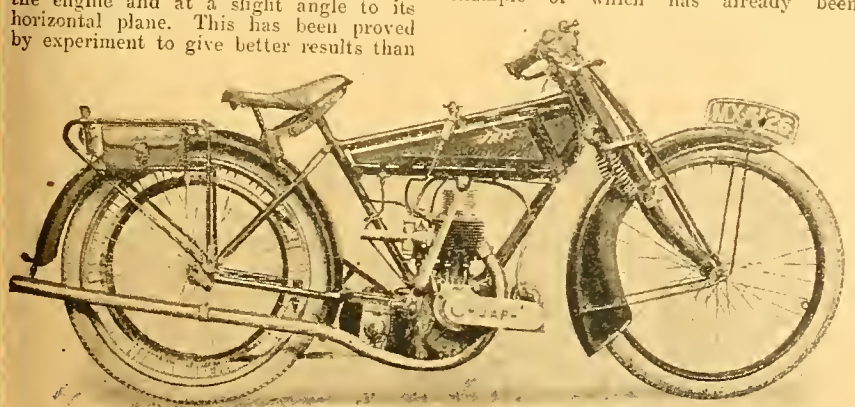


Cam, pinion, and exhaust valve rocker arm of the 2¾ h.p. engine.

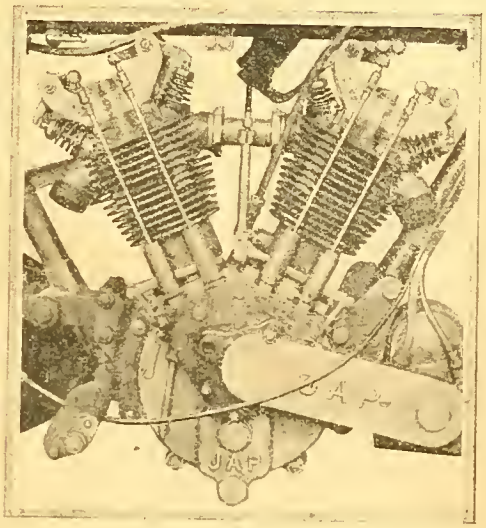


The 2¾ h.p. J.A.P. engine exhaust lifter.

Closely resembling the 350 c.c. engine, there is also a 250 c.c T.T. single, an example of which has already been

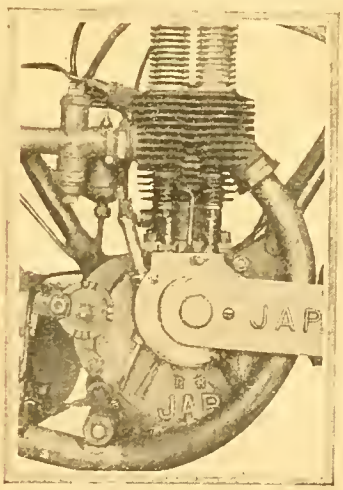


The 2½ h.p. Diamond "flyweight" fitted with Sturmey-Archer two-speed gear. A competitor for *The Motor Cycle* lightweight trophy.



An experimental six-valve engine. The two inlets face one another; the two exhausts are on the outside of the engine. Though Messrs. J. A. Prestwich have experimented with the multi-valve engine, they are pinning their faith to the simpler pattern for the T.T. races.

mounted in a Diamond machine. It is of 64.5×76 mm. (249 c.c.), modified so that both tappet levers pivot on one bearing. The exhaust valve lifter pivots from the



The 250 c.c. Class T.T. engine, fitted with large hexagon valve cap collars. In the actual race they will probably be bronze.

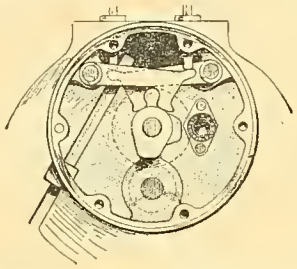
centre of the timing case, which, incidentally, is of malleable iron on this unit.

This little engine should have a good chance in the 250 c.c. class for *The Motor Cycle* Trophy, which, last year, was won by a two-stroke.

It must be distinctly understood that the T.T. engines described are intended only for these races, and will not yet be available to the general public.

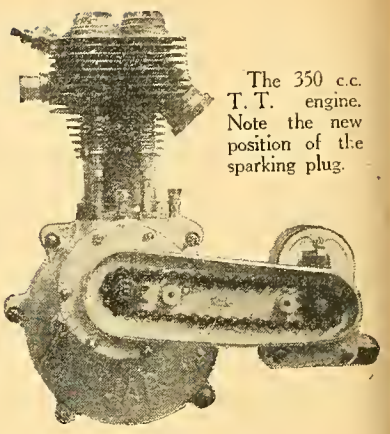
J.A.P. Engines for the T.T.—

One engine we saw which will not figure in the T.T. is worthy of mention, as it shows the up-to-date methods of the experimental department, which is in charge of an expert who, as well as being thorough, scientific, and modern in his research, is also a well-known rider. This was a six-valve twin with two exhaust and one inlet valve in each cylinder. The exhausts were actuated by double-fingered rockers; a detachable head was fitted, surmounted by a ribbed aluminium cap so as to aid cooling. Like all J.A.P. twin engines, it had the cylinders set at an angle of 50°.



The new timing gear of the 2¾ h.p. J.A.P.

On the occasion of our visit, we were particularly impressed with the thoroughness displayed in the experimental department, whose chief had devised, among other things, a special machine for testing the firing angle of magnetos, and had disclosed faults in the design of more than one magneto of well-known make. Every engine sent in for repair is tested under power and has to drive a fan, which also directs a cooling blast on the cylinder walls.



The 350 c.c. T. T. engine. Note the new position of the sparking plug.

B.M.C.R.C. REVISES ITS RULES.

Sidecar Passengers Defined. Thirty Yards Limit for Assistance in Starting. Brakes must be Fitted in Races.

THE British Motor Cycle Racing Club, which is, of course, the leading motor cycle racing organisation in Great Britain, has now compiled a set of racing rules, some of which are distinctly novel.

For the first time a passenger is defined as a person of not less than sixteen years of age, and weighing not less than 132 lb. Any divergence in weight may be made up by the use of ballast.

A Register of Engines.

A new rule is to the effect that every entrant must state on his entry form the club register number of the engine of the motor cycle which he desires to enter, and the name of the person who is to drive it. The object of this rule is to prevent, as has happened in the past, unknown riders being entered on special racing machines belonging to well-known competitors, perhaps so as to obtain favourable betting odds or a better handicap.

The entry in the register must state the bore and stroke of the engine and such other particulars as may be required. Every engine so registered will carry its club registered number sealed to the cylinder, and alterations in the dimensions or any other particular of any engine as entered on the register would render the entry void. No motor cycle having the engine so altered can take part in any competition until application has been made for re-registration.

Brakes on Racing Mounts.

Readers will remember the controversy which reigned last autumn over the question of the fitting of brakes to racing motor cycles; and the new B.M.C.R.C. rules make it obligatory that every motor cycle taking part in any race other than an attempt on record must have an efficient rear wheel brake.

Throughout a race the motor cycle must be propelled by its own power, and competitors may not pedal, paddle, or push at any time, except a competitor whose motor cycle is disabled before the finish of any race may by his own unaided muscular energy get his motor cycle across the finishing line, and will then be considered to have completed the race.

In all sidecar races a passenger must at all times keep his body from the hips down within the body of the sidecar, and his head and shoulders must be exposed and visible from the judges' box.

It is quite evident that these carefully-drawn-up rules will do much to protect the interests of competitors.

PRICES OF SECOND-HAND MOTOR CYCLES.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

MAKE, H.P., AND DATE.	CLASSIFIED PRICES.	AVERAGE PRICE.
A.B.C. 3 h.p., 1920	£85, £95, £110	£97
Abingdon 5-6 h.p. sc., 1920	£130	—
A.C.E. 8 h.p., 1920	*£210	—
Acme 8 h.p. sc., 1920	£150	—
A.J.S. 6 h.p. sc., 1920	£155, £170, £170, £180, †£180, †£185, £200	£177
Allon 2¾ h.p., 1920	£65, £70	£68
Ariel 3½ h.p. sc., 1920	£105, £110, £110, £110	£109
Bat 6 h.p. sc., 1920	£155, £170	£163
Blackburne 4 h.p., 1920	£110, £110	£110
Blackburne 4 h.p. sc., 1920	£139	—
Blackburne 8 h.p., 1920	*£140	—
Bradbury 4 h.p., 1920	£95, £130, £140	£122
B.S.A. 4 h.p. s.c, 1920	£120, £120, £125, £125, *£127, £130, £130, †£130, £140	£127
Calthorpe-Jap, 2¾ h.p., 1920	£55, £60	£58
Cedos 2¼ h.p., 1920	£60	—
Cleveland 2¾ h.p., 1920	£70	—
Clyno 2¼ h.p., 1920	£45, £60	£53
Coulson-B. 2¾ h.p., 1920	£70, £70	£70
Coventry Eagle 2½ h.p., 1920	£60, £70	£65
Diamond 2½ h.p., 1920	£50	—
Douglas 2¾ h.p., 1920	£68, £85, £85, £95	£83
Douglas 4 h.p. sc., 1920	£105, £125, £130	£120
Edmund-Jap 2¾ h.p., 1920	£60, £65, *£70	£65
Enfield 8 h.p. sc., 1920	£140, £150, †£160	£150
Enfield 2¼ h.p., 1920	£55, £60, £65	£60
Harley-Davidson 7-9 h.p. sc., 1920	£160, †£160, £170, £180, £184, *£205	£177
Harley-Davidson 4 h.p., 1920	£112, *£140	£126
Henderson 10 h.p. sc., 1920	£160, £175, £190	£175
Hobart 2¾ h.p., 1920	*£65	—
Humber 4 h.p. sc., 1920	£155	—
Indian 7-9 h.p. sc., 1920	†£145, †£155, †£160	£153
Indian 4 h.p., 1920	£115	—
Invicta 2¾ h.p., 1920	£70	—
James 5-6 h.p. sc., 1920	£130, £145	£138
James 2¼ h.p., 1920	£50	—
Lea-Francis 3½ h.p., 1920	£80, £88, £122	£93
Levis 2¼ h.p., 1920	£50, £58	£54
Martinsyde 6 h.p. sc., 1920	£144	—
Matchless 8 h.p. sc., 1920	†£155, £160, £165, †£175, †£175, £180, †£180, †£185, †£190, †*£190	£176
Metro-Tyler 2¼ h.p., 1920	£50, *£70	£60
New Hudson 2¼ h.p., 1920	£48	—
New Imperial 8 h.p. sc., 1920	£150	—
New Imperial 8 h.p. sc., 1919	£140, £155	£148
Norton 4 h.p., 1920	£110, £115	£113
Norton 4 h.p. sc., 1920	£155	—
N.U.T. 3½ h.p., 1920	†£115, †£130	£123
O.K. 2½ h.p., 1920	£55	—
P. & M. 3½ h.p., 1920	£94, £100, £105, £120	£105
Quadrant 4¼ h.p. sc.	£90, £125	£108
Rex 5 h.p. sc., 1920	£120	—
Rover 3½ h.p. T.T., 1920	£85, £90, £105	£93
Royal Ruby 8 h.p. sc., 1920	£180	—
Royal Ruby 3 h.p., 1920	£105	—
Rudge 3½ h.p., 1920	£73, £75	£74
Rudge 7-9 h.p. sc., 1920	£115, £115	£115
Scott 3½ h.p. sc., 1920	£125, £140	£133
Scott 3½ h.p., 1920	£100, *£130	£115
Sun-Vitesse 2¼ h.p., 1920	£60, £65	£63
Sunbeam 3½ h.p., 1920	£125, £130, †£150	£135
Sunbeam 3½ h.p. sc., 1920	£160, £165, £165	£163
Sunbeam 8 h.p. sc., 1920	£235	—
Triumph 4 h.p., 1920	£99, £100, £100, £108, £110, £120	£104
Triumph 4 h.p. sc., 1920	£110, £120 £120, £140, £160	£130
Velocette 2¼ h.p., 1920	£65	—
Verus 4 h.p., 1920	£80, £82	£81
Wooler 2¾ h.p., 1920	£74, £80	£77
Zenith 8 h.p. sc., 1920	£145, £150	£148
Zenith 5-6 h.p., 1920	£100, £110	£105

*Unused. †Dynamo lighting.

Comparative Motor Cycle Performances.

A Paper read before the I.A.E. on a Subject of Interest to all Motor Cyclists.

(Continued from page 501.)

In fig. 15 are curves for a 350 c.c. two-cycle engine of popular make. The horse-power curve A was issued by the manufacturers in their advertising matter.

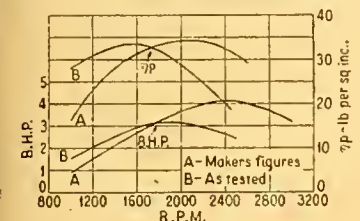


FIG. 15.—350 c.c. TWO-CYCLE ENGINE. Power curves.

The author was not surprised to find that the engine was not really as bad as it was painted by its makers, for test of one which had done a thousand or so miles gave the results plotted in curves B in fig. 15. As a matter of fact, the early speed droop on the B curves is probably due in part to the fact that the engine was tested in the condition in which it finished its road work.

A few interesting figures are obtainable as a result of analysis of various speed performances, an assumed value being taken for the tractive resistance, on the basis of the figures given in Table III. For example, the record-breaking 7-9 h.p. Indian which, ridden by Le Vack, recently did 95 m.p.h. on a declared gear of $3\frac{1}{16}$ to 1, must have been producing an ηp of 91 lb. per sq. in. at 3,500 r.p.m. —an excellent figure for a side-valve engine, but not at all abnormal. The $3\frac{1}{2}$ h.p. Norton, with O'Donovan up, did 83 m.p.h. on a gear of $3\frac{1}{16}$ to 1, which means an ηp of 99 lb. per sq. in. at 4,000 r.p.m. A $2\frac{3}{4}$ h.p. Douglas, with overhead valves and steel cylinders (pre-war type), was stated to give a maximum of 13 h.p. at 5,000 r.p.m., which means 96.5 lb. per sq. in. ηp at that speed. A $3\frac{1}{2}$ h.p. Sunbeam, giving $14\frac{1}{2}$ b.h.p. maximum at 4,250 r.p.m., shows 89 lb. per sq. in. These figures, of course, are not the maximums for ηp, since the maximum horse-power is not reached until the mean effective pressure has fallen off considerably.

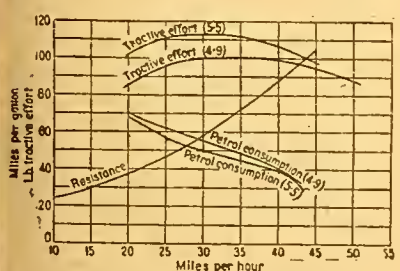


FIG. 16.—6 H.P. B.S.A. OUTFIT.
Tractive effort and resistance curves
No windscreen fitted.
Gross weight, 950 lb.
$R = 20 + 0.042v^2$.
Gear ratio, 4.9 to 1 and 5.5 to 1.
Maximum speed by curves = 42¾ m.p.h. (4.9).
" " observed = 43 m.p.h.
T.E. curve obtained from engine test.
B.S.A. carburetter.

To take a different type of engine, a $3\frac{3}{4}$ h.p. Scott was recently clocked at 69 m.p.h. Assuming the revolutions to be 2,500 per minute, which is a reasonable figure for a two-cycle engine, the brake mean effective pressure would be 48 lb. per sq. in. on the gross volume, or 60 lb. per sq. in. on the nett volume, assuming the latter to be 80% of the gross. On the other hand, the pre-war Singer machine, which for a considerable time held the hour record in the 350 c.c. class at 62.68 m.p.h., was geared $4\frac{7}{8}$ to 1, and was, therefore, doing substantially 4,000 r.p.m. for the whole hour. This gives an ηp of only 71 lb. per sq. in.

Lastly, the little $2\frac{3}{4}$ h.p. A.J.S., which has made such sensational sprint performances, is said to give $13\frac{1}{2}$ h.p. on the brake. Unfortunately, the author has no idea of the speed at which this is developed, so it can only be said that if the speed is 5,000 r.p.m., the ηp is 100 lb. per sq. in.; if 4,500 r.p.m., 112 lb. per sq. in.; or if 4,000 r.p.m., it is 125 lb. per sq. in. In any case the figures are remarkable enough.

Road Performance.

In fig. 16 the power curve given in fig. 12 for a 6 h.p. B.S.A. engine has been converted into tractive effort curves, assuming the top gear ratios of 4.9 and 5.5 to 1, which are the extremes of the range fitted by the B.S.A. Co. as standard. The tractive resistance curve is also shown, and it will be observed that this cuts the Te curve for the 4.9 gear at $42\frac{3}{4}$ m.p.h., and for the 5.5 gear at $43\frac{3}{4}$ m.p.h. These speeds, as a matter of fact, agree almost exactly with the author's observations on the road. Lest it be thought that this particular combination is unusually slow, it may be as well to point out that it can only attain a maximum possible speed of 44 m.p.h., for, at this speed, the resistance horse-power is exactly equal to the maximum horse-power produced by the engine. To give this, a gear of 6 to 1 is required if no wheel slip is allowed for, so that in all probability 5.5 to 1 is about the fastest possible gear on the road.

The Harley-Davidson engine, the power curve for which is given in fig. 11, with its maximum of substantially 18 h.p. at 3,100 r.p.m., would do just 51 m.p.h. against the same resistance, and would need to be geared 5 to 1. Since it is improbable that any ordinary touring engine produces more power than this example of the Harley-Davidson, it may fairly be said that 50 m.p.h. is about the upper limit of speed for a fully equipped touring combination with large sidecar and screen. Reduction of the v^2 factor in the resistance formula will, of course, increase the maximum possible speed very considerably.

To return to fig. 16, the lower curves represent the probable petrol consumption of the B.S.A. 6 h.p. combination at various road speeds, as calculated from the bench tests and the tractive resistance curves. It will be noticed that the higher gear gives an advantage of about 5 m.p.g. over most of the range, although at the upper and lower limits the difference is not so great. These consumption curves, which agree very well with road results, show the immense importance of keeping the speed low if petrol economy is an object, since, while the consumption may be 68 m.p.g. at a steady 20 m.p.h., it increases to 50 m.p.g. with an increase of speed to 30 m.p.h., and to 39 m.p.g. if the speed be increased to 40 m.p.h.

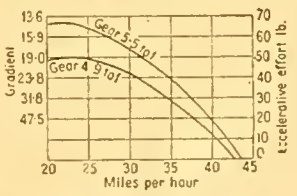


FIG. 17.—6 H.P. B.S.A. OUTFIT.
Acceleration and climbing capacity.
Gross weight, 950 lb.
Curves obtained from T.E. curves.

The liveliness and climbing power of the machine are obviously represented by the space between the Te and Tr curves, and fig. 17 shows this on a horizontal base. The ordinates to the curves in fig. 17 represent the excess tractive effort available at the speeds concerned, and, therefore, represent the accelerative effort or climbing capacity of the vehicle at each speed. The considerable advantage gained by the use of the lower of the two gear ratios is at once evident. On the 4.9 gear, a steady gradient of 1 in 19 can just be climbed, while on the 5.5 gear the maximum is 1 in 14.2—a very great improvement, which more than outweighs the slight increase in petrol consumption.

The tractive effort curves on all three gears of the same combination are given in fig. 18, together with the resistance curves on various gradients. The maximum gradient climbable on top gear is, of course, 1 in 14.2, as shown in fig. 17,

Comparative Motor Cycle Performances.—

while on the second gear 1 in 8 is just possible, and on the first gear something steeper than 1 in 4 is covered. It will be noticed that if maximum climbing speed is desired, it pays to change down from the top to the second gear at 30 m.p.h., and from the second to the first gear at about 20 m.p.h.

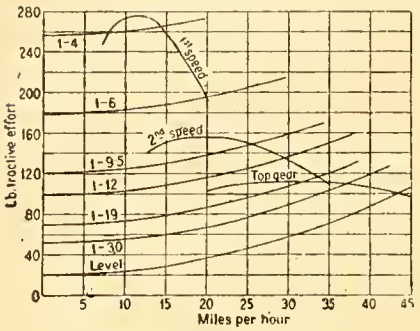


FIG. 18.—6 H.P. OUTFIT.
Tractive effort and resistance curves.
Gear ratios, 5.5, 8.5, and 13 to 1.
Gross weight, 950 lb.
$R = 20 + 0.042v^2$.

The performance of the 4½ h.p. B.S.A. combination on all gears is described graphically in fig. 19. The curves are plotted to show what the author calls the accelerative ratio on the three gears of 5.5, 8.8, and 14 to 1 respectively at all road speeds. The accelerative ratio is merely the accelerative force of fig. 17 divided by the gross weight of the machine.

Since the maximum accelerative ratio on top gear in fig. 19 is approximately 0.08, the maximum gradient climbable is 1 in 12½, while as the curve cuts the zero line at 43 m.p.h. this is obviously the maximum speed. The second gear capacity is just short of 1 in 6, while on the first gear 1 in 3.2 is possible.

The same machine solo is described by fig. 20, in which the full line curves represent the performance of the machine on gear ratios of 4.75, 7.6, and 12.2 to 1 respectively, the gross weight being

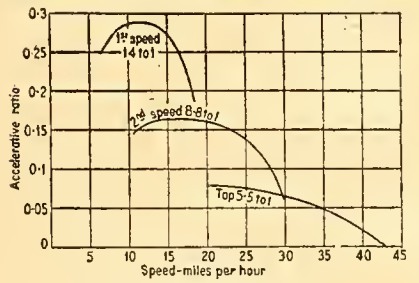


FIG. 19.—4¼ h.p. B.S.A. OUTFIT.
Acceleration curves.
Gross weight, 780 lb.

taken to be 440 lb., and the rider presumed to be sitting bolt upright in the conventional, but decidedly uncomfortable, touring position. The power curve used is the full line in fig. 14, which represents the results obtained from the standard engine.

Returning to the top gear curves, the dotted curve represents exactly the same machine with the gear raised to 4 to 1, and the rider adopting a semi-T.T. position. The chain curve is for the top gear performance of the high compression engine of which the power curve is given in fig. 14, with the rider in a full racing position and a gear ratio of 3¾ to 1.

Car v. Motor Cycle.

Taking first the engine, the motor cycle engine is, as a rule, of a somewhat lower compression ratio than the average car engine, and its ideal ηp is, therefore, correspondingly lower, while its ideal consumption is a trifle higher. In making comparisons, therefore, it is necessary to allow for this difference in compression ratio, and for this purpose the author has prepared the curves in fig. 21, which show the variation of ideal ηp and consumption with varying ratios of compression. These curves are based on Ricardo's proposed standard of attainable ideal efficiencies, and, while their exact accuracy may be of a doubtful order, their shape is certainly sufficiently nearly correct for purposes of comparison. From page 121 in the same volume the author has extracted particulars of a

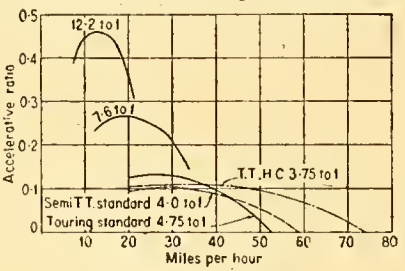


FIG. 20.—4¼ H.P. B.S.A. (solo).
Acceleration curves.
Gross weight, 440 lb.

number of car engines, as given in Table IV. At the bottom are given figures for certain of the motor cycle engines already mentioned :

TABLE IV.

Engine.	R.	Actual ηp. lb. per sq. in.	Ideal ηp. lb. per sq. in.	%
20 Daimler	4.6	88.7	118	75.0
6–30 Daimler	4.6	90.7	118	77.0
4–30 Daimler	4.5	87.8	117	75.0
6–45 Daimler	4.5	87.5	117	74.8
16–20 Napier	4.5	83.0	117	71.0
A Wolseley	4.1	77.0	112	68.8
C Wolseley	4.1	81.0	112	72.3
M Wolseley	4.1	79.0	112	70.5
20 Vauxhall	4.5	85.0	117	72.6
20 Vauxhall PH ..	5.0	104.0	121	86.0
25 Vauxhall PH ..	4.5	90.0	117	77.0
4½ B.S.A. standard	3.52	83.0	103	80.5
4½ B.S.A. HC	4.0	93.0	110	84.5
6 B.S.A. standard	3.6	82.0	105	78.0
8 Harley-Davidson	3.7	83.0	106	78.0

It will be seen from these figures that motor cyclists have no need to be ashamed of the performance of their engines. The motor cycle engines quoted are by no means of special design; yet their performance is better than that of any car engine in the list except the 20 h.p. Prince Henry Vauxhall, which was a special high efficiency engine.

A comparison of petrol consumptions is more difficult, since the author has not the data respecting the performance of car engines to enable a real comparison to be made. One example may, however, be taken. In Mr. Pomeroy's last paper*

* See Proc. I.A.E., Vol. XIII., p. 163.

a large number of petrol consumption figures were given, the best result obtained on the standard side-valve engine being 0.71 pint per brake horse-power per hour. This engine has a compression ratio of 4.8 to 1, its ideal consumption from fig. 21 being 0.54 pint. The actual is, therefore, 1.32 times the ideal. The 6 h.p. B.S.A., on the other hand, has a compression ratio of 3.6 to 1, and its ideal consumption is, therefore, 0.63 pint against an actual consumption of 0.78 pint per brake horse-power per

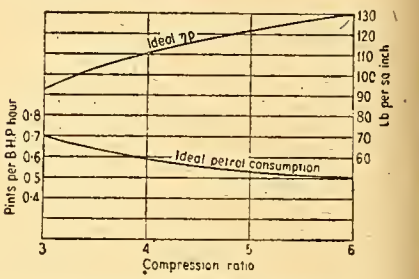


FIG. 21.—RICARDO'S IDEAL ENGINE PERFORMANCE.
See Proc. I.A.E., Vol. XIII., page 120.

hour at the most economical point. The actual in this case is, therefore, 1.24 times the ideal. The 4¼ h.p. B.S.A. gives 0.8 pint against an ideal of 0.635, or a ratio of 1.26, while with a hot air pipe fitted the consumption actually falls to 0.7 pint per brake horse-power per hour, which is only 1.1. times the ideal.

From these few figures it does not appear that the petrol consumption of the motor cycle engine is other than good.

Ton m.p.g. Comparisons Wrong.

The reason for the failure of the ton-miles per gallon system as a basis of comparison is surely obvious. It is quite useless to compare the performance of different types of vehicles on a standard which acknowledges weight only, when the deciding factor in the resistance to motion is not the weight at all, but the wind resistance. Until, therefore, a formula is devised which will incorporate the v^2 resistance factor as a basis of comparison, the only reasonable method of making a comparison between dissimilar vehicles is that which the author has already used.

THE BELGIAN MOTOR CYCLE GRAND PRIX.

THERE appears to have been a rumour in Belgium that the Belgian Motor Cycle Grand Prix will not take place. This, however, does not seem to be the case, and several Belgian agents and makers have announced their willingness to take part. Among the makes may be mentioned the Spring (an interesting machine described in *The Motor Cycle* in our report of the Belgian Show in December), the Saroléa, and Indian (the Indian agent talks of securing the services of Le Vack and an English rider). The well-known Belgian agent, M. Taymans, hopes to enter several Triumphs. Another Belgian agent, M. Breslau, expects to enter three Nortons, while the M.A.G., Blackburne, and F.N. motor cycles will also be represented.



In the Traffic.

Some Notes on Driving for the Less Experienced Motor Cyclist.

MOTOR cyclists as a whole may be divided into three classes: those who learn to drive and become first-rate riders by the constant use of their brains, those who learn by bitter experience, and others who find it difficult to learn at all.

The first can motor cycle anywhere, are not obtrusive, and do not inconvenience or endanger other people, on or off the road. The second class are willing folk, but, through their own fault, often have a crowd around them at unfortunate times. The third class, however, are to be seen and known anywhere, because their very faults and habits make them conspicuous.

Any man of wisdom can see that road and traffic conditions are vastly more complicated than ten years ago, and that things generally are, so to speak, speeded up a very great deal. A motorist in Piccadilly in 1911 suddenly brought through the space of time to Piccadilly in 1921 would be amazed at the growth and hustle in traffic, although a person who had motored continuously through that period and had kept his eyes open probably would be equally aware of the change.

What to Avoid.

The beginner wants to avoid, at all costs, any early tendency or habit in driving which may spoil his chances of becoming a good rider, and some instances of what "not to do" in riding, etc., may be helpful in exposing obvious, and yet not uncommon, errors, and dissuade him from degenerating into the third class alluded to.

As a first example we may refer to the diagram fig. 1, which indicates a road with a side turning. A small body of women and perhaps a knot of children are stepping off the kerb at the corner to cross over to the other side. A motor cyclist turning into the side road sends the people back on to the kerb because he has not sufficient patience to wait until the women and children have safely crossed over. The right procedure in such a case is obvious; he should slow up and wait until the people have crossed over before turning into the side road; but often one sees the motor cyclist hoot loudly, and apparently try to take advantage of the fact that any person would step back under such rush tactics.

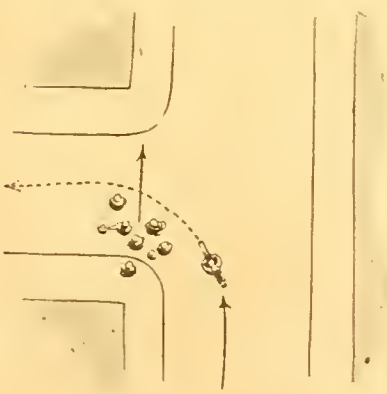


Fig. 1.—Do not be impatient to turn a corner when pedestrians are crossing.

Another example of bad form on the part of unthinking drivers is that shown in fig. 2. Trams are standing beside each other at some well-known tram stop in the main street of a town. A motor cyclist is proceeding in the direction as shown, and there is no chance of passing the tram on the off side owing to a traffic block on the other side of the road. It is Saturday morning, and the small body of shoppers are passing from the left-hand pavement to board the tramcar. The writer has often seen a rider in his hurry, and by making a very big fuss with his hooter, force a gap in the queue of people and pass through. (Be it noted, no policeman or traffic regu-

In the Traffic.—



Fig. 2.—No motor cyclist should force his way through a crowd entering or leaving a tramcar.

lator was present.) As in the previous case, the obvious and right thing for the motor cyclist to do was to have patience and wait until the people had boarded the car, and then proceed on his way.

Having given instances of inconvenience being caused to the public, we may now take a case showing how one motorist may cause risk to another. In the diagram fig. 3 is indicated a car proceeding along a main road on its correct side. A motor cyclist proceeding at a slightly faster pace in the same direction more or less suddenly decides to turn into the side road on the left-hand side; conforming with custom he puts out his left hand and suddenly pulls up the motorist to allow him to turn to the left. Such hasty and reckless procedure, again begotten by impatience, could be avoided by slowing up and allowing the car to proceed on its way before the cyclist turned into the side road.

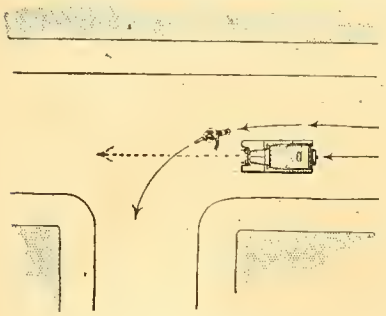


Fig. 3.—Do not cut in front of a car.

In the next illustration, fig. 4, is indicated a main road with central lamp standards and small islands at regular intervals. A motor cyclist proceeds along the road, and, by hugging the crown, passes each island within only a couple of feet. Another rider proceeding at a somewhat faster pace could not possibly pass the first machine under these circumstances, because it very often happens that the distance between the islands is too short to allow the second driver to overtake the first man. Of course, any attempt to pass to the right of an island in the centre of the road is unlawful. The moral in this example of bad driving is always to think of the man who might be coming up behind you and wishes to pass, and that any attempt to hug the crown of the road is selfish and unsportsmanlike.

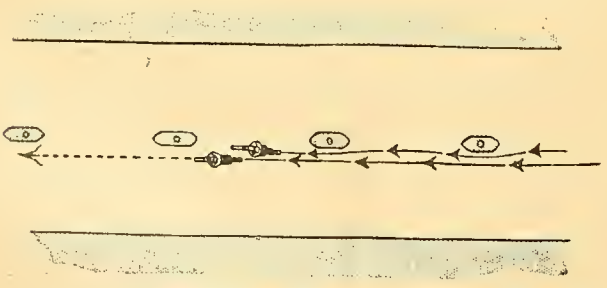


Fig. 4.—Any attempt to hug the crown of a road with central tram standards is selfish if a fellow motorist wishes to pass in the same direction.

In fig. 5 is shown one of those humped, narrow bridges one often finds in the country. If a rider should take this class of bridge at a blind, he runs the risk of having a crash with some car or vehicle coming over the bridge in the opposite direction, for the reason that in many cases he cannot be aware of vehicles approaching the bridge from the other side. Furthermore, it sometimes happens that the actual width of the bridge and its gradient are very deceptive, and where one might think that the width of a bridge is 25ft., it is in reality only 12 or 15ft. The dangers of taking such a bridge at a rush are immensely increased should the road bend sharply to the left or right on the other side.

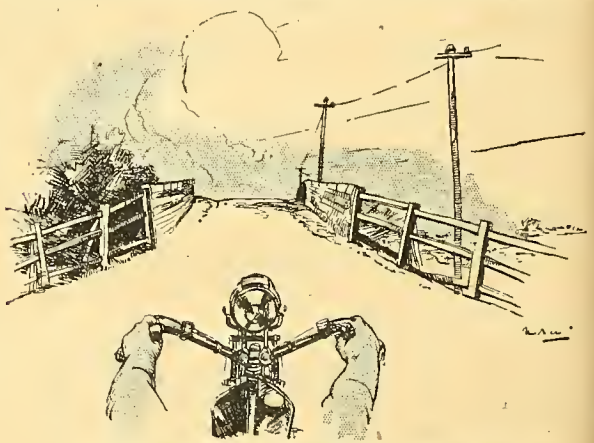


Fig. 5.—The rider who takes a hump back bridge at speed runs the risk of meeting a vehicle on the other side.

An incident of bad driving often seen is illustrated in fig. 6. A rider proceeding along a main road, for some reason or other suddenly decides to turn off to the road on the right-hand side. This decision may be accelerated by the fact that he has suddenly discovered the turning of which he is in search. A cyclist proceeding along the main road in the opposite direction is forced to turn into the side road as well, by the sudden action of the motorist, to avoid collision. Such interruption of the

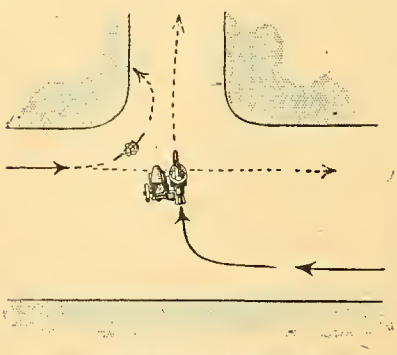


Fig. 6.—Do not make sudden dives into side streets—consideration is due to the traffic on the other side of the road.

In the Traffic.—

cyclist's course could have been avoided entirely by the motorist stopping and allowing the cyclist to proceed on his way, the point being that pedestrians, cyclists, and such folk should always be allowed priority in cases like these.

The risks of poor driving are illustrated in the next two diagrams. Fig. 7 shows a main road with a fairly complicated tramway system; the road surface and tram lines are very greasy, and the motor cyclist is proceeding up the road between the tram lines. The man who is slow in decision will invariably ride between the tram lines, and in order to avoid skidding, turns off the lines at the very worst spot, as shown by a cross.

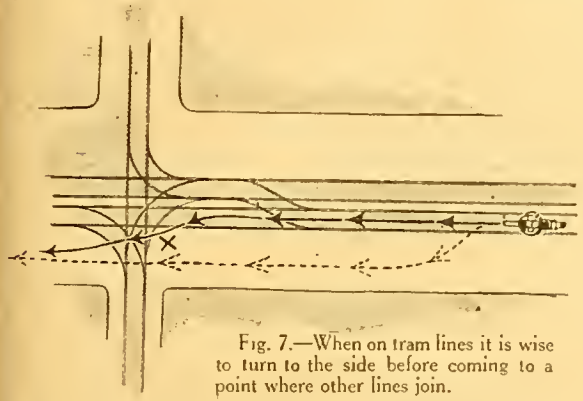


Fig. 7.—When on tram lines it is wise to turn to the side before coming to a point where other lines join.

The dangers of keeping up near to the rear of a tram are two-fold. There is always the chance of the tram pulling up very suddenly, with corresponding danger to the motor cyclist; while, as indicated in fig. 8, there is the risk of a collision with a tram proceeding in the opposite direction should the motor cyclist turn off to the right, and particularly if by chance the section of the road on the left-hand side of the oncoming tram should be blocked. The solution in such a case is to keep well to the rear of any tram at all times.

A Tip Worth Remembering.

In the next diagram, fig. 9, is shown a traffic stop on an up grade, with a string of stationary vehicles, and a motor cyclist at the extreme rear. In such a case the latter should always leave a few feet between

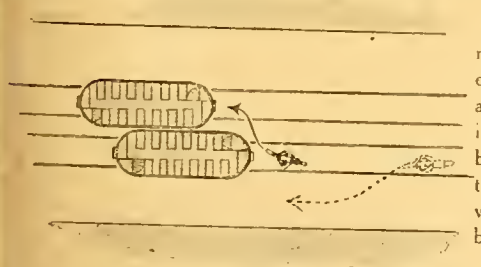


Fig. 8.—Do not follow too closely behind a tram. There is a risk that both sides of the railed vehicle may be blocked.

the vehicle at his immediate front, since, if each vehicle in the traffic stoppage should back down the gradient only a few inches, the sum total of movement may cause the last man's front wheel to be badly bumped.

Two more examples of thoughtlessness and the lack of consideration are shown in the remaining diagrams.

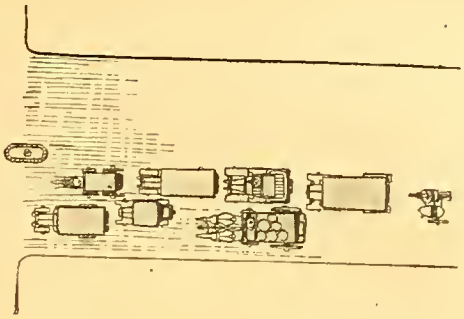


Fig. 9.—In a traffic stop on an up grade it is always safer to leave a few feet between one's machine and the vehicle immediately in front

The first is the case where a sidecar is left standing against the kerb opposite a big road obstruction on the other side of the road. The sidecar driver may have gone only into a tobacconist's for a few moments, but it is surprising how a machine under these circumstances can block the traffic in the road at a busy time; this is shown in fig. 10. One moment of thought simply shows that the sidecar should have been stopped at some spot on the road either at one or the other side of that section which is obstructed.

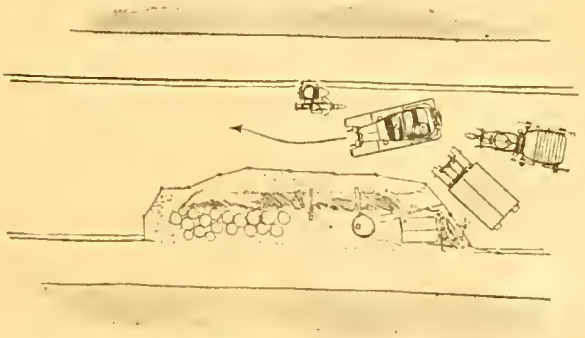


Fig. 10.—It reveals thoughtlessness to leave one's machine on the side of a partially blocked thoroughfare.

The last, and a very common example of pure carelessness, is the propping of a solo machine against the kerb of a path which happens to be very narrow. As seen in fig. 11, the width of the handle-bars and various projecting parts of the machine has at once the effect of reducing the available space for any pedestrians who walk between the machine and the shop at the sides; and, if it should be a very busy spot in the town, the machine, under these circumstances, will create a very considerable obstruction to pedestrians. A certain class of rider has a habit of doing this outside tea shops and cafés in seaside towns. The way out of the difficulty for the motor cyclist is simply to lift the machine up on its stand and to keep the handle-bars turned away from the passers-by.

The foregoing are only a few examples of how a thoughtless and foolish motor cyclist may either risk his own or the public's safety, and the remedy in each case is obvious.

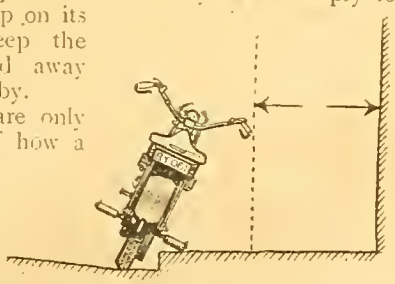
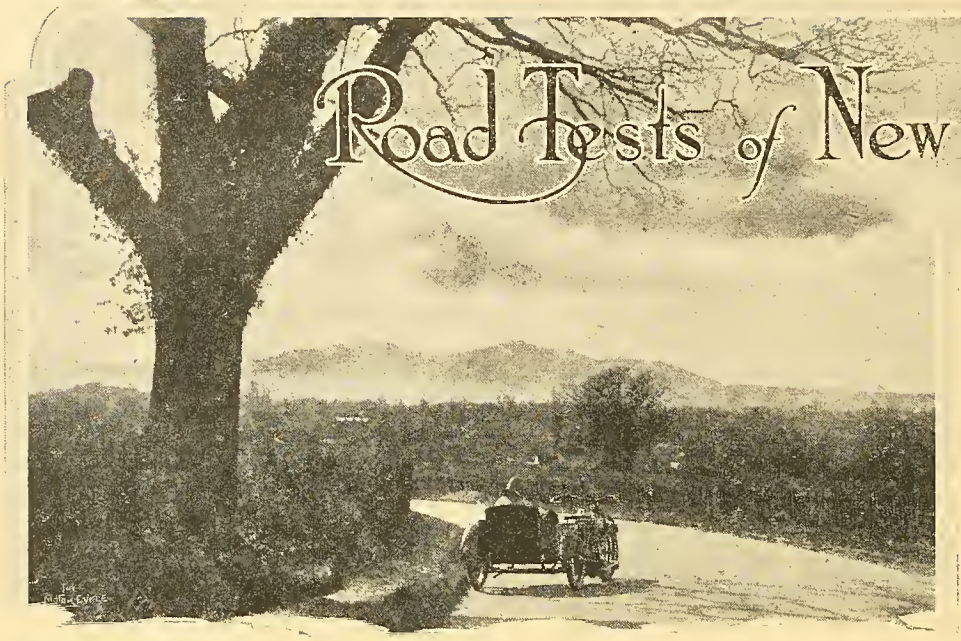


Fig. 11.—The handle-bars of a machine left leaning against the kerb will create considerable obstruction to pedestrians.

Road Tests of New Models



THE 8 h.p. ROYAL ENFIELD TWO-SPEED SIDECAR, WITH THE NEW VICKERS BUILT ENGINE.

TWO feelings uppermost in our mind when taking over the 1921 Royal Enfield sidecar outfit for a test run were curiosity regarding the new Vickers-made engine and a little uncertainty as to the possible difficulty of manipulating a lever-controlled selective two-speed "gear" after a long sequence of machines with handle-bar clutch levers and three ratios.

A remarkable point noticed about the machine when delivered was the wonderfully slow running of the engine, for it would tick over as slowly as will the engine of a lorry, each moment apparently coming to a standstill and then carrying over dead-centre in a way which mystified all who watched it. In the case of a two-speeded sidecar outfit, it is essential that the engine should have ample power, and, at the same time, be capable of pulling very slowly, since the clutch is not capable of the same delicate manipulation as one of the handle-bar controlled variety. In tight corners indeed a very complete range of responsiveness to the throttle is essential, for all "driving" is done on that control, and the method of driving "on the gears" must be largely forgotten.

A Flexible Engine.

Let it be said, then, that the Enfield outfit is equipped with an engine which gives smooth running at all speeds up to 40 m.p.h. (beyond that we did not go), dead slow pulling, a tick-over when idle, and very easy starting. Our test run included several "about town" journeys in the Midlands and one trip to Malvern and back; in all, probably 150 miles running, during which no adjustments or difficulties were encountered.

Owing to the total weight of the outfit being low when compared with the engine capacity, there is a delightful feeling of liveliness about the machine when driving on top gear; ordinary undulating main roads are flattened out to no small degree even on a 4½ to 1 top gear, and, as the engine is almost completely silenced at the exhaust and has only slight tappet noise, it gives a decided impression of effortlessness.

While at Malvern it was decided that the Old Wyche road should be attempted in order to form an idea of the climbing powers of the machine on its 9 to 1 low gear. As most modern three-speed sidecar outfits are geared about 14 or 15 to 1 on bottom, some little doubt was entertained as to the possibility of a successful climb, and, perhaps, in consequence of this pessimistic outlook, a failure was registered less than half way up, before the 1 in 2.9 crest was reached. Running backwards on such a hill is no joke, especially when the sidecar passenger is not used to "happenings" on freak gradients. However, the dummy belt-drum brake on the front wheel proved particularly effective, enabling the machine to be held while the driver dismounted. Turning round, it was decided to give the hill best and try something a little easier, so the new road to the Wyche Cutting was taken and then an attempt was made on the grass track to the summit of the Worcestershire Beacon.

Despite a violent head-wind, this climb was accomplished with the greatest ease, and, although the wind was too high to permit of standing upright on the

SPECIFICATION

ENGINE: V twin, Vickers-Enfield, 85 × 85 mm. = 965 c.c.
LUBRICATION: Mechanical. *CARBURETTER:* Amac.
TRANSMISSION: ⅝ × ½ chains. *MAGNETO:* Lucas.
GEARS: Enfield two-speed, selective.
TYRES: 700 × 80 mm. *WEIGHT:* 289 lb. (solo).
SIDECAR: Royal Enfield. *PRICE:* £160 (sidecar).

Road Tests of New Models.—

steps of the memorial at the summit, the eighty mile circle of prospect was enjoyed from various sheltered corners.

Descending again, it was considered impossible to leave the vicinity without having a second shot at the Old Wyche, especially after the performance on the Beacon, so another attempt was made, and, changing down early, a perfectly successful ascent was made—the difference in the two climbs being, in all probability, entirely a question of driver's *morale*. Being under the eye of the law, and the machine being equipped with the huge trade number plates (we felt like a tester on a surreptitious joy-ride), no delay was made to admire the scene of our triumph, and a quick run down to Worcester and so home to Coventry was made.



The Enfield, after making the ascent of Worcester Beacon. The sidecar is of goodly proportions, but not unduly heavy, and the springing, too, is excellent.

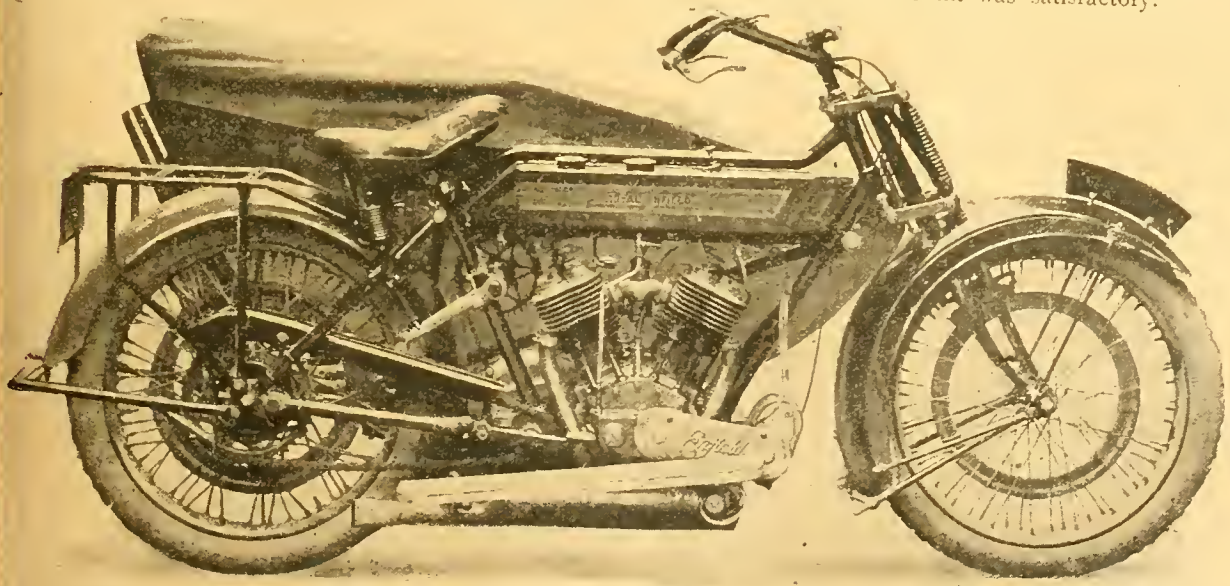
Petrol and Oil Consumption.

Many machines as delivered show shocking petrol consumption, but the Enfield did 50 to 55 m.p.g. throughout; being a new engine, however, the oil consumption was high, for the mechanical pump was set by the makers to give a slightly smoky exhaust and was not altered (for no instructions were provided)! Special praise must be given to the sidecar. Exceedingly well sprung, it has ample room for the average passenger, and the luggage accommodation is excellent. The placing of the tools in a drawer in the sidecar dash is also an excellent idea.

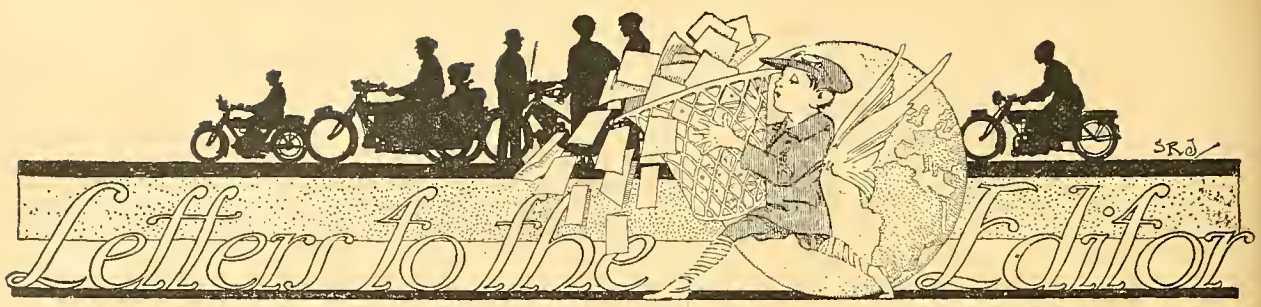
Regarding the machine itself, the same remarks on comfort cannot be applied to the particular one we sampled. Despite 700 × 80 mm. tyres, it was bumpy to ride, and something in the nature of a spring seat pillar would have been welcomed; the spring forks also appeared to work with extreme reluctance, though possibly further running would have eased the initial stiffness of the springs.

Speaking of the controls generally the clean appearance of the handle-bars is worthy of comment, the cables being concealed within the bars and no handle-bar clutch being fitted. The hand starter is easy to operate once the knack is acquired, but a certain amount of strength is needed.

Mudguarding is especially good, and, despite the fact that large tyres are reputed to be mudslingers, the cleanliness of the outfit was satisfactory.



One of the chief characteristics of the new 8 h.p. sidecar is the sweet running of the engine. A high average speed can be maintained without any symptoms of overheating.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

PRICES OF CARBIDE.

Sir,—I agree with "Carbide," who wrote, in a recent issue, that the price of carbide is disgusting, and wanted to know why we have to pay 1s. 2d. per lb. from the trader. I bought 1 cwt. of carbide "lumps," costing me 4¾d. per lb., including carriage. Now I should like to know where the difference comes in from 4¾d. per lb. to 1s. 2d. per lb. bought from the trader? DISGUSTED.

Cirencester.

EXCESSIVE ENTRY FEES?

Sir,—Most clubs at this time of the year are busy organising speed trials, etc. May I make the suggestion that, in the majority of cases, the entrance fees are rather high?

I feel sure that if the fees were kept down to a moderate figure the clubs would obtain much better entries and also would satisfy their own members. I sincerely trust that this will be considered by officials when arranging these matters. FRANK COLLARD.

SPEEDS—TWO UP.

Sir,—Your correspondent, M. Jean C. Watelet, states that on his 1914 Douglas (2¾?) he has travelled journeys of 125 miles, lady on carrier, at an average speed of 28.32 m.p.h.

I am neither a speed merchant nor a loiterer. On one or two runs from Sheffield to Aylesbury (about 125 miles) on a 2¾ h.p. Douglas, later than 1914, fitted with a speedometer (tested), often running 40 m.p.h., I find it takes me five and a quarter hours (excluding stops), which works out 23.80 m.p.h.

I take off my hat to one who could do the same distance, on a similar make, at an average of 28.32 m.p.h. with passenger on the carrier. I did not know it could be done. Most Douglases I know have a maximum speed of 55 m.p.h. under favourable conditions with one up (excluding T.T. models). To average 30 m.p.h. on the road one must often get up a 60-70 m.p.h. spurt [This is not so.—Ed.], and this average is rarely exceeded by high-powered touring cars on a road such as London-Portsmouth or the Great North Road.

Worksop. ECLIPSED.

CLASSIFYING COMPETITION RIDERS.

Sir,—Is not all this correspondence making a mountain out of a miserable mole-hill? Admitted that the amateur cannot compete with the trade man in speed events, I still fail to see what the former has to grouse about. In all open speed events, and in most club events, there are special classes for him; and if he wishes to try his hand in the open classes he knows what to expect. And as regards reliability trials, I think that very few regular amateur competitors feel that they are out of it—except when what amounts to a "fast hill-climb" is used to find a winner, and it always seems to me that this is not a legitimate feature. It is, I suppose, a matter of common knowledge among competition riders that, as far as riding ability goes, the *average* trade rider is a long way behind the amateur. It is only necessary to watch competitors on a really bad hairpin bend or "colonial" road to see the truth of this. I have been many times surprised, though I am so no longer, to see what thoroughly bad exhibitions of riding trade men, even those with international reputations, have given when confronted with really difficult surface, while comparatively unknown amateurs sail serenely by with feet on rests. There are, of course, brilliant exceptions; but in reliability trials the good amateur can compete on perfectly equal terms with the trade man, and if he does not get his fair share of awards he has only his own lack of skill to blame. The remedy is obvious. Do not squeal, but go and practise riding in a farmyard till you really can ride.

(Rev.) J. M. PHILPOTT.

POLICE PREJUDICE AND THE SWISS SIX DAYS.

Sir,—No doubt a few of us who know the feeling against motors in Switzerland (except in the French and Italian cantons) would be glad to hear that some guarantee has been obtained by the organising body from the Swiss police authorities.

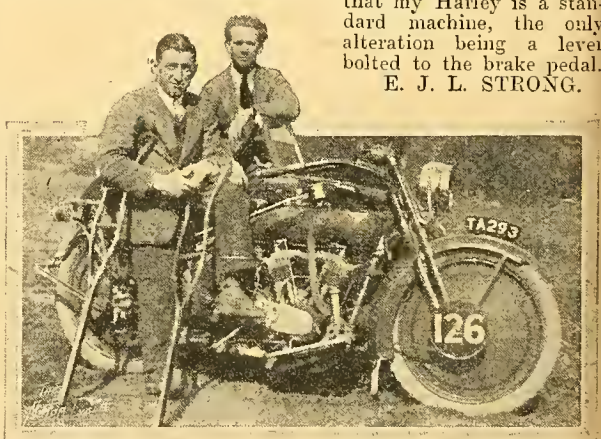
It should be remembered that a Swiss policeman has the power (and exerts it fully) to stop any motorist and fine him on the spot under the name of bail to appear at Court later on. South of Lac Léman (the lake of Geneva), where French is spoken, and south of the St. Gothard Pass, where Italian is spoken, all is well, but north of these points, where the German language and mentality rule supreme, the motorist is shown very clearly that he is not wanted. Speed limits of 4.5 kilometres (three miles) an hour on level lake-side roads bear witness to this, and these limits are no dead letter either, as one reports to the police on entering the section, and is given a time check to hand to the police at the other end. Kingston is a miracle of tolerance in comparison.

France is good enough for me when, like old John Gilpin, I wish to ride abroad. J. STUART WHITE.

GOLD MEDAL IN SPITE OF DISABLILITY.

Sir,—Perhaps the enclosed photograph of the Harley-Davidson on which I was lucky enough to win a gold medal in the "Land's End" may be of interest to other disabled men who are trying to decide on the choice of a mount. It says much for the ease and simplicity of control that my Harley is a standard machine, the only alteration being a lever bolted to the brake pedal.

E. J. L. STRONG.



A disabled rider who won a gold medal in the London-Land's End Trial on a Harley-Davidson sidecar, and made a good climb of Porlock Hill. This feat demonstrates the ease with which the modern sidecar is manipulated, but at the same time manipulation and driving alone cannot win London-Land's End gold medals. (See letter, Mr. E. J. L. Strong.)

TRACING TROUBLE BY A LITTLE LOGIC.

Sir,—"Ixion" has propounded some puzzling problems in mechanical troubles, but I fancy that the following would baffle even him.

My 4 h.p. single-cylinder sidecar outfit suddenly lost its tune after surmounting a stiff hill on second. There was no misfiring, no symptoms of carburetter trouble—just serious loss of power. Examination of every part disclosed nothing amiss, and I remounted, and went away again as well as ever. A few miles further on I had again to use second gear, and the trouble recurred. Again I tested everything, including compression, but all appeared in perfect order. Off I went once more (after taking the precaution to fit another plug), and all went well till I used second again, when the trouble reappeared. This time I started tabulating facts, which, naturally, led to an association of gears with the loss of power, but the gears seemed free enough, so I again resumed my journey and waited for the next change down. It came, but the trouble did not! Deductions wrong, O Watson! Nor did it recur after the next two changes down, but at the third it did it seriously. With a stiff wind and a hilly road before me, I was compelled to solve the trouble, and then I noticed that the exhaust valve tappet was suspiciously bright, as if it had been hammered by the valve. Yet the clearance was correct!

With the compression tap open I turned the engine round, but could not make the valve touch the tappet when down, nor could I make the tappet stick up. So I sat down and wrote in my notebook the following facts:

(1.) Trouble only after gear change.
(2.) Exhaust tappet being hammered.

Query: What connection between gear change and tappet?

Answer: Hand valve-lifter when change is effected.

But an inspection of the hand lifter revealed nothing wrong, so I determined to test it running. Again I went off in perfect style and waited for the trouble. It occurred right enough after changing down and changing back again to top, so, declutching, I left the engine running and carefully looked at the hand lifter. And, lo! I found the trouble. I was wearing a long-sleeved Cardigan, and a loop of the material was hooked on to the end of the wire where it comes through the handle-bar lever, thus preventing the wire from going back, and so holding the tappet up to the foot of the valve.

I may add that I usually lift the exhaust after throttling down to stop, and this allowed the loop to escape before I noticed it. I turned back my sleeve, and went on without any further trouble. G.A.

Northampton.

"IRREDUCIBLE MINIMUMS" IN CAMPING EQUIPMENT.

Sir,—I read with interest the article by Mr. H. Riley in a recent issue of *The Motor Cycle*. One is invariably struck by the difference of ideals held by several enthusiasts, and this is particularly true in regard to the "irreducible minimum" of equipment. I have no doubt that for your contributor's particular party the arrangement was perfect. My own ideal would be less camping and more riding. As regards equipment, I have found that even the tent can be dispensed with (provided there are no ladies in the party). In the summer I sleep quite comfortably in an oilskin suit, in colder weather in an oilskin covered sleeping bag. The only objection to this method is the discomfort of getting up and preparing breakfast if it happens to be raining; so I usually carry a special lightweight tent for use if the weather is unfavourable, otherwise I am off on the road at dawn with a minimum of trouble.

I have found the best cooking outfit to be an Army "billy" and a small blowlamp to take motor spirit. Strange as it may seem, however, in a long experience all over the country my greatest difficulty has been that of finding water. Good camping ground is easily found, but to find good camping ground with drinking water handy is *not* easy. If possible, therefore, a spare tin which can be filled on the road some time before settling down for the night should be included in the kit.

A little study of the map is of great assistance in finding good camping ground even in strange localities, and this brings me to my real reason for writing. What is the law regarding camping? Of course, I know the recognised method of requesting permission from the landowner and camping on his enclosed ground, but this has the objection of taking up considerable time. My own practice is to branch off into a by-road on which the hedges or fences are at some distance back from the road itself, wheel the bicycle up on the grass, and camp out in the shelter of the hedge. Suitable places of this kind are always easily found without trespassing, and, if the road is carefully selected, one may be there half the day without anyone passing, except occasional farm hands.

Only on one occasion have I been challenged. In a sparsely populated district in Oxfordshire, one day about 6 a.m., I was told to move on by the local constable. Possibly only half awake, I was too much taken by surprise to discuss the matter, and he did not wait. The others of my party say he muttered something about having had to move some gipsies earlier that morning, and could not make any distinctions. I have never been able to get an authoritative statement on this point, and shall be glad if you can give your camping readers a ruling.

I may add, even if illegal, only the suspension of my licence would make me give up camping, which I consider the perfect complement of a motor cycle holiday.

J. JAMESON.

[Generally speaking, camping by the roadside and on waste ground is illegal, and, although the law is not often enforced, it is much preferable to obtain permission from an obliging farmer.—ED.]

MECHANICAL OIL PUMPS IN COLD WEATHER.

Sir,—I hope I am not presuming too much in asking you to publish an account of two photographs which I enclose. My reasons for making this request are:

(1.) Shortly after the last Show you stated that the "Best" mechanical pump could not be classed as a pressure lubricator. This point was certainly dealt with in a short letter published in your issue of December 30th, but evidence of the photographs was not available at that time.



Proving that a mechanical oil pump functions in cold weather—a test of the "Best" mechanical pump referred to in the letter from Messrs. Best and Lloyd.

(2.) There appears to be a feeling amongst current opinion that mechanical pumps are not capable of passing oil in cold weather. An instance of this is found in Mr. David Tod's letter published on January 6th. I feel, therefore, that the two experiments we have just made are of sufficient interest, as bearing on the subject of mechanical lubrication for motor cycles, to warrant their publication.

The first photograph shows a Best and Lloyd mechanical pump delivering a very thick mixture of oil and vaseline. As a matter of fact, it was of the consistency of butter, and was specially prepared to test the efficiency of the pump. Some idea of its viscosity can be obtained from the shape of the heap below the drip. It will be seen that this is roughly of conical shape, measuring about 1½in. across and 1in. in height.

The other photograph confirms the positive qualities of the pump, which shows oil being delivered at a pressure of over 100 lb. to the square inch, so that there appear to be no grounds for thinking that mechanical lubrication is unreliable in cold weather when thick oil is used. R. D. BEST.

BEST AND LLOYD, LTD.

[The second photograph, which exigencies of space compel us to omit, clearly shows oil being forced out of the nozzle at a pressure, registered on an adjoining gauge, of 105 lb. per square inch.—ED.]

GETTING OUT OF LONDON.

Sir,—I quite agree that the condition of Edgware Road is disgraceful. I often go to Town from Radlett, and find the following route fairly good :

Take road from Regent's Park to Finchley Road and Swiss Cottage, then straight on to Golder's Green Tube Station. Turn to left opposite the station and continue to Hendon until on the top of Hendon Hill, where a turning to the right is seen. Take it, and bear round to the left towards the Aerodrome, but turning to right at the bottom of the hill. Thence continue straight on to Mill Hill, through Mill Hill to Arkley and Barnet Gate. Turn to left towards Elstree when at Barnet Gate, and go right into Elstree. Then turn to right for Hertfordshire. This road is Watling Street, the continuation of the Edgware Road.

The above route is the one I always take, and is about twenty-one miles from Regent's Park to Radlett. It is not nearly so bad as the main roads, though more difficult to follow. LT 3815.

Radlett.

WAS IT ENGINE SEIZURE?—THE BEST SOLUTION.

Sir,—After reading the symptoms detailed by the writers of several letters, appearing under the heading, "Was it Engine Seizure?" in a recent issue of *The Motor Cycle*, I have little doubt that the purely temporary apparent seizure, or "locking," as it might be described, of the engine was due, not to the true seizing of frictional, or bearing, surfaces, but simply to sparking plug incandescence.

I have proved this by experiment. Certain apparently perfect plugs would cause it ; others of similar type and manufacture would not. At a certain factory I saw a box of plugs, apparently perfect, all of which would cause this state of affairs on all similar engines.

The explanation seems to be this. With both valves closed, the engine being on the compression stroke, the incandescent plug fires the charge when nearly fully compressed, and the resultant gas pressure prevents the piston rising to the top of the stroke, in consequence skidding the back wheel. At the same time, the explosion is not powerful enough to rotate the engine sufficiently backwards to open the inlet valve, and let the exploded gas escape that way.

Thus a deadlock exists, until the machine comes to rest, or, and this is a further proof of the theory, until compression is artificially released by the lifting of the exhaust valve.

Something similar used to happen in the old days of accumulator ignited machines if the advance and retard of the ignition was out of order, but then the connecting rod generally went. That it stands the very great strain of such an occurrence now says a lot for present day materials.

If your correspondents will try raising the exhaust lift lever the moment the trouble happens, I think they will find my theory justified. For permanent cure, change the plug, preferably to a post-war type. SPARKING PLUG.

Binfield, Berks.

AN ECCENTRIC MAGNETO.

Sir,—I should like to know if any of your readers have ever been harassed with the same trouble that it has been my lot to experience lately. My machine is a 4¼ h.p. B.S.A. (1917, I believe), fitted with a war-type American magneto, and since I have become its proud possessor it has been difficult to start from cold. Some few weeks ago, however, it gave up the ghost completely, and, try as I might, the wheels refused to gyrate without external assistance.

The "juice" seemed to be getting there all right, and was of good modern quality. The timing of valves and of the magneto was correct, and the plug gave, what seemed to me, quite a decent spark when rested against the cylinder head. I tried every conceivable setting of the B.S.A. variable jet, exhausted all the known permutations and combinations of throttle and air levers, set the points of the plugs and of the magneto at all distances from zero to a maximum—and as for air leaks!

I spent thus three hectic, unshaven, and perspiring days, wore threadbare my complete vocabulary with its Army guarantee of durability, and I have since worked out the nett result to be .835 explosion per hour, or 273 revolutions per explosion.

I will swear that towards dusk on the second evening I caught my Hoodoo Devil mascot positively leering at me from the handle-bars. He has joined the angels now.

In despair, I removed the magneto and disembowelled it to discover a break in the insulation of the lead from the high-tension coil to the "breaker" points. I patted myself on the back, and almost decided then and there to write a treatise on "Magnetos I have Met." This idea was further strengthened when, on reassembling the magneto—having had the magnets remagnetised just for luck—I found that I could ignite petrol in the plug practically every time, turning the sprocket by hand.

Almost shrieking with joy, I rushed to the bicycle, stuck the magneto back on the platform, timed it so carefully, and called the entire household and a few specially privileged friends to witness the first kick, which I assured them would be the only one required to cause the old 'bus to burst into song.

Determined to impress, at all costs, I set my stage with the utmost care, and, I fear, no little swank. Throttle 32° 14′ and air lever 15° 17′ from zero position. The magneto advance lever was set so that the fourth broken strand was just showing and the thumbscrew over the jet rotated three-quarters of a revolution plus one click. A few kicks with the exhaust valve up and the right hand held over the air inlet gauze "to ensure a rich mixture," a condescending nod to the conductor of the village jazz band, to let him know that the curtain was about to rise, and, finally, amid cheers, one hefty heave.

Total result, one splendid bang ; but alas! for all my pride, I fear it was the magneto's swan song. It has not spoken since.

To convince myself fully that the magneto was at fault I borrowed a modern English magneto from a trusting friend, and the machine started up first kick. This self-same friend, by the way, I found to be a former sufferer from the same cause, and his case showed exactly the same symptoms. Since then I have met still a third, and we are all completely baffled.

The only solution I have to offer is that the magneto is not generating enough energy to cause the spark to jump the points when under compression, but why it should do so for some time and then suddenly cease is more than I can fathom, except that the insulation on the winding is, somehow or other, at fault.

If any of your readers could give me an explanation I should be greatly obliged. T.C.D.

Co. Tyrone.

SUMMARY OF CORRESPONDENCE.

Mr. A. C. Robbins gives it as his opinion that the present system of price guaranteee is altogether wrong, and, in actual practice, only causes prospective customers to withhold their orders.

Attracted by a recent article on "Camping Equipment," a Coventry correspondent, who signs himself "Family of Three," wishes to get in touch with other motor cyclists who would care to join his party for a camping tour in August holiday week.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	Book post.
"HINTS AND TIPS FOR MOTOR CYCLISTS." Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Seventh Edition	2/-	2/3
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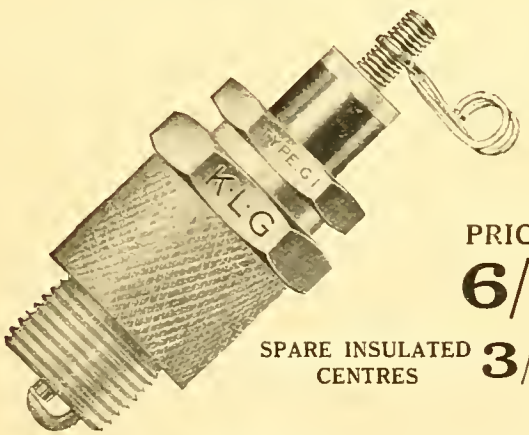
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K·L·G

ON Saturday, April 16th, at the first 1921 Brooklands Meeting of the British Motor Cycle Racing Club, riders using K.L.G. Sparking Plugs won six of the eight events.

THE sustained successes in track and competitive work which are being constantly secured by K.L.G. Plugs are the most convincing proof that could be offered of their stability and unfailing reliability.

Of interest to the motor cyclist, the "G" model is detachable with replaceable centre and rust-proof body.



PRICE
6/-

SPARE INSULATED CENTRES **3/-**

Sole Manufacturers:
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Sole Export Agents and Joint Distributors:
S. SMITH & SONS (M.A.), LTD., CENTRAL WORKS, CRICKLEWOOD.

"The machine is perfect" says

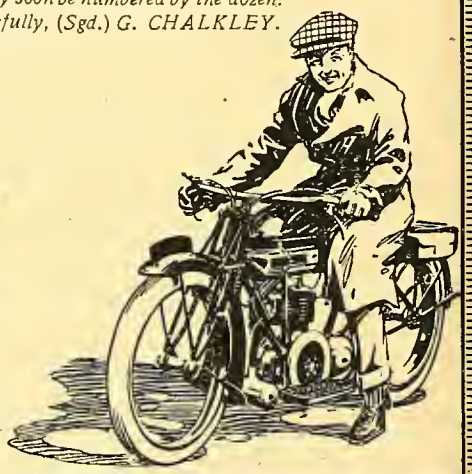
Mr. G. CHALKLEY, of Dartford, Kent.

Here is a letter dated April 5th, 1921 :—

Dear Sir—The Connaught Motor Cycle was delivered to us on April 1st, ***unscratched.***
We have endeavoured to find some fault either in the manufacture or in the running, but have failed to do so.
The machine is perfect.
I know of only one other Connaught in the town of Dartford, may they soon be numbered by the dozen.
Yours faithfully, (Sgd.) G. CHALKLEY.

Can you say the same about the machine you have in mind ? You could not go wrong if you ordered the same machine. It was a single-speed model MIN.—costing £47 10 0.

Send for our free illustrated descriptive booklet—no obligation whatever.

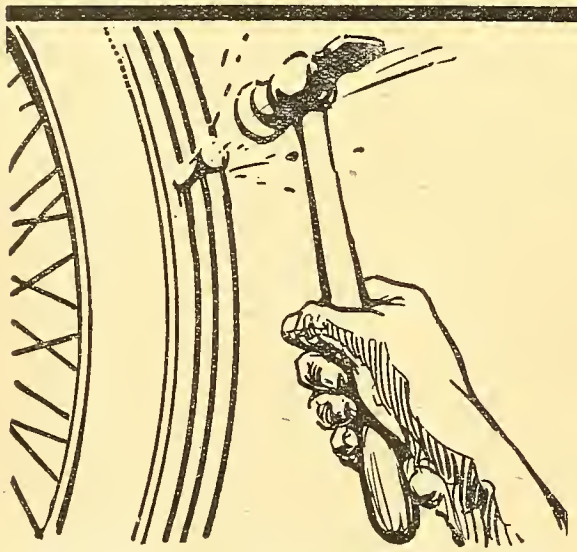


CONNAUGHT

2½ Two-stroke Single-speed Model MIN.

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THE BORDESLEY ENGINEERING CO., LTD., New Bond St., BIRMINGHAM.
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PUNKHO s a powder, which, mixed with water, makes a non-sticky preparation of cream-like consistency which instantly seals punctures.
It does not contain flour, acid, treacle, or any injurious compound,
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PUNKHO DOES
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PRICES :

No. 1 Size, two pedal cycle tyres or one motor cycle tyre, **4/-**, post free **4/6.**

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THE PUNCTURE PREVENTER.

CURRENT HAT

Times to Light Lamps.

April	28th	... ...	8.44 p.m.
,,	30th	... ...	8.48 ,,
May	2nd	... ...	8.52 ,,
,,	4th	... ...	8.55 ,,

Inside Flywheels.

We have in preparation an authoritative article in defence of the inside flywheel type of engine from the pen of Major F. Strickland, M.I.A.E.

Belgian Tariffs.

The Belgian Government has imposed a tariff of 20% on motor cycles and motor cycles and sidecars, and 15% on motor cycle parts.

To Holyhead and Back.

The Ealing and District M.C.C. twenty-four hours trial to Holyhead and back starts to-morrow night (midnight, Friday, April 29th). The venue is the Berkeley Arms Hotel, Cranford Bridge, and the route includes Bwlch-y-Groes, while the premier award is the Maudes Challenge Shield.

Heavy Transport on Roads.

I am in great hopes (writes "Owen John" in *The Autocar*) that the Road Board will remain the sole survivor of the wreck of the over-ambitious Ministry of Transport, and will inspire a confidence that at present we sadly lack in our masters—or, should it be, servants? There is plenty of work ahead of it, but it cannot be expected to do much if at the same time there is to be allowed on the roads traffic that is nothing but the embodied spirit of destruction. Really very heavy transport demands specially made roads, and should not be allowed elsewhere in its present shape. As it exists it is costing the country more than it is worth.

Motor Cycling in South Africa.

In the hill-climb recently held by the Pretoria M.C., the winner was J. W. McIlwraith (A.B.C.), 2m. 4s.; 2, P. Flook (Norton), 2m. 50s.; 3, C. D. Wolfswinkel (Harley-Davidson sports model), 3m. 5⅗s. In the sidecar class the winner was Lond (Excelsior), 3m. 22s., while a Harley-Davidson gained second and third places.

A handicap reliability trial was recently held by the Maritzburg M.C.C. to Camperdown and back. The handicapping was carried out by making certain time allowances for various classes. The distance of the trial was about twenty-six miles. The winner was A. Morcom (Norton, 633 c.c.); 2, T. Kenyon (Triumph, 550 c.c.); 3, C. E. Mountfort (Indian, 250 c.c.).

An Open Hill-climb in Staffordshire.

Oakamoor Hill in North Staffordshire will be the venue, on May 28th, of an open climb of the East Midland Centre A.C.U. All the usual capacity classes, "open" and "expert barred," are included; and, in addition to gold medals for fastest times, a silver cup will be awarded for the fastest ascent of the day. Entry forms may now be obtained from Mr. S. Foden, the hon. secretary of the organising body, the Derby and District M.C., at 56, Sacheverel Street, Derby.

Special Features.

LIGHTWEIGHTS FOR HARD SERVICE
TT. NOTES AND NEWS
DRIVING IN TRAFFIC.

Absentees.

Two O.K.'s were to have been ridden in the Midland Centre A.C.U. open reliability trial by Hall and Handley. They were unable to compete, owing to the fact that both these riders had joined the National Defence Force.



A ROYAL MOTOR CYCLIST.

H.R.H. Prince Henry and the 3½ h.p. Sports Model Douglas recently supplied to his order. The Prince is thoroughly conversant with the mechanism of his mount, and is an expert rider withal. This overhead valved Douglas is the third machine of that make he has owned.

Clubs in Competition.

Seventeen club teams have entered for the Surbiton and District M.C.C. inter-team trial for Maudes challenge shield. The start takes place at one o'clock on Saturday at the Talbot Hotel, Ripley, near Guildford, and all competitors are requested to report to the chief marshal by 11.30 a.m.

British Speed Successes in Italy.

Three recent important Italian road races have resulted in distinct successes for British machines. These events were of considerable severity, and were all keenly contested.

CIRCUIT DE CREMA (1,000 c.c. CLASS).—1, Biagio Nazzaro (7-9 Harley-Davidson); 2, Erminio Visioli (8 New Imperial); 3, Gaetano Tanzi (8 M.B.); 4, Vanomi (8 New Imperial).

CIRCUIT DE CICAGNA (1,000 c.c. CLASS).—1, Nino Vanomi (8 New Imperial); 2, Giuseppe Foligno (7-9 American X); 3, Dino Cassioni (7-9 Indian).

TIBER CIRCUIT (350 c.c. CLASS).—1, Giovanni Cocchi (2¾ Douglas); 2, Davide Gambini (2¾ Douglas); 3, Carbonini (Motosacoche).

500 C.C. CLASS.—1, Luigi Morabito (3½ Rudge Multi); 2, Ernesto Vailati (3½ Sunbeam); 3, Olio Ottorino Dall (3½ Frera); 4, Erminio Visiolo (3½ Norton).

The Motor Cycle Grand Prix.

Among the entries for the Motor Cycle Grand Prix, the Union Motocycliste de France has received the following from British firms: Two B.S.A.'s and three Nortons, to be ridden by Victor Horsman, Hubert Hassall, and Graham Walker.

Another Important Whitsun Event.

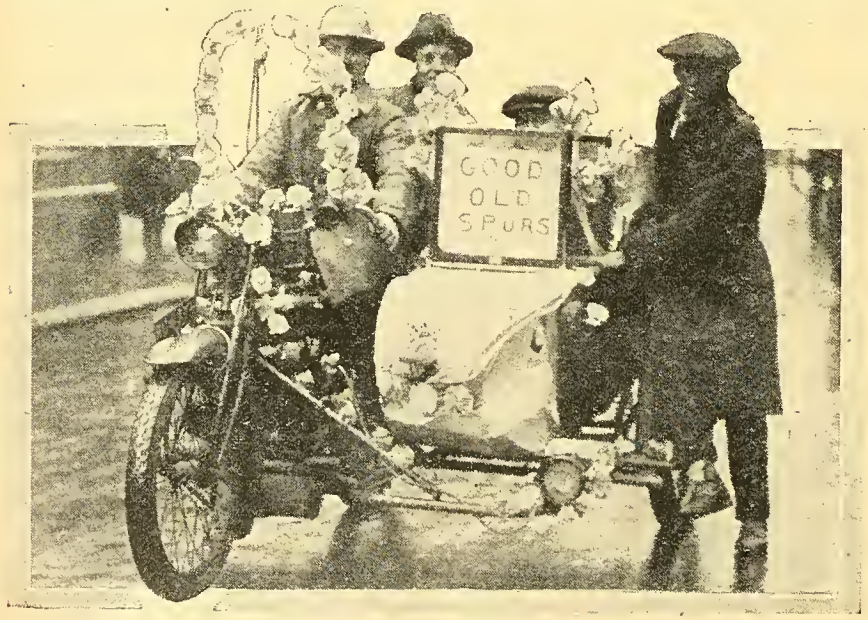
Midland motor cyclists, who are not competing in the London-Edinburgh run, have another attractive trial—or, rather, two important events—open to them at the Whitsuntide holidays. The Birmingham M.C.C. is holding a competition for the Lycett Trophy, starting from Birmingham on Saturday, May 14th, *via* Bristol to Bridgwater, and thence *via* the "Porlock-Lynton" route to Land's End. The return journey on the following Tuesday will constitute an entirely separate trial for the Sangster Cup.



A SCENE IN THE MIDLAND CENTRE TRIAL.
C. W. Lewis (3½ Beardmore) and L. L. Sealey (4¼ B.S.A.) on Giddynap. Incidentally, the spectators here were much disappointed at the lack of thrills!

Condoleuces to Well-known Rider.

Our sincere sympathies are extended to G. E. Stanley, who, on arrival home from Brooklands last Saturday, learned the sad news of the sudden death of his wife.



TO THE FOOTBALL FINAL BY SIDECAR.
This photograph was not taken at a battle of flowers, but at Stamford Bridge last Saturday. It shows a heavily laden Matchless outfit which was elaborately decorated with Tottenham Hotspur colours (blue and white). The number of people who travelled to the match by sidecar from the provinces was remarkable.

Visibility of Road Signs.

Some years ago direction-posts painted with alternate black and white 9in. bands were demonstrated to possess the maximum visibility at night. Although the results of the experiments were laid before the Ministry of Transport by the Roads Improvement Association, the official opinion was returned that white posts were equally satisfactory. Many of our touring readers will have noticed that several local authorities have adopted the black and white scheme, and that the effect is most successful.

The Number of Motor Cyclists.

The American Automobile Association estimates that the number of motor cycles in America is approximately 271,000. Yet American visitors to this country have expressed their surprise at the popularity of the motor cycle in Great Britain. The large area of the U.S.A. may have an effect of spreading out the 271,000, and so lessening their apparent number. All the same, we should like to know how many machines are *in use* in the U.S.A. It is said that 69,349 motor cycles are located in the State of New York, while Pennsylvania claims 23,981.

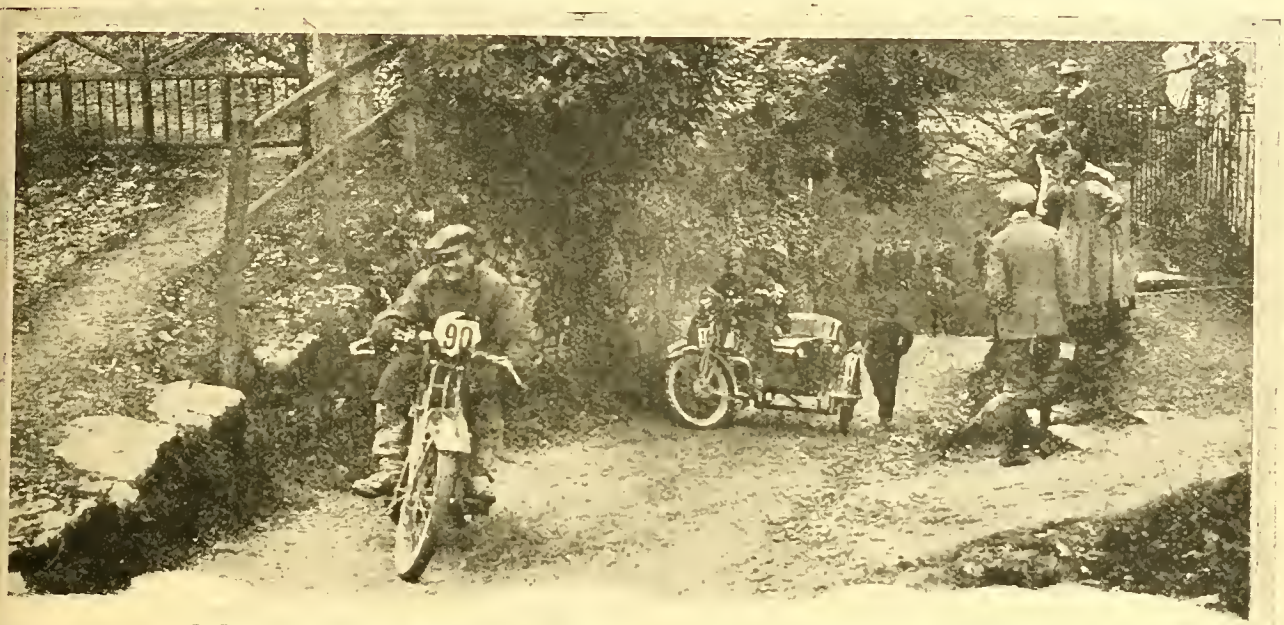
Motor Cycling in Belgium.

In the recent Coupe de la Meuse reliability trial, which included tests of flexibility, speed, reliability, etc., Breslau (on a Norton) was first, having 139.38 marks; Thys (on a Triumph) second, with 139.52 marks; and Antoine (Triumph) third, with 123.99 marks. The best performance by a Belgian machine was by a Saroléa, which finished sixth, with 115.21 marks. Thus British machines scored distinct successes.

In the sidecar class, Spinguel (on a Harley-Davidson) was first, with 152.68 marks; Pirard (Saroléa) second, with 109.45 marks; and Verlaine (Abingdon) third, with 98.85 marks.

A TEST FOR TYRE TREADS.

Nine Very Stiff Climbs in One Section of Twenty Miles in the First Midland Centre A.C.U. Open Trial.



G. E. Stobart (6 James) making light of Knapp Hill. A. G. Beasley (3½ Sunbeam sc.) is in difficulties.

A TEST for tyre treads. This, in a few words, describes last Saturday's Open Trial in the Cotswolds organised by the Midland Centre A.C.U. The course was of such a character that everything depended upon the weather to render it moderately easy for modern motor cycles or the reverse.

Thirteen observed and difficult hills, several unobserved but quite hefty climbs, and a course that had been well "lubricated" by early morning showers was the stiff task set the 130 competitors. A good entry; for there could be no implications of "pot-hunting"—there was no "pot" to "hunt"—and we rather agree with the disgruntled Irish competitor who remarked that, "never was a gold more hardly won—and, then, it isn't a real gold, anyhow!" (Gold centre medals were the premier 100% awards; and there will be few claimants).

A Start in the Rain.

Rain, heavy rain, greeted the earlier men at the start at Redditch, but, fortunately, it had cleared somewhat before Saintbury was reached by the lightweights—all the leading forty odd were mounted on "babies." From Redditch to the stop and re-start test on the summit of slippery Saintbury was down as a non-stop section; but the going was comparatively good, and few worried, although two fell out within the first half-mile.

Mr. Douglas Arter, the marshal in charge, however, decided that a test on the bend would be unfair, and wisely elected to transfer the section to the top portion of the hill.

In spite of the greasy state of Saintbury some very excellent ascents were made. Conspicuous among these the following deserve special mention: G. M. Townsend (3½ P. and M.), J. L. Stocks (6-7 Ariel sc.), F. W. Giles (7 A.J.S. sc.), G. S. Arter (5-6 James sc.), T. G. Amphlett (4½ James sc.), H. F. S. Morgan (8 Morgan), and T. Doyle (3½ Lea-Francis). The last-mentioned impressed the observers by the easy speed at which he ascended.

Fast Times on Low Gears.

Several had to use their feet for steadying, including W. Bell (2¼ New Hudson), G. W. Shepherd (2⅜ Beaumont), and W. E. Smith (3½ Norton), while S. R. Philpot (2⅜ Douglas) did not keep up his "revs." and was forced to dismount and run beside his mount. G. A. Strange (3½ James), usually so successful, had fitted over-size tyres, and rolled one of them off its rim. Having lost marks by stopping in a non-stop section, and also on time, he elected to retire.

Frank Whitworth, mounted on a 3 h.p. Ivy, was none too happy in the grease, and went by with a cheery "All right, this is." to the observers. Higher up the hill the competitors were being timed in low gear over approximately 140 yards. The riders were brought to a stop between two marks, and sent away singly. The surface at this point was exceedingly greasy, and the highest speeds were made by those with (1) the most suitable tyres, and (2) the pluck necessary to ignore the possibilities of a skid.

F. C. Parkes (2½ Sun-V.T.S.) stopped his engine on restarting, but the regularity with which the majority got away was almost monotonous. G. E. Cuffe (2½ Metro-Tyler) decided to push off instead of keeping his engine running.

From the slow speed of some of the competitors, one rather suspected that they had mistaken the nature of the test, and were out to demonstrate how slowly they could cover the section. Others were just as fast. J. L. Stocks (6-7 Ariel sc.) accelerated in a wonderful manner, and covered the distance in 21⅕s. T. Stevens (5-6 James sc.) was only ⅖s. slower. L. Tonks (on a 2¾ New Imperial) beat this time by over a second. Incidentally, the New Imperials impressed spectators at various parts of the course by their speed. Another machine singled out on several of the hills was V. Hawkins's 2½ h.p. Excelsior two-stroke. In the low gear acceleration test, it was timed at 19⅕s., which was also the time occupied by G. J. Baragwanath (3½ Sunbeam), while H. Greaves (Beardmore-Precision) was only ⅕s. slower. S. Hall (3½ Sunbeam) occupied 19⅖s.

These times were beaten only by A. E. Taylor (6 B.S.A. solo), 18⅗s.; W. B. Gibb (3½ Douglas), 17s.; and G. S. Arter (5-6 James sc.), who made the fastest sidecar performance.

A Missing Check.

The route now led down Fish Hill into Broadway, over Snowshill, and *via* some very greasy roads indeed, through Kineton, with an unofficial refreshment stop at Air Balloon—"open all day"—up Birdlip (in good condition, and not worth observing), and on to a "time check two and a half miles from Stroud," *according* to the route card. Actually, this check was "missing," and many were the complaints in consequence.

Anyhow, at the point where (we presume) the check ought to have been, the riders were directed down the worst road of the day: a narrow steep horse—but not cart—track. Not a few came croppers in frantic wheel-locking attempts



Two riders on the steepest grade in the event, Giddynap. It was dry; and the Triumph rider nearest the camera is only changing down to low.

to check their momentum; but, although from now to the lunch stop at Stroud was strictly non-stop, there were no official observers visible! There were none of these gentlemen either on Stancombe Hill, a little further on, and the first of the "new" tests. Stancombe, or more properly Steanbridge Lane, was slightly wet and steep at the bottom corner, but dry, and even steeper at the hairpin higher up. From our personal observations, the following were amongst the best of the earlier men: G. Denley (2¼ Velocette), Rex Mundy (2¼ Cedos), L. E. Clulee (2½ Allon), P. J. Wilkins (2¾ New Imperial), W. H. Garlick (2½ Hobart), L. Tonks (2¾ New Imperial)—one of the new Imperial T.T. mounts—and G. W. Shepherd (2¾ Beaumont).

Mediumweights do Well.

Then E. J. Weal, on a 4 Triumph, simply sailed up, and indicated that the heavier machines were not going to provide much "fun" here after all. This surmise was correct, and the later solo men on more Triumphs, and Raleighs, Sunbeams, Ariels, and B.S.A.'s (including one big twin each of the latter two makes) made light of the grassy 1 in 5 hairpin. The Beardmores and the only solo Norton in the event, driven by W. E. Smith, were also quite fast.

Perhaps three sidecars failed altogether, and the consequent baulking formed the only other incident here.

Parsons Chains on the Three-wheelers.

Bismore, the next observed precipice, and only two and a half rough miles further on, was wetter all the way up, but scarcely wet enough to make wheel slip *unavoidable* for the really careful sidecar driver. Many were not careful, however, and there were some exciting moments.

Most of the solo men who came up Stancombe successfully also shone on Bismore (the B.S.A.'s in particular), and on the portion which we observed the three-wheelers of H. F. S. Morgan (8 Morgan) and J. W. Meredith (10 T.B.), who both had Parsons chains on their driving wheels, and J. L. Stocks's Ariel sidecar make star climbs. It was largely a matter of luck. On the other hand, for the solo men, Bismore was the *fairest* test of all.

It was well that the schedule speed for this section was only 12 m.p.h., for after but another three very vile miles came Bussage, the most "interesting" and, in the opinion of many, the severest climb of the thirteen observed hills.

Slithering along through deep and "clayey" mud the riders were suddenly confronted with a sharp right-angle bend with an initial gradient of nearly one in four, and, the road being sheltered by a wall, a surface of more mud, blacker, perhaps, but no less slippery. Fifty yards up the gradient eased, and the surface was drier, but further on there was much more one in four, fortunately drier. That was Bussage on Saturday; and even had it been level after the first fifty yards few would have made clean ascents. The "first-aid" man at the foot cannot have inspired much confidence!

Solo Men do Well.

J. E. J. Whitaker (4¼ B.S.A.) and G. J. Baragwanath (3½ Sunbeam) were remarkably steady; H. Greaves (3½ Beardmore) and C. N. Green (4 Triumph) both got up well, but had to use their feet to keep an upright course. All three Raleighs made imposing ascents—Fenn shouting that he was enjoying himself; and we believe he meant it!—A. Rollason (3½ Ariel) and R. W. Duke (4 Triumph) were sure and fast, but A. G. Cocks, on a Beardmore, was perilously wobbly.

F. A. Watson, who had fitted a sidecar to his 3½ h.p. Sunbeam, took the turn too fast and charged the wall; he made quite a good climb, however, on re-starting, but not before baulking another late arrival, C. W. Lewis (3½ Beardmore). Gibb (3½ Douglas) showed that confidence is a great asset.

One Way of Getting Up.

The sidecars coming along now failed (owing, generally, to wheel slip) with such regularity that it became necessary to queue them up at the foot, and send them up singly. Some of the failures were not without their humorous moments. T. Stevens (on a James), for example, tried to haul himself up by the railings! Several lady passengers plaintively expressed a wish to get out and walk, but one or two were braver, and energetically threw themselves on to the carrier—usually, alas, to no avail.

Where so many failed, those passenger vehicles to make clean ascents deserve special credit. By far the best were: H. Green (4 Triumph sc.), W. R. Brown (3½ Sunbeam sc.), F. W. Giles (7 A.J.S. sc.), H. F. S. Morgan (8 Morgan), J. W. Meredith (10 T.B.), and W. A. Ridley (10 New Hudson), the New Hudson being undoubtedly fastest of these.

Knapp, the fifth and last climb before lunch at Stroud, was much easier, and nobody who climbed Bismore and Bussage had any excuse for failing here. But everybody did not climb Bismore and Bussage!

In the afternoon the officials on Rodborough Lane had a very monotonous time; but Bownhill, a little further on, was a more difficult proposition. Reached by narrow, dangerous tracks it was a sheer climb without grease or corner, but after B. Bourke (2½ New Hudson) and Cox (2¾ Armis) early recorded stops, the riders came up almost without incident. F. J. Price (2¾ Diamond) made a wonder-

A Test for Tyre Treads.—

fully fast climb for so small a machine. The spring frame Raleigh riders again appeared very happy on the rough going near the summit. Most of the sidecar men were cautious.

On Giddynap.

Wandering over a golf course and then down Nailsworth W, the riders passed through Nailsworth village, and suddenly leaving the main road, up easily the longest and almost the steepest climb of the day, Giddynap. It was bone dry, however, and the surface was not at all bad. The huge crowds of spectators were consequently somewhat disappointed. Fenn (5-6 Raleigh) apparently came up in second, as did C. N. Green (4 Triumph), who, however, changed down just as he breasted the very steepest portion. A. E. Taylor, on a 6 h.p. B.S.A., was very fast but made an extremely noisy gear change here. J. W. Hazlewood (8 Hazlewood sc.) and H. Riley (6 A.J.S. sc.) both came to a standstill, but carried on under power. Almost without exception the mediumweight solo mounts and heavy sidecars made light of the gradient, and the climbing of most of the two-strokes was very favourably commented upon.

In rapid succession now came three more non-stop hills, St. Chloes, Dark Lane—not quite so bad as its name would indicate—and Whiteshill, and, although these were not so severe as those that had gone before, all were relieved to strike the main road again, at Painswick, for Cheltenham and Rising Sun.

After the grease on the Stroud hills, the competitors were reconciled to anything likely to be encountered on Rising Sun. The top portion of this hill, where the gradient is most severe, proved to be dry and caused comparatively little trouble. At the foot, however, quite a different state of affairs was found. Thick mud and the riders' pluck gave the crowd of spectators an interesting couple of hours watching the gymnastics produced when willing engines fought hard battles with jibing wheels.

Sidecars more Sure.

Very few riders indeed succeeded in negotiating this greasy 100 yards without touching the ground with their feet, and here impressions garnered from the preceding hills regarding tyre treads were confirmed.

At the lunch control, being curious to ascertain why certain machines traversed greasy gradients with such ease, we examined their rear tyres and made notes accordingly, and during the afternoon section we observed that most of the machines which defied the grease were shod with tyres having a tread of steel and rubber. Among these the Palmer non-skid combination type was clearly very popular.

It is rather unusual for sidecars to be consistently better than solo mounts on a greasy hill such as Rising Sun, but on Saturday the passenger vehicles suffered the least inconvenience.

Among the few solo riders to emerge from the Rising Sun grease test were the following: A. W. Thrush (2¼ Levis), W. A. R. Bown (2½ Bown-Villiers), D. A. Atkin (2¾ Hobart), H. V. Collins (2¾ Marloe-Blackburne), G. M. Townsend (3½ P. and M.), T. W. Woodcock (3½ Ariel), T. F. Blumfield (6 Ariel), A. G. Fenn (5-6 Raleigh), and F. W. Viles (5-6 Raleigh). The big Raleighs proved to be very steady and attracted a lot of interest. M. F. Powney (4 Triumph) made what was probably the neatest climb and drew from the spectators a hearty round of applause.

The majority of sidecars did well, but perhaps the star performance was made by F. W. Giles (7 A.J.S. sc.); seated well back, he charged the hill at a terrific speed, and without a falter got through where others had floundered about like novices on roller skates.

T. F. Watson (4 Norton sc.), H. F. S. Morgan (8 Morgan), W. A. Carr (8 Morgan), P. Yates (8-10 New Hudson), N. Rycroft (4 Triumph sc.), and W. R. Brown (3½ Sunbeam sc.) also made fast ascents.

Soloists in Difficulties.

These good performances were interludes in the pantomime provided by most of the others. The powerful little engine of Rex Mundy's 2¼ h.p. Cedos insisted that the driving wheel should precede the steerer. G. Denley's little Velocette turned right round. W. R. Urwin's 2¼ h.p. Levis dived into the ditch, and, apparently pleased by its performance, did it again. C. Hollyoak's 2½ h.p. Federal tried to climb a tree, and came to rest perfectly perpendicular, for all the world like a terrier after a cat.

R. Duke (4 Triumph) was another who found the ditch too narrow to negotiate, and H. Greaves (Beardmore-Precision), H. C. Jennings (3½ James), C. W. Ramstedt (2½ Cotton), and others who fell were in good company, since W. B. Gibb found his willing steed too restive.

We left Rising Sun convinced that present-day engines are sufficiently powerful to climb any gradient, and that grease is a test demonstrating the tractive qualities of tyres.

Sudeley and Willersey were in none too good fettle, but the survivors were so used to rough going by now that these once dreaded acclivities counted for little.

Redditch saw 75% of the soloists and less than 50% of the passenger drivers finish; but, as we know of several "finishers" who retired early and missed half the course, we refrain from publishing any lists until the official awards are notified.

BY THE WAY.

Many riders bemoaned their fate on the very first of the sixteen test hills. Saintbury is not really difficult when dry, but, like other Cotswold climbs, is very slippery after rain. Over a score lost their clean sheets here.

Pirouettes and figure eights were the order on Saintbury after the downpour.

F. G. Edmond (Triumph) was replaced by Norman Ryecroft, the first-named being at Brooklands with his T.T. mount. Ryecroft made an excellent climb up Saintbury.

Copiously drilled outside flywheels were noticed in several instances on two-stroke machines.

George Cuffe hit a wall near Stroud and damaged his frame and handle-bars, but pluckily continued to the end.

Several examples of ultra-sporting sidecars with exceedingly narrow tracks were noticed. On bends these narrow machines apparently are none too safe; one competitor turned over twice.

There were two rather curious registration numbers on competing machines, viz., OH 5555 and OB 6666. If the owner of the last machine took tea at Collett's, in Broadway, last week, and inadvertently forgot to return a bunch of keys to the owner, would he please oblige by doing so.

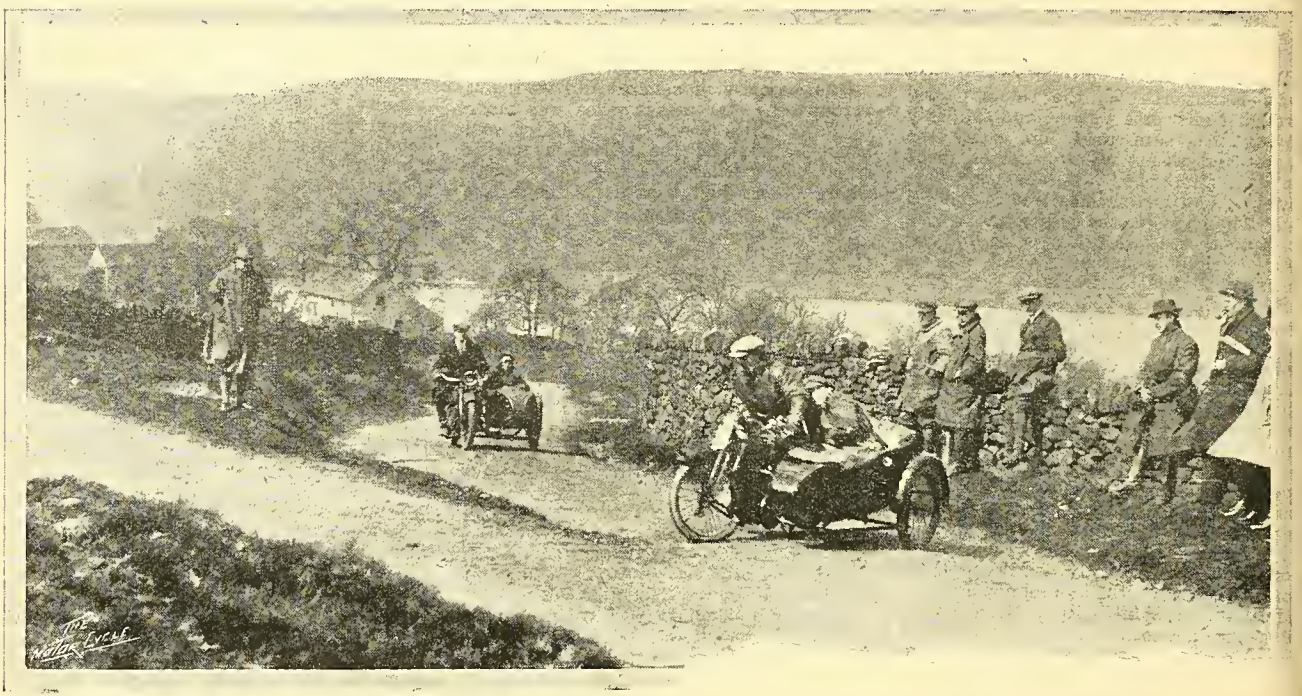
Sam Hall (Sunbeam) suffered bad luck. But for his legging getting into the back wheel and pulling him up on Bismore Hill, he accounted for all hills.



Raleighs make a promising début. F. W. Viles finds Bussage Hill fairly easy work.

A TRADERS' TEAM TRIAL.

The Sheffield and Hallamshire M.C. Trial for the Traders' Cup.



A test of skilful driving. L. B. Henderson (4 Sheffield-Henderson sc.) on the acute hairpin above Midhopestones Reservoir.

OWING to the present state of affairs in the industrial world, the second annual competition for the Sheffield Motor Cycle Traders' Trophy was not so well supported as last year, and the event, which was held last week end, attracted but four teams of six riders.

Those who did take part, however, were well rewarded, for the weather was ideal, and the road conditions, although sporting, were infinitely better than they were last year on the same course. Although only a few miles out of Sheffield, the route lies amongst some very fine scenery, and under an almost cloudless sky the views were magnificent.

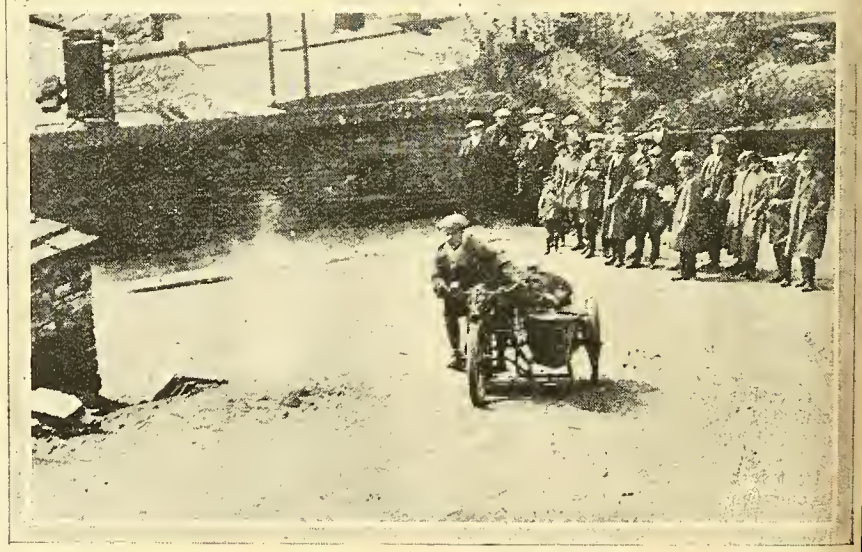
Three Non-stop Circuits.

As previously, three circuits of a decidedly arduous, although not freakish, course of twenty-seven miles had to be covered "non-stop" by each team. The teams consisted of six riders, three mounted on solo machines and three on passenger machines. A feature of the trial was the remarkably good timekeeping observed by all. Amongst those who completed the three circuits, the time variations did not exceed one minute at the most.

Thanks to the dry surfaces, the earlier part of the route was easy, and the first real difficulty was Windhill Lane: a rough and steep rise of about 1 in 6 gradient. Specially good climbs of this were made by S. C. Ashby ($3\frac{3}{4}$ Scott) and F. C. Wates (4 Triumph), both of whom seemed capable of rushing the hill on top gear, holding to a narrow path amongst the "rough."

The severe climb out of Stocksbridge over Hunshelf Bank did not appear to worry anyone, but an acute hairpin near Midhopestones Reservoir was quite troublesome, and some of the competitors found it difficult, for R. May (4 Norton sc.) overshot the corner, and D. H. Kay (4 Triumph) suffered a front wheel skid. F. D. Roper showed considerable skill in bringing round his 7-9 h.p. Indian outfit, while L. B. Henderson, despite his handicap of only having one leg, showed decidedly neat cornering. Incidentally, the Sheffield Hendersons, of which he is the manufacturer, made their first show in a competition on this occasion.

None of the hills actually caused failures, but punctures accounted for one or two retirements, including C. E. Turner ($4\frac{1}{4}$ B.S.A.) and L. E. Wilkinson (8 Morgan), but the percentage of non-stop runs was very high. R. Page



Hunshelf Bank, a severe gradient with cross gulleys. F. B. Roper (7-9 Indian sc.) rounding the hairpin out of Stocksbridge.

Traders' Team Trial—

6 A.J.S. sc.) finished with a flat side-ar tyre, while L. Padley (3½ Norton) nfortunately had tyre trouble ten miles rom the end of the final circuit. This top in Mr. D. Bradbury's team left Mr. . B. Roper's men as the only team to nish complete.

The provisional results are as follows:

MR. F. B. ROPER'S TEAM.

	Mileage.
C. Ashby (3¾ Scott)	81
. B. Roper (7-9 Indian sc.)	81
. Sneath (3½ Wilkin)	81
. Page (6 A.J.S. sc.)	81
. E. Budd (3¾ Scott)	81
. Fletcher (6 A.J.S. sc.)	81
	486

MR. D. BRADBURY'S TEAM.

. Padley (3½ Norton)	71
. R. Kay (4 Norton sc.)	81
. Hudson (3½ Norton)	81
. Fawcett (4 Norton sc.)	81
. Ashelby (3½ Norton)	81
. May (4 Norton sc.)	81
	476

MR. R. STACEY'S TEAM.

C. Wates (4 Trimph)	81
Raynes (7-9 Harley-Davidson sc.) ...	81
Wheatley (4 Triumph)	81
Stacey (7-9 Harley-Davidson sc.) ...	81
H. Kay (4 Trimph)	40
Searle (4 Triumph sc.)	81
	445

MESSRS. JAMES AND CO.'S TEAM.

E. Turner (4¼ B.S.A.)	54½
W. James (8 Morgan)	81
. James, junr. (4 Sheffield-Henderson)	42
E. Wilkinson (8 Morgan)	13
Fletcher (4 Sheffield-Henderson) ...	81
B. Henderson (4 Sheffield-Henderson sc.)	81
	351½



A TRIAL FOR CYCLE CARS AND LIGHT CARS.

Last Saturday the Junior Car Club held its annual London-Manchester run, and a number of cycle cars competed. Here is C. R. M. Mills (8 Morgan) climbing Kelstedge in Derbyshire.

CLUB NEWS.

Week-end Club Events.

April 30.—Bridgwater and District M.C. and L.C.C. Hill-climb.
April 30.—Exeter M.C. and J.C.C. Reliability Trial.
April 30.—Wolverhampton Auto Nomads. Paper-chase.
April 30.—Holwood M.C.C. Club Run to Tunbridge Wells.
April 30.—Bristol M.C.C. Club Run.
April 30.—Wallington and District M.C.C. Hill-climb.
April 30.—Dewsbury and District M.C.C. Picnic.
April 30.—Midland Centre A.C.C. Inter-club Team Trial.
April 30.—West Kent M.C. Members' Team Trial.
April 30.—Glasgow Western M.C.C. Open Hill-climb.
April 30.—Ipswich and District M.C.C. Hill-climb.
April 30.—Warrington M.C. Hill-climb.
April 30.—North West London M.C.C. Inter-club Team Trials.
May 1.—Burton and District M.C.C. Club Run to Cannock Chase.
May 1.—Halifax and District M.C.C. Club Run to Ilkley.
May 1.—Oxford M.C. Social Run.
May 1.—Leeds M.C. Club Run to Pateley Bridge.
May 1. Barrow and District M.C. Hill-climb.
May 1.—Essex County and Southend A.C. Opening Run.
May 1.—Bradford M.C. and L.C.C. Freak Hill-climb on Rosedale Abbey Bank.
May 1.—Portsmouth and District M.C. and L.C.C. Club Run.
May 1.—Kidderminster M.C.C. Social Run.
May 1.—Woolwich, Plumstead, and District M.C. Picnic.
May 1.—Eastbourne and District M.C.C. Club Run.
May 1.—Worcester and District M.C.C. Club Run to Clent.
May 1.—York and District M.C. Wolds Reliability Trial.
May 5.—North Wales M.C.C. Picnic.

A Section devoted to Club Announcements will be found on Supp. lii.

Bury and District M.C.C.

On Thursday the club held a general eeting and dinner, at which the epherd Walsh challenge shield was esented for competition by Mr. N. epherd Walsh, the president.

Rugby and District M.C.C.

The first event of the year, a reliabilty d speed-judging trial over a sporting ghty miles course, was held on the 24th st., and included Priors Marston and ewnham as observed hills. Results were follows: 1, S. Hooker (4 Humber sc.; B. G. Frost (4 Triumph sc.), 3, C. Guest Triumph).

North-west London M.C.C.

Owing to a deterioration in the con-tion of the road, the speed trials to ve been held on Saturday were can-lled. It is hoped to obtain a private ad for this event later in the year.

Eastern Valley M.C.C.

In the recent climb on Cross Hands Hill lady competitor, Mrs. G. Morris, on a h.p. fixed gear Rudge, made second stest time of the day being beaten only E. Howells on a 4 h.p. Norton. Full sults follow:

50 c.c.—1, F. Furlong (2¾ Douglas), 27⅗.; 2, o. Oliver (2¾ Douglas) and S. Howells (2¾ nglas), 30s., tied.

00 c.c.—1, E. Howells (4 Norton), 20⅘.; 2, Mrs. rris (3½ Rudge), 21s.

NLIMITED C.C.—1, E. Howells (4 Norton), .; 2, Mrs. Morris (3½ Rudge), 20⅘.

NLIMITED SIDECARS.—1, W. Weaver (8 field), 27⅘.; 2, J. Williams (8 New Imperial) d F. Williams (8 New Imperial), 29⅘., tied.

University of Sheffield M.C.C.

At a meeting on the 18th inst. it was decided to form a motor cycle club for the University. Mr. Geo. F. Jones was elected secretary, Mr. J. D. Ashbury sports secretary, and Mr. H. Boothroyd treasurer.

Clitheroe and District M.C.C.

This club has been formed for motorists residing within a four-mile radius of Clitheroe. On the occasion of the first general meeting eighteen members were enrolled, which has since increased to thirty-four. Intending members should communicate with the hon. secretary, Mr. H. Sainsbury, 27, Castle View, Clitherne.

Bristol M.C.C.

Official results are now to hand of a well-supported trial to Torquay and back on the 16th April. They are as follows:

1 (Rudge-Whitworth Cup and gold medal), W. Le Brun (3½ Rudge sc.); 2 (gold medal), A. E. Tozer (5-6 Rudge sc.); 3 (gold medal), F. Baxter (4 Norton sc.); 4 (gold medal), G. F. Mann (7-9 Harley-Davidson sc.); 5 (gold medal and special prize for best amateur performance), S. Hodge (3 A.B.C.).

Public Schools M.C.

A small party of members left Barnet on Saturday last. On arrival at Woburn they were reinforced by a contingent from the Midlands. After a pleasant evening at the Bedford Arms Hotel, where the party stayed the night, the "touch nothing" run was continued to Towcester for lunch. After lunch the London members returned to their starting points.

Club News.—

Oxford M.C.

There were thirty-four entries for the sporting trial on the 16th inst. Official results, now to hand, are as follows :

SOLO CLASS.—1, C. S. Burney (3½ Norton), 1m. error; 2, E. Colgrove (4 Triumph), 3m. error.
PASSENGER CLASS.—1, R. J. Pigott (3½ Norton sc.); 2, N. V. Young (4 Triumph sc.).

Gloucester M.C. and L.C.C.

A mid-week half-day trial recently held by this club resulted as follows :

TRADE CLASS.—1, O. Blackwell (8 Enfield sc.); 2, R. Walker (5-6 Excelsior sc.).
AMATEUR CLASS.—1, L. Paynter (3½ Norton); 2, J. H. Boakes (3 Beardmore-Precision).

Bishop Auckland and District M.C.

Althongh delayed at the start owing to inclement weather, the hill-climb on Leg's Cross on the 16th inst. was brought to a successful conclusion, and several very fast times were recorded. Full official results follow :

2¼ H.P. CLASS.—1, M. Hunter (2¼ Connaught); 2, M. Hetherington (2¼ Levis).
2¾ H.P. CLASS.—1, R. Scoon (2¾ N.U.T.); 2, C. Barker (2¾ Douglas).
4 H.P. CLASS.—1, F. Miller (3 A.B.C.); 2, G. Dawson (3½ Rudge).
6-9 H.P. CLASS.—1, C. W. Smith (6 N.U.T.); 2, M. Gibson (6 Zenith).
SIDECAR CLASS.—1, R. Terrance (7-9 Rudge sc.); 2, T. Scaife (4 Norton sc.).
OPEN CLASS.—1, C. W. Smith (6 N.U.T.); 2, M. Gibson (6 Zenith).

Wallington and District M.C. and L.C.C.

Out of twenty-four starters only twelve finished the recent fifty miles reliability trial. The President's Challenge Cup, awarded for the best performance made by an amateur rider, was won by R. B. A. Dawborn (4 Triumph), whose total time error was 3½m. J. B. Baddeley (8 Zenith) and R. A. Green (3½ Norton) tied for second place with 6½m. error.

Surrey M.C. and C.C.C.

Formula results are now available for the recent hill-climb at Newlands Corner, and (with the exception of Class 5, which was decided on time) are as follows :

CLASS 1.—1, H. Mitchell (2¾ Beaumont); 2, F. P. Verney (2¼ Triumph).
CLASS 2.—1, E. Manning (3½ Norton); 2, H. C. Mansell (3½ Rover).
CLASS 3.—1, E. R. C. Scholefield (8 Morgan); 2, R. P. Robinson (8 Buckingham).
CLASS 4.—1, E. Manning (3½ Norton sc.); 2, E. R. C. Scholefield (Morgan).
CLASS 5.—1, T. G. Meeton (7-9 Rudge); 2, E. Manning (Norton).
CLASS 6 (Standing Start, Stop, and Restart).—1, H. Mitchell (2¾ Beaumont); 2, R. H. Dickinson (G.N.).
CLASS 7.—1, E. R. C. Scholefield (8 Morgan); 2, R. P. Robinson (Buckingham).

Fastest time was put up by T. G. Meeten in 30.8s., and specially good climbs were also made by Manning and Scholefield.

Bridgnorth and District M.C.C.

Recently this newly formed club organised a social run to the Wrekin, more than forty members attending. The hon. sec. is Mr. S. H. Ryder, 7, Waterloo Terrace, Bridgnorth, Salop.

Yorkshire Centre A.C.U.

Two further clubs, the Wombwell and District M.C.C. and the Mexborough M.C.C., have joined the centre, bringing the total number now in membership up to twenty-four.

Acton M.C.C.

This is a new club in this district, and motor cyclists who are interested should apply for particulars of membership to Mr. H. P. Dignam, 11, Cumberland Park, Acton, London, W.3.

Keighley M.C.

Official results have now been announced for the reliability trial held a fortnight ago, which was run over a moderately stiff course, including Ingleton, across Ribblehead to Hawes, and back *via* Kidstones Pass. Results : 1, Marshall Trophy and gold medal, H. Foulds (4½ B.S.A.) ; 2, silver medal, R. Caswell (4 Triumph) ; 3, bronze medal, H. V. Wilkinson (4 Triumph).

SUTTON BANK RECORDS GO AGAIN.

Big Twin clips 1 sec. from Last Year's Record Time of a 500 c.c. Single.



ON THE CREST. R. T. Cawthorne (Norton) crossing the finishing line at the summit of Sutton Bank.

THREATS of a transport strike prevented many potential competitors from attending the York and District M.C. open hill-climb on Sutton Bank, but this did not prevent those who did turn up from smashing all previous records for the hill.

F. W. Dixon (7-9 Harley-Davidson) made an ascent in the unlimited solo class in 1m. 17⅗s., thus clipping exactly 1s. off L. Mitchell's record made last year on a Norton. Dixon's time is a record for the hill for any type of vehicle.

In the passenger class, Dixon's Harley-Davidson, with a sidecar attached, clocked at 1m. 30s. dead—another record.

Full official times are appended :

CLASS 6 (Solo up to 1,000 c.c.).—1, F. W. Dixon (7-9 Harley-Davidson), 1m. 17⅗s.; 2, R. T. Cawthorne (3½ Norton), 1m. 20s.; 3, C. N. Sadler (7-9 Indian), 1m. 29⅘s.

CLASS A (Sidecars up to 500 c.c.).—1, R. T. Cawthorne (3½ Norton sc.), 2m. 0⅘s.

CLASS B (Sidecars up to 600 c.c.).—1, R. T. Cawthorne (3½ Norton sc.), 1m. 58⅕s.; 2, D. W. Rhodes (3¾ Scott sc.), 2m. 9s.

CLASS C (Sidecars up to 750 c.c.).—1, R. T. Cawthorne (3½ Norton sc.), 1m. 47⅘s.; 2, W. Wells (4 Norton sc.), 2m. 13⅕s.

CLASS D (Sidecars up to 1,000 c.c.).—1, F. W. Dixon (7-9 Harley-Davidson sc.), 1m. 30s.; 2, W. Wells (4 Norton sc.), 2m. 4⅖s.; 3, G. Grinton (7-9 Harley-Davidson sc.) 2m. 4⅗s.

CLASS 1 (Solo up to 275 c.c.).—1, W. G. Harrison (2¼ Velocette), 1m. 59⅖s.; 2, R. Horsle (2¾ New Imperial-Jap), 2m. 31s.; 3, Miss S. F. Wilson (2¼ Velocette), 2m. 41⅘s.

CLASS 2 (Solo up to 350 c.c.).—1, G. W. Sheperd (2¾ Beaumont), 1m. 55⅗s.; 2, W. G. Harrison (2¼ Velocette), 1m. 58⅗s.; 3, D. Brigham (2¾ Omega), 2m. 5⅕s.

CLASS 3 (Solo up to 500 c.c.).—1, L. Mitchell (3½ Norton), 1m. 24⅘s.; 2, G. M. Townsend (3½ P. and M.) and R. T. Cawthorne (3½ Norton) tied 1m. 31⅗s.; 3, W. Royal (3½ Norton), 1m. 40⅗s.

CLASS 4 (Solo up to 600 c.c.).—1, R. T. Cawthorne (3½ Norton), 1m. 25⅕s.; 2, R. W. Stafield (3¾ Scott), 1m. 37s.; 3, L. A. Runton (A.B.C.), 1m. 37⅗s.

CLASS 5 (Solo up to 750 c.c.).—1, R. T. Cawthorne (3½ Norton), 1m. 21⅕s.; 2, L. A. Runton (3 A.B.C.), 1m. 30⅗s.; 3, W. K. Stanworth (3½ Rover), 1m. 42s.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

LIGHTING REGULATIONS.

What are the lighting regulations with regard to sidecar outfits in England, as I intend coming over from Ireland for my holidays?—J.C.

A sidecar outfit must carry two white lights in front showing the full width of the vehicle and one red light pointing in a rearward direction, and placed at the off side.

DECARBONISING.

I should be much obliged if you could tell me the best way of decarbonising a cylinder (four- or two-stroke) with a non-detachable head. Is there a special tool for this job?—R.L.G.

It is usual to take off the cylinder and scrape and chip away the deposit with a long screwdriver, but special tools can be obtained from the leading accessory houses which enable the piston and cylinder head to be cleaned without removing the cylinder itself from the engine.

LOW POWER AND SINGLE GEAR.

The machine I ride is a 2¾ h.p. four-stroke Lincoln-Elk (rather old), and it does not seem to have power enough to carry me up hills without help. The engine pulley revolves five times to one revolution of the back wheel. The carburetter is a Senspray, fitted, so I am told, with a 30 jet. Is this correct? The engine has been overhauled and fitted with new bushes and rings, but does not seem to be much better. My weight is about 12½ stone. Is an engine of this size powerful enough to carry me?—R.T.

It would probably be better to have a smaller engine pulley, which would give a 6 to 1 gear. The 30 jet should be quite large enough for your engine. You do not give sufficient particulars to enable us to give you any other information, but we would recommend you to obtain "Motor Cycles and How to Manage Them," as you will find therein many hints which will enable you to improve the running of an old model. The power is not great for a single-geared machine, and you must not expect too much from it when hill-climbing.

SPECIAL SILENCING FOR MORGANS.

Can you tell me if it is possible to fit (and if advisable—will it cause a loss of power?) a couple of Clair silencers to the exhaust pipes of a sporting model 1920 Morgan?—I.S.

It would no doubt be possible to fit additional silencers to the exhaust pipes of the sporting Morgan, but some Morgan owners dispense with the existing silencing arrangements (through the chassis tubes), and fit separate exhaust pipes with large expansion chambers. In all probability, the most effective way would be to run separate pipes from each cylinder to large silencers clipped on to the longitudinal chassis members. Any local sheet metal worker would be able to effect the alterations, while a good cycle mechanic would bend the necessary lengths of steel tubing for the exhaust pipes.

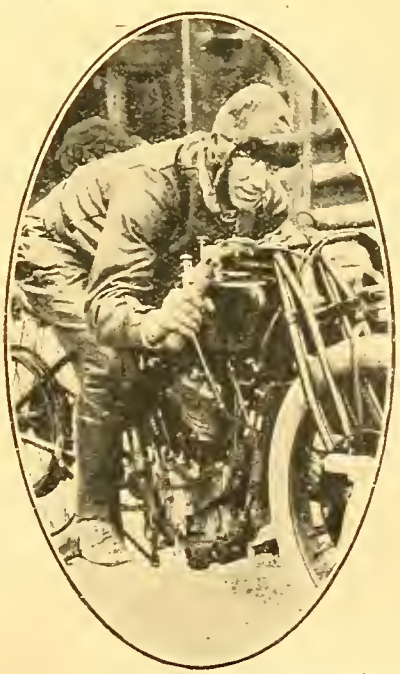
WINNERS AT THE OPENING BROOKLANDS MOTOR CYCLE MEETING.



E. B. Ware (Morgan-Jap), fastest in the time trials for three-wheeled cycle cars—speed 69.5 m.p.h.



J. V. Prestwich (2½ Diamond-Jap), second fastest time in the 250 c.c. time trials and winner of the race for the same class at 60.1 m.p.h.



In the 1,000 c.c. sidecar class, H. Le Vack (7-9 Indian sc.) covered the three laps at a speed of 63.2 m.p.h.

READERS' REPLIES.

In your issue of April 14th, in reply to "D.H.S." *re* 4 h.p. Douglas oiling system adjustment, there is a spring-controlled by-pass on the oil pump. Tightening up the set screw on the by-pass valve increases the oil supply, and *vice versa*. —J.S.H.

SELECTIVE GEAR SLIPPING.

I had exactly the same trouble as "W.M." (issue of April 14th) with the gear of an old Scott which I bought about two years ago. It was really suffering from an "overhaul" by a garage that evidently knew little of motor cycles and nothing of Scotts. Two things were wrong. (1.) Rollers much too large; they would not enter the taper space in bands, but expanded them by striking the corners of the opening. (2.) The thrust rod of gear was so adjusted that the gear pedal was at the end of its stroke before the gear lever was moved sufficiently far to engage the high-speed clutch. I put in rollers the correct size, and adjusted the throw of the pedal with washers, and have not had the least trouble since. I also had the radiator boil over, but this was due to sheer carelessness on my part plus ignorance of the carburetter—a B. and B. with pilot jet for starting. I left this on, and hence overheated through far too rich a mixture.—A.R.

Re "W.M.'s" query regarding the Scott gear (issue of April 14th): Low gear being used for starting, wear usually occurs on this drum first. As the low gear drum drives satisfactorily, I do not think rollers are worn. The gear should be adjusted thus: Place quick thread outer drum in position, but do not put thin washers or nut on centre spindle. Tighten up friction band until the drum binds when turned in either direction, while at the same time a "free" position remains when the drum is in the central position. The centre of this free movement must be arranged to be the centre of neutral position when the central actuating spindle is connected up. Washers arranged on the central spindle will adjust this. When correctly assembled with the friction band slackened off, tighten up band until pedal remains in position when depressed either way. If a little care is exercised in fitting the correct number of washers, a satisfactory result will be assured.—H.H.J.

DRIVING A DYNAMO.

Might I be allowed to inform your correspondent (who enquires on this subject in your issue of April 14th) that I am the patentee of a device known as the Hilstan dynamo drive system, from the rear road wheel of the motor cycle through the medium of skew gear and flexible covered shaft? This new system has been in constant use (and the throw-out-of-action device has not once been used) on my machine—a two-stroke lightweight, driving a Brolt 36 watt generator—for the past eight months, and the total mileage to date is 5,000, with no trouble whatsoever to the driving gear or the flexible shaft. I claim I have a most efficient system for driving a dynamo: *(a)* Non-slip transmission; *(b)* silence; *(c)* simple throw-out-of-action device operated by thumb and finger disengaging dynamo and drive, when accumulators are charged or lamps not required (not in existence on any other positively driven and non-slip dynamo transmission system); and *(d)* the driving gear can be fitted by a novice to 90% of machines at present on the market without interfering in any way with the structural build of the machine. As regards the difficulty of maintaining a constantly high speed, the dynamo driven by my system is unaffected by the various stresses of speed that are imposed where it is driven from the engine sprocket, *i.e.*, changing gears. The rise and fall in speed are gradual; the Brolt dynamo attains its full output at 1,800 r.p.m., *i.e.*, road speed 15-18 m.p.h.—STANLEY G. MUIR.

RECOMMENDED ROUTES

PONTYPRIDD TO OSWESTRY.—R.C.J.

Pontypridd, Newport, Monmouth, Hereford, Leominster, Wooferton, Ludlow, Craven Arms, Church Stretton, Dorrington, Shrewsbury, West Felton, Oswestry.

NORTHAMPTON TO LEEDS.—A.T.B.

Northampton, Kingsthorpe, Buxworth, Market Harborough, Kibworth, Great Glen, Oadby, Leicester, Newark, Carlton-on-Trent, Tuxford, Retford, Bawtry, Doncaster, Wentbridge, Ferrybridge, Leeds.

Important Dates.

Fri. April 29th. and Sat., April 30th—Ealing and District M.C.C. London-Holyhead Open Reliability Trial.

Sat., April 30th—Newcastle and District M.C. Travers Challenge Trophy Open Reliability Trial.

Sat., April 30th—Surbiton and District M.C.C. Open Inter-Team Trial (Private Owners only).

Sat. May 7th—B.M.C.R.C. Open Meeting at Brooklands.

Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.

Sat., May 21st—Western Centre A.C.U. Open Hill Climb.

Wed., May 25th—A.C.U. Silencer Trial at Brooklands.

Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.

Tues., June 14th—Junior T.T. Race

Thurs. June 16th—Senior T.T. Race.

Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup

Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.

Sat., July 2nd—North-Western Centre A.C.U. Open Speed Trials.

Wed., July 6th, and Thurs., July 7th—Arbuthnot Trophy Trial.

Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials.

Sat., July 9th—St. Andrews Speed Trials

Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.

Sat., July 16th—Ilkley M.C. and L.C.C. Open Reliability Trial.

Sat., July 23rd—East Midland Centre A.C.U. Open Speed Trials.

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Sat., July 30th—Newcastle and District M.C. Open Speed Trials.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.

Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

SPARKLETS

F.N. Four-cylinder Prices Down.

The price of the 7 h.p. four-cylinder Model A three-speed shaft-driven F.N. motor bicycle has been reduced to £150, and the price of the sidecar outfit to £188, hood and screen £7 extra. The specification has not been altered in any way.

Roads Improvement Association.

Although largely of a technical nature, the annual report of this body is well worth reading, for it shows how valuable work is being carried out behind the scenes in the matter of road improvement and traffic regulation. The Association acts on behalf of road users, both individually and collectively, as organisations, road clubs, trade associations, and the like. Despite the financial difficulties of the past year, the income of the Association shows a slight improvement on that of the preceding year.

A Comprehensive Fixture List.

The A.C.U. fixture list, price sixpence (the Auto Cycle Union, 83, Pall Mall, London, S.W.1), is a very useful publication, comprising, as it does, the scheme of affiliation to the A.C.U., a calendar for 1921, a list of A.C.U. events, the principal Continental fixtures, and a list of all the open and important trials arranged for this year. It also contains the names and addresses of the secretaries of the bodies affiliated to the F.I.C.M., and the names and addresses of the secretaries of the local centres of affiliated clubs, mentioning details of all the principal centres which have been instituted.

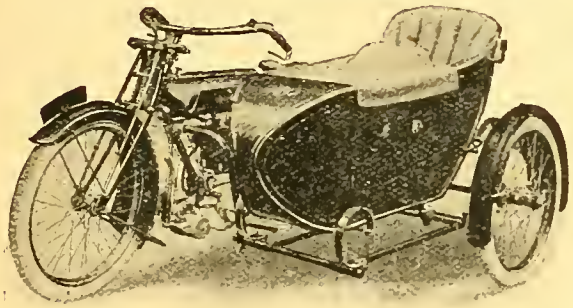
Catalogues Received.

Triumph Cycle Co., Ltd., Coventry: The latest catalogue of the Triumph machines contains an announcement of the recent price reductions. It is a well-illustrated book, and the reproductions of photographs of component engine parts show that the clean external design is also carried out internally.

Rennoc Sidecars, Rennoc Motors, Ltd., Rennoc Works, Victoria Road, Stroud Green, London, N.4: A comprehensive catalogue of Rennoc sidecars of all types, sizes, and weights, with a wonderful variety of bodywork. These bodies are built by the company itself. The list also contains sidecar accessories, such as screens, hoods, etc.

The Tryus Cycle Co., Poplar Works, Johnstone Street, Birchfields, Birmingham: A catalogue of the Silver Prince 2¾ h.p. two-stroke with Villiers Mark IV. (flywheel magneto) engine. This is a well-designed and well-equipped motor cycle with Albion two-speed gear. The catalogue contains hints on management, timing instructions, and a list of spare parts, while the producers have been enterprising enough to include a French translation.

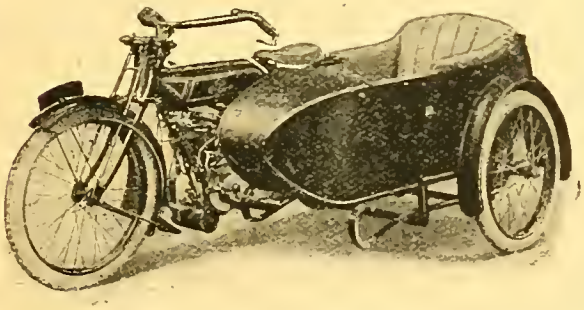
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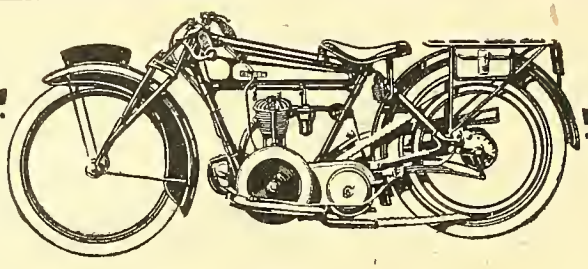
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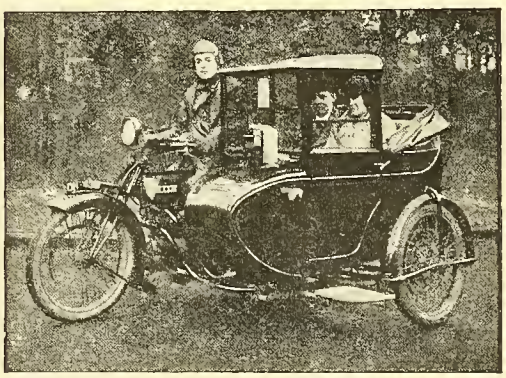
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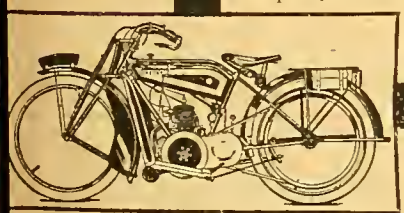
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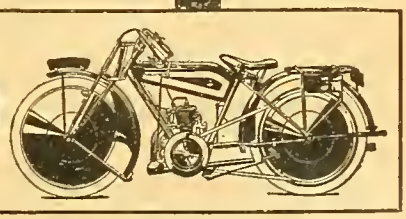
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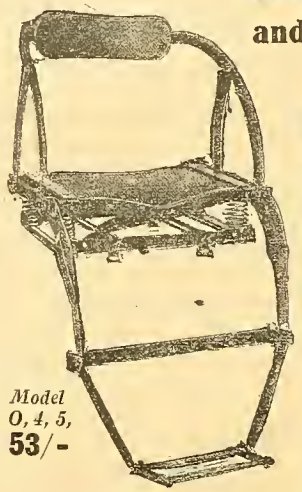
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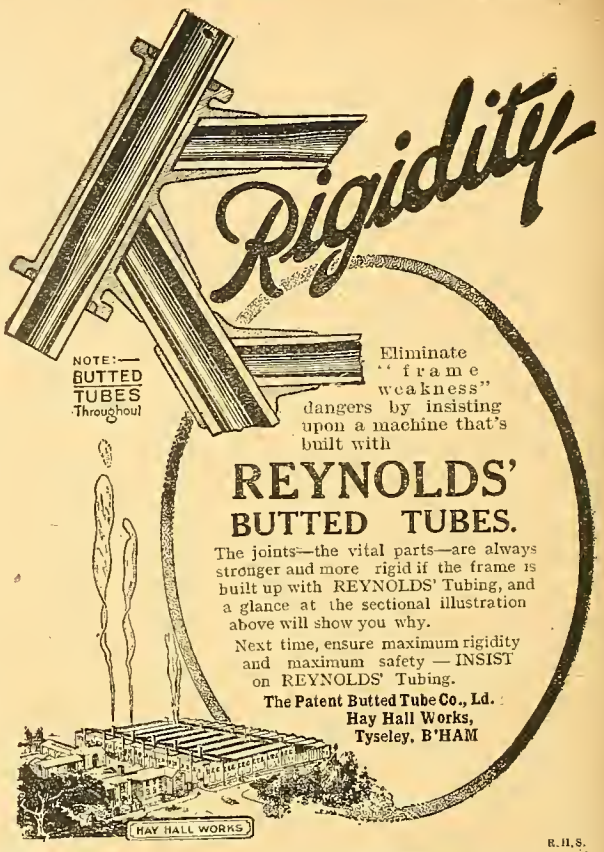


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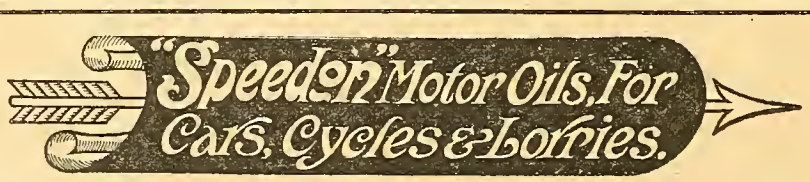
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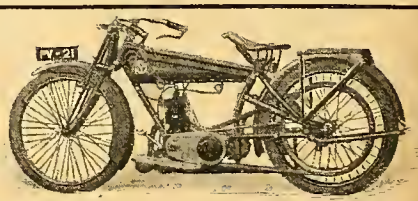
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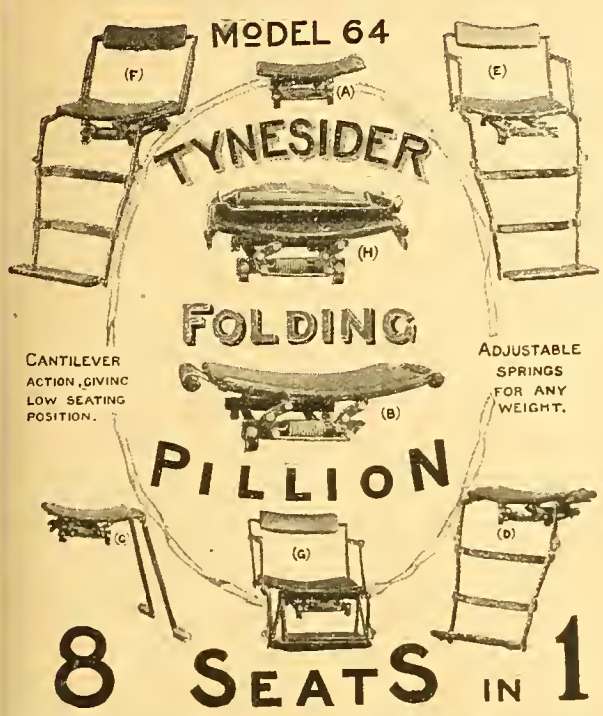
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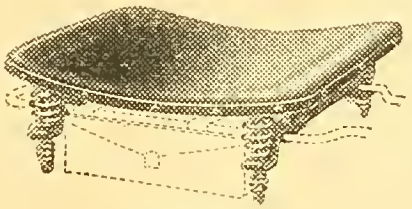
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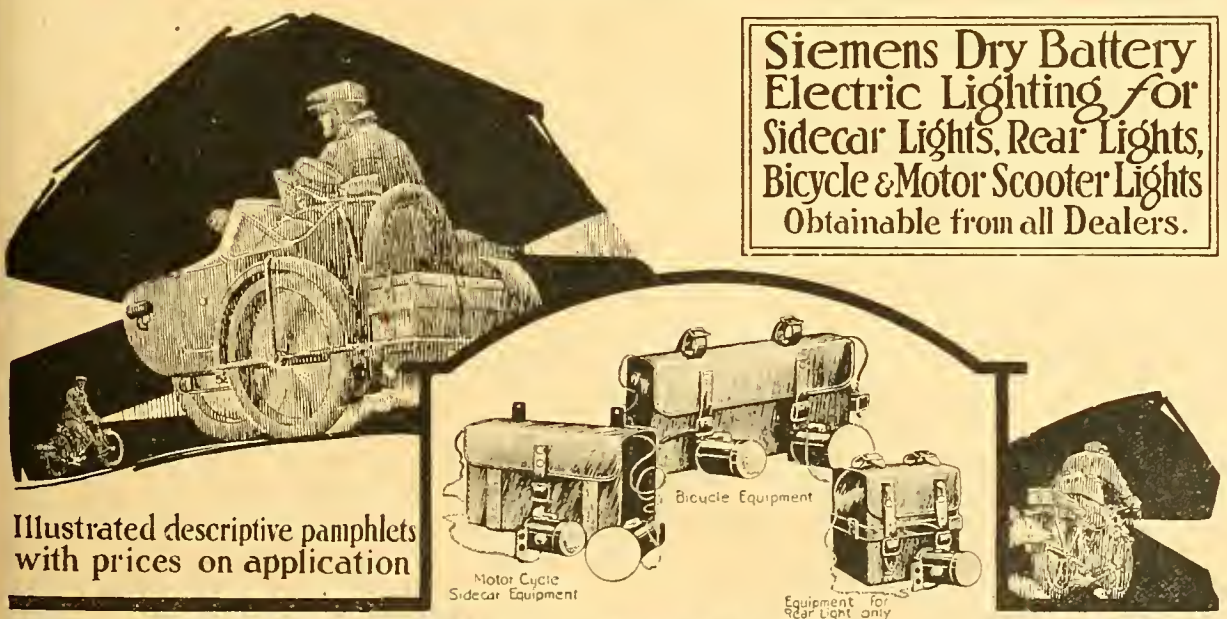
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FIRST ANNUAL GENERAL MEETING.

The First Annual General Meeting of the Company was held at the Registered Offices, 77, Cheapside, London, E.C.2, on the 13th April, 1921, Mr. Edward M. Illiffe, C.B.E., presiding.

The Chairman, in moving the adoption of the Directors' Report, Accounts, and Auditors' Report, said:

IT gives me considerable pleasnre to submit for your approval and adoption the report and the accounts for the first year of the Company's operations.

Turning first to the balance sheet, it will be observed that the issued capital of the Company is £250,000, upon which 10s. per share has been called up. This represents a paid up capital of £125,001—the two signatory shares being subscribed in full.

The revenue account shows that the net premium income, less all re-insurance and returns, amounts to £44,299 5s. 7d., interest and dividends to £3,397 16s. 7d., and other receipts to £432 16s., making a total income of £48,129 18s. 2d.

It will be observed that the claims paid and outstanding at the 31st December, 1920, amount to £12,894, and, after allowing for the expenses of management and commission, there is a balance which is being carried forward as a reserve for unexpired liability of £18,015. This sum represents over 40% of the premium income.

The expenses of management and commission amount to £17,220, and when it is considered that this is the first year of the Company's operations and that so small a sum as £4,101 has been charged to preliminary expenses, the item will not, I think, be considered unreasonable.

Your Directors regard this comparatively small premium with some satisfaction, as it is due entirely to the fact that the risks covered have been carefully chosen. The margins retained are in all cases well within the resources of the Company. It is, in the opinion of your Directors, more important to the ultimate success of the Company to secure a really sound premium income, although comparatively moderate in dimensions, than to show a large income which is so often the objective of new insurance companies, and which it is so easy to obtain if the Directors are willing to run the necessary risks. This, in my opinion, is entirely undesirable.

Before dealing with any Department of our activities specifically, I should like to say a word or two in general terms regarding our operations during the past year. As you are aware, the Company was formed on the 30th December, 1919, and had as its nucleus certain business controlled by The Autocar Insurance Department. You will, I am sure, be pleased to know that during the year arrangements were made whereby the whole of this business, together with certain rights, which, granted a favourable opportunity, should prove of considerable benefit to this Company, were transferred to us free of all cost.

In the early months of the year your Directors decided that it would be in the best interests of the Company were we to become members of the Fire Offices' Committee and the Accident Offices' Association, and we accordingly applied for and obtained admission to membership of both these Associations.

We were somewhat handicapped during the early months of our existence in that we found considerable difficulty in finding conveniently situated premises suitable for our Head Offices, but it is gratifying to report that we were eventually successful in securing our present premises in Cheapside, and we were enabled to occupy them in October last.

During the year we also decided to commence the underwriting of Marine insurance. I propose making a closer reference to this later on, but at this juncture mention it in connection with our organisation only.

Our organisation in connection with our business generally was developed in directions considered advisable, and agencies were created in certain parts of the world which should ensure a progressive volume of desirable business. At this period in our second year, despite the existing conditions of trade generally, we have every reason to be satisfied that these connections will prove of undoubted advantage to the Company in time to come. At present, apart from our Head Office here, we have three Branches in the provinces, each taking its part in the furtherance of our business.

I would now like to say a word or two about each of our Departments specifically. The first item in our Revenue Account is the income derived from our Accident Department. Motor Insurance forms a considerable part in this sphere of our activities.

It was, I believe, commonly considered during the year that we, by virtue of our acquisition of The Autocar Insurance Department, would have made special endeavours to develop Motor Insurance business. Your Directors have kept a very close watch on this particular class of business, and were of the opinion, despite the increases in premium rates that were made during the year, that it was still necessary to exercise great care in the selection of this class of business. This section of insurance business is dependent for success in the future on one of two things. We must either have further increased premiums or a reduction in claims costs, more particularly in the Accidental Damage section. We hope, and I believe this can be said with equal truth by other Companies transacting the business, that there will be no necessity to charge any higher premiums than are prevailing at present, and we are pleased to be able to say that there is now some indication, slight though it may be, of some reduction in the costs of replacements and repairs. Our own claims experience must, on the whole, be deemed very satisfactory, but this has been obtained only by very careful discrimination, endeavouring as we did not to write a large business, but contenting ourselves with a smaller volume, and that confined solely to the better classes.

The figures in the Fire Department are self-explanatory, and are, I think you will agree, quite satisfactory for a first year's Account. The present year will, we believe, show a considerable advance in this section of our business, and we hope to be able to show a result which will be considered equally satisfactory. Our relationships with other Companies in this Department are on a very friendly basis, and many of the larger offices have accorded us valuable support. We have every reason to believe that this support will be given us in still larger measure during the current year.

This brings me to the last and the most recently created of our Departments, namely, the Marine Department. I would be but repeating commonly accepted knowledge were I to reiterate that this is a department which calls for unremitting care and attention just now. We are fully cognisant of that, so much so that you will see by our accounts that our income for the three months during which the Department was in operation up to the end of the year was of very small proportions indeed. We are proceeding on very similar lines just now, and will continue to do so until conditions warrant a departure from that attitude.

I have now dealt with each section of our business individually, and before I cease I just want to say a word or two regarding our ideas for the future. The building up of an Insurance Company cannot of necessity be a quick process if we are to build well. Your Directors are concerned with building well. When we formed the Company we were not concerned with immediate profits; neither are we so concerned now. We are in no hurry to amass a huge premium income, our desire being quite the reverse. What we are anxious to do is to build up a business which shall merit the confidence of our Policy-holders, to the end that they may increase, and so that we may also continue to merit the confidence of the Companies with whom we are now doing business, and such other Companies with whom we expect to stand in closer business relationship during this and the years to come.

We appreciate to the full that the keynote of success in Insurance business is security. We are happily so constituted that we can apply our energies to this, which must be our main purpose for some time to come. We are anxious to make sure that our security shall continue to occupy a position which is at any rate equal to that of other Companies transacting a similar class of business.

My final word must be that of the appreciation which the Directors have for the work and energy displayed during the past year by the staff, both at Head Office and Branches. It is the loyal working together of all concerned which enabled us to close our first year showing the results we do.

I now beg formally to move that the Report and Accounts as submitted be adopted.

The resolution having been seconded, and carried unanimously, Mr. W. Coker Iliffe was re-elected a Director, and Messrs. Mann, Judd, Gordon & Co. Auditors.

BALANCE SHEET as at DECEMBER 31st, 1920.

LIABILITIES.

	£ s. d.	£ s. d.
CAPITAL AUTHORISED:		
500,000 Shares of £1 each	500,000 0 0	
CAPITAL ISSUED:		
249,998 Shares of £1 each, on which 10s. per Share called up	124,999 0 0	
2 Shares fully paid	2 0 0	
		125,001 0 0
Sundry Creditors		17,540 12 0
General Revenue Account funds at end of year ..		18,015 7 6
		£160,556 19 6

ASSETS.

	£ s. d.	£ s. d.
INVESTMENTS:		
£21,900 5 per Cent. War Loan, 1929-47, deposited with High Court, at cost		20,053 3 9
Short-dated Loan, pending completion of Mortgages on Freehold Property		40,000 0 0
Lease of Head Office	8,000 0 0	
Furniture, Fixtures and Fittings at Head Office and Branches	2,260 11 1	
		10,260 11 1
NOTE.—Redemption Policy for £10,000 has been taken out to cover Lease and Furniture. Premium has been charged to Revenue.		
Preliminary Expenses		4,101 11 2
Sundry Debtors		20,428 11 5
Interest and Dividends accrued to date, less Income Tax thereon		63 17 6
Cash on Hand and at Bankers		65,649 4 7
		£160,556 19 6

EDWARD M. ILIFFE
ARTHUR E. MORGAN } Directors.

AUDITORS' REPORT TO THE SHAREHOLDERS.

We have audited the Books and Accounts of the Autocar Fire and Accident Insurance Company, Limited, for the year ended 31st December, 1920, and have obtained all the information and explanations we have required.

In our opinion the foregoing Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs according to the best of our information and the explanations given to us, and as shown by the Books of the Company.

London, 5th April, 1921.

MANN, JUDD, GORDON & CO., CHARTERED ACCOUNTANTS, Auditors.

BUY FROM

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1/5th down and 11 Monthly Payments.

NO CHARGE for terms if account paid in 2 months.

Extract from LIST OF STOCK. NEW 1920 MACHINES.

DOUGLAS 2¾ h.p.	£92	10	0	**CLYNO** 8 h.p. Comb.	£190	0	0
NEW HUDSON Lwt., 2½ h.p., 2-speed	£55	0	0	**HARLEY-DAVIDSON** 4 h.p. Comb.	£155	0	0
JAMES 4½ h.p. Comb.	£140	0	0	**DIAMOND** single speed	£55	0	0
ROVER T.T. 3½ h.p.. 3-speed	£105	0	0	**CALTHORPE** 2-speed, 2-stroke	£65	0	0
NEW IMPERIAL and Sidecar, 8 h.p.	£145	0	0	And many others.			

SECOND-HAND.

1920 **HARLEY-DAVIDSON** 7-9 h.p. Comb. (only soiled)	£220	0	0	1921 **B.S.A.** 6-7 h.p. dyn. Comb. (soiled)	£215	0	0
1921 **G.N. RUNABOUT** 8-10 h.p. (soiled)	£220	0	0	1921 **ARIEL** 6-7 h.p. Comb. (only soiled)	£160	0	0
1920 **A.J.S.** 6 h.p. dyn. Comb. (only soiled)	£205	0	0	1921 **NEW IMP.** 8 h.p. Comb. with access. (sld.)	£160	0	0
1921 **G.N.**, dyn. ltg. (only soiled)	£230	0	0	1920 **NEW HUDSON** 2-speed, 2-str. (soiled)	£62	10	0
1921 **TRIUMPH** 4 h.p. (soiled)	£105	0	0	1920 **DOUGLAS** 4 h.p. Comb. (soiled)	£145	0	0
1916 **ENFIELD** 8 h.p. Comb.	£100	0	0	1919 **QUADRANT** Comb.	£95	0	0
1915 **ENFIELD** 6 h.p. Comb. dyn.	£100	0	0	1919 **RUDGE** and Sidecar	£95	0	0
1919 **ENFIELD** 2-stroke	£49	0	0	1919 **DOUGLAS** 4 h.p. Comb.	£125	10	0
1919-20 **MORGAN**	£165	0	0	1919 **P. & M.** Comb.	£95	0	0
1915 **B.S.A.** 4½ h.p.	£65	0	0	1916 **DOUGLAS**, renovated	£55	0	0
				And many others.			

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A.J.S., 7 h.p., dynamo lighting, Combination £243 0
ALLON, 2¾ h.p., 2-speed, clutch, and K.S. £75 0
ARIEL, 7 h.p. twin, Combination £167 10
BLACKBURNE, 4 h.p., 3-speed, clutch, and K.S. £127 10
CALTHORPE, 2¾ h.p., 2-stroke, 2-speed, clutch, and K.S., Combination, dynamo lighting £115 10
COULSON, 4 h.p. Blackburne, 3-speed, clutch, and K.S. £126 0
DIAMOND, 2¾ h.p. J.A.P., Enfield 2-speed £84 0
DIAMOND, 2¾ h.p. J.A.P., Sturmey 2-speed, clutch, and K.S. £89 5
DOUGLAS, 2¾ h.p., 2-speed, all accessories £85 0
DOUGLAS, 2¾ h.p., 3-speed, clutch, and K.S. £105 0
HUMBER, 4 h.p. flat twin, 3-speed, clutch, and K.S. £140 0
INDIAN 4 h.p. Scout, 3-speed, clutch, and K.S. £172 0
LEA-FRANCIS, 3½ h.p. twin, 3-speed, clutch, and K.S. £145 0
LEVIS 2½ h.p. Sports Popular £60 0
MARTINSYDE, 7 h.p. twin, Combination £175 0
MATCHLESS, 7 h.p., magneto, standard, and Combination .. £205 0
Dynamo lighting, £25 extra. Two-seater sidecar, £7 10s. extra.
NEW IMPERIAL, 8 h.p., Combination £186 0
NEW IMPERIAL, 2¾ h.p., 2-speed £80 17
NORTON, 3½ h.p., T.T., 3-speed, all-chain £132 0
O.K.-VILLIERS, 2½ h.p., single-speed £50 8
O.K.-VILLIERS, 2½ h.p., 2-speed £59 17
O.K.-VILLIERS, 2½ h.p., 2-speed, clutch, and K.S. £64 1
P. & M., 3½ h.p., 2-speed, clutch, and K.S. £115 0
RUDGE 3½ h.p. I.O.M. Multi £85 0
SCOTT, 3½ h.p., 2-speed, sports model £130 0
VELOCETTE, 2½ h.p., 2-speed, clutch £75 0
WOLF, 4 h.p. Blackburne, 3-speed, clutch, and K.S. £110 0
ZENITH, 5 h.p., sports model £123 0

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All the best makes supplied promptly. Below is a selection taken from our list.

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ARIEL Combination, 4½ h.p. £162 10
RUDGE, 3½ h.p., I.O.M. Model £85 0
WOOLER, 2¾ h.p., T.T. model £98 0
WOOLER, 2¾ h.p., touring model £99 10
ZENITH, 5 h.p., Sporting Model C £123 0
DOUGLAS, 2¾ h.p., clutch, and kick-start, all on £105 0
DOUGLAS, 4 h.p., 3-speed, clutch, and K.S., all on £130 0
DOUGLAS Combination, 4 h.p., all on £170 0
DOUGLAS, 2¾ h.p., improved W.D., 2-speed, all on £85 0
Baby **TRIUMPH**, 2¾ h.p. £70 0
TRIUMPH, 4 h.p., chain-drive £125 0
TRIUMPH, 4 h.p., Model H. £115 0
TRIUMPH 4 h.p. Model H Combination £165 0
NEW IMPERIAL-J.A.P., 2¾ h.p. £89 5
TRIUMPH, 4 h.p., renovated by Triumph Cycle Co ..... From £90 0
ROYAL ENFIELD, 2¾ h.p. £65 0
ROYAL ENFIELD, 2¾ h.p., kick-start £70 0
ROYAL ENFIELD Combination, 8 h.p. £160 0
ROYAL ENFIELD Combination, 8 h.p., dynamo £182 0
B.S.A., 4½ h.p., Model K.2 ..... £107 0
B.S.A., 4½ h.p., Model H.2, chain drive £110 0
B.S.A. Combination, 6-7 h.p., dynamo £195 15
B.S.A. Combination, 6-7 h.p. twin £175 0
LEVIS, 2½ h.p., 2-stroke £60 0
BLACKBURNE twin Combination, 8 h.p. £227 10
BLACKBURNE, 4 h.p., solo £127 10
Big Four **NORTON**, solo, 3-speed, clutch, and kick-start £135 0
3½ h.p. 3-speed all-chain **NORTON** £132 0
Big Four **NORTON** and de luxe Sidecar £177 0
A.J.S. Combination, 7 h.p. £215 0
A.J.S. 7 h.p. dynamo Combination £245 15
MATCHLESS Combination, 8 h.p., dynamo £230 0
SUNBEAM, 3½ h.p. £165 8
VELOCETTE, 2½ h.p., 2-speed £75 0
QUADRANT Combination, 4½ h.p. £125 0
QUADRANT, 4½ h.p., solo £105 0
BRADBURY, 4 h.p. £103 10
BRADBURY, 6 h.p. £135 0
BRADBURY Combination, 6 h.p. £173 0
BRADBURY, 2¾ h.p. £89 0

NEW 1920 MACHINES.

List Price.		Reduced Price.
	6 h.p. **BAT** Combination	£160 0
£73 0	2¾ h.p. **P. & S.**	£60 0
£76 0	2¾ h.p. **P. & S.**	£65 0
£42 10	**AUTOPED** Scooters, dynamo	£25 0
£107 0	4½ h.p. **B.S.A.**, Model K.	£100 0

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BLOOMFIELD and Sidecar, 3½ h.p. £45 0
J.A.P. Engine, 8-10 h.p., 1920, w.-c., magneto, new £45 0
ZENITH, 5 h.p., 1920 ..... £97 10
INDIAN and Sidecar, 5-6 h.p., 1913 ..... £60 0
SUNBEAM and Sidecar, 3½ h.p., 1915 ..... £105 0
ROYAL ENFIELD, 2-stroke, 1919, licence paid £55 0
TRIUMPH, 3½ h.p., 1913, T.T., single-speed £42 10
DOUGLAS, 2¾ h.p., 1921, W.D. type, all on. Licence paid £75 0
CLYNO, 2¾ h.p., 1920. Licence paid £45 0

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Arno.

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6h.p., 3-speed, 1920, brand new; £125.—Clark, Exhibition Rd., S.W.7 [9169

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Bat-Jap,' nearly new tyres, T.T. bars, round nk., Cox-Atmos carburetter, very fast and sporty; on offers.—33, The Parade, Golders Green. [4534

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77½ mm. 10h.p. o.h.v. special short wheel- base Bat, nearly all 1920, guaranteed; £85; ge late T.T. Rover, Norton.—Further parti- apply, Windermere, London Rd., Twickenham. [5306

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Beardmore, perfect condition, Miller lighting set, tyres unmarked, mileage under 1,000, the all-weather motor cycle; reason selling, owner car; price £80, carriage free.—X., 27, Colegate rwich. [4299

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Bradbury.

DBURY 4h.p., 2-speed, splendid order, tax aid; £36.—Felton, Gnosall, Staffs. [5302

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8 h.p. **ENFIELD** Comb., dynamo lighting	£182	0
O.K. JUNIOR	£50	8
O.K. JUNIOR, 2-speed	£59	17
O.K. JUNIOR, clutch and kick-starter	£67	4
2½ h.p. **NEW COMET**, 2-speed, clutch and kick-starter	£68	5
2¾ h.p. **NEW IMPERIAL JAP**, 2-speed, clutch and kick-starter	£84	0
NORTON "Big 4," 3-speed	£135	0
3½ h.p. **P. & M.** Combination	£155	0
2¾ h.p. **ROYAL RUBY** Sports model	£84	0
3½ h.p. **SUNBEAM**, 3-speed	£155	8
4 h.p. **TRIUMPH**, 3-speed, model H	£115	0
4 h.p. **TRIUMPH**, 3-speed, model S.D. all chain	£125	0
8 h.p. **ZENITH**, clutch, model H	£150	0
VELOCETTE, 2-speed	£75	0

etc., etc.

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TRIUMPH, 1917, 4 h.p., 3-sp., Sturmey	£75	0
P. & M., R.A.F. model, 2-speed	£65	0
N.U.T. 1920 3½ h.p. twin, magdyno lighting, speedometer, etc.	£125	0
DOUGLAS 1920 4 h.p. Combination, all accessories	£135	0
ENFIELD 8 h.p. Combination and accessories, renovated as new	£125	0

etc., etc.

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6h.p. Bradbury Combination, 3-speed, kick-starter, lamps, horn, etc.; £85.—74, Brighton Rd., Surbiton. [4557

DAVIES, of Manchester, can deliver 1921 Bradbury from stock. — 229, Deansgate. 'Phone: 536 Central. [2434

1920 4h.p. Bradbury, chain drive, 3-speed, clutch, kick-starter, not done 1,000 miles; £125.—Wallis and Easton, Mill Rd., Cambridge. [4835

BRADBURY Coachbuilt Combination, 4h.p., N.S.U., Bosch, B.B., equipped, policy, splendid condition; nearest £65.—19, Ashcroft Rd., Bow, E.3. [4787

BRADBURY Combination; 35 gns.; 4h.p., 3-speed, free trial, splendid condition, all accessories, tax £4 paid.—169, Mortlake Rd., Ilford, Essex. [2933

1914 Bradbury, excellent condition, fast, reliable, single speed; £36, or with new 2-speed N.S.U. gear, £42; trial.—W. L. Reedman, Sowerby, Thirsk. [5161

BRADBURY 1913 4h.p. Combination, N.S.U. 2 speeds, equipped, good condition; £60.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2448

BRADBURY Single-cylinder Combination, 2-speed, countershaft, kick start, equipped, registered; £55; exchange lightweight.—Wilson, Way's Green, Winsford, Cheshire. [4232

BRADBURY 1920 4h.p. Combination, 3 speeds, electric lighting, Klaxon, speedometer, clock, 1921 tax paid, small mileage; £130, or close offer.—Broom, 88, Gt. Portland St., London, W.1. [9242

BRADBURY 6h.p. Twin, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy. Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [4471

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3½h.p. Brough, 1914, o.h.v., 2-speed, T.T., very fast, splendid condition, electric lighting, lately overhauled; £60, or near offer.—Willis, Shotley, Castle Rd., Weybridge. [4680

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BROUGH 5-6h.p. Combination, flat twin, S.A., 3-speed, hand clutch, tax paid, holder, all lamps, horn, spare plugs, valve, etc., most beautiful C.B. sidecar, wind screen, best upholstery, specially made to order, only ridden few hundred miles, condition as new throughout, cost £195; sacrifice £135, no offers; owner bought car.—Orme, Costumier, Derby. [5326

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B.S.A., July, 1920, B.S.A. sidecar, Lucas Magdyno, small mileage; £130.—102, Queen's Rd., Peckham. [4985

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B.S.A.

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B.S.A. 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2439

B.S.A., immediate delivery all models, mostly from stock.—Chaston, Blackwood, Mon. [5333

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B.S.A., all models in stock; spare parts definitely by return against cash.—Pitts, of Redditch. Tel.: 91. [X9324

B.S.A. 1921 Twin 6-7h.p. Combination in stock; £175; spare wheel, tyre, and luggage grid extra £13/19.—Below.

B.S.A. 1921 Model H2, 4¼h.p., chain drive, £110; No. 3 1921 sidecar, £42; No. 2 1920 type sidecar, £35; in stock.—A. Rivett, 236, High Rd., Leytonstone, E.11. [9545

B.S.A. Combination, all chain, 1920, brand new, tax, lamps, horn; £118. — 20, Elm Gardens, Hammersmith. [5134

B.S.A., 1916, all-chain, Millford sidecar, child's seat, Bonniksen, fully equipped; £95.—35, Silver St., Enfield Town. [5260

B.S.A. 1921 Models; orders now accepted for early delivery.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [0429

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B.S.A. 1921 Model K2, in stock, delivered anywhere. —City Agents, Turner Brothers, 134, Upper Thames St., London, E.C.4. [5021

1919 4h.p. B.S.A., 3-speed, clutch and kick-starter, been overhauled, as good as new; £85.—Wallis and Easton, Mill Rd., Cambridge. [4831

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B.S.A. Coachbuilt Combination, 2-speed, clutch, perfect condition; £45; exchange solo.—The Haven, 120, Sutherland Rd., Croydon. [5186

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B.S.A. 4¼h.p. Combination, late 1920, all accessories, absolutely as new; £115; seen any time.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E3155. [5510

B.S.A. New 1921 Models actually in stock; new 1920 Magdyno combination, £158.—Agents, R. B. Clark and Co., 7, Exhibition Rd., S.W.7. [5476

B.S.A. 1917 Combination, C.B., 4¼h.p., exceptionally good order, almost as new; a bargain at £95.—Ashby House, York Av., Hunstanton, Norfolk. [X2553

B.S.A 4¼h.p. Model K, 3-speed countershaft gear, coachbuilt sidecar, excellent condition; £80.—Eagles and Co., 275, High St., Acton, London. [5107

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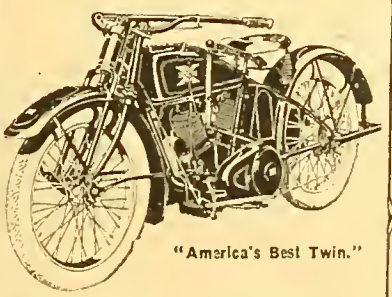
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DOUGLAS Combination, 4h.p., 1920, complete tax, insurance paid; £120.—2, Somerset Rd., New Barnet. [4874

DOUGLAS Combination, 1919, almost new, licensed, equipped; £95, snip. — 28a, Daneburst St., Fulham. [4285

1916 2¾h.p. Douglas, splendid condition, all on; £58.—A. Harmer, The Old Crown, Church St., Kingston. [4916

1916 Douglas, good running order; £37/10, or offers.—Ramm, Godstone, Surrey. 'Phone: 10 Godstone. [5001

4h.p. Douglas Combination, excellent condition; £95, or nearest offer.—156, Fulham Palace Rd., Hammersmith. [5047

2¾h.p. Douglas, 2-speed, licence paid, fully insured, accessories, good order; £45.—Lone, Charing Cross Hotel, S.W. [4681

2¾h.p. Douglas, 1913, perfect condition throughout; £49, or nearest.—Callas, Grosvenor Rd., Caversham, Reading. [4991

1918 2¾h.p. Douglas, all on, fast, as new, tax paid, spares; bargain, £50.—17, Trafalgar Sq., Peckham Park Rd., S.E. [5174

1919 Douglas 4h.p. Combination, very little used, and good condition; £100.—T.W., 182, Chase Side, Southgate. [4401

1920 2¾h.p. 3-speed Douglas and Accessories, in good condition; £82.—Bounds, 223, High Rd., Kilburn, N.W.6. [4611

MOTOR CYCLES FOR SALE.

Douglas.

1913 Douglas 2¾h.p., 2-speed, lamps, horn, speedometer in splendid condition, long exhaust; £50.—Gee, Nuneaton. [4439

DOUGLAS, 1911, without power unit, everything else complete and good condition £10.—170, Red Lane, Coventry. [X2636

DOUGLAS 4h.p., 1918, new tyres, excellent condition; £80, or near offer.—10, Rockbourne Rd., Forest Hill, S.E. [5282

EXCEPTIONALLY Smart 1918 Douglas, 2¾h.p., 2-speed, well equipped; £50.—60, Wallingford Av., North Kensington. [4905

GIBB, Gloucester, can give immediate delivery Douglas 1921 models and spare parts from stock.—'Phone: 852. [6340

1915 2¾h.p. Douglas, 2-speed, in good condition, lately been renovated; £46.—Wallis and Easton, Mill Rd., Cambridge. [4833

NEW 1920 Douglas 2¾h.p., 3-speed, clutch, kick start; offers over £85.—Ramm, Godstone, Surrey. 'Phone: 10 Godstone. [5000

DOUGLAS 2¾h.p., 1916, 2 speeds, £42; Douglas 4h.p., 3 speeds, clutch, kick start; £52.—Hole, 129, Park Lane, Carshalton. [5088

1919 4h.p. Douglas, lamps, horn, leg shields, original enamel and plating as new, not W.D. machine. —78, Sloane Av., Chelsea. [5182

ALL-ON Douglas Models from Stock; 2¾h.p. 2-speed, £35; 3-speed clutch, £105; combination, £170.—Moffat, Yeovil. 'Phone: 50. [5043

DOUGLAS 1915 2¾h.p., 3-speed, good condition, fast, fully equipped; seen Putney; £50.—Box 3,649, c/o *The Motor Cycle.* [4863

DOUGLAS 2¾h.p., unissued W.D., done about 2,000, fully equipped, tax paid; £52. — Grimes, 18, Bruton Place, Bond St., W.1. [5372

DOUGLAS 1918 4h.p. Genuine Combination, 28×3 all round, all on; £85; after 4.—Callard, 25, Conington Rd., Lewisham, S.E. [5205

1920 Douglas 2¾h.p., 3-speed, Cowey speedometer, Lucas lamps, good condition, tax paid; £78.—43, Offley Rd., Brixton, S.W.9. [5154

1920 (September) 4h.p. Douglas Combination; £130; accessories, Easting screen; trial.—J. McMillan, Cornhill, Bridgwater, Somerset. [4443

DOUGLAS 1915 2¾h.p., excellent running order, seen morning or appointment; bargain, £35.—Cuff, The Park, Mitcham, Surrey. [5064

1919 4h.p. Douglas Combination, fully guaranteed, absolutely as new, full particulars sent; offers.—Box 3,627, c/o *The Motor Cycle.* [4486

4h.p. Douglas Combination, 1918, in first-class condition; £95, or near offer.—Apply, Cotton, Love Green Cottage, Iver, nr. Uxbridge. [5517

DOUGLAS 2¾h.p., condition as new, perfect running order, mileage 1,500, lamps, etc.; £55.—100, Brockley Rise, Honor Oak Park, S.E. [4657

DOUGLAS 2¾h.p., 1916, 2-speed, lamps, mechanical horn, licence paid, perfect; £45, or offer.—107, Penton Place, Kennington, S.E. [4789

DOUGLAS 2¾h.p., 1916, equipped, excellent condition, £53, or part exchange 1920 combination.—Rydal, Wordsworth Rd., Wallington. [4875

2¾h.p. 2-speed Douglas, T.T., little used, overhauled and adjusted perfectly, spares, tax, all on; £45.—4, Gaywood Rd., Walthamstow. [4849

£25.—1911 Douglas 2¾h.p., good running order, smart appearance, tax paid, good tyres and accessories.—Newman, Alderholt, Salisbury. [4306

2¾h.p. Douglas, 1915, reconditioned, new Dunlop tyres and belt; any trial allowed; £36, or offers.—Dowell, The Crescent, Pyrford, Surrey. [5116

DOUGLAS 1919 4h.p. Combination, splendid order; £95.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3446

NEW 1920 Model 4h.p. Douglas Combination (not W.D.), electric lamps, horn, etc., tax paid; £135. —Fish, 5, Rectory Lane, Jericho, Bury. [5159

1917 Douglas 2¾h.p., all accessories, Tan-Sad, etc., tax paid, specially tuned; £50.—'Phone Wanstead 48.—374, Grove Green Rd., Leytonstone. [5347

£65, or near offer.—1917 Douglas Combination, all on, splendid condition, any trial; after 6.—Green, 96, Grove Park, Camberwell Grove. [4972

F.O.C.H. have several good second-hand Douglas combinations and solos; bargains.—5, Heath St., Hampstead (near Hampstead Tube Station). [4639

DOUGLAS Combination, late 1918-19, 4h.p., condition good, Easting, leg shields, tax paid; £86, lowest.—Davis, 90, Sydney Rd., Hornsey, N. [4309

4h.p. Douglas Combination, 75 m.p.g. two up, Birmingham and back; best offer.—Bakers Garage, Castle Bar Mews, Pelshanger Lane, Ealing. [4589

1919 Douglas, 2¾h.p., 2-speed, licence, Watford trip speedometer, insurance policy, accessories; £68. —67, Micheldever Rd., Lee, S.E. After 6. [4914

DOUGLAS, 1921, new 2¾h.p., 3-speed, clutch and kick start, including lamps, horn, licence holder; £105, in stock.—Rose's Garage, Uxbridge. [5196

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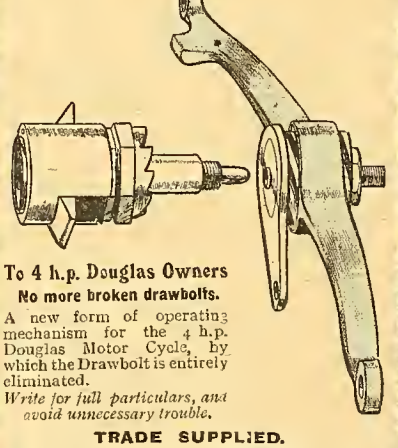
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1919 Douglas 2¾h.p., 2-speed, Binks, lamps, generator, in good condition; £65; excha or extended payments; approval with pleasure.— Layton Garages, 90, High St., Oxford. 'Grams: tegrity. 'Phone: 581. [X

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DOUGLAS, 1916, 2¾h.p., makers' colours, eco plating, and mechanical condition sple £48.—30, Crystal Palace Park Rd., Sydenham.

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DOUGLAS.—Make me an offer, 1914 combina 3½h.p., recently overhauled, good running or Write for particulars, Box 3,590, c/o *The Motor*

2¾h.p. Douglas, fixed engine, new crankshaft, 24 tyres, excellent condition; £25, or offer; h paid.—J.C., 133, Rivington Rd., St. Helens, Lanc

DOUGLAS 2¾h.p., 2-speed, 1918 (authentic), r running order, lamps, pumps, etc.; £55, or London S.W. district.—Box 3,496, c/o *The Motor*

DOUGLAS 4h.p., thoroughly overhauled, enamelled and plated, new tubes and c special Senspray; £75.—Birch, 426, Liverpool N.7.

MIDLANDERS.—Douglas motor cycles, 2¾h.p. 4h.p. combinations in stock; immediate liveries.—Colmore Depot, 31, Colmore Row, Bir ham.

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1914 2½h.p., 2-speed gear box, shaft drive, good tyres, front and rear stands, carrier, lamps, horn, etc., equal to new, tax paid; £35.—A., 136, bury Rd., Earlsfield, London, S.W. [5467

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EDIATE Delivery of any F.N. Model; cash or deferred payments; book your order now, and disappointment later.—Burlington Motors, Ltd., Side, Clapham Common, S.W.4. 'Phone: Brixton 417. [0500

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IANS of Reading have 1921 Francis-Barnett in stock. [0479

p. Francis-Barnett, J.A.P., 2-speed, clutch and kick starter, very small mileage and condition equal to new, complete with lamps, horn, and £72/10; easy payments.—Harrnds, Ltd., 118, ton Rd., London. [4818

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RLEY, 1918 W.D., £80.—132, High Rd., East Finchley. [5096

KERING, Shrewsbury, Shropshire agent Harley-Davidson; exchanges. [X2503

CTICALLY New 1919 Harley Combination 120.—50, Bath St., E.C. [5345

RLEY Sports, brand new, equipped; £145.—Clark, 7, Exhibition Rd., S.W.7. [9175

RLEY-DAVIDSON Combination for 3½h.p. Sunbeam, or sell.—Florists, 193, Stamstead Rd., Hill. [4300

LANDERS.—For Harley-Davidson motor cycles go straight to the Colmore Depot, 31, Colmore Birmingham. [4743

8 7-9h.p. 3-speed Harley Combination, renovated like new; £110.—29, St. Leonard's St., Brom-Bow. East 4708. [4940

tock.—1917, 1919, and 1920 Harley-Davidson mbinations; from £120 to £200.—Stacey, 12, ll Rd., Sheffield. [0577

9 Harley Motor Cycle and Sidecar, in good running order; £110; tax paid.—Wright, 12, St., Poplar, London. [5405

RLEY-DAVIDSON.—All models in stock, new nd second-hand.—Sole Agents, Bambers', South Lancashire. Tel.: 607 [5009

RLEY Combination (1915), coachbuilt sidecar, Bosch mag. model, mechanically perfect, good £85.—Ward, Jeweller, Evesham. [4370

RLEY-DAVIDSON 7-9h.p. Combination, all accessories, etc.; £80; trial any time.—C.S., 14, Rd., Bow, E.3. Tel.: E3155. [5511

—Harley-Davidson, 1918-19, 7-9h.p., as new, agneto model, new Langford picnic sidecar; £38; 5.—1, Townley Rd., E. Dulwich S.E.22. [4882

p. Harley-Davidson Combination, electric light, wind screen, first-class condition; £110, or ge solo and cash.—12, Garfield St., Leicester. [4339

RLEY Combination, electric model, splendid conition, pillion seat, any trial, tax paid; reasoner.—Fisher, 74, Settrington Rd., Fulham, S.W. [5035

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RLEY-DAVIDSON 1916-17 7-9h.p., lamps, horn, ses, tax paid; £85, or exchange 6h.p. Zenith, shaft.—Seen at 645, Garrett Lane, Earlsfield. [5122

RLEY-DAVIDSON Combination, 1920, only done 1,000 miles, condition as new; price £175.—Conngineers, Ltd., 170, Saracen St., Possilpark. [5228

RLEY-DAVIDSON Racing Machine, special engine and frame, many spares, touring cams, carr, and clutch.—Box 3,681, c/o *The Motor Cycle*. [5536

RLEY, 1920 (Nov.), 7-9h.p., electric model, nder 200 miles, licence, lamps, horn, speedoas new; £145, lowest.—23, Ravensbourne Gdns., [5257

(Nov.) 7-9h.p. Harley, as new, guaranteed, ry little used, lamps, Klaxon, spares; genuine nearest £106, must sell.—133, Muswell Av., Hill. [4376

RLEY-DAVIDSONS.—1918 combination, £115; 1919 combination, £125, renovated; 1918 unrenolo machine, £77/10.—Owen, 59, Scholefield Rd., Holloway. [X2564

Harley Combination, electric model, discs, pares, licensed, speedometer, perfect order; £160. ds, 50, Harrington Rd., South Kensington. 3709. [4180

1917 Harley-Davidson Combination, hood and reen, electric, fully equipped, just been comoverhauled; £125.—A. J. Young and Co., ewmarket. [5385

LEY Combination, 1915, electric model, Millsulford sidecar, splendid touring machine; 100 pares included.—H., 340, Upper Richmond Rd., een, London. [4967

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Harley-Davidson.

HARLEY-DAVIDSON 1920 4h.p. Model, Swan sporting sidecar, electric lighting, in good condition, as new; £185.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2441

7-9h.p. Harley Combination for sale, tax paid, Easting's, D.A. lighting, Cowey speedometer, foot horn, everything perfect; price £100; any trial.—Edwards, Chester Rd., Winchester. [3259

HARLEY Combination, 1919, mileage under 2,000, hood, screen, rear drive speedometer, lamps, horn, new Dunlops all round, licensed, first-class lot; £150.—132, High Rd., East Finchley. [5092

1919 Harley Combination, 1921 sidecar, Cameo, expensive accessories, spares, splendid turnout, cost over £200, condition as new; £140.—67, Fernlea Rd., Balham, S.W. Exchanges. [5307

1915 Harley 7-9h.p., 2-seat sidecar with 2 screens, special Tan-Sad, re-enamelled and overhauled; £105; seen after 6; tax paid, insured.—S. Kinsey, 23, Pemberton Gardens, Upper Holloway, N.19. [5491

1920 Harley De Luxe Combination, electric model Easting Royal screen, Brooks cantilever saddle, mileage only 500, practically new, all accessories; price £168; cost £250.—Kens. 2372. 18, Westercombe Av., Fulham. [4371

1919 W.D. Harley, excellent order, just overhauled, Lucas lamp, horn, licence holder, tax paid for sidecar, Corbin and Brown speedometer; snip, £95. See Sidecar column.—Maynard, St. Hilda's Station Rd., Hampton Wick. [3644

1920 Harley-Davidson 4h.p., flat twin, complete with speedometer and makers' lighting set, little used and in perfect condition, having only done 700 miles; first cheque for £115 secures; owner bought car.—V.D., 186, Campden Hill Rd., W.8. [5087

HARLEY-DAVIDSON 7-9h.p., 1918-19, W.D., overhauled, enamelled makers' colours, guaranteed, fully equipped, £100 solo; combination £130 and £135.—Maudes', 100, Gt. Portland St., W.; 100, Paris St., Exeter; and Walsall Garage, Walsall. [X2536

4h.p. Harley-Davidson, delivered Aug., 1919, indistinguishable from new, open to expert examination, fully equipped with spare parts, 2 spare tubes, guaranteed 75 m.p.h., owner purchased car.—H. Cook, Forester's Arms, Lordship Lane, Dulwich, S.E.22. [4375

LATE 1919 Harley-Davidson Bulbous Combination, 7-9h.p., mag. model, P.H. lamps, discs, speedometer Klaxon, tools, spare valves, chain, tyre, unscratched, guaranteed perfect; £140.—Eaves, 5, Thornfield Rd., Shepherd's Bush. 'Phone: Hammersmith 2884. [4810

1919 Harley-Davidson Combination, electric and acetylene lighting, legshields, Tan-Sad, speedometer, spares, all new tyres, excellent sidecar, wind screen, combination in perfect condition, tax paid; owner buying car; £160.—Morriss, 8, Victoria Rd., Finsbury Park, N.4. [4675

TWO 1919 Harley-Davidsons, re-enamelled and plated, thoroughly overhauled, including numerous new parts, tyres good, lamps, horn, number plates and licence holder, complete with unused Mansfield speedometer; bargain, 110 gns.—Maynard, St. Hilda's Station Rd., Hampton Wick. [3642

1919 (late delivery) Harley-Davidson Combination, 7-9h.p., No. 1 sidecar, mag. model, speedometer, mileage 900 miles, Lucas dynamo lighting set, good as new, double horn, and all accessories, unscratched; trial given any time; owner going abroad; £176, tax and insurance paid.—38, High St., Islington, N.1. [4806

HARLEY-DAVIDSON 7-9h.p. Coachbuilt Combination, 1918-19, magneto model, electric lighting, hood and screen, 3 speeds, kick start, practically new tyres and chains, recent complete overhaul, tuned for speed, tax paid; £120, no offers; trial by appointment.—Meyer, 19, Longton Av., Sydenham, London, S.E. [4785

HARLEY-DAVIDSON 7-9h.p., 1920, electrical model, Henderson sidecar, complete with Easting wind screen, speedometer, luggage grid, Tan-Sad with back and footrests, mudshield, handle-bar mirror and muffs, spare chain, tube, etc., licence paid 1921, in perfect order; £195.—Apply, The Castle Garage, Meneth. [4607

HARLEY-DAVIDSON 1919 Electric Model, 7-9h.p., painted royal blue, completely overhauled by makers, fitted aluminium discs, complete with all accessories, absolutely perfect condition, always been looked after by experts; any trial; price 110 gns.—Frogs, Motor Department, Brunswick Works, King St., Hammersmith, W.6. [4729

7-9h.p. Harley-Davidson Combination, 1916, completely overhauled, engine, plating, enamelling, upholstering, and mag., new Binks carburetter, lamps, horn, Tan-Sad pillion seat, licence and tools complete, extra tube, pump, new chains, tyres almost new, looks like new machine; quick sale, £130, or near offer.—Phillips, 3, West Blackhall St., Greenock, Scotland. [4452

AN Exceptionally Handsome Magneto Model Harley-Davidson 1920 family combination, expensively fitted out with hood, wind screen, luggage grid, disc wheels, legshields, electric light, Cowey and electric horns, and many refinements, for immediate sale; £160, including tax, or exchange lower power, Sunbeam preferred.—7, St. Mark's Mansions, Tollington Park, N.4. 14 'bus route. [5575

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Harley-Davidson.

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Hazlewood.

1921 Hazelwood 6h.p. Combination, bought Easter for £186, not yet used; must sell; what cash offers?—Box 3,661, c/o *The Motor Cycle.* [5418

HAZLEWOOD 4-5h.p. C.B. Combination, engine and countershaft gears perfect, just overhauled, Klaxon, Tan-Sad, lamps, trial; bargain, 70 gns., or near.—Seen Jewell's, 168, Archway Rd., N. [5558

NEW 6h.p. Hazlewood Combination, 3-speed, clutch and kick starter, a very reliable outfit, a few shop-soiled outfits, available at special prices for immediate delivery; £170; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [4820

H.B.

H.B., 2¾h.p. Blackburne engine, 2-speed, kick start and clutch, lamps, horn, and tax paid; £67/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3454

Henderson.

E. KICKHAM for Henderson, sole agent for Bristol and Bath districts.—Stokes Croft, Bristol. [3354

1920 Henderson 10h.p. 4-cyl. Combination, excellent condition; £135.—Box 3,660, c/o *The Motor Cycle.* [5417

HENDERSON 4-cyl., clutch model, as new, disc wheels, electric light, owner bought car; £100.—The Rosery, Church Rd., Hanwell. [4913

HENDERSON 4-cyl. Combination, 2-speed, clutch, handle starting, speedometer, best lamps, spares, coachbuilt sidecar, excellent condition, wonderful acceleration; bargain, £90; bought car.—78, Fisherton, Salisbury. [4699

1920 Henderson with Henderson de Luxe sidecar, 3-speed, clutch, and kick starter, fitted 3 lamps, Klaxon, all tools, not ridden 3,000 miles, in perfect condition throughout, a luxurious outfit, tax paid; £170, or solo and cash.—F. Warren, Hindon, Wilts. [4700

Hobart.

HOBART-VILLIERS 2-speed model, new; £60.—Chaston, Blackwood, Mon. [5335

2½h.p. Hobart 2-stroke, in good condition; £26.—Pittuck, Railway Station House, East Ham. [5119

HOBART-VILLIERS, late 1919, perfect in every way, lamps, spares; £45.—20, Warwick Row, Coventry. [X2685

Hockley.

£33.—Hockley-Union 2-stroke, ridden 100 miles, lamps, tax paid.—King, Egrove Farm, Oxford. [X2573

BRAND new 1921 Hockley 2-stroke, Albion 2-speed gear, duplex frame, 26in. wheels, Dunlop tyres, C.A.V. magneto, drip feed, pan saddle, luxurious machine, list price £70; to clear, £53; illustration sent.—Hockley Motor Co., 38a, Cecil St., Birmingham. [5364

Humber.

1918 6h.p. Humber Twin, Montgomery sidecar; £120, little used, tax paid.—Nicholson, Langwathby, Carlisle. [5268

HUMBER 3½h.p., licence, perfect condition, nearly new tyres, belt, rear wheel, fast, economical, and reliable; £35.—Frondeg, Sudbury, Harrow. [4843

MUST Sell, 3½h.p. Humber, Bosch, B. and B., chain-cum-belt drive, low; £25; property of gentleman.—2, Cambridge Rd., Thornton Heath, Surrey. [5178

HUMBER 6h.p. Water-cooled Flat Twin Combination, 2-seater sidecar, Tan-Sad, all accessories; £105.—Clifford Wilson, 177, Westminster Bridge Rd., S.E.1. Hop. 210. [5400

HUMBER Combination 4h.p. flat 1920, electric lamps all round, Lucas horn, sidecar screen, speedometer, condition as new; £155; close offer.—Lt. Burton, c/o Dan Guy, Weymouth. [0564

HUMBER 1920 4½h.p. Flat Twin Combination, Grindlay de luxe sidecar, Easting wind screen, lamps, horn, speedometer, licence and holder, etc., condition unscratched, tyres unpunctured; outfit cost £200 August, 1920, accept £160, or near offer.—Birchall, 8, Newhall St., Birmingham. [4668

Indian.

INDIAN Combination, splendid condition, electric outfit; £79.—3, Wallingford Av., W.10. [3712

INDIANS.—1921 models new ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2437

E. KICKHAM for Indian, sole agent for Bristol and district.—Stokes Croft, Bristol. [3353

5h.p. Indian Combination, 2-speed, new tyres, tax paid; £45.—8, Park Place, Hampton Hill. [4717

INDIAN Scout, mileage 70, speedometer; cost £157, accept £120.—Box 3,657, c/o *The Motor Cycle.* [5414



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Indian.

INDIAN 1915 7-9h.p., T.T., clutch, all on, fast l £50; after 4.—Callard, 25, Conington Rd., Le ham, S.E. [52

1920 Powerplus Indian, dynamo lighting, very li used, and as new; what offers?—92, Glouces Rd., S.W.7. [5

4h.p. Indian Combination, electrically equipp speedometer, any trial, perfect condition.—Flori Kingsway, Woking. [50

INDIAN 1919 Powerplus, low mileage, indistingu able from new, tax paid; £70.—25, St. Jam Rd., Tunbridge, Wells. [5

LOOK!—Indians, 1918 7-9h.p., 3-speed, clutch, sp frame, like new, £60; ditto, 1919, £65.—32, L Gardens, Hammersmith. [3

1919 7-9h.p. Indian Powerplus Combination, w screen, disc wheels; sacrifice, £95.—Ramsd 8 Maybell av., Blackpool. [4

1916 Indian Combination, splendid condition, overhauled, insurance, tax paid.—Garton, Mi Av., Gerrards Cross, Bucks. [4

5-6h.p. Indian, all chain, etc., perfect, fast, powerful; £45 for quick sale.—139, Ladbr Grove, North Kensington, W.10. [4

5-6h.p. Indian, clutch model, perfect running or tax paid; nearest offer to £40 secures.—Els 15, Ebury Bridge Rd., S.W.1. [4

INDIAN, 1919 Powerplus, spring frame, new sidecar, bulbous back, apron, trial; £115.—I chett, 30 Park St., London, N.1. [4

1919-20 7-9h.p. Powerplus Indian Combination, speed, brand new 1921 sidecar, smart lot; £14 Box 3,648, c/o *The Motor Cycle.* [4

POWERPLUS 1916 Indian, 3-speed, hand and clutch, etc., guarantee, tax paid; 58 gns.— Bushey Rd., Harlington, Middlesex. [4

1916 Indian and Sidecar, good condition, 3 spe clutch; £85, near offer; would sell solo.—Jo Swan Brewery, Fulham Rd., Fulham. [4

5-6h.p. Indian, coach sidecar, hood, screen, lar spares, tyres good, overhauled, tax paid; £7 Allison, 113, Park Lane, Carshalton. [4

INDIAN 7-9h.p., 1915, 3-speed, Mills sidecar, c child's chair, electric lamps, horn, splendid co £110.—Felgate, London Rd., Braintree. [4

1921 Indian Combination, dynamo lighting, (new); £226.—E. Brown, Indian Specialist, 3 7a, Parker Lane, Burnley. Tel.: 1032. [X

48 GNS.; Indian T.T. 7-9h.p., 1915, clutch, tyre, chain and sprocket, accessories, tax —Bramwell, 4, Market Sq., Stony Stratford. [

90 GNS.—7-9h.p. 1918 Indian combination, ing outfit, tax, etc.; bargain.—Mattl Grocers, Little Ealing Lane, South Ealing. [

UNUSED 1919 7-9h.p. Indian, 3 speeds, sp frame, and 1921 bulbous back Indian sid £130; never ridden.—30, Talbot St., Burnley. [X

1918 Powerplus Indian Special Racing Combina Swan torpedo, beautiful outfit, equipped; or lightweight part.—20, Canterbury Rd., Croydon. [

1919 Indian Powerplus Combination, W.D., hauled by makers, repairs cost nearly what offers?—James, 30, Prendergast, Haverfordw [

INDIAN 1916 7-9h.p., spring frame, 3 speeds, cl kick start, good condition; £65.—Parker's, shawgate, Bolton; also 254, Deansgate, Manches [X

1920 Powerplus Indian Combination, all accesse in excellent order throughout; £135.—Cl Wilson, 177, Westminster Bridge Rd., S.E.1. 210. [

INDIAN, 7-9h.p., 3-speed, K.S., clutch, £45 sid de luxe, mag. model, like new mechanically; lowest; solo allowed for.—Reiffer, 62, Knighton Sydenham. [

1920 Indian Spring Frame Combination, dyn lighting, speedometer, mileage 1,800; sacr £150; exchange good solo and cash.—Chaston, B wood, Mon. [

1920 Powerplus Indian, electrically equipped, sp meter, Swan sporting sidecar, Easting, tax mileage 2,000, perfect; £165.—Lambert's Hill, She Mallet, Somerset. [

7-9h.p. 1918-19 K.S. 3-speed Indian Motor Cy renovated and overhauled like new; N.P. £65 and £67/10.—Please apply, J. J. Dooley, 33, Ki Rd., Clapham, S.W.8. [

5-6h.p. Indian, 1915, 3-speed, clutch, kick sta electric lighting, torpedo sidecar, splendid co tion; bought car; sacrifice quick sale.—Dufty, Northgate St., Leicester. [

INDIAN 7-9h.p. Spring Frame Powerplus Mod speeds, understung sidecar, Tan-Sad, accesse perfect order; £110, or nearest; evenings after 7 —21, Drapper's Rd., Bermondsey, S.E. [

1918 Indian Powerplus Combination, new gomery sidecar, Cameo screen, Lucas lamp perfect condition, new tyres, engine just overha 140 gns.—Lucas, Shallowford, Stone, Staffs.

MOTOR CYCLES FOR SALE.

Matchless.

ATCHLESS Late Victory Combination, first-class running order, licence; £125.—8, Bidborough St., 1. [5519

21 Matchless Combinations in stock for immediate delivery; £205. — Stacey, 12, Ecclesall Rd., field. [0574

ATCHLESS.—Order from R. B. Clark and Co. All models immediate delivery.—7, Exhibition S.W.7. [5482

ATCHLESS, Model H, standard equipment, little used, licence paid; £170.—Tupman, Shirley, mhithe. [4877

20 Matchless, hood, screen, horn, splendid condition, tax paid; seen after 5 p.m.; £155.—12, ert Rd., Plumstead. [4688

20 Matchless Combination, Magdyno, speedometer, fully equipped, as new; £165.—Rackham, Charlton se, Old Charlton, S.E.7. [5176

p. Matchless Combination, 2-speed, electric lighting, perfect order, only wants seeing; £115.—Wellington St., Gravesend. [5030

ATCHLESS H Combinations, from £160; deferred payments from 4%.—Prior, Southfields, 18. 'Phone: Putney 1694. [5083

ATCHLESS Combination, late 1920, hardly used, all accessories, cost £230, licence paid; £170.—Sutherland Rd., West Ealing. [1962

ATCHLESS 6h.p. Coachbuilt Combination, K.S., all accessories, just overhauled; £95, or near offer. tanton Rd., West Croydon. [4575

ATCHLESS, 1917, M.A.G., electric lighting, Tan-Sad, hood, screen, splendid condition; £135.—39, e Rd., Clapham Common, S.W.11. [5504

20 Matchless Magdyno Combination, brand new, unregistered, guaranteed; £190.—Edwards, 50, ington Rd., South Kensington, S.W.7. [5449

21 Matchless Magdyno Combination, owner unable to ride, brand new, unused, unregistered; fice, £198.—41, Madrid Rd., Barnes, S.W. [5450

ATCHLESS 1920, gold medal English Six Days, M.A.G. engine, electric light, the whole good tion; £184.—Nott, 50, Clapham Rd., S.W.9. [4811

DLANDERS.—The famous Matchless combination (single and double-seater), for immediate de-.—Colmore Depot, 31, Colmore Row, Birmingham. [4741

TE 1920 Matchless Combination, M.A.G. engine, Lucas dynamo lighting, equipped regardless, nal tyres; £160; exchanges.—60, Wallingford Av., h Kensington. [4902

Bore Twin Racing Matchless, just completely overhauled, everything perfect, genuine Bosch, s, spares, 2 belts, do over 80 m.p.h.; £75.—Portal, eby, Sleaford. [5240

ATCHLESS. Matchless. Matchless.—Latest 1921 model 8h.p. combination, for immediate de-.—Vivian Hardie and Lane, Ltd., 23 and 24, dstock St., W.1. [0418

21 Matchless Combination, M.A.G. 8h.p. engine, new; £205; exchanges or extended payments.—Layton Garages, 90, High St., Oxford. T.A.: grity. 'Phone: 581. [X2688

ATCHLESS Combination, overhauled, re-enamelled, new electric lighting set, speedometer, good tyres; trial; £85.—Payne, 4, Merchiston Rd., Catford. ne: London Wall 623. [4852

ATCHLESS, 1920, Lucas lighting set, Tan-Sad, Klaxoo, tax paid, small mileage, excellent con-n; trial by appointment; price £155, no offers.—e, 91, Elmers End Rd., S.E. [4573

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ATCHLESS Combination, 8h.p. J.A.P., 2-speed, chain drive, lamps, screen, etc., good condition; , or reasonable offer; after 6.30, Saturdays 2.30.—7, Arabin Rd., Brockley, S.E. [4794

ATCHLESS Service Depot. 'Phone: Greenwich 751.—All 1921 new models. Secure one now. Demonstration ride with pleasure at S. E. Clapham ors), Stockwell St., Greenwich, S.E.10. [1030

.C.H. have a 1920 Matchless combination, Magdyno, small mileage, fully equipped, hood, screen, wheel, luggage carrier, tax paid; £175.—5, Heath Hampstead (near Hampstead Tube Station) [4646

ATCHLESS, 8h.p. twin J.A.P., 2-speed countershaft gear, chain drive, Matchless sidecar, wind n, Lucas lamps, luggage grid; £105; excellent ition.—Eagles and Co., 275, High St., Acton. on. [5108

ATCHLESS 1921 Models, immediate delivery; with Magdyno lighting £230, without Magdyno lighting £205, no waiting; in stock ready to drive away; payments arranged.—Wilkins, Simpson, opposite npia, London. [4613

19 8h.p. Victory Matchless Combination, fine condition, carefully used, fully equipped, with 2 e wheels, very powerful, tax paid; will ride 50 s to buyer; £140, lowest.—W. J. Franks, 62, ine St., Folkestone. [4247

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SUNBEAM, 3½ h.p., 3-speed	£155	8	0

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A.J.S. 6 h.p. 1919 Combination, electrical equipment, tax paid	£155	0	0
TRIUMPH, 4 h.p., W.D.B. Model, with new Whitley Sidecar	£135	0	0
ENFIELD, 1920, 2¾ h.p., 2-speed	£50	0	0
A.J.S. 1920 6 h.p. Comb., acetylene equipment, hood, etc.	£175	0	0
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TRIUMPH, 1919, 3½ h.p., acetylene lighting	£85	0	0

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MATCHLESS Model H Combination, hood, screen, Tan-Sad, Klaxon, legshields, step, electric and acetylene lighting, all spares, very little used, perfect condition, tax paid; £160; seen evenings after 6.—14, Westville Rd., Thornes Hitton. [4862

1921 Matchless, M.A.G. engine, delivered Easter, 2-seater sidecar, hood, wind screens, sidecar step, legshields, electric lamps, Goodyear tyres, tax paid; £233 cost, accept £205 cash to realise.—29, Alderbrook Rd., Clapham Common, S.W.12. [4492

MATCHLESS 7h.p., 1915, M.A.G., Bosch, over £5 paid for overhaul and enamelling last spring, overhauled by owner this year and all worn parts replaced by new, 2 new covers and new piston rings; £100; Lincolnshire.—Box 3,566, c/o *The Motor Cycle.* [4523

MATCHLESS Combination, 1920 model, 8h.p. M.A.G. engine, complete with Lucas dynamo lighting set, electric horn, bulb horn, hood and screen on sidecar, luggage carrier, etc., in perfect condition throughout; £175.—P. J. Evans, 81-91, John Bright St., Birmingham. [4625

1920 Matchless, Model H2, mag., acetylene lamp set, horn, speedometer, hood, Triplex screen with side wings, perfect condition, 1,000 miles only, £160; another, with Magdyno lighting, electric horn, speedometer, leg shield, perfect, £170.—Tassell, 1a, Bloomfield Rd., Plumstead, S.E.18. [2342

MATCHLESS, late 1920, M.A.G. engine, Magdyno lighting, with inspection lamp, Lucas horn, Watford speedometer, 2-lever Amac, very little used, maker's guarantee; 250 miles trial allowed; list price, with spares and extras, £260; take £185 lot, or near offer.—Lovell's Dining Rooms, 468, Harrow Rd., W.9. [5525

MATCHLESS Model H Combination, June, 1920, M.A.G. engine, only done 2,000 miles, Watford trip, Easting, mechanical horn, child's folding seat, many other extras, need only be seen; sacrifice, £150 for quick sale; cost £232; genuine bargain; owner buying car.—Farrie, Grimethorpe, Barnsley. [4608

MATCHLESS 1918, 8h.p. J.A.P., electric lighting, speedometer, spare wheel, large glass wind screen back rest, horn, tools, 2 luggage carriers; £130; this machine is an absolutely sound and reliable touring vehicle, and will take 2 persons with luggage anywhere; tax paid; owner has bought car.—19, St. Mary's Mansions, Paddington. [3126

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Maxim.

MAXIM-DALM, Dec., 1920, 3h.p., 2-stroke, absolutely new, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, £52; ditto with clutch, kick start, £58/10.—224, Pentonville Rd., London, N.1. [4292

Metro.

METRO-TYLER 1920 2½h.p., tax paid, little used, complete with lamps, etc.; £45.—12, Avondale Rd., Mottingham, S.E.9. [5514

METRO-TYLER, brand new latest S type 1920 model; reduced from £95 to £70 cash to clear. Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

METRO-TYLER, Model S, all enclosed, very little ridden, lamps, horn, and tools, tax paid, insurance paid, beautiful mount for young lady; £75.—Potter, 135, Maple Rd., Surbiton. [4604

Minerva.

2½h.p. Minerva, good running order; £15; photo.—Stewart, Old Meadows, West Drayton. [5311

3½h.p. Minerva, re-enamelled and overhauled, splendid condition; nearest £35; snip.—Rosslyn, Devon Rd., Cheam Surrey. [4432

£25.—2¾h.p. modernised Minerva, low, overhauled, re-enamelled, new tyre, C.A.V., running order; after 7.—12, Southlands Rd., Bromley, Kent. [6086

MINERVA 2¾h.p., reconstructed, with accessories, 2 brand new tyres, fast; £26.—White, Box 1,900, Sell's Advertising Offices, Fleet St., E.C.4. [4774

Monarch.

1920 Monarch 6h.p. Combination, new sidecar, wind screen, luggage grid; £130; exchanges.—Chasten, Blackwood, Mon. [5341

2¾h.p. Monarch-Villiers, 1920, 2-speed, clutch, kick starter (Burman), just overhauled; £55; tax paid.—R. Murphy, Long Copse, Wadhurst. [4441

1920 Monarch 2-stroke, licence paid, single gear, lamps and horn, reliable and cheap machine, in really good order; £40; exchanges or extended payments; approval with pleasure.—The Layton Garages, 90, High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X2698

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MOTOSACOCHE, 2½h.p., mag., tax paid, variable gear, excellent running order, good tyres; £23.—Crabb, 106, Rithérdon Rd., Upper Tooting, S.W. [4836

2½h.p. Motosacoche, good running order, lamps, horn, new carburetter, Bosch mag., new control, bargain, licence paid.—Walker, Bradenham, Thetford, Norfolk. [5148

New Hudson.

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1920 New Hudson 2-stroke, very fast and in perfect condition; offers.—92, Gloucester Rd., S.W.7. [5357

NEW HUDSON, 3 speeds, clutch, lamps, rebushed, etc.; 38 gns.—Butler, 95, Albert Rd., Leyton, E.10. [4744

NEW HUDSON Combination, 5-6h.p., twin-cyl., 1920 model, brand new, complete with all accessories; cost £180, accept £135, a great bargain.—Farrar, 18, Colonnade, Russell Sq., W.C. [5508

NEW HUDSON 4¼h.p., 3-speed, clutch, excellent condition; £48, or exchange for lower power.—27, Crookston Rd., Eltham, S.E. [4698

£35.—1914 New Hudson coach combination, 3-speed and clutch, a geniune bargain for dealers.—30, Legard Rd., Highbury, London, N. [4331

1920 6h.p. New Hudson Combination, Easting, all lamps, horn, speedometer, tax paid; £135.—78, Locksley St., Burdett Rd., Bow, E.14. [5078

NEW HUDSON 2½h.p., 2-speed de luxe, Dec., 1920, Lucas horn, Miller lamps, liceoce, etc., as new; £54.—Pickering, Rosslyn House, Twickenham Park. [5527

1919 4h.p. New Hudson Combination, speedometer, lamps, as new; £88.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [4178

NEW HUDSON 2-stroke, countershaft, 2-speed gear, late model, small mileage; £42/10.—110, Upper Richmond Rd., East Sheen, S.W.15. 'Phone: Putney 2622. [5395

NEW HUDSON 1920 (Oct.) Lightweight, 2-stroke, 2-speed, tax paid, ridden 500 miles, full accessories and waterproof suit; £70.—Makey, 50, King's Rd., Reading. [4690

NEW HUDSON, 2¾h.p. J.A.P., 3-speed, clutch, speedometer, lamps, low mileage, tax paid, 100 m.p.g., good condition; £36.—8, Culmore Rd., Peckham, S.E.15. [4455

NEW HUDSON Combination, coachbuilt sidecar, 3-speed, clutch, lamps, tools, Dunlops; £50; ride away; bargain; owner going abroad.—Cleary, Kingham Hill, Kingham, Oxfords. [4697

NEW HUDSON 1914 4h.p. C.B. Combination, 3-speed, Bosch, B. and B., little used, tyres as new, splendid order; £65.—Woodall, Tenemeot Lane, Cheadle Hulme, Stockport. [4305

NEW HUDSON 1913 4h.p. Combination, only ridden 1,000 miles, C.B. sidecar, 3-speed hub gear, trip speedometer, splendid condition and tyres; 65 gns.—Laureldene, Cowfold, Sussex. [4421

£55.—3½h.p. New Hudson combination, 1914, 3-speed, clutch, accessories, thoroughly sound throughout, will take 3 anywhere.—Langford's, 37, Cricklewood Broadway, N.W.2. [4847

1920 New Hudson 2-stroke 2¼h.p., 2-speed, lamps, a smart little machine; £47/10; exchanges or exten£ded payments; approval with pleasure.—The Layton Garages, 90, High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X2707

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NEW HUDSON Lightweights, all models, on view: Popular, 50 gns.; de luxe, 65 gns.; Ace, 75 gns. Spares for 2¼h.p., 3½h.p., and 6h.p. machines stocked. Catalogues and any information by return.—New Hudson Depot, 45, Gray's Inn Rd., Holborn, W.C.2. [1658

40 GNS.—2¾h.p. 3-speed New Hudson-Jap motor cycle, brand new Lucas lighting set, ditto Cowey horn, ditto Palmer cord tyres and tubes, just been re-enamelled and plated, tax paid; a bargain.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [4493

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NEW IMPERIAL Agents.—Lightweights and spare parts in stock.—Crow Bros., Guildford. [4709

1921 New Imperial 2¾h.p., 2-speed, 250 miles; £65.—Collier's Motories, Horton St., Halifax. [4633

NEW IMPERIAL 2¾h.p., 2-speed, good condition; £40; after 7 p.m.—98, Longley Rd., Tooting. [4894

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, 1915, lamps, tax paid; £32.—Mason, Bourne House, Driffield. [X2469

NEW IMPERIAL-J.A.P. 2¼h.p., good order, with lamps; £32/10.—46, Gough St., Poplar. 'Phone: E. 1999. [4334

2¾h.p. New Imperial-Jap, 2-speed, lamps, horn, new bars, a real goer, tax paid; £45.—125, Wilberforce Rd., Finsbury Park, N.4. [4278

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4½ h.p. **B.S.A.**, model H.2., c. & k.-s.	£110 0
2¾ h.p. **COULSON**, spring frame, c. & k.-s.	£111 6
2¾ h.p. **COULSON**, spring frame, 3-speed, c. & k.-s.	£118 12
4 h.p. **COULSON**, spring frame, 3-speed, c. & k.-s.	£126 0
2¾ h.p. **DOUGLAS**, 2-speed	£85 0
2¾ h.p. **DOUGLAS**, 3-speed, c. & k.-s.	£105 0
2¼ h.p. **ENFIELD**, 2-speed	£65 0
2¾ h.p. **FRANCIS BARNETT**, 2-speed, c. & k.-s.	£89 5
2¾ h.p. **HOBART**, 2-speed	£75 0
4½ h.p. **HUMBER**, 3-speed, c. & k.-s.	£140 0
2¾ h.p. **INVICTA**, 2-speed, c. & k.-s.	£85 0
3½ h.p. **INVICTA**, 3-speed, c. & k.-s.	£110 0
2¼ h.p. **LEVIS**, single-speed	£60 0
2¼ h.p. **LEVIS**, 2-speed	£68 0
2¾ h.p. **NEW IMPERIAL**, 2-speed	£80 17
2¾ h.p. **NEW IMPERIAL**, 2-speed, c. & k.-s.	£89 5
2½ h.p. **O.K.**, single-speed	£50 8
2½ h.p. **O.K.**, two-speed, c. & k.-s.	£67 0
2¼ h.p. **RADCO**, single-speed	£44 2
2½ h.p. **SPARKBROOK**, single-sp.	£64 0
2½ h.p. **SPARKBROOK**, two-speed	£70 0
2¼ h.p. **SUN**, single-speed	£49 17 6
2¼ h.p. **SUN**, two-speed, c. & k.-s.	£66 10
2¼ h.p. **TRIUMPH**, two-speed, belt and chain, c. &. k.-s.	£70 0
4 h.p. **TRIUMPH**, Model H., c. & k.-s.	£115 0
4 h.p. **TRIUMPH**, Model S.D., all-chain, c. & k.-s.	£125 0
2¾ h.p. **WOOLER**, flat twin, sports model	£105 0
1¾ h.p. **YOUNG** cycle and motor complete	£31 17 6

NEW COMBINATIONS

4½ h.p. **B.S.A.**, Mills Fulford Sidecar	£128 0
4 h.p. **COULSON**, spring frame	£165 0
4 h.p. **DOUGLAS**, flat twin	£170 0
8 h.p. **ENFIELD**, dynamo lighting	£182 0
6 h.p. **HAZLEWOOD**, slightly shop soiled	£170 0
4½ h.p. **HUMBER**, smart sidecar	£173 12 6
3½ h.p. **INVICTA**, classic sidecar	£130 0
3⅜ h.p. **INVICTA**, Mills Fulford's car	£135 0
8 h.p. **MATCHLESS**, model H, chain-drive	£205 0
8 h.p. **NEW IMPERIAL**, chain-drive	£186 0
4½ h.p. **QUADRANT**, chain-drive	£125 0
4 h.p. **TRIUMPH**, Gloria sidecar, belt and chain	£165 0
4 h.p. **TRIUMPH**, Gloria sidecar, all chain	£175 0

Latest lists and other particulars free on request.

HARRODS LTD

116-118 Brompton Road London SW1

MOTOR CYCLES FOR SALE.

New Imperial.

1920 New Imperial 8h.p., Millford sidecar, Klax tax paid, excellent condition, little used; £148 161, Herbert Rd., Woolwich, S.E. [48

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, kick-start clutch, never been used, shop-soiled only; to cle £75.—Central Garage, Henley-on-Thames. [31

1920 8h.p. New Imperial and Rennoc Sidecar, el tric lamps; £115.—Clifford Wilson, 177, W minster Bridge Rd., S.E.1. Hop. 210. [56

IMPERIAL-J.A.P. 2¾h.p., 2-speed, free engine, m age under 20, horn, lamps, tools; cost £86, acc £56.—Box 5,656, c/o *The Motor Cycle*. [56

NEW IMPERIAL 8h.p., less sidecar, June, 19 1,100 miles, splendid condition, tax paid; £1 or exchange 4h.p. Triumph and cash.—Mole, Reig Surrey. [48

IMPERIAL-J.A.P. 1915 2¾h.p., 2-speed, Bosch ma B. and B. carburetter, just overhauled, in thoro good order; what offers?—Further particulars, Hugh Gamlingay, Sandy. [53

NEW IMPERIAL 1919 8h.p. Combination, ho screen, lamps, horn, Tan-Sad, excellent conditi trial gladly; £150.—Morgan and Snelgrove, High Sidcup. 'Phone: 118. [48

NEW IMPERIAL.—All models in stock for immedi delivery, including the new 2¾h.p. 3-speed mo —Newnham Motor Co., 223, Hammersmith Rd., W 'Phone: Hammersmith 80. [3

NEW IMPERIAL 2¾h.p., 1921 model, clutch, k start, 2 speeds, complete accessories, includ Cowey horn, legshields, mileage about 300; £8 Brown, 79, Hampden Rd., Hornsey, N.8. [4

1919 New Imperial-Jap 8h.p. Combination, 3-sp kick start, Easting wind screen, lamps, tax p excellent condition; £120; owner purchasing ca Llewelyn Nicholas, Glasfryn, Port Talbot. [4

NEW 2¾h.p. New Imperial, 2-speed, £80/17; d with clutch and kick starter, £89/5; 8h.p. c bination, £186; in stock for immediate delivery; e payments.—Harrods, Ltd., 118, Brompton Rd., Lond [4

NEW IMPERIAL 1920 8h.p. Combination, 3-sp chain drive, wind screen, electric lighting real bargain; tax paid; £105.—Elce and Co., 15 Bishopsgate Av., Camomile St., E.C.3. 'Pho Avenue 5548. [0

IMMEDIATE Delivery of any New Imperial Mo cash or deferred payments; book your order n and avoid disappointment later.—Burlington Mot Ltd., South Side, Clapham Common, S.W.4. 'Pho Brixton 2417. [0

1920 New Imperial 8h.p. Combination, Lucas li ing, Easting, tax paid, bucket pillion, Smoke sidecar, luggage grid, tools, etc.; £137; private own any trial; exchange Ford tourer, late model.— 3,625, c/o *The Motor Cycle*. [4

New Ryder.

1920 New Ryder-Villiers, 2 speeds, electric lar horn, perfect condition; £50.—1, London L Bromley, Kent. [5

New Scale.

SCALE, 3½h.p. Precision, £80; 4h.p. Blackbu £100; motor cycles you will hear more about have always a stock of each model; trade supplie Davies, 229, Deansgate, Manchester. 536 Central. [2

Norton.

PREMIER Motor Co. for 1921 Nortons.

ANY Model Nortoo delivered to your address, carr paid, within twenty-four hours.—The Premier M Co., Aston Rd., Birmingham. [X2

JULIANS of Reading have Norton 16H. in sto

JULIANS of Reading have Norton Model 9 in st [0

PICKERING, Shrewsbury.—All Norton models stock. [X2

YEOVIL.—Moffat, Town Hall Garage, Norton age —'Phone 50. [3

NORTON 1921 Famous 3½h.p. from stock; £13 Gibb, Gloucester. [0

DAN GUY, Weymouth. Norton official agent. B combination in stock. [0

NORTON, 1913, less power unit; £14.—Derring Grafton Rd., New Malden. [5

WESTON-SUPER-MARE.—Jack Prnen, Oxford for Nortons.—'Phone 440. [6

NORTON, immediate delivery all models; exchan —Chaston, Blackwood, Mon. [5

NORTON Motor Cycles.—Can deliver anywh early dates.—Kelly, Bachelor's Walk, Dubli [6

NORTON 1921 Models.—Sole district agents, We Motors, Ltd., 60, Catherine St., Salisb 'Phone: 72. [5

NORTON 1921 T.T., 200 miles only, lamps, s belt, licence and insurance; £98.—Putterill, age, Harpenden. [4

NORTON 1920 Big 4 Combination, all accesso ridden 600 miles only; £155.—Bartletts, 93, Portland St., London. [5

MOTOR CYCLES FOR SALE.

Norton.

.p. T.T. Norton; mileage 1,200, as new, complete with lamps, horn, and Watford speedometer; £85. dle Motors, Oundle. [X2461

W Norton 1921 Sports Model, 16h.p., only just delivered from works; £125, including licence.—r Madeley, Wem, Salop. [4352

7 Norton 3½h.p., T.T., adjustable pulley, appearance as new, complete with lamps, tax paid; Newbery, 69, High Rd., Kilburn, N.W.6. [6118

0 Norton 3½h.p. T.T. Model, Philipson, speedometer, small mileage, and in excellent order, paid, fast; £95; approval with pleasure.—Below.

0 Norton Big Four, 3-speed, K.S., fitted with amps, horn, and knee-grips, has had very little lmost new; £115.—Below.

1 Norton, Model 16H, 3½h.p., 3-speed, with B.R.S. engine, certified to have exceeded 70 average for Brooklands lap; £147.—Below.

1 Norton 3½h.p. T.T. Model, single gear, direct drive, adjustable pulley, special engine, brand new; Below.

1 Norton Model 16H, 3½h.p., 3-speed, brand new; £132; exchanges or extended payments.—The Layarages, 90 High St., Oxford. T.A.: Integrity. : 561. [X2704

TON Model 16, 1921, lamps, speedometer, horn, ax paid, insurance, unridden; £130, quick sale, rs; Berkshire.—Box 509, c/o *The Motor Cycle*. [X2605

TON 4h.p., 3-speed Sturmey gear box, clutch, ick start, new tyres, tubes, very fast and ul; £80.—Wm. Gill, Grindleford, Derbyshire. [5248

7 1921 3½h.p. Norton, 3-speed, kick start, 16H odel, in stock; list price £132; exchanges ened.—Bambers', Eastbank St., Southport. Tel.: [X0631

C JACKSON for Nortons, ex depatch rider and ilot; I can supply anywhere; one 1920 3½h.p. amps, etc., perfect, £79, tax paid.—East Parade, ey. [3544

IES, of Manchester, can deliver 1921 Nortons em stock; the machine you will eventually buy; res stocked; prompt attention.—229, Deansgate. : 536 Central. [2432

TON Agents.—Motor cyclists in or near Oldham ll. Onr Mr. Mitchell will demonstrate to you est machine in the world.—Bullough's Motors, oe St., Oldham. [2050

TON 1920 Big Four Model, Canoelet sidecar, lly equipped, low mileage, indistinguishable ew; £155.—Parker's, Bradshawgate, Bolton; 5, Deansgate, Manchester. [X2443

0 3½h.p. T.T. Norton, small mileage, Philipson, Binks, Cowey, accessories, all in good condition, echanically sound; best offer £98, also sidecar; ears.—Hargrave, Jnn., Wath, Ripon. [5299

TING Norton, 3½h.p. B.R.S., 1919, 70 m.p.h., mps, generators, horn, pump, aluminium discs, ated exhaust, licence paid; any trial; £95, or ffer.—2b, Denmark Rd., Camberwell. [4784

(1920) Norton de Luxe Big Four Combination, t done 600 miles, lamps, knee grips, speedohorn.—6, Park Rd., Kingston Hill, Surrey. Any d examination; cost over £200; accept £175. [4790

TON 1921 Big Four, £135; also 3½h.p., 3-eed, £132; delivery from stock; cash, exchange, rred terms.—Authorised Agents, Elce and Co., Bishopsgate Av., Camomile St., E.C.3. 'Phone: 5548. [0070

(June) Big Four Norton, Douglas sidecar, mileage 2,000, splendid condition, Bonniksen, acetyhting, horn, tax, insurance, owner Royal Navy, aneat; best offer.—Hopkins, K2, Block, Whale Portsmouth. [4509

T.T. Norton, fully equipped largest P. and H. head lamp, electric rear, horn, kneegrips, in t condition, appearance like new; £80, or exfor 1921 I.O.M. Rudge.—Hindes, 24, Harsd., Colchester, Essex. [5308

TON 1921 Big Four Model, with Henderson idecar, Lucas Magdyno lighting, Cameo wind oversized tyres, tax paid, insurance, indisable from new; £195.—Parker's, Bradshawgate, also 245, Deansgate, Manchester. [X2444

TON 3½h.p. Colonial Model, licence paid, speedeter, all accessories, tyres good, small mileage; china is the actual winner of the Solo Class Oxford Motor Club Reliability Trial held April ery fast machine, and in thoroughly good conthroughout; £115.—The Layton Garages, 90, t., Oxford. Tel.: Integrity, Oxford. 'Phone: ford. [X2456

N.S.U.

. N.S.U., 2-speed, Senspray, E.I.C., in perfect nning order, tax paid; £26; photo: sidecar ed.—Stewart, Old Meadows, West Drayton. [5312

N.U.T.

Combination, 4-5h.p. twin, 3-speed, kick rt, good condition, speedometer, Easting, lamps, : offers.—Turner, 21, Westbourne Terrace, W.2. [4255



MOTOR CYCLES FOR SALE.

N.U.T.

N.U.T., 2¾h.p. o.h.v., twin J.A.P., 1915, in beautiful condition, very fast, electric lamps, and Klaxon; £50, or exchange higher power.—141, Merton Rd., Wimbledon. [5133

N.U.T. 3½h.p., 1920, electric lighting model, enamelling and plating absolutely as new, only run about 1,500 miles, perfect condition; any trial; £125. Apply, L. Bailey, 72, Mitcham Rd., Croydon. [5135

EXCEPTIONAL Bargain for someone who can erect; owner has no time.—N.U.T. 5-6h.p., Sturmey countershaft, etc., worth £80 when finished; gift at £45.—259, Acton Lane, Chiswick, London. [4848

N.U.T.—Special 500 c.c. twin speed model N.U.T., overhead valve engine, handle-bar controlled gears, just built up and guaranteed brand new except gear box, capable of 60 m.p.h.; this machine will appeal to sporting rider requiring a fast semi-touring model; moderate price.—Maudes' (below).

N.U.T., 1916, 5h.p. overhead valve J.A.P., twin, 3-speed countershaft gear, usual N.U.T. finish; moderate price.—Maudes' (below).

N.U.T.—Sole distributers for London, Middlesex, Hertfordshire, Essex, Surrey, Staffordshire, Cornwall, Devonshire, and Somerset; trade supplied; immediate delivery; exchanges or deferred payments.—Maudes' Motor Mart, 100, Gt. Portland St., London, W.1 (Museum 581); 100, Paris St., Exeter; and Wolverhampton St., Walsall. X2542

O.K.

JULIANS of Reading have all O.K. models in stock. [0481

LONGMAN, of Salisbury.—O.K. Juniors, 1921 models. [1752

O.K.-UNION, 1920, brand new; clear £43.—Bartletts, 93, Gt. Portland St., London. [5562

1919 2¾h.p. O.K. Junior, nearly new, not scratched; £35.—Walhs and Easton, Mill Rd., Cambridge. [4829

O.K. Junior 2¾h.p., as new, fully equipped, tax paid; £42; offers.—70, Baring Rd., Lee, Kent. [5194

DAVIES, of Manchester, can deliver 1921 O.K.'s from stock.—229, Deansgate. 'Phone: 536 Central. [2435

O.K., 1916, 2¾h.p. J.A.P., 2-speed, lamps, horn, good condition; £36.—21, Barmouth Rd., Wandsworth, S.W. [5331

1919 O.K.-J.A.P., equipped, perfect condition, reliable, fast, economical; £45, offer.—Garage, Median Rd., N.7. [4382

2¾h.p. O.K.-Union, single speed, 1920 model, aheap-4 soiled; list price £50/8, my price £43.—Davies, 229, Deansgate, Manchester. [0528

Omega.

LONGMAN, of Salisbury.—Omegas; £50 to £170; 1921 models. [1753

OMEGA 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2438

OMEGA-J.A.P. 1919 2¼h.p., 2-speed, splendid condition; £39, or offer.—45, Venner Rd., Sydenham. [4954

LATE 1920 2¾h.p. Omega-Jap, 2-speed, done 1,200 only; £52/10, or offer.—195a, Albany St., N.W.; after 6 p.m. [5034

OMEGA 1921 Models, J.A.P. engines, £60, £66, £73; easy payments, £20 down.—Bartletts, 93, Gt. Portland St., London. [5561

OMEGA 1921 Models, Villiers Mark IV., £50, £58, £68; easy payments, £15/15 down.—Bartletts, 93, Gt. Portland St., London. [5560

OMEGA, 1920, as new, J.A.P. engine, 2¾h.p., 2 speeds, lamps, horn, licence paid; £55.—Welstencroft, 76, Queen's Rd., Battersea, S.W. [4598

OMEGA-J.A.P. 1920 2¾h.p., 2-speed, clutch, K.S., lamps, horn; speedometer; £69; tax paid.—Fenella, The Burroughs, Hendon, N.W.4. [5243

1920 Omega-Jap 2¾h.p., Burman 2-speed, clutch, K.S., good order less 500 miles, accessories, tax paid; £55; nearest; Saturday or Sunday.—Wilkie, 35, Cornwall Grove, Chiswick Lane, W.4. [5551

P. and M.

JULIANS of Reading have 1921 P. and M. in stock [0488

P. and M., 1918, as new; 59 gns.—88, Kew Rd., Richmond. [4948

LATE P. and M. Geared Solo, fast, perfect; offers.—114, Hill St., Peckham, S.E.15. [5493

£48.—P. and M., 1918, 2-speed, K.S., condition first-class.—24, Church Walk, Hampstead. [5521

£23.—Decent old 3½h.p. P. and M., 2-speed, running order.—King, Egrove Farm, Oxford. [X2575

P. and M., 1920, as new with sporting sidecar; £115.—Bartletts, 93, Gt. Portland St., London. [5565

P. and M., 2-speed, and Millford box carrier, complete; £75.—41, Ashford Rd., Cricklewood. [5465

P. and M. C.B. Combination, excellent condition; £47.—23, Milton Grove, Upper Holloway, N. [4683

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. E 59

MOTOR CYCLES FOR SALE.

P. and M.

P. and M., top-hole condition; £55, with sidecar £65; late model.—58, Blagdon Rd., New Malden. [5497

P. and M. Combination, 2-speed, K.S., nearly new, lamps, horn, and good tyres; £75.—261, Mitcham Lane, Streatham. [5286

P. and M., 1919, R.A.F. model, 2-speed gear, Lucas lamps, tax paid; £75.—H. J. Cox, Sonning Common, nr. Reading. [5180

LATE 1918 P. and M. (blue), lamps, horn, tax paid, excellent condition; £65.—37, Treadgold St., Notting Hill, W.11. [4444

P. and M. Combination, late model, Easting, lamps, tools, tax paid; £85, offer.—Snelling, 2, Morley Rd., Richmond Bridge. [5015

1918 P. and M. Combination, complete, good condition, tax paid; £80, near offer.—42, Lillian Rd., Castlenau, Barnes. [5141

P. and M., June, 1919, 4¼h.p., chain drive, and sidecar, new condition; £100, bargain.—Cox Parkdene, Weston-Super-Mare. [4353

1920 3½h.p. P. and M. Combination, licence paid, insured to June; £105.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0341

1918 P. and M. Combination, 1920 colour, new tyres, all accessories, licence, perfect; £78.—Gallipoli, King's Ride, Camberley. [5144

65 GNS.—P. and M. combination, 1917, 2-speed, kick starter, all new tyres, overhauled, lamps, etc.—198, Sheen Lane, Mortlake, S.W. [5146

1919 P. and M. and Watsonian sidecar, mechanical lubrication, screen, horn, lamps, 2 new tyres, in perfect order; £100.—Cutts, Campden, Glos. [4704

P. and M. Combination, 1918, W.D., renovated, overhauled, perfect condition, lamps, horn, etc.; £65.—24, Observatory Rd., East Sheen, S.W. [5145

P.M. Combination, late 1919, electric lights; £95; exchange higher power, cash adjustment; after 6 o'clock.—46, Hatcham Park Rd., New Cross. [4782

LATE R.A.F. P. and M. Combination, not W.D., wind screen, all accessories, splendid condition, tax paid; £80.—B., 31, Lynton Rd., Acton, W.3. [4791

MIDLANDERS.—P. and M., 1921, the perfected motor cycle, in stock; immediate deliveries; £115.—Colmore Depot, 31, Colmore Row, Birmingham. [4742

THORNTON Heath.—P. and M. combination, new 1920, Lucas lighting, tax transferable, £110; would consider late solo or lightweight part.—22, Buller Rd. [4956

P. and M. 3½h.p., complete with lamps and horn, in splendid condition, tyres as new; bargain, £80.—P. J. Evans, 81-91, John Bright St., Birmingham. [4626

P. and M. Combination, 3½h.p., 2-speed gear, kick starter, mag. ignition, in working order; £50 for quick sale.—Idris and Co., 33, King's Rd., St. Pancras, N.W.1. [4398

1920 P. and M. Combination, lamps, horn, spares, licensed, perfect condition; £94.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [4176

P. and M. Combination, new 1920, 1919 model, perfect condition, all accessories, new spare tyre, thoroughly overhauled; £105, or nearest offer.—6, Cosbycote Av., Herne Hill. [3239

P. and M. 1918 3½h.p., as new, minus small parts, £32; 1920 combination, indistinguishable from new, going bargain; offers.—35, St. Clement's Mansions, Lillie Rd., Fulham. [5042

1917-18 P. and M.'s for Renovation, minus small parts, £28; 1917-18 P. and M.'s, renovated, replated, re-enamelled 1920 colours, guaranteed 3 months, £55.—Inman, Othello St., Liverpool. [5016

ROYAL Air Force P. and M., rebuilt as new, guaranteed, delivery ex stock; cash or terms, £50 under list.—Harford, Ltd., 5, New Burlington Place, Regent St., London, W. 'Phone: 4090 Regent. [X2066

P. and M. Combination, 1917-18, kick start, lamp, just been re-enamelled and plated, sidecar reupholstered, in new condition, any trial, must sell; 68 gns.—A. Southorn, 12, Thrale Rd., Streatham, S.W. [5324

1919 P. and M. Coachbuilt Combination, not a W.D., tax paid, insurance, Lucas lighting, horn, hood, wind screen, machine is as new, owner going to British Columbia; £95, or near offer; must be sold.—33, Hackford Rd., Brixton, S.W. [5164

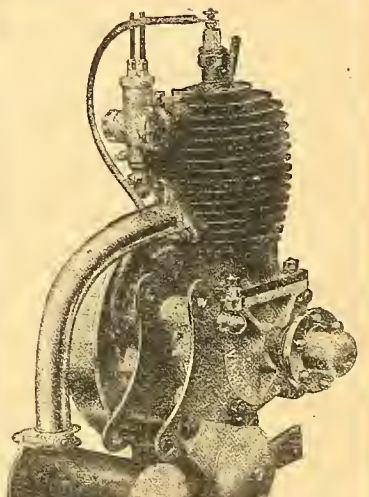
P. and M. 3½h.p., W.D., overhauled, guaranteed, £68, £78, and £95; with sidecar £20 extra; fully equipped; further particulars on application.—Maudes', 100, Gt. Portland St., W.; 100, Paris St., Exeter; and Walsall Garage, Walsall. [X2537

1920 P. and M. 3½h.p., 2-speed, K.S., complete with accessories, mileage 500 only, as new; £92/10; exchanges or extended payments; approval with pleasure.—The Layton Garages, 90, High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X2697

P. and S.

1921 P. and S., 3h.p. Dalm, Albion 2-speed, new; bargain, 60 gns. — Box 3,643, c/o *The Motor Cycle*. [4736

VILLIERS
TWO-STROKE ENGINE



Mr. A. E. Upton, of 20, Lillieshall Road, Clapham, S.W.4, writes us on APRIL 19TH, 1921, as follows:—

"I have had one of your engines running for 5 years without the slightest trouble. It is a fixed gear, petroil system, and I have covered 27,000 (twenty-seven thousand) miles without a fault. Youadvertise correctly when you say it is 'a little wonder.' I can take two up anywhere in reason."

Booklet Free:—

THE VILLIERS ENGINEERING Co LTD
SUNBEAM STREET
WOLVERHAMPTON

MOTOR CYCLES FOR SALE.

Paragon.

1920 Paragon, 3h.p.; £43.—59, Palfrey Place, I set Rd., Clapham Rd., S.W.8. [5

Peco.

1918 Peco, 350 c.c., 2-stroke coachbuilt combi tion, 2-speed, clutch, wind screen, all ac sories, splendid conditinn; £60.—22, Queen Vict Rd., Coventry. [X2

Precision.

4h.p. Precision 1914 Combination, 3-speed hub, of repair, other parts O.K.; £26/10.—Shaw, St., Wellington, Salop. [X2

1914 4¼h.p. Precision, coachbuilt sidecar, thorou overhauled, lamps, etc.; £60.—Shepherd, En Highway. Tel.: Waltham Cross 31. [0

Premier.

21h.p. 1914 Premier, B. and B. Bosch, lamps, s belt; best over £20.—Florizel, Kingsway, Wok [5

PREMIER 3½h.p., adjustable pulley, overhau bargain, £32.—Aero Works, Grafton Rd., Malden. [5

PREMIER, 1915, 4h.p., 3-speed, countershaft, paid; £65; or exchange Ford van, small n age, cash adjustment.—Peplow, Clun, Salop. [4

PREMIER 3½h.p. Coachbuilt Combination, 2-s gear box, clutch, footboards, excellent condit tax paid; £50.—Eagles and Co., 275, High St., Ac London. [5

Quadrant.

1920 Quadrant Combination; £70.—59, Pal Place, Dorset Rd., Clapham Rd., S.W.8. [5

QUADRANT 1920 4¼h.p. Combination, absolu perfect, electric lamps; £95.—Methold, Bram Surrey.

QUADRANT 4½h.p., sidecar, July, 1920, per order, little used, fine condition, Easting, Sad, lamps, horn, tax paid, insured; bargain, £9 Gould, Sherwood, Coppetts Rd, N.10. [5

QUADRANT.—Sole distributors London, South and Eastern Counties. All models usually stock; spares.—Clifford Wilson Mfg. Co., 177, minster Bridge Rd., S.E.1. Hop. 210. [5

Radco.

RADCO Single-speed, good running order; £2 Lewis, Firs, Llandewi Skirrid, Abergavenny. [5

R. D. VARTY, Thundersley, Essex.—Agent Radco motor cycles, all models; immediate livery. [2

RADCO, 1914, with brand new engine, 2-speed, enamelled and licensed; £30.—132, High East Finchley. [5

LATE 1920 2-speed Radco, hardly soiled; barg £55; full particulars.—Puddephatt, 418, B hampstead Rd., Chesham. [4

Raleigh.

THE Premier Motor Co. for 1921 Raleighs.

WE can deliver to your address within 24 h the new Raleigh 5-6h.p. flat twin, spring fra chain drive; solo 140 gns., sidecar 176 gns.—Sole mingham Agents, The Premier Motor Co., Aston Birmingham. [X2

PICKERING, Shrewsbury.—1921 Raleighs from sto exchanges. [X2

RALEIGH Combination in stock at reduced p 176 gns.—Virgo, 156, High St., Hounslow. [5

RALEIGHS, solo and combinations in stock; changes entertained.—Hicking, Bromley Beckenham. [3

ROGERS, 42, Church Rd., Hendon, can give deli of Raleigh combinations and solo from stock reduced prices; 176 and 140 gns. [3

RALEIGH Combination, 1921, only few weeks' any examination, cost all on £200, registered; £165, or would consider solo in part payment.—V.H 69, Church Rd., Hendon, N.W.4. [4

RALEIGH Motor Cycles at the reduced prices: 140 gns., combinations 176 gns.; in stock immediate delivery; the ideal solo or sidecar mach call and view; liberal allowance on your present chine.—Raleigh agents for over 15 years: Newn Motor Co., 223, Hammersmith Rd., W.6. 'Ph Hammersmith 80. [3

Reading-Standard.

READING Standard 1920 Combination, in excel condition, and complete with accessories; £ —92, Gloucester Rd., S.W.7. [5

READING-STANDARD Combination, 10h.p., dyn lighting, new; what offers By appointmen Lait, Oak Terrace, Burnt Tree, Tipton. [X1

1920 10h.p. Reading Standard Combination, unu dynamo ligthing, wind screen, spares, t genuine bargain. £180; after 6 p.m.—118, Upper T Hill, S.W. [4

Rex.

4h.p. Rex, T.T., Bosch, T.T. bars, very low, B new wheels, good tyres; £27.—Jackson, Parade, Keighley. [3

MOTOR CYCLES FOR SALE.

Rex

9 14 8h.p. Rex-Jap Combination, in wonderful condition, like new, tax paid; any trial.—44, Sun Waltham Abbey. [5013

EX Combination, C.B., 8h.p., 2-speed, splendid condition 1913, tax paid; £80, or nearest offer.—ddock. Belton, Grantham. [4541

EX 7h.p. Combination, Roc 2 speeds, handle start, engine overhauled, costing £14, 3 lamps, licensed, ning order; £60.—27, Dawson Rd., Byfleet. [4387

EX 1914 8h.p. Combination, 3-speed, chain drive, dynamo lighting, all tools, spares, etc.; £75, or r.—Cope and Sons, 15, Upper Hagley Rd., Birming-o. [5139

Rover.

ULLANS of Reading have 75 m.p.h. Rover model in stock. [0585

9 20 Rover T.T. 3½h.p., single speed; £85.—A. J. Young and Co., Ltd., Newmarket. [5379

9 21 Rover 3½h.p., speed model, ridden 10 miles; accept £90.—Box 3,654, c/o *The Motor Cycle*. [5411

9 20 5-6h.p. Rover Combination, mileage 1,000, perfect; £145, or offer.—Rhodes, Appleby, Scunrpe. [4456

9 14 Rover 3½h.p., 3-speed, complete with all accessories; £45.—A. J. Young and Co., Ltd., Newrket. [5380

1h.p. Rover, 1912, 3-speed hub, clutch, just overe hauled; £38; licensed.—Gibbs, Clifton Hampden, ngdon, Berks. [4302

OVER 1919 T.T. Model, all on, perfect throughout; worth £85; no reasonable offer refused.—Cantrill, Cross Rd., Coventry. [X2491

OVER Combination, 3-speed, K.S., engine No. 6247, excellent condition; seen week-ends; Berks.—Box 44, c/o *The Motor Cycle*. [3135

9 20 T.T. Rover, only used 500 miles, as good as brand new, guaranteed perfect; £75.—Wallis and ton, Mill Rd., Cambridge. [4837

1h.p. Rover, 3-speed, clutch, adjustable pulley, gear and engine recently overhauled.—Offers to Collard, ok Farm, Chislet, Kent. [4304

9 20 Rover 3½h.p., T.T., Philipson, speedometer, and all accessories, a fast machine, indistinguishfrom new; £90.—Below.

9 15 Rover 3½h.p., T.T., licence paid, fitted with Philipson and all accessories, in good condition, quite fast; £50; exchanges or extended payments; oval with pleasure.—The Layton Garages, 90, High Oxford. 'Grams: Integrity. 'Phone: 581. [X2701

9 19 3½h.p. Rover Combination, 3-speed, Lucas lamps, horn, good condition, tax paid; £140, or s.—Kilby, 1, Museum Sq., Wisbech. [2114

OVER 3½h.p. T.T. with Philipson pulley, first-class condition; £69.—Newbham Motor Co., 223, Hamsmith Rd., W.6. 'Phone: Hammersmith 80. [3450

19 Rover Combination, 5-6h.p. J.A.P. twin, excellent order, guaranteed, fully equipped, East-2,000; £125.—Davies, 15, Berriew St., Welshpool. [5190

14 3½h.p. Rover Combination, 3-speed, clutch, all accessories, Montgomery (new); £85; would separately.—Manthorpe, St. Peter's Hill, Huntingdon. [5029

20 Rover 5-6h.p. Combination, countershaft 3-speed, clutch, lamps, horn, excellent condition; offers?—Scourfield, Castle Terrace, Haverfordwest. [5320

OVER 1920 3½h.p., No. 8366, C.B. sidecar, chain drive, 3-speed, etc., accessories, perfect, small age, tax paid; £155; Kent.—Box 520, c/o *The or Cycle*. [5531

RLY 1920 5-6h.p. Rover Combination, in perfect condition, chain drive, licence paid; only £132/10, earest offer; wants seeing.—Sleath, 6, Clemens St., ington. [X2419

OVER Combination, late 1919, 5-6h.p. J.A.P., in perfect mechanical condition; any trial; no reasonoffer refused.—Ramsden, 92, New St., Paddock, dersfield. [5298

h.p. T.T. Rover, hand controlled Philipson pulley, Klaxon horn, discs, enamel and plating as new, grips; £60.—Duncan and Shepherd, 33, The Parade, ers Green. [4533

16 3½h.p. T.T. Rover, Philipson pulley, red discs, in splendid condition and running order, little only wants seeing, tax paid; £60.—59, Howard Rd., ilster, Essex. [4412

VER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; imate delivery; hire-purchase if desired.—Collard, 's Garage, Shifnal. [2684

20 Rover 3½h.p. Combination, countershaft 3-speed, clutch, lamps, horn, speedometer, bought st, excellent condition; £135, or near offer.—Bridge St., Haverfordwest. [5323

W 3½h.p. Rover, 3-speed clutch and kick starter, fitted with Royal Leicester sidecar, screen, and h, reduced to £145; easy payments.—Harrods, 118, Brompton Rd., London. [4822

VER 3½h.p. Countershaft, 1915 model, very good tyres, Lucas lamp set, first-class running order; —Herbert Robinson, Ltd., 32-35, Green St., Cam-e. Tel.: 995. T.A.: Bicycles. [5444

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ROVER 3½h.p., overhauled, rebushed, new handlebars, toolbags; tank re-enamelled, licence, Armstrong 3-speed, clutch; £48/10, offers.—Smith, Huddleston Hall, South Milford, Yorkshire. [4275

ROVER 3½h.p. 1916 Combination, screen, Tan-Sad, speedometer, perfect condition, any trial; £105, absolute snap; only wants seeing.—Morgan and Sneligrove, High St., Sidcup. 'Phone: 118. [4530

19 19 (late) Rover Combination, 6h.p., very little used, all-chain, P. and H. lamps, unscratched; bargain, £125.—James, over Bradmore's, 482, Harrow Rd., Paddington. Tel.: Willesden 1744. [3799

ROVER, T.T., late 1919, hand-controlled Philipson, dynamo lighting set, long plated exhaust, fast, in excellent condition throughout; £80, or near offer.—Walker, Ailsa, Mount Vernon, Glasgow. [1114

ROVER 5-6h.p. Twin, brand new, late 1920, coach-built combination, list price £235, reduced £150; also a similar 1920 machine without sidecar, unused, £115.—Eagles and Co., 275, High St., Acton, London. [5104

5 .6h.p. Rover, fitted Burmer 3-speed gear, kick starter, Mills-Fulford underslung sidecar, 4-point fixing, tax paid, lamps and horn, splendid condition; bargain, £92.—Beecher, 472, Archway Rd., London, N.6. [4975

19 20 Rover 3½h.p. Combination, chain drive, in grand order, complete with Lucas dynamo set, electric horn, luggage grid, speedometer, licence paid; only £140, or nearest.—E.E., 137, Tachbrook Rd., Leamington Spa. [X2418

ROVER 3½h.p., countershaft model, also T.T. model, Philipson pulley, as makers' specifications, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [4477

ROVER Motor Cycles.—Revised prices now in force as follows: 3½h.p. T.T., £90; 3½h.p. 3-speed, £115; 3½h.p. combination, £152/10; 5-6h.p. combination, £167/10; call and inspect these well-known machines; cash, exchanges, or deferred payments.—E. J. Evans, 81-91, John Bright St., Birmingham. [4630

5 -6h.p. Rover Combination, W.D. model, new March, 1920, electric lighting, Cowey speedometer and horn, good tyres all round, with 2 new and 2 part worn tyres spare, spare tube, chain, etc., all in perfect condition, tax paid; £115, or near offer; reason for selling, bought car; will ride 50 miles to prospective purchaser.—Crosley, Rusper, Sussex. [4422

Royal Ruby.

PICKERING, Shrewsbury, agent for Royal Ruby; exchanges. [X2507

19 20 3h.p. Royal Ruby; gift, £85.—Ramsdens, 8, Maybell Av., Blackpool. [4566

R. D. VARTY, Thundersley, Essex.—Agent for Royal Ruby motor cycles; immediate delivery. [2467

DAVIES, of Manchester, can deliver 1921 Royal Rubys from stock.—229, Deansgate. 'Phone: 536 Central. [2433

19 19 8h.p. Royal Ruby Combination, well equipped, tax paid; £95; exchanges.—60, Wallingford Av., North Kensington. [4904

ROYAL RUBY 2¾h.p. 1921 Sports Models, delivery from stock.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0542

19 21 2¾h.p. Royal Ruby, 4-stroke, 2-speed, free engine, clutch and kick-starter, in stock; £84.—Wallis and Easton, Mill Rd., Cambridge. [4828

19 20 Royal Ruby 8h.p. Combination, 3-speed, done 1,000 miles, completely equipped, Tan-Sad, etc.; £180.—Junction Garage, Silverhill, Hastings. [3107

19 20 Royal Ruby 8h.p., with a Dunhill sporting sidecar, all in perfect condition, done under 4,000 miles; cost £240, will accept £150, or near offer.—G.M., The Grange, Hendon Av., London, N.3. [4674

ROYAL RUBY 1919 8h.p., Matchless sidecar, 3 speeds, kick start, speedometer, Klaxon, lamps, Easting screen, complete spares for cycle and sidecar, tool kit, spare new tyre; £130, or near offer.—56, Holland Park Av., W.11. [4231

3h.p. Royal Ruby, spring frame, 2-speed, clutch and kick starter, complete with lamps, horn, and tools, cost £130 when new, only run about 50 miles; price reduced to £90; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [4819

19 19 Royal Ruby 8h.p. Combination, splendid condition, newly coach-painted, Easting screen, acetylene lamps, pillion seat, tax paid, any examination; taking delivery of car; £130. — Cullen, 182, Tottenham Court Rd., London. [4980

Rudge.

19 21 1.OM. Rudge, T.T. model, absolutely new; £85.—Below.

19 20 Rudge Multi, 7-9h.p. twin, Klaxon, mileage 250, condition as new, and cost £150; an exceptional bargain at £97/10; exchanges or extended payments.—The Layton Garages, 90, High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X2721

RUDGE, immediate delivery all models.—Chaston, Blackwood, Mon. [5340

MOTOR CYCLES FOR SALE.

Rudge.

I.O.M. Rudge Multi, from stock; £85.—A. J. Young and Co., Ltd., Newmarket. [5382

RUDGE 1914 3½h.p., excellent running order, owner returning India; £55.—19, Corlton Rd., Ealing. [4254

3½h.p. Rudge Multi, overhauled, new tyres, all on, licensed; £50.—Ratcliff, 617, Wandsworth Rd., Clapham. [4651

RUDGE Multi Combination, 3½h.p., all accessories, new condition; £78, bargain.—35, Freegrove Rd., Holloway, N.7. [4758

BRAND New 3½h.p. Rudge, T.T., full guarantee; £85.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0543

3½h.p. Rudge Combination, hand clutch, kick start, all on; £40, or exchange lightweight and cash. —49, Well St., Hackney. [5309

1920 Rudge Multi (I.O.M.) 3½h.p., as new, speedometer, lamps and accessories; bargain, £80.—33, Graham Rd., Wimbledon. [4314

1920 7-9h.p. Rudge Multwin and Sporting Sidecar, lamps, discs, excellent order; £125.—Leslie, Woodbank, Newport, Fife. [4233

RUDGE Multi, 3½h.p. T.T., 1920, as new, electric lamps, speedometer, all accessories and spares.—65, Westcombe Park Rd., S.E.3. [4801

1920 Rudge Multi, 3½h.p., I.O.M., T.T., lamps, Klaxon, Dunlops, fast, perfect, licensed; £69.—29, Lower Clapton Rd., E.5. [5261

1916 Rudge Multi Combination, in excellent condition, any trial, taxed, must sell; £55.—Madoc, Pembroke College, Cambridge. [5080

1914 3½h.p. Rudge Multi, fully equipped, new Dunlops, splendid fast machine, licensed; £43. —8, Shalimar Rd., Acton, W. [5130

RUDGE 3½h.p., N.S.U. gear, good condition, perfect order; £25.—Harvey's, 47, South Lambeth Rd., S.W.8 (nr. Vauxhall Station). [5553

RUDGE Multi Combination, condition as new, lamps, etc.; any trial; £60, or near.—3, West Gardens, Robinson Rd., Tooting, S.W. [5278

1920 Rudge Multi 3½h.p. T.T., all accessories, appearance as new, perfect order, very fast; a wonderful bargain.—Cecil Jones, Deddington, Oxon. [4307

RUDGE Multi Combination, 1916, 3½h.p., lamps, etc.; exchange lightweight solo, or sell £65.—Rowe, 95, Lower Addiscombe Rd., Croydon. [4706

RUDGE Multi (I.O.M.), 1920, condition as new, low mileage, lamps, Klaxon, speedometer, Tan-Sad, spare belt; £80.—27, Macoma Rd., Plumstead. [4656

RUDGE, 3½h.p., 1914, clutch, discs, long exhaust, lamps, horn, etc., perfectly sound, very fast and reliable; £45, or offer.—Bush Hotel, Farnham, Surrey. [5024

VERY Handsome Turnout!—1920 5-6h.p. Rudge, Millford sidecar, electric lighting, Klaxon, discs, licence, go anywhere.—Beeson, Rose Bank, Lancaster. [3231

1920 Rudge Combination, luxurious sidecar, electric, Easting, Tan-Sad, tax and insurance paid, new condition; £110, or offer.—Gibson, Laundry, Broadstairs. [4290

RUDGE Models for immediate delivery; list price £85; the cheapest 3½h.p.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [3453

RUDGE Combination, 1919, 5-6h.p., small mileage, perfect throughout, privately owned, fast and reliable, taxed; bargain, £98.—Booth's Garage, Frodsham, Cheshire. [4618

RUDGE Multi 5-6h.p. Combination, beautiful condition and appearance, equipped Tan-Sad and spares, only wants seeing; £85.—26, Albert Rd., Hendon, N.W.4. [4245

RUDGE Multi, 1920, I.O.M., restored blue, Bonnikesen, Klaxon, electric lighting, knee and hand grips, mileage 2,600; £80.—25, St. James's Rd., Tunbridge Wells. [5388

RUDGE 3½h.p. Semi-T.T., Philipson, large acetylene lighting set, mechanical horn, discs, perfectly sound, fast, and reliable; £40, or near offer.—Ellis, 304, Banbury Rd., Oxford. [4896

1914 Rudge Multi Combination, 3½h.p., clutch, speedometer, lamps, horn, excellent order throughout; accept £65, or exchange higher power.—48, Castle St., Luton. [4932

RUDGE Multi 3½h.p. T.T., brand new, pedal starter, immediate delivery from stock at makers' latest reduced price; £85, no waiting; in stock ready to drive away.—Wilkins, Simpson, opposite Olympia, London. [4615

1914 Rudge Multi C.B. Combination, 3½h.p., clutch, starter, new back tyre, new Lucas and P. and H. lamps, horn, speedometer, good tool kit, good appearance and running order; £55.—Write Peerless, Tapestries, Old Windsor. [4655

OCT. (1920) Rudge 3½h.p., special I.O.M. pedal, large P. and H. 2 generators, new tyres, tubes, belt, large tool kit, spare valve, Klaxon, handle-bar watch, knee grips, perfect, ride 100 miles; £80.—5, Victoria Park, Cambridge. [5375

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1919 Rudge Multi 3½h.p., clutch, Splitdorf, spray, pedal starter, acetylene lighting, very tyres and belt, engine and bicycle beautiful cond taxed; £75; appointment, near Marble Arch.—'Ph Carus-Wilson, Victoria 9390.

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SCOTT, late 1919, lamps, horn, mechanically feet; £85.—Box 3,679, c/o *The Motor Cycle*.

SCOTT Combination, 3in. tyres, new, all acces tax paid; £164.—Grimes, 18, Brutou Place,

SCOTT 3¾h.p., 1921, from stock, £130; or Watsoniaa sidecar, £152/10.—Gibb, Glouc

SCOTT Combination, insurance and licence paid, equipped; £75.—112, New King's Rd., Fu S.W.

SCOTT Sports, Aug., 1920, horn, tools, spare cl footrests, long exhaust, little used.—Ecroyd Leyland Rd., Southport.

BARGAIN.—1914 Scott, speedometer, horn, ar lamps, licence paid, in perfect condition; Reynolds, Waterbeach, Cambs.

SCOTT, 1920 sports model, horn, tools, very mileage, enamel as new, plating fair, perfect c £100.—D. Lavin, Old House, Sonning, Berks.

SCOTT 3¾h.p Motor Cycle, solo, in top-hole c tion, new 1920, very little used; price £10 near offer.—Apply, Pearce, 77, High St., Sandga

SCOTT, 1916, T.T., just overhauled makers, sell immediately; cash urgently required; reasonable offer; after 6.—15, Copley Park, Streat S.W.

1920 Scott Combination, unscratched, original good, Easting, licence, fully equipped; exchange late Morgan, cash adjustment.—Postm Docking, Norfolk.

1921 Scott Squirrel, only one left, brand new; £130; exchanges or extended payments.— Layton Garages, 90, High St., Oxford. T.A. tegrity. 'Phone: 581. [X

SCOTT Sports Model, 1920, 2-speed gear, sli shop-soiled, and unused; at £130.—Burlin Motors, Ltd., South Side, Clapham Common, S 'Phone: Brixton 2417.

SCOTT Combination, 1916, 3¾h.p., W.C., new tor, new Palmer tyres, excellent condition, trial; £70; Thursday or Sundays.—J. Clark, York Rd., Wandsworth.

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SCOTT, 1914, Canoelet sidecar, Lucas lamps, Watford speedometer, watch, luggage carrier Palmer cord tyres, splendid condition, tax paid £ H.H.Z., 82, Turnmill St., London, E.C.1. 'Ph Central 12438.

GRAY and Raynes have 1921 3½h.p. T.T. Squirrel, new racing model, fast and powe petrol consumption 75 to 80 per gallon, all on paid, condition and appearance perfect; this lot £147; only done 300 miles; bargain, £120, offer, or cheaper machine and cash; see our a Miscellaneous items columns. — 8, Low Rd., B Doncaster.

Seal.

SEAL 8h.p. Combination, Chater-Lea gate gear, J engine, Lucas dynamo, all 700×80 new tyres tubes; price £140.—Further particulars, 116, St., Brighton.

Singer.

SINGER 3½h.p., clutch, perfect order; £30.— High Rd., East Finchley.

SINGER 3h.p., sound condition, wants tuning, B £23.—Sudale, Ralleston, Burton-on-Trent.

2½h.p. T.T. Singer, Albion 2-speed, Brampton 22 £26.—13, New St., Wellington, Salop. [X

SINGER Combination, 1914, thoroughly overha best offer over £60.—Drew, 400, Oxford Reading.

4h.p. Singer Combination, 1916, 2-speed, e model, in good condition, lamps, tools; best secures.—40, Kingsdown Av., W. Ealing.

SINGER 4½h.p., 1914, 2-speed, stored 3 years, lent condition, rebushed last month, val spares, licence paid; £48.—Keen, Ashby-de-la-Z [X

Sparkbrook.

1921 2-speed Sparkbrook, from stock: £77 A. J. Young and Co., Ltd., Newmarket.

MOTOR CYCLES FOR SALE.

Sparkbrook.

PARKBROOK-VILLIERS 2½h.p., 2-speed, T.T. bars, lamps, tax paid, overhauled, excellent condition; £35.—20, Queen's Rd., Hertford. [4995

PARKBROOK, 1920, 2¾h.p., 2-speed, lamps, horn, mileage 300, excellent condition; £56.—Bonrne, ahead, Pipe Gate, Market Drayton. [5313

00 GNS.—Sparkbrook 6h.p. J.A.P. combination, new condition, accumulator, lamps, speedoter, Tan-Sad, licensed.—78, Selbourne Rd., Gillingm, Kent. [4344

PARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra finish, as makers' specifications, shopled; at greatly reduced price; now is the time to y.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: ngham 2230. [4478

Sun.

UN-VILLIERS, 2-speed, just overhauled, tyres new; £40; tax paid.—Orme, Hallowes Lane, onfield. [4839

UN-VILLIERS 2-stroke, lamps, horn, all in nice order, good tyres; £32.—261, Mitcham Lane, reatham. [5287

1h.p. Sun-Villiers, lamps, horn, in very good con-2 dition; a bargain, £26.—Wallis and Easton, Mill ., Cambridge. [4830

Sunbeam

PORTS Model Sunbeam in stock; list price.—Cross, Agent, Rotherham. [X2532

EOVIL.—Moffat, Town Hall Garage.—Sunbeam, 1921 models.—'Phone: 50. [3333

921 3½h.p. Sunbeam, brand new, unsoiled; £130. —Caton, Barncote, Reigate. [5530

KICKHAM for Sunbeam, sole agent for Bristol and district.—Stokes Croft, Bristol. [3352

UNBEAM, new 3½h.p. in stock, makers' list price; exchanges.—Chaston, Blackwood, Mon. [5339

916 3½h.p. Sunbeam Combination; gilt, £108.— Claremont Garage, General St., Blackpool. [4563

920 3½h.p. Sunbeam and Sidecar, complete lamp, horn, tax paid; £138.—Cross, Agent, Rotherm. [X2534

3h.p. Sunbeam, as new, Tan-Sad, lamps, tax paid, condition perfect.—Box 3,624, *c/o The Motor tic.* [4483

919 Sunbeam Combination, 8h.p., electric lighting, insurance, tax; £200.—Wright, 2, Park Rd., gby. [X2376

916 Sunbeam 3½h.p., with B.S.A. sidecar attached, electric lighting, screen, all accessories; £110. eare, Havant. [3662

UGUST (1919) 3½h.p. Sunbeam, Watsonian sidecar, complete and perfect; £155.—Grendon, Foster . Gosport, Hants. [4511

PORTS Sunbeam in Stock for Immediate Delivery, 1921, list £152/5.—Brockbank's, 58, Lord St., thport. Tel.: 1054. [5346

920 Sports Model Sunbeam, 3-speed, all accessories, only ridden 500 miles; £145.—Penn Garage, n, Wolverhampton. [4266

UNBEAMS.—Delivery from stock of the 3½h.p. standard; also the 3½h.p. sports model.—Attd's Garage, Stafford. [X2372

3h.p. Sunbeam, enclosed chain, speedometer, K.S., fully equipped, handsome condition; 58 gns.— Streatley Rd., Kilburn. [5187

920 Sunbeam 3½h.p., sidecar, all accessories, mileage 1,200, perfect condition and appearance; 5.—19, Brainshill Rd., Harlesden. [4872

920 3½h.p. Brand New Sunbeam and Sidecar, interchangeable wheels; at list price; from stock.— J. Young and Co., Ltd., Newmarket. [5383

921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith Co., 52-54, Hampstead Rd., N.W.1. [0353

UNBEAM 1917 3½h.p., perfect condition, accessories, also sidecar; ill-health cause sale; £110, offer.—8, Blakemore Rd., Streatham. [4585

EW 1921 3½h.p. Sunbeam, 3-speed, kick start, clutch; list price £155/8; exchanges entertained. mbers', Eastbank St., Southport. Tel.: 607. [X0634

UNBEAM 6h.p. Combination, fully equipped lamps, speedometer, etc., spares, perfect condition; £125. rner, The Homestead, Marsh Farm, Twickenham. [4508

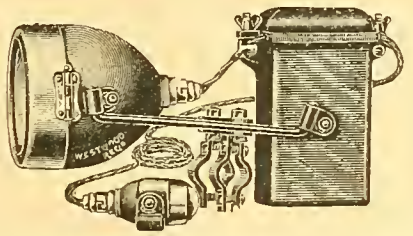
ATE 1920 8h.p. Sunbeam de Luxe Combination, spare wheel, lavishly equipped, practically new; 0; exchanges.—60, Wallingford Av., North Kensing- [4901

UNBEAM 8h.p. Combination, renovated by makers, would pass for new; £140; entertain exchange part payments.—Bunting, Wealdstone. Closed Sun- [5472

UNBEAM 1919 3½h.p., 3 speeds, lamps, horn, tools, etc., complete, perfect machine, in tip-top condi-; £120, or near offer.—Stow, Saw Mill, Shoreham, sex. [3074

ATE 1920 Sporting Sunbeam 3½h.p., practically unused, for sale, as owner leaving England; 4h.p. Douglas.—Scott-Hansen, 61, Evelyn Gardens, .7. [4136

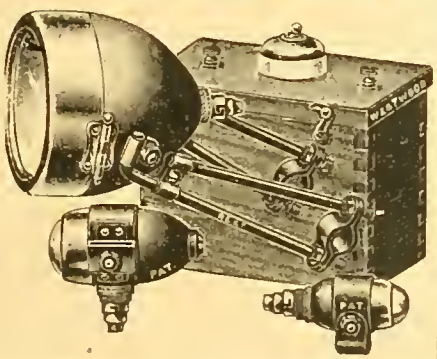
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The Headlamp supplied with this set is our 5in Daybeam, a very powerful light-giver. The brackets are of exceptionally strong and handsome design. They carry the headlamp and also the (die cast) aluminium case. The accumulator is specially made for motor cycle lighting, and will brilliantly illuminate the head and the rear lamp for 20 hours if used intermittently. The tail lamp (our torpedo S.B.C.) is exceptionally strong and well made, and has a very attractive appearance. Each lamp is fitted with a switch, and one lamp may be used independently of the other. The outfit is despatched completely assembled, and 4 volt bulbs are fitted. The finish is ebony black and nickel plate.

Complete Outfit, List No. 30/1, Price £5 5 0
(If tail lamp is not required, deduct 12/6).

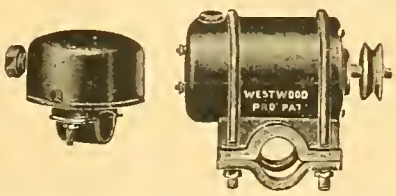
"DAYBEAM" Combination Set



The set comprises Daybeam 5in. Headlamp, Ideal Sidecar Lamp, and Torpedo S.B.C Tail Lamp. Each lamp is fitted with an independent switch, and is finished in ebony black with nickel-plated relief. The Accumulator (capacity, 6 volt, 40 amp.) is specially made for motor cycle lighting and will give very satisfactory service in use. Many have now been in use two or three years, and are as efficient as when first purchased. **All our Accumulators are specially made to stand vibration.** Ordinary accumulators are never satisfactory for motor cycle work. The hard wood case supplied with this set is finished ebony black, and is specially treated to withstand acid. This outfit is despatched completely assembled with bulbs and all necessary wiring, etc.

Complete Outfit, List No. 30/2, £7 7 0.

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MOTOR CYCLES FOR SALE.

Sunbeam.

SUNBEAM 1915 3½h.p. Model with Sidecar, complete with all accessories, excellent condition; £110.— Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2445

SUNBEAM Combination, 4¼h.p., French Military Model, as new, fully equipped, tax paid; £150, no offers.—Garfield, Jun., 5, Hampton Rd., Birchfields, Birmingham. [4504

1920 (June) 3½h.p. Sports Sunbeam, 3-speed, hand clutch, kick starter, lamps, horn, knee-grips, small mileage, first rate condition; £130.—Seen at 22, Preston Rd., Brighton. [4622

SUNBEAM 3½h.p. Combination, not W.D., in perfect order, just overhauled and repainted, tax paid; £105; any trial.—Meyer, 19, Longton Av., Sydenham, London, S.E. [4786

SUNBEAM 1920 3½h.p., Canoelet sporting sidecar, legshields, Lucas lamps and horn, original tyres, superb condition; £150.—Horace Wolverson, Horseley Fields, Wolverhampton. [X2585

SUNBEAM Combination, 1920, interchangeable wheels, Lucas lamps, Cowey horn, Easting screen, overhauls, everything as new; £165; bought car.— Ansell, High St., Sheerness-on-Sea. [5226

1920 Sunbeam Combination, 8h.p., double lighting set, speedometer, hood, screen, spare, accessories, tax, insurance paid, perfect condition; bargain, £180.— 47, Rochester St., Kempton, Brighton. [5259

SUNBEAM 3½h.p. Combination, new August, 1920, perfect condition, all lamps, etc., tax paid, tyres never had a puncture; £175.—200, London Rd., Kingston Hill, S.W. 'Phone: Kingston 104. [4918

8h.p. 1920 Sunbeam Combination, hood, screen, 4 interchangeable wheels, accumulator lighting, speedometer, Klaxon; £210; in excellent condition.— C. V. Goddard, Avenue Rd., Leicester. [X2587

1920 (late) Sunbeam Combination, 3½h.p., Triplex screen, Lucas lamps and horn, luggage grid, mileage 400, indistinguishable from new; snip, £160.—48, Warlock Rd., Paddington. Tel.: Willesden 1744. [3798

OCTOBER (1920) Sunbeam Combination, 3½h.p., Blumel's screen, Lucas lamps, horn, Cowey speedometer, new spare wheel complete, tax paid, mileage 2,500, perfect condition; offers wanted over £160.— Box 3,589, *c/o The Motor Cycle.* [4392

SUNBEAM 1920 3½h.p., sporting, Lucas lighting, horn, tools, and usual accessories, Dunlops unmarked, spare long exhaust pipe and spare parts if required, excellent condition and appearance, mileage 500 only; £128.—25, Ormiston Rd., Shepherd's Bush, W. [4976

SUNBEAM 1918 Combination, 8h.p. M.A.G. engine, Lucas accessories, interchangeable wheels, legshields, sidecar hood and side screen, adjustable wind screen, luggage carrier, and mat, whole outfit in splendid condition; £130.—Wayte, 63, Lillington Rd., Leamington. [X2529

1919 Sunbeam 3½h.p., licence paid, 3-speed, K.S., and clutch, speedometer, Lucas accessories, in very fine order throughout; price £115; exchanges or extended payments; approval with pleasure.—The Layton Garages, 90, High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X2694

8h.p. Sunbeam Combination, condition as new, completely equipped with all accessories, and cost £260 originally in Oct., 1919, easily worth £210, but will accept £180 in order to dispose immediately; photograph and any particulars on application.—Percy Hart, Bradley, Wylam, Northumberland. [4542

1920 Sunbeam, 3½h.p., sporting, with Dinkie sidecar to match, wonderful engine, used chiefly solo, Cox Atmos and Amac, fully equipped, 3 Lucas lamp sets, Lucas horn, Bonniksen speedometer, watch, etc., heaps of spares, condition as new; £174.—51, Wilberforce Rd., N.4. 'Phone: Padd. 10. [4743

LATE 1920 3½h.p. T.T. Sunbeam, black and gold, unscratched, under 500 miles, legshields, Cowey horn, 3-jet Binks, P. and H. lighting, Bonniksen speedometer, interchangeable wheels, 3in. Dunlops, insurance; price £150; no cheques. After 6.—E.B., 5, Sandown Villas, Grove Rd., Mitcham, Surrey. [4280

1915 3½h.p. Sunbeam Combination, overhauled by makers, re-enamelled and plated, sidecar retrimmed and coach painted; £120, which includes speedometer, lamps, luggage grid, spares, licence, etc.; photo; privately owned; enquiries and on view.—Anthony, 1, Townshend Cottages, St. John's Wood, N.W.8. [5389

1920 Sunbeam 8h.p. Combination, accumulator lighting, speedometer, horn, mirror, lamps, screen, waterproof apron, new tyre on spare wheel, interchangeable wheels, luggage grid, Binks, tyres very good, appearance like new; £200, or near offer.—The Layton Garages, 90, High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X2693

T.T. Sunbeam 3½h.p., 1916, overhauled by makers in November and 1920 engine fitted (receipts shown), 3-speed, clutch and kick starter, largest F.E.S. lamp set (new), Klaxon, Stewart (new), long aluminium exhaust pipe, Dunlop extra heavy tyres rear brand new; this machine is guaranteed to be mechanically perfect, and is very fast; £100.—F. Warren, Hindon, Wilts. [4701

MOTOR CYCLES FOR SALE.

Sunbeam.

AN Outfit for a Gentleman.—1920 8h.p. Sunbeam combination, Lucas dynamo lighting, large Lucas horn and 6v. electric horn, Cowey speedometer, 8-day watch, wind cuffs, Best and Lloyd mechanical oil pump, spare wheel all interchangeable, spruug luggage grid, wind screen, hood, apron, tax and insurence paid to December, everything in beautiful conditiou; £235.—Goult, 169, Earl's Court Rd., London [5026

T.A.C.

T.A.C. 7h.p. 4-cyl., shaft drive, large family sidecar, C.B., 2 screens, rebuilt 1920, perfect condition; £85.—B., Gidda Na, Ember Lane, Esher. [4988

T.D.C.

BRAND New 1921 Improved Type T.D.C., 2-stroke, Albion 2-speed gear, 26in. wheels, Dunlop tyres, C.A.V. magneto, pan saddle, aluminium footboards, list price £60; to clear, £48; illustration sent.—Hockley Motor Co., 38a, Cecil St., Birmingham. [5365

Triumph.

PREMIER Motor Co. for 1921 Triumphs.

TRIUMPH at the new reduced prices now in stock.

WE Can Deliver to your address within 24 hours 2½h.p. lightweight Triumph, £70; W.D.B. (renovated), £95; Type H 4h.p., 3-speed, £115; Type S.D., chain drive, £125; sidecars from £25 to £50; buy your machine direct from the Triumph specialists.—The Premier Motor Co. Aston Rd., Birmingham. [X2523

1914 Triumph, 3-speed, all on, perfect; £30.—88, Kew Rd., Richmond. [4949

TRIUMPH, all models from stock; exchanges.—Chaston, Blackwood, Mon. [5337

TRIUMPH 1921 Models in Stock, at reduced prices. —Rose's Garage, Uxbridge. [5197

CROSS, Rotherham, can deliver all model Triumphs from stock at reduced prices. [X2530

BABY Triumph, 1919, lamps, horn, and legshields; £55.—5, Henrietta St., Coventry. [X2682

TRIUMPH, 1914,, 4h.p,. 3-speed, clutch, guaranteed perfect; £55.—60, Carleton Rd., N.7. [4921

1913 Triumph, 3-speed combination, any trial; £48. —13, New St., Wellington, Salop. [X2597

TRIUMPH 3½h.p., 1911, overhauled, new tyres, fast and reliable; £36.—Oakey, Thirsk, Yorks. [4351

TRIUMPH 3½h.p., 2-speed, all on, tax paid; £36.—Lees, 17, Fairbridge Rd., Highgate, N.19. [4365

1918 Junior Triumph, perfect, lamps, horn, licence paid; £45.—Hanning, Nantwich, Cheshire. [5212

1919 Triumph Combination, perfect; first £98.—Claremont Garage, General St., Blackpool. [4562

DAN GUY, Weymouth.—1921 Trinmph combination, £182/10; Trinmph 2-stroke, £75; in stock. [0555

TRIUMPH Combination, 3-speed gear box, practically new; offers.—Bufton, Ironmonger, Presteigne. [X2249

COUNTERSHAFT Triumph Combinations from £80. —Owen, 59, Scholefield Rd., Upper Holloway. [X2565

3½h.p. Triumph, splendid condition, good tyres, trial; £35.—Underwood, Coombe Av., Croydon. [5062

1918 Countershaft Triumph Combination, £85; solo, £65.—60, Wallingford Av., North Kensington. [4906

TRIUMPH Thoroughly Overhanled 1918 Models; £65 to £68.—Clark, 7, Exhibition Rd., S.W.7. [5479

1918 (Sept.) Countershaft Triumph Combinntion, new condition; £85.—9, Church Rd., Harlesdeu, N.W. [4860

NEW 4h.p. Triumph, 3-speed, with makers' guarantee; £95.—Wallis and Easton, Mill Rd., Cambridge. [4834

TRIUMPH 4h.p. 3-speed Countershaft Model, good order, licensed; £65, bargain.—Moss, Wem. [X2498

TRIUMPH Jnnior, late 1920, as new, tax paid, only done 400; £60.—White, 1, Gartmore Rd., Seven Kings. [4945

1921 Triumph-Gloria Combination, brand new, tax paid; £160.—190, Balvernie Grove, Southfields, S.W.18. [5305

BABY Triumph, 1920, used 2 months only, as new, fully equipped; £60, or nearest.—13, Little James St., Holborn. [5319

1918 Triumph, lamps, horn, licence paid; a bargain for quick sale at £73. — 523, Croydon Rd., Beckenham. [4242

FOR Sale, Triumph 3½h.p. combinntion, coachbnilt, in good condition; £39/10.—Appleton, Gagwood, King's Lynn. [4886

1919 Triumph, countershaft, 4h.p., tax paid, fully equipped; 67 gns. — Fersfield, Westbury Rd., New Malden. [4971

BRAND New C.S. Triumph, unridden, unregistered, lamps, horn, etc., gift; £95.—33, Hackford Rd., Brixton, S.W. [4663

TRIUMPH, 3-speed Sturmey hub gear, new cylinder, piston, etc., splendid order; £32.—248, Drakefell Rd., Brockley. [4998

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Beldam Combination	35/-
Palmer Heavy Cord	36/9
Palmer Cord	32/8
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Palmer Cord	33/-
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Bates Special Heavy	37/6
Wood-Milne Extra Strong	35/-
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Wood-Milne Special	33/-
Wood-Milne Extra Strong	45/-
Wood-Milne Combination	57/6
26×2½.	
Dunlop Heavy	45/-
Macintosh Chain	36/-
Dunlop Combination	52/6
Rom Combination	47/6
26×3 to fit 2½ Rims.	
Wood-Milne Extra Strong	43/-
Wood-Milne Combtnation	57/6
650×65.	
Heavy Rubber Non-skid	26/6
Wood-Milne Special	43/6
Wood-Milne Combination	57/6
*Michelin Steel-studded	52/6
*Clincher Steel-studded	47/6
*Wood-Milne Steel-studded	45/-
*Voiturette fitting.	
700×80 to fit 650×65.	
Wood-Milne Special	50/-
Wood-Milne Extra Strong	55/6
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Wood-Milne Combination	60/-
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MOTOR CYCLES FOR SALE.

Triumph.

1919 Triumph, 3-speed, lamps, speedometer, a accessories; £85 inclusive.—Penn Garage, Pen Wolverhampton. [426

TRIUMPH (renovated 1920) Combination, ful equipped, licensed; bargain, £105.—132, Hi Rd., East Finchley. [509

TRIUMPH, 1918, new sidecar, freshly overhanle £85, bargain.—Clark, 7, Exhibition Rd., Sou Kensington, S.W.7. [548

TRIUMPH 4h.p., late 1917, new tyres, Cowey, disc lamps, excellent condition; £68.—18, Swinga Lane, Plumstead. [520

TRIUMPH 1919 Combination, complete, exceptio outfit, new condition; £130, cost £190.—Coo Jeweller, Newark. [524

TRIUMPH, 1918, countershaft, licensed, first £ secures; Canoelet sidecar, £13.—60, Cambrid Rd., New Malden. [54

1919 Triumph and Langford Sidecar, speedomet lamps, horn, luncheon basket, licensed, perfe condition; £98.—Below.

1917 and 1918 Triumphs, reconditioned, in perfe running order, from £60.—Edwards, 50, H rington Rd., South Kensington, S.W.7. 'Phone: K 3709. [54

TRIUMPH 1912 3½h.p., good condition, electric lig ing set; £35, or near offer.—3, Ashby R Crouch Hill, London, N. [44

TRIUMPH, W.D., lamps, horn, speedometer, t paid, excellent condition; £75, no offers.—H Cavendish Rd., Barnsley. [X22

TRIUMPH Countershaft, Millford sidecar, all acc sories, licence, good order; £85, or near.—Denn Rectory, Cheam, Surrey. [52

3½h.p. Triumph Combination, Mahon gears, B. Bosch, lamps, dynamo, spares; nearest £46 169, Harvist Rd., Kilburn. [42

1920 Triumph Combination, under 2,000 milea as new; £145; bargain.—Rose, Thorn Vil M.P. Hospital, Ewell, Epsom. [51

TRIUMPHS.—Delivery from stock of the 4h chain drive and Type H, with sidecars or sold Attwood's Garage, Stafford. [X23

TRIUMPH 1914 4h.p. Coachbnilt Combination, speed, clutch, lamps, tools; £55.—125, Cambri St., Atherton, Manchester. [45

3½h.p. Triumph C.B. Combination, 1912-13, 3-sp clutch, good condition; best offer; exchanges S.D., 44, Bright St., Southport. [X23

TRIUMPH Combination, 4h.p., 1919, new licer paid, New head lamp, spare tyres; £80.—T Laurels, Brighton Rd., Purley. [45

1919 Countershaft Triumph, overhauled, replat enamelled, accessories, tax paid; £85.—9, De field Rd., Old Charlton, S.E.7. [53

TRIUMPH 4h.p., 3-speed, 1920, excellent order, Lu lamps, best fittings; £88, including licence Canon Back, Berkswell, Coventry. [X26

TRIUMPH 1918 4h.p., 3-speed, lamps and ho £67.—Newnham Motor Co., 223, Hammersm Rd., W.6. 'Phone: Hammersmith 80. [34

1918 Triumph Countershaft, lamps, horn, tax pa 70 gns.; any trial.—'Phone: Waltham Cr 299.—44, Sun St., Waltham Abbey. [50

1920 Triumph Combination, Klaxon, Cameo w screen, new lamps, all accessories; £120, nearest.—149, Oval Rd., E. Croydon. [45

1914 Triumph and very Comfortable Basket Sidec 4h.p., 3-speed, accessories, perfect condition; £ —Walter, 16, Wilbury Villas, Hove. [4

LATE 1919 4h.p. Triumph, countershaft, 3-sp Miller lamp, perfect condition, not W.D.; £7 Fitt, nr. Pikes Church St., Chelsea. [5

TRIUMPH Combination, June, 1920, condition new, all accessories, tax paid, any trial; £127/ —Pollett, Caterham Valley. 'Phone 188. [4

TRIUMPH C.B. Combination, late 1914, 3-sp speedometer, good condition; £75, near offe S., 91, Kingsfield Rd., Oxhey, Watford. [4

TRIUMPH, late 1918, 4h.p., countershaft, enar plating, mechanical condition as new; £7 30, Crystal Palace Park Rd., Sydenham. [4

1914 Triumph and Sidecar, 3-speed, clutch, Bo Lucas lamp, horn, accessories, perfect; £62.— Upper Park Rd., Hampstead. After 6 p.m. [4

TRIUMPH (Baby), 1919, very little used, per order, enamel, plating, tyres as new, lamps, h £55.—Gould, Sherwood, Coppetta Rd., N.10. [5

3½h.p. 1913 Triumph and Coachbnilt Rudge Side 3-speed and clutch, excellent condition; £60, offer.—Grinsted, Fenton, Farnborough, Hants. [X2

TRIUMPH, late 4h.p. countershaft C.B. combtion, engine No. 49479, just renovated, 2 tyres, fully equipped; £85.—4, Enn St., Bolton. [4

1914 Triumph, torpedo sidecar, hub gears, lat tools, overalls, etc., licensed, requires repaint after 6 p.m.—57, Westbourne Park Rd., Bayswater. [4

MOTOR CYCLES FOR SALE.

Triumph.

4h.p. Triumph, 1916 model, countershaft, 3 speeds, K.S., lamps, horn, tax paid, in excellent condition; £68.—Mayhew, 18, Wherstead Rd., Ipswich. [5214

1920 T.T. Triumph, Lucas equipment, spare belt, valves, etc., indistinguishable from new, tax paid; £85.—Braithwaite, 30, Tudor Rd., Southend. [4898

4h.p. Countershaft Trimph Combination, 3-speed, kick start, Sunbeam sidecar, lamps, horn, tax paid; £82.—2, Fortnnegate Rd., Harlesden, N.W.10. [4937

TRIUMPH 1920 4h.p. Model, Triumpb sidecar, Watford speedometer, as new; £160.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2446

TRIUMPH Combination, late 1920, splendid condition, speedometer, lamps, registered, insurance; £135.—Stevenson, Belle Walk, Moseley, Birmingham. [X2250

59 GNS, spot cash.—1918 4h.p. countershaft Triumph, excellent running order and condition; inspection invited.—436, Whitehorse Rd., Thornton Heath, S.E. [4853

NEW (net W.D.) 1920 Trimpb, 3-speed, fully equipped, licensed, any trial (after 6.30); £108.—Rhodes jun., 199, Algernon Rd., Ladywell, S.E.13. [3600

A BRAND New 1921 Triumph, latest model, for sale under list price; reduced list price £115, will accept £100, genuine bargain.—Selhurst, Park Lane, Cardiff. [4506

TRIUMPH Combination, 1918, countershaft, 3-speed and kick-starter; £90.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station, Hampstead 767. [0587

TRIUMPH, date about 1919, 4h.p., 3-speed, countershaft gear box, hand, clutch, indistinguishable from new; £75.—24, Grosvenor Av., East Sheen, S.W.14. [3739

T.O.C.H. are Triumph agents. Combinations and solos, new and second-hand, in stock; bargain prices.—5, Heath St., Hampstead (near Hampstead Tube Station). [4640

4h.p. Triumph, 1917, countershaft 3-speed, overhauled, renovated, guaranteed perfect and complete, new tyres and belt; £52.—Dowell, The Crescent, Pyrford, Surrey. [5115

1920 T.T. Triumph, lamps, mechanical horn, tax, long exhaust, fast and flexible, tools and spares; £79; exchange 16H Norton.—88, Lord St., Southport. [5370

1918 Triumph or Combination, Canoelet sporting sidecar, electric lights, Klaxon, tax paid, as new; £95.—'Phone Wanstead 48.—374, Grove Green Rd., Leytonstone. [5348

1919 (November) 4h.p. Triumph, Canoelet sporting sidecar, 1,700 miles, disc wheels, lamps, horn, speedometer, tax paid; 110.—15, Palace Rd., Streatham Hill, S.W.2. [5014

1921 Triumph Combination, Model H., mileage 500, unscratched, fully equipped, tax paid, as new; bargain, £140.—48, Worlock Rd., Paddington. Tel.: Willesden 1744. [3797

TRIUMPH 3½h.p., coach sidecar, Philipson pulley, head and tail lamps, spares, licence, all in good order, very fast machine; £50.—4, Forest Hill Rd., Peckham Rye. [5245

TRIUMPH Gloria C.B. Combination, 1920, S.A. 3-speed gear box, brand new, tax paid, lamps, horn, etc., splendid condition, any trial; £110.—33, Huckford Rd., Brixton, S.W. [4662

TRIUMPH 4h.p., 1918-19, 3-speed countershaft combination, bulbous sidecar, wind screen, Klaxon, 3 lamps, first-class condition; offers; tax paid.—28, Cromwell Grove, W.6. [4624

TRIUMPH 1914 4h.p. Combination, in good condition, 3-speed, accessories, engine, and gears perfect; £60.—Woods, 330, Balham High Rd., S.W.17. 'Phone: Latchmere 4368. [5393

1914 Triumph-Gloria Combination, fully equipped, speedometer, wind screen, tax paid, splendid condition, inspection invited; offers.—Islip, 28, St. Mark's Rd., Maidenhead. [5192

4½h.p. Trimph Junior, 2-speed, 1920 machine, in very nice order and complete with lamps, horn, and tools; £60; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [4817

CROYDON Agents for Triumph motor cycles. All models in stock, ready for immediate delivery.—Moore's Presto Motor Works, Ltd., 145, North End, Croydon. 'Phone: 2624. [1348

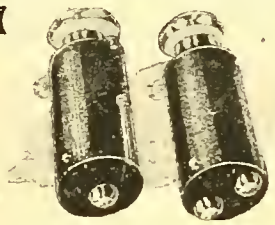
OFFERS.—3½h.p. Triumph, 2-speed, clutch, lamps, pillion, any trial; also New Hudson coachbuilt sidecar, splendid condition throughout.—9, Woodsome Rd., Highgate Rd., N.W.5. [4769

4h.p. Countershaft Trimph Combination, engine No. 39037, recently overhauled, excellent condition throughout, fully equipped; £85.—Langford's, 37, Hicklewood Broadway N.W.2. [4846

SEVERAL 1917 and 1918 Countershaft Triumphs, renovated, 3-speed, clutch, and kick-starter; £65. Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube station. Hampstead 2767. [0586

1914 Triumph 4h.p., 3-speed, Sturmey hub, just thoroughly overhauled, lamps, tools, horn, valve, excellent appearance and condition; £45.—Rathgar, Ripley Rd., Walton-on-Thames. [4984

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TRIUMPH Combination, 1915 (renovated), 4h.p., K.S., 3-speed Sturmey-Archer, roomy coachbuilt sidecar, tax paid; what offers; seen by appointment.—P. Webber, 3, Sea Rd., Bexhill. [5327

TRIUMPH 4h.p., tyres brand new, not done 50 miles, 3-speed clutch, kick start, all-weather model, in excellent condition throughout; £88, or offer.—Walker, 769, Romford Rd., Manor Park, E. [3601

BRAND New Chain-cum-belt Triumph, just received from makers, not ridden, semi-T.T. bars, good reasons for selling; £116; seen any time by appointment.—Temby, Okehampton, Devon. [5128

29 GNS.—3½h.p. clutch Trimph, enamelling, plating grand; any trial, examination after 5.30; mechanical horn, 30/- tax paid; real bargain.—11, Pretoria Av., High St., Walthamstow. [4671

TRIUMPH, countershaft, engine No. 50279, in perfect mechanical condition, plating and enamel as new, fully equipped, footboards, tax paid; £75, or near offer.—Box 3,650, c/o *The Motor Cycle*. [4934

TRIUMPH 1916 4½h.p., countershaft model, with coachbuilt sidecar, complete with all necessories, in excellent condition; £95.—Alfred Wastnage, 65, Gt. Portland St., W. Tel.: Langham 2172. [3060

TRIUMPH Countershaft Combination, engine No. over 52000, lamps, horn, etc., £77/10; Triumph 1916 T.T., single-speed, lamps, tax paid; £42/10; exchanges.—72, Cornwall Rd., Brixton Hill. [4996

TRIUMPH, countershaft, 1918, countershaft 3-speed gear box, all accessories, splendid condition throughout; £68.—110, Upper Richmond Rd., East Sheen, S.W.15. 'Phone: Putney 2622. [5396

1920 (Aug.) Triumph R 34 (new) Sporting Combination, Lucas lamps and horn, F.E.W.'s solo sprocket, licence, etc., condition perfect, trial Manchester; £140.—Box 3,564, c/o *The Motor Cycle*. [4321

TRIUMPH 1918 Countershaft Combination, Henderson sidecar, electric lamps, speedometer, Easting wind screen, new Dunlop tyres, splendid condition; £125.—89, Bayham St., Camden Town, N.W. [4371

1920 Triumph, 3-speed countershaft, in perfect condition, with Lucas lighting, Cowey trip speedometer, legshields and spares, tax paid for sidecar use; bargain, £95/10.—529, Croydon Rd., Beckenham. [4243

3½h.p. Triumph, clutch, overhauled, nearly new tyres, tubes, belt, new frame, carrier, all on, licensed, topping order; £30; exchange lightweight, speeds; cash adjustment.—Durham, Sevenoaks, Kent. [4342

TRIUMPHS.—We are the North London agents, and can give immediate delivery; chain drive, chain-cum-belt, and renovated models.—Jones Garage, Muswell Hill, N.10; and at Woodside Parade, North Finchley. [0382

TRIUMPH, 1921 models, in stock for immediate delivery at makers' reduced prices; exchanges arranged; also Triumph H Models, renovated as new; £90 and £95.—Eagles and Co., 275, High St., Acton, London. [5105

IMMEDIATE Delivery of any Triumph Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0504

£85.—Late Triumph and Mills coach sidecar, engine 57,747, 3-speed countershaft, hand clutch, kick start, lamps, generator, horn, tools, tax paid, good condition; bargain; after 6.—69a, Hambalt Rd., Clapham Common. [4667

1915 Triumph, renovated by makers, 3-speed, clutch, Dunleps, as new, 2 lamps, generator, pump, horn, complete tool set, Tan-Sad seat, everything perfect; £52 cash.—T. Farmer, Inglewood, St. James's Rd., Sutton. [5143

TRIUMPH 4h.p., brand new chain drive 1921 model, just arrived from works, in stock for immediate delivery; £125; secure at makers' latest reduced price; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [4617

TRIUMPH Motor Cycles.—Prices now reduced: 4h.p. chain-cum-belt drive, £115; 4h.p. chain drive, £125; Gloria sidecar, £50; lightweight, £70; exchanges or deferred payments.—P. J. Evans, 81-91, John Bright St., Birmingham. [4631

1920 Trimph 4h.p., Mills-Fulford sidecar, excellent mechanical order and appearance, Cowey speedometer, horn, Miller lamp, tax paid, mileage 3,000, tyres unpuncture; £150; any trial.—Jose, Falconers, Sawbridgeworth, Hertfordshire. [4677

TRIUMPH Combination, 3½h.p., 1910 frame renovated, N.S.U. gear, practically new engine, all fittings, good tyres, spares, excellent condition, licence and insurance paid; seen by appointment; £40.—Hutson, 96, Minard Rd., Catford, S.E.6. [4436

TRIUMPH Countershaft Combination, Gloria sidecar, 1919, Cowey speedometer, Dunlop extra heavies, Lucas lamps and horn, tax paid, perfect order not renovated, any trial; £120.—Harvey's, 47, South Lambeth Rd., S.W.8 (nr. Vauxhall Station). [5552

1919 W.D. Trimph Motor Cycle, as new, 3-speed, K.S., clutch, countershaft model, Cowey speedometer, P. and H. lamps, Klaxon, Ton-Sad, tool-all complete, ready to drive away; a real bargain. £100.—Hubbard, 5, Newcomen St., Southwark, S.E. [4350

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. A33

MOTOR CYCLES FOR SALE.

Triumph.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Triumphs, all models in stock, new chain drives, new chain-cum-belts, solos and combinations; also 4h.p. renovated models, £90 and £95; immediate delivery; supplied on easiest of easy terms; trade supplied. [5484

JUST Renovated, re-enamelled, and replated by Triumph Co., 4h.p. W.D. Triumph (latest decompressor), new gear box new oversize tyres, Lucas and Siemens lighting, tax paid, indistinguishable from new; £78, no offers.—Maclennan, 53, Mickleton Rd., Coventry. [X2635

GRAY and Raynes have 1920 4h.p. T.T. Triumph, specially tuned, very fast, long brass exhaust pipe, T.T. bars, lamps, horn, tax paid, and is as new, startes at a walk; £90, or cheaper mount and cash; see advt. Miscellaneous items columns.—8, Low Rd., Balby, Doncaster. [4499

TRIUMPH 1918 4h.p. Solo, countershaft, clutch and belt drive, perfect condition, recently overhauled, acetylene lamp and generator, tool-kit, etc., Government tax paid, owner gone abroad; £80, or reasonable offer considered.—Apply, Supply, Cox's, 11-13, Charing Cross S.W.1. [4494

TRIUMPH Late 1919 Combination, 3-speed countershaft gear, Renault blue bulbous back sidecar, Bluemel screen, hood, all lamps, Klaxon and bulb horns, aluminium discs, Jones speedometer, tools, spares, just overhauled, splendid condition and appearance, tax paid; £130.—Owner, 37, Smitham Downs Rd., Purley, near Croydon. [5028

TRUSTY 1912 Triumph, Bosch, horn, lamps, footboards, speedometer, Grado, kick-starter, renovated condition, and wicker sidecar; also 2-stroke Albion gear, Peco engine, A1 runner, sundries, A.K. knee-grips, pedals for Triumphs, new valve covers, old pattern sidecar body (wicker), sundry tubes and tyres, phonograph, 60 records, 50 gramophone records; what offers in market value?—Correspondence, 71, Waldeck Av., Bedford. [5076

1921 Triumph Combination, model S.D.C. de luxe, 4h.p., 3-speed countershaft,, hand clutch, and kick starter, new all-chain transmission, with Triumph gear box and patent spring drive, Gloria 1921 spring wheel sidecar, coachbuilt, purple and gold, beautifully upholstered light blue crocodile, bulbous back, 3 lockers, pocket, coverall, extra waterproof apron, rugs, etc., petrol tin carrier, luggage grid, leg shields, Triumph colours, and Easting wind screen, complete with all Lucas lamps, Cowey horn, Aco aluminium discs on all wheels, knee grips, spare valves, plugs, tyre, tools, mascot, and many other useful accessories, magnificent outfit, new this month, and absolutely unscratched, mileage under 120, tax and fully paid comprehensive insurance policy included, owner bought car and must realise; any trial, and ridden to purchaser within 100 miles; cost £225; will accept £165, no offers; first cheque secures.—Lieut. St. John White, Saxonhurst, Matlock. [4325

Velocette.

JULIANS of Reading have 1921 Velocette in stock. [0486

VELOCETTE, 1920, fully equipped, 1,200 miles, as new; £65.—Box 3,680, c/o *The Motor Cycle*. [5535

1915 Velocette, 2-speed, all-chain drive, fast, powerful, good tyres; £32.—3, Park St., Wellington, Salop. [X2596

IMMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2½h.p., 2-speed, all-chain drive; £75.—Agents, W. Sparrow, Ltd., Osborne Garage, Yeovil. [1632

1921 Velocette, Model D3, 3-speed, £85; Model D2, 2-speed, £75; Model DL2, lady's open frame, £78; all in stock for immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [X2524

VELOCETTE (late), 2-speed, B. and B., E.I.C., variable ignition, lamps, accessories, Dunlops, chain drive, licence, thorough trial; £38; exchange 2¾h.p. Douglas.—63, Solon Rd., Brixton. [5224

Verus.

1920 Verus-Blackburne, disc wheels, lamps, etc., ridden 250; bargain, £82.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0340

VERUS-BLACKBURNE 4h.p., Dec., 1920, K.S., 3 speeds, P.H. lamps, as new, £4 tax paid; 80 gns., offer, or and sidecar.—16, Rokeby Rd., Brockley, S.E. [4570

VERUS, late 1920 2½h.p. 2-stroke, 2-speed, clutch, K.S., lamps, horn, mileage about 500, £58; also 2¾h.p. Verus solo, £40; late 1920, hardly ridden, all accessories.—Virgo, 156, High St., Hounslow. Tel.: 125. [5283

IMMEDIATE Delivery of any Verus Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0502

1920 Verus 2-stroke, 2-speed, K.S., no accessories, mileage only 400, condition as new; £50; exchanges or extended payments; approval with pleasure. —The Layton Garages, 90, High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X2695

Victoria.

PICKERING, Shrewsbury.—All models Victoria in stock. [X2517

GET YOUR TYRES AT THE TYRE HOUSE

FOR SERVICE AND SATISFACTION.

The following clearance lines are offered, and guaranteed by us to be in perfect condition, and we are prepared to refund your money in full if not as represented. All goods on 7 days' approval, carr. paid.

SPECIAL BARGAINS

Brand New Covers.

1st Grade Only.

From Government Stores, etc.

24×2 Avon Druid	26/9
24×2¼ Avon 3-rib Heavy	31/6
26×2 Clincher Ribbed	25/-
For 26 × 2¼ Rims.	
26×2¼ Heavy Rubber Non-skid	21/-
,, Extra Heavy Non-skid	25/-
,, Wood-Milne Special	28/6
,, Avon Sunstone	33/-
,, Pedley Medium 3-rib	30/-
,, Wood-Milne Extra Heavy	33/6
,, Hutchinson T.T.	35/-
,, Englebert Hvy. Touring, wired on	37/6
26×2½ Bates Special Heavy	36/-
,, Palmer Cord Heavy	35/-
,, Avon Tricar Extra Heavy	35/-
,, Hutchinson Passenger	36/-
,, Wood-Milne Extra Heavy	35/-
26×2¼×2¼ Englebert Super Heavy	55/-
,, Englebert Touring	47/6
,, Hutchinson Rubber Studded	49/-
,, Goodrich Safety Tread	59/-
,, Wood-Milne Special	42/6
For 26 × 2½ Rims.	
26×2½ Heavy Non-skid	35/-
,, Extra Heavy Non-skid	39/-
,, Clincher de Luxe Extra Heavy	42/-
,, Spencer-Moulton 3-rib	41/-
,, Wood-Milne Combination	55/-
,, Ribbed, wired on	25/-
26×3×2½ Englebert Passenger	47/-
,, Skew Extra Heavy Non-skid	39/-
28 × 2½	
28×2½ Hutchinson Passenger	36/6
,, Kempshall Non-skid	45/-
28 × 3	
28×3 Dominion Extra Heavy	59/6
,, Kempshall Anti-skid	32/-
,, Palmer Cord	42/6
,, Wood-Milne Extra Heavy	30/-
,, Clincher de Luxe Extra Heavy	42/6
,, Englebert Super Heavy	69/6
650 × 65	
650×65 Lightweight	27/6
,, Wood-Milne Extra Heavy	47/6
,, Dunlop Grooved	52/6
,, Avon Square	45/-
,, Avon 3-rib	46/-
,, Clincher de Luxe Extra Heavy	49/-
700 × 80	
700×80 Wood-Milne Special	49/-
,, Wood-Milne 4-ply	59/-
,, Dunlop Grooved	62/6

PIKE TYRE and RUBBER Co., Ltd.,

The TYRE HOUSE,

83, Theobald's Road,

HOLBORN - W.C.1

'Phone: Museum 1543.

MOTOR CYCLES FOR SALE.

Villiers.

VILLIERS Engines and Spares, cheaper than elsewhere; illustrated catalogues free.—Kemp's Garage, Louth, Lincs. [X2582

2¾h.p. Villiers 2-stroke, Albion 2-speed box, Druid 24 new Dunlops, faultless; £32 10.—3, Park St., Wellington, Salop. [X2599

2¾h.p. Villiers, indistinguishable from new, mileage 200, everything original; £38, near offer; photo stamp.—Ewers, Newton Rd., Burton-on-Trent. [5170

VILLIERS 2½h.p. 2-stroke, 2-speeds, late 1919 lamps, accessories, splendid condition, tax paid bargain, 42 gns.—47, Bolton Terrace, Courthill Rd., Lewisham, S.E. [4570

Vindec.

5-6h.p. Twin Vindec, B. and B., Bosch, overhauled powerful, good running order, fast; £25.—Palmer's Garage, Peasedown, Bath. [X2670

Wilkin.

1921 4h.p. Wilkin, brand new, guaranteed; only price £88, list £130.—Below.

1921 2¾h.p. Wilkin, brand new, guaranteed, 3-speed K. start; our price £78, list £122.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. 'Phone: Ken. 3709. [5440

WILKIN 4h.p., 3-speed, all chain drive, late 1920 model; £95; tax paid.—R. F. Parker, West Field Farm, Clayfield Rd., Scunthorpe, Lincs. [4430

Williamson.

WILLIAMSON 1920, 6h.p. J.A.P., S.A. gear, brand new; listed £200; £150.—Cope and Sons, 1 Upper Hagley Rd., Birmingham. [5130

WILLIAMSON, 1915, 3-speed clutch, kick start, water-cooled, coachbuilt sidecar, hood, screen, lamps; £100.—Moffat, Yeovil. 'Phone: 50. [3330

8h.p. Williamson Combination, 1914, Bosch magclutch, C.S. gear; exchange with cash for 1921 4h.p. combination, or sell £70.—32, Carysfort Rd., Stoke Newington, N.16. [4770

Wolf.

2¾h.p. Wolf-Jap Motor Cycle, 3-speed gear, with foclutch, splendid condition, tax paid; £34, nearest offer.—Bradford Bros., Bounderies Rd., Balham, S.W. [2650

WOLF-VILLIERS 2-speed 2-stroke, 1921, mileage 200, electric head lamp, horn, tax paid; £63. Write, Box 1,899, Sell's Advertising Offices, Fleet St., E.C.4. [4770

WOLF.—Sole agents for London, South of Thames and district. We are now fixing sub-agencies and invite enquiries.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0502

WOLF-J.A.P., Sturmey, countershaft, K.S., clutch Cowey speedometer, lamps, horn, etc., £62; Wolf Villiers, Albion countershaft, lamps, horn, etc., £5 both 1920, fully equipped, ready for anything.—55, Victoria St., Wolverton, Bucks. [4570

Wooler.

WOOLER 1920 2¾h.p., 9 speeds, lamps, tax paid £80.—22, Tooting Bec Rd., Upper Tooting. [4570

WOOLER, 1920, spring frame, speedometer, clock pillion, tax paid; £95.—47, Louisville Rd., Balham. [4870

WOOLER 1920 2¾h.p., variable gear, all accessories new condition; £75.—Bartletts, 93, Gt. Portland St., London. [5570

WOOLER 1920 Flat Twin, spring frame, lamps tax, insurance paid, excellent order; £74.—8 Rectory Lane, Tooting Common. [4570

WOOLER, nearly new, mileage 300; exchange combination or higher power solo, cash adjustment —Pontis, 70, Devonport Rd., W.12. [5470

WOOLER, as makers' specifications, shop-soiled; greatly reduced price; now is the time to buy Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [4470

Zenith.

JULIANS of Reading have Zenith 1921 5h.p. stock. [0486

PICKERING, Shrewsbury.—Zeniths from stock; changes. [X2582

DAN GUY, Weymouth.—Zenith agent, early delivery all models. [0570

ZENITH 1921 Models.—We are accepting orders early delivery; your enquiry esteemed.—Below

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy —Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Langham 2230. [4470

6h.p. Sporting Zenith, discs, lamps, speedometer please inspect.—Pickering, Shrewsbury. [X2582

ZENITH 8h.p. Combination, countershaft, guaranteed perfect; £75.—60, Carleton Rd., N.7. [4370

BARGAIN; Zenith 4-5h.p. sports model, all cheap.—Bryant, Langley Burrell, Chippenham [4

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

EDITORIAL OFFICES: Herttord St,, Coventry.
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Telephone: 2970 and 2971 Midland.

Northern Offices: 199, Deansgate, Manchester.
Telegrams: "Iliffe, Manchester."
Telephone: 8970 and 8971 City.

Subscription Rates: Home, 23s. 10d.; Canada, 23s. 10d.; other countries abroad, 28s. 2d. per annum.

Our Trophy for Lightweights.

AS already announced, *The Motor Cycle* has again presented a valuable trophy to be won outright by the fastest lightweight in the Tourist Trophy Races. Last year the interest displayed in the development of engines under 250 c.c. in every way justified the inclusion of the class in the Junior T.T., and the competition among the miniatures was as keen as for the Tourist Trophy itself.

It cannot be expected that engines of 250 c.c. can beat those of 350 c.c., therefore until *The Motor Cycle* offered this special prize, there was no encouragement for manufacturers to concentrate upon the miniature which is now rapidly coming into its own as a fast touring machine. Owing to its low weight and remarkable economy it is a very desirable type to develop, and it has long been urged by this journal that it be given every chance to establish itself. Hence our offer in 1914 of a trophy for a genuine lightweight T.T. race.

It is interesting to recall the respective weights of the winning machines in last year's races. They were as follows:

		Average Speed.
1st in Senior T.T.	239 lb. (500 c.c.) ..	51.79
2nd ,, ,, ...	263 lb. (500 c.c.) ..	51.05
3rd ,, ,, ...	241 lb. (500 c.c.) ..	49.88
1st in Junior T.T.	217 lb. (350 c.c.) ..	40.74
2nd ,, ,, ...	252 lb. (350 c.c.) ..	39.41
3rd ,, ,, ...	258 lb. (350 c.c.) ..	39.37
1st in *The Motor Cycle* Trophy.	173 lb. (250 c.c.) ..	38.31

In both the Senior and the Junior Races the lightest mount won, as it must win if everything else be equal, and with present-day knowledge of metallurgy it should be possible to reduce weights considerably. The T.T. machines of a decade ago weighed approximately the same as their riders. In the 250 c.c. last year the winner of *The Motor Cycle* Trophy weighed a few pounds more than his mount. Pound for pound is an ideal for which manufacturers should aim, and we think that the Tourist Trophy regulations should include a maximum as well as a minimum weight. The T.T. races should not only develop more efficient engines, but better all round efficiency.

Weight is the keynote of economy, and economy is the most important factor to the greatest number of motor cyclists. It is not only for the good of the sport that we have again presented a Trophy for the miniatures; we wish to foster the light "go anywhere" solo mount for the "man in the street."

Over 100 m.p.h!

EXTRAORDINARY activity has been seen at Brooklands this year. Notwithstanding the fact that but four months have elapsed, practically all the classic records have been broken. For some extraordinary reason the speeds accomplished are not merely slightly in excess of last year's figures, but have jumped up by several m.p.h. Take, for instance, the epoch-making achievement of last Thursday, when for the first time a record of 100 m.p.h. was achieved by a motor cyclist in this country, subsequently increased to 106.5 m.p.h., at which the record now stands.

In considering the speed accomplished by the 1,000 c.c. machine at Brooklands last week, one can never overlook the fact that, even though the credit must go largely to America for the machines on which such exceptional speeds were attained, British-made 500 c.c. machines on which our home engineers specialise have already exceeded 92 m.p.h. Many consider that there is greater merit in the latter achievement considering the fact that the engine is but half the size of the big twins favoured by American manufacturers. In saying this we do not desire in any way to minimise the merits of the achievement of 106 m.p.h., but rather to show that this figure cannot be regarded as the maximum obtainable by an engine of such large dimensions. We expect to see the record beaten more than once during the present year, and it is even within the bounds of possibility that over a short distance the spectacular figure of 100 m.p.h. may yet be obtained by a 3½ h.p. machine before the winter arrives.

An index to the advertisements in this issue will be found on the page facing the back cover.



Occasional Comments

BY IXION

Some Legging Tips.

MY rough weather leggings this summer are a new type, made by the Express Manufacturing Co., of Rochdale Road, Manchester. They are designed by a practical rider, who has already added much to my comfort by a couple of wrinkles. Few of us like the baggy sensation and appearance of a heavy pair of leggings, supported only by a waist belt. My mentor adds trouser buttons to his overalls, wears his waistcoat outside the overalls, and runs a couple of extra leathers to the buckles of his braces, so that the leggings feel tautish, and hang well enough to show off their cut. In the second place he has taught me how to keep press buttons at the right fit. If they become slack, flatten the inner member; if they become tight, ease the inner member. Obvious enough, when you turn your mind on it; but how many of us suffer from tight or slack press buttons without doing a thing to them. These leggings are press buttoned down both legs, and the buttons are mounted in such substantial seams that the roughest user won't rip them away.

Stock Machines in Competition.

I AM getting rather tired of the frequent hints encountered in the press and in conversation to the effect that most awards in competitions go to "special" machines. There are just three kinds of competition in which a special 'bus scores, viz.:

(1.) Fuel economy trials.
(2.) Speed events.
(3.) Lightweight classes.

In all other events I would just as soon enter a stock machine purchased at random from any town or village agent as compete on one of the manufacturer's own entries. So far as ordinary reliability trials are concerned, whether they last half a day, twenty-four hours, or six days, a first-class award demands nothing more than a stock machine, which has bee carefully run in, is skilfully handled in the actual tria and encounters its fair share of luck. I am not sur that I should have included all lightweight classe in my exceptions, for I know one or two makes o which the standard issue is good enough for anything But with only 2 h.p. at call, and a heavy rider up there is no vast margin of power available: and I were putting a baby into the Six Days, I fear might address a tactful note to the works manage about a month before the start.

Success in Reliability Trials.

GIVEN a stock machine of 500 c.c. or over properly run in, the ambitious amateur shoul earn plenty of gold medals in a season, pro vided he can develop ability in three simple respects

(1.) He must diagnose trouble like grease lightning.
(2.) He must mend punctures about as fas as light travels.
(3.) He must be able to keep his saddle an steer on any surface.

Of these three qualifications only the last is reall difficult, and it is solely a matter of practice. It i also the most essential of the three, for a man ma ride in many trials without sustaining a single punctur and without striking any trouble of a perplexin character; but he cannot secure a solitary awar nowadays unless he can make clean ascents o extremely awkward hills. At the first essay suc rough-riding is alarming to a degree, and the novic is apt to fancy he can never acquire the knack o it. Let him spend one day practising on any hi which is very rough, very greasy, very loose, ver twisty, and very steep. At the end of such a practic he will feel a new man, and fear no climbable hi

casional Comments.—

the second or third time of asking. Many freak lls are unclimbable at the first time of asking, ecause there may be but one practicable route up em, and a stranger is too busy holding on to his us to pick out that route at the first attempt.

Did they Seize?

THE heart of an experienced journalist is necessarily calloused into a substance like concrete, but appeals from motor cyclists in trouble always convert mine to its natural jelly. I must confess at I have never suffered any of those mysterious izures which have been mentioned by correspondents cently and which unseize themselves instanter, proing no evil after-effects. And before I can venture e timidest diagnosis of another man's woes, there e lots of data to be obtained, such as, "Was he ber?" "Does he know the difference between a lit pin and a con. rod?" and so forth. I have read e catalogue of mystic troubles with profound mpathy and certain vague speculations, but they ffle me. To contribute my quota, I suffered many lden seizures in 1911 with a new Rudge. It had bantam weight cast iron piston, with walls about as ck as a visiting card, and it used to distort like a ndle in the tropics. But it did not unseize so easily the various engines quoted by our correspondents; d it never gave up seizing until repeated overheat- had given it a permanent warp which I removed h emery cloth and a file, finally securing out of the nnant just about the finest 500-c.c. I have er owned. Since that date my only mysterious eizures have all occurred on Triumphs, and have proved to be severe pre-ignitions due to unsuitable rking plugs. My tentative solution of the majority such cases is duplex. Some may be due to an under-cooled sparking plug, and might be ended by trying a Lodge racing model. Others may be due to rather tight pistons—it does not matter how much oil is present in an engine if the piston expands enough to absorb all the available clearance; but I should not expect this trouble to end as suddenly as it began, though I have known a couple of cases in point.

Another Old Crock.

STUNG by the mention of Mr. Elyard Brown's 1904 Ormonde, another reader writes to say that he not merely owns, but also rides, an ancient 4½ h.p. Minerva twin, designed for racing purposes about 1905. On a fixed gear of 4¼ to 1, the machine averages 95 m.p.g., never overheats, and on a touring jet will keep up 35 m.p.h. indefinitely. Its owner has scrapped the accumulator in favour of an Ever-ready dry cell, which serves the ignition for about 1,000 miles; the coil is a C.A.V., originally manufactured for one of Harry Collier's racers, way back in the dark ages. Since I wrote the paragraph about the old Ormonde, I have personally encountered three more veterans still on active service, to wit, two chain-driven Beeston Humbers and a single-lever Quadrant.

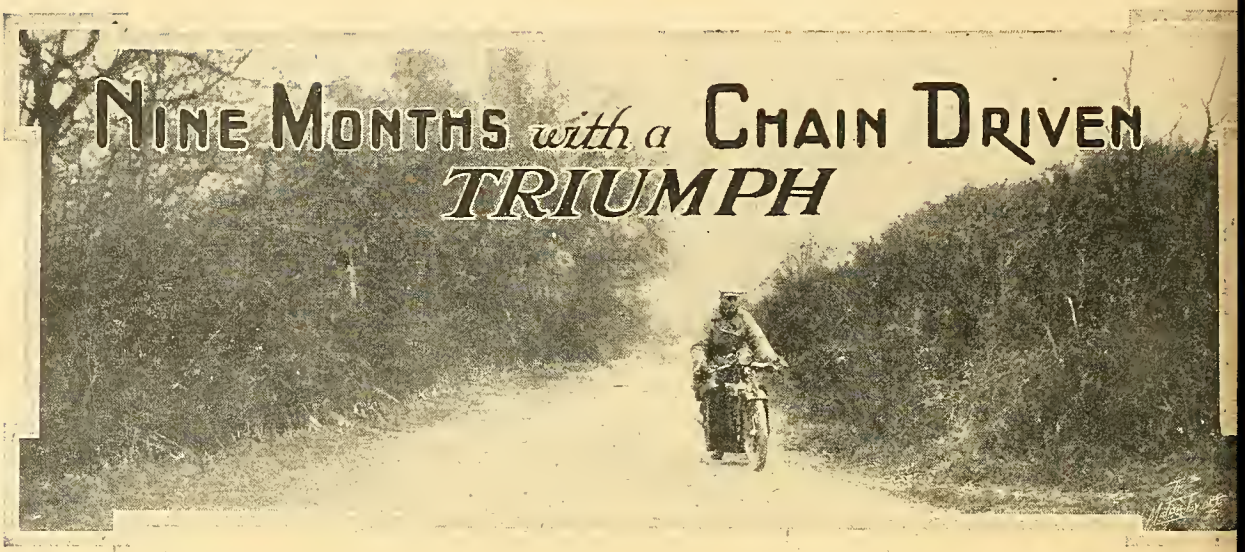
SCENIC CONTRASTS IN YORKSHIRE.





Almost within sight of each other, and both barely nine miles out of Sheffield, these two pictures are both typical of the southern part of the West Riding. The riders are competitors in the recent Sheffield Traders' Team Trial, described in the last issue of *The Motor Cycle*.

NINE MONTHS *with a* CHAIN DRIVEN TRIUMPH



An S.D. Type Triumph in Daily Use as the Utility Mount of a Pressman.

THE normal road test of a motor cycle enables the initiated to form a very fair and clear idea of the capabilities of that machine. Nevertheless, it is daily usage, interspersed with occasional strenuous competition work, that proves the real merits (or otherwise) of any given type.

Since the end of May, 1920, we have had a 4 h.p. all-chain Triumph in constant daily use, and, since our mileage on this machine now amounts to over 8,000, it is possible to give a sound estimate of its qualities both as a hack and a competition mount.

The exigencies of the press demand that any breakdown shall be immediately repaired, and that no delay shall occur, therefore it was deemed advisable to carry a spare valve complete, spare chain links, a repair outfit, of course, and to hold a spare rear chain in reserve. Of these spares only the rear chain has been used, and though the first chain has stretched somewhat, being unprotected, it has never given trouble on the road, and appears good for a considerable further mileage. The front chain, which is entirely enclosed in an aluminium case, and runs in an oil bath, has been adjusted once only, and is still in perfect trim.

Undoubtedly the splendid results obtained from the chains are largely due to the excellent qualities of the shock absorber or "spring drive," as it is termed by the manufacturers. This spring drive has already been described in the pages of *The Motor Cycle*, its action being controlled by a quick-thread sleeve working against a compression spring. In action it provides a smooth soft drive, which enables the machine to be driven quite slowly through traffic on top gear.

In the first few weeks of its life the machine carried its owner safely round the stiff course laid out by the Ilkley Club for its open one day trial. On this occasion the owner first made the acquaintance of the noted Park Rash, and duly took the fearsome gradient on the wrong side and in the worst surface. In spite of this the ascent was simple as far as power was concerned, though somewhat slovenly owing to the wild attempts of the rider to steady the machine on the vile surface. However, the experience proved useful, and when the same hill was again tackled in the Scott trial an absolutely clean ascent was accomplished with both feet on the rests throughout. Among the more severe trial courses over which the Triumph has successfully carried its rider may be mentioned the Scottish Six Days, the Scott Trial and parts of the A.C.U. Six Days. In all its experiences no hill has been encountered on which the engine has had to be really exerted on low gear, and no mechanical failures have occurred. One possible exception to this statement can be made, for



The worst hills have no terrors for the Triumph, which has successfully negotiated everything encountered in 1920 trials.

ne Months with a Chain-driven Triumph.— uring the Scott Trial, the screw olding the clutch lever to its bracket nook out, with the result that both achine and rider became somewhat nvolved with a gate. The conse- uence was that a footrest was badly ent, and was forced partially through he front chain case.

Wearing Qualities.

A pressman's motor cycle under- oes many vicissitudes, and many nd strange are the "gadgets" ested thereon; but in spite of this he Triumph has never grumbled, nd, with the exception of the ear chain already mentioned, shows o signs of wear after 8,000 miles hard work in all weathers. A almer Cord 28 × 3in. tyre has been tted to the rear wheel, and has sulted in greatly increased comfort nd freedom from punctures.

No machine is quite perfect, but ur grumble against the Triumph as regard to mudguards only. The ont guard can only be described s ornamental rather than useful, and e trouble has been obviated in the riter's case by substituting a ecially wide guard; it is only fair, owever, to add that the Triumph Cycle Co. have ow modified the design, and their new front guard not only neat, but appears to be effective.

The particular machine under discussion was one f the first of its type to be released to the public, nd was originally fitted with the old type spring rk. This fork had never given trouble on the road, it at the conclusion of the Scottish Six Days Trials, hen the writer arrived home at about four o'clock in the morning, the spring broke while wheeling the machine into its garage! Later the new enclosed fork spring was substituted, and has proved very successful. It is a distinct improvement as regards comfort and steering, and is neat and easy to clean.



A convenient replenishment pump. Despite complaints from certain quarters, the writer has found the measure given by this method to be quite reliable.

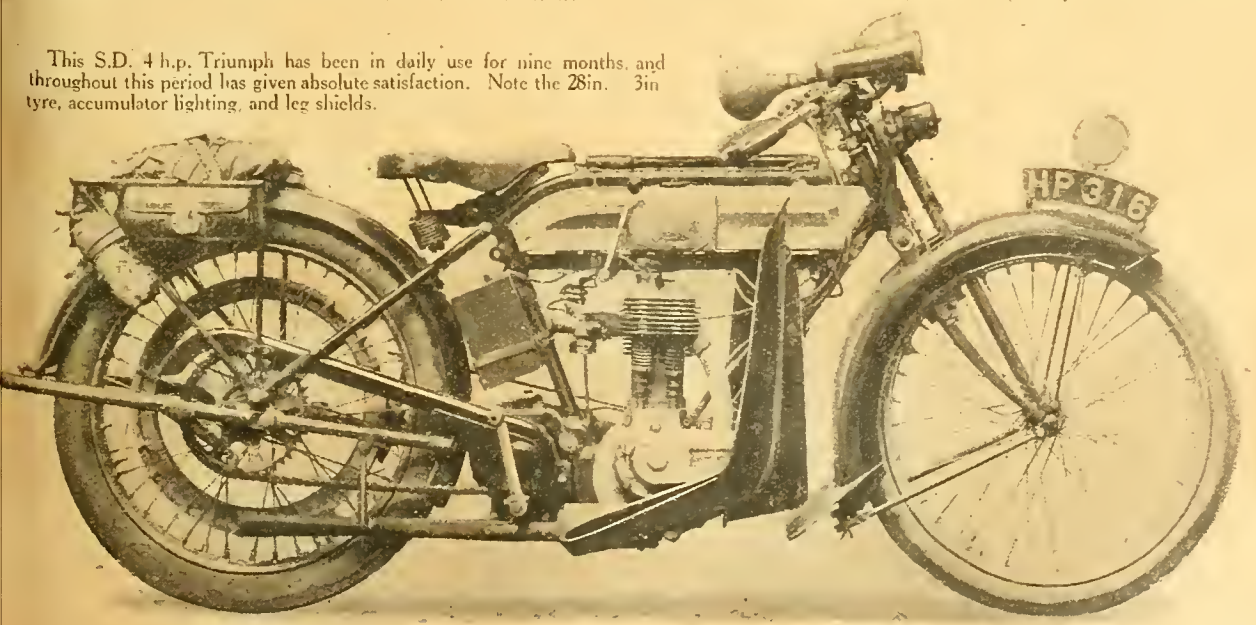
For several months a Claudel-Hobson single-lever carburetter has been used, and has given admirable results. Petrol consumption with this instrument is almost identical with that of the normal two-lever carburetter, and it is handier in traffic: on the other hand, the Triumph carburetter gives fractionally more power under normal touring conditions. For short runs on No. 2 spirit fuel consumption averages about 90 m.p.g., but as much as 120 m.p.g. has been attained on long runs with benzole and a slightly smaller jet.

External Condition.

Triumph finish and plating are almost proverbial, and, though no special precautions have been observed and the machine is seldom cleaned, the plating polishes up like new. This plating forms a violent contrast with that of certain proprietary accessories and fittings which are badly pitted with rust, though they have been in use for a considerably shorter period.

An exception must be made in the case of the rims which have suffered considerably from "Colonial surfaces." The rear rim is now protected by the 3in. tyre, but the front guard does not allow sufficient clearance for a similar increase in tyre size in front. In addition, the front rim brake (surely the best of its

This S.D. 4 h.p. Triumph has been in daily use for nine months, and throughout this period has given absolute satisfaction. Note the 28in. 3in tyre, accumulator lighting, and leg shields.



Nine Months with a Chain-driven Triumph.—

kind) has left its mark on the front rim, which is in consequence badly rusted. This point has not been overlooked by the manufacturers, who propose to use a dummy belt rim brake in the future.

A long shoe working on a dummy belt rim on the rear wheel provides an excellent rear brake, which is gentle in action, yet sufficiently powerful to lock the rear wheel when required. It is difficult to imagine anything more trustworthy than the 4 h.p. engine, which has run with clockworklike regularity. Although not capable of very high speed—about 45 m.p.h. is the normal limit—the Triumph will maintain an average quite as high as is safe on English roads, and always appears to have a reserve of power for emergencies.

Service with Minimum Attention.

Edge Hill has been climbed on top gear of 4¾ to 1, and any hill requiring first gear is a hill indeed. The multi-plate metal-to-metal clutch, running in oil, is particularly sweet in action, though, like most of this type, it is apt to "drag" until the oil has warmed up.

Although primarily designed for dual-purpose work, and consequently on the heavy side as a purely solo mount, the S.D. Triumph, nevertheless, has travelled twelve miles every day in snow, rain, and shine with the reliability of a train, and is always ready for a week-end run or a severe trial without previous atten tion.

Being an enthusiast, the owner removes the cylinde for decarbonisation about every 2,000 miles, but ther is seldom enough deposit to warrant this precaution.

Lighting Equipment.

Every owner has his own fads with regard to equip ment, so that a list would prove of little value t readers; at the same time it may be of interest t some to know that plain accumulator lighting ha given perfect satisfaction throughout the winter. Hunt head lamp, fitted with a six-volt half watt bull is supplied by three small ex Government C.A.V accumulators, neatly packed in a wood box and carrie between the saddle tube and the rear mudguard.

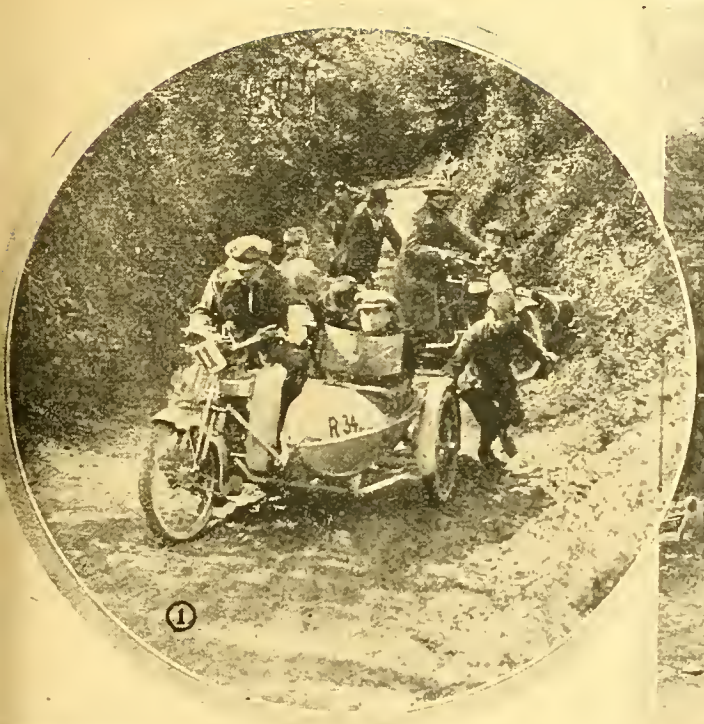
A Unique tail light with a flash-lamp bulb is lit b a common bell battery attached to the carrier. Th battery originally cost 2s. 3d., and has been in us throughout the winter for a nightly run of six mile with a few spells of an hour or two thrown in. I spite of this, it appears to be as full of vim as eve and the owner will ever be grateful to a certain wel known competition rider and T.T. winner who gav him this valuable tip for rear lighting.

One may add that if its successor serves us a faithfully as has the S.D. Triumph we shall be sati fied indeed, for never has the writer owned a mor reliable and trustworthy machine.

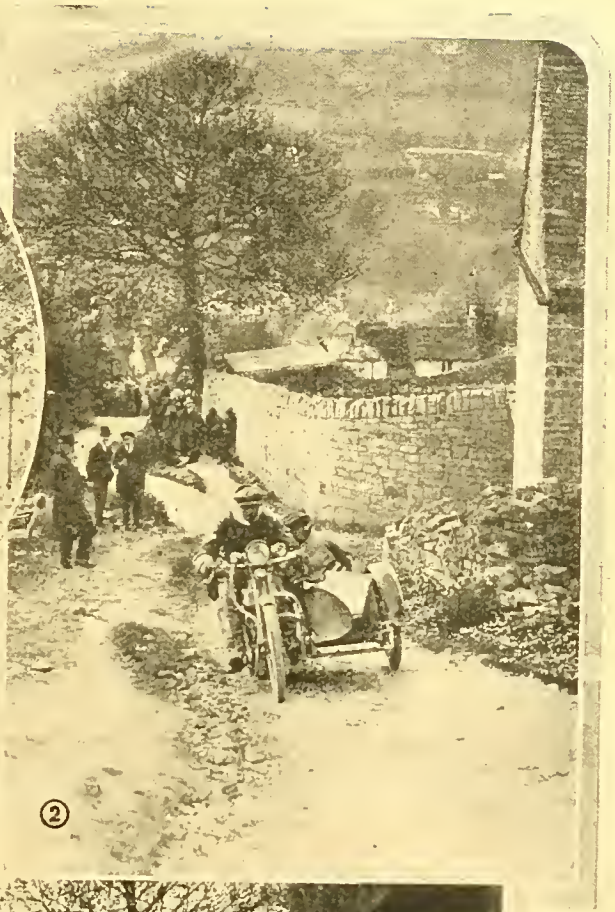


AMERICAN CONCEPTION OF A HILL-CLIMB.

This remarkable photograph was taken in California on a gradient of 1 in 2. Such stunts, however, are purely spectacular, and whilst exciting for onlookers and riders, in no way help to advance design as do events in this country.



(1)



(2)

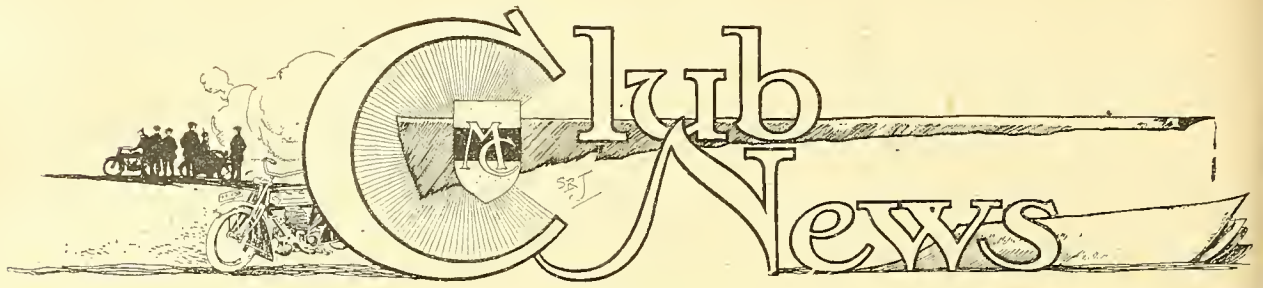
KNAPP AND GIDDYNAP!

Two of the Stiffest of the Thirteen Observed Hills in the A.C.U. Midland Centre Trial.



(3)

(1) A small boy lends a helping hand on Knapp Hill to T. F. Watson (4 Norton sc.), who was troubled with wheel slip. (2) A. P. McGowran (4 Triumph sc.) steadily climbing the lower reaches of Giddynap. (3) G. J. Baragwanath (3½ Sunbeam), also on Giddynap, passes a less fortunate lightweight rider.



Bath and West of England M.C.

A sum of £1,220 has been raised by this club for the Mayor's Hospital Fund. The winner of the Douglas and sidecar has been announced as Mrs. A. E. Gunning, Holme Farm, Twerton-on-Avon.

Standard M.C.C. (Coventry).

Thirty-three riders competed in a short reliability trial on the 24th ult. Final results were as follows :

SIDECAR CLASS.—1, A. Berry (4 Triumph sc.); 2, J. Thomson (4 Douglas sc.).
SOLO CLASS.—1, W. Wilday (4 Triumph).

Cambridge County M.C.

Flying half-mile speed trials held recently by the Cambridge and County M.C. were somewhat spoilt by the inclement weather. Results are as follows :

600 c.c. CLASS.—1, H. Robinson (3½ T.T. Norton), 23s.; 2, G. O. Dawson (3½ Brough), 23⅘s.
UNLIMITED CLASS.—1, G. O. Dawson (3½ Brough), 23⅘s.; 2, H. Robinson (3½ T.T. Norton), 24s.
SIDECARS, UNLIMITED.—1, H. Robinson (3½ T.T. Norton), 28⅖s.
CARS UP TO 11.9 H.P. R.A.C. RATING.—1, K. Sanderson (8 Morgan), 33s.

Bradford M.C. and L.C.C.

It is estimated that 3,000 spectators attended the handicap speed trials held on the Yorkshire Moors on the 24th ult. Detailed results follow :

SIDECAR CLASS.

	Speed, m.p.h.	Award.
1. *C. P. Wood (Scott)	62.5	Gold medal
2. R. G. Brown (Norton) ...	56.6	Silver medal
3. H. Harrop (P. & M.)	41.66	Bronze medal

SOLO CLASS.

1. C. P. Wood (Scott)	73.17	Gold medal
2. *R. T. Cawthorne (Norton)	75.0	Silver medal
3. R. Turner (Douglas)	48.0	Bronze medal

*Fastest time in class, special gold medals.

Macclesfield and District M.C.

Detailed formula results of the flexibility hill-climb on Dumbers Hill on the 23rd ult. are as follows :

CLASS I.—SOLO UP TO 350 C.C.

	Gear used.	Ratio of fast to slow speeds.
1. A. Mottershead (2¾ Dot)	low ..	3.6
2. S. Leah (2¾ Calthorpe)	low ..	2.8
3. V. Sigley (2¼ Radco)	low ..	3.2

CLASS II.—SOLO UP TO 600 C.C.

1. W. Preston (3½ Sunbeam) ...	2nd	..	4.5
2. B. Caldwell (3½ Norton)	2nd	..	4.3
3. G. Sutcliffe (3½ Norton)	2nd	..	4.2

CLASS III.—SOLO, UNLIMITED.

1. W. Preston (3½ Sunbeam) ...	2nd	..	4.5
2. T. Simister (3½ Norton)	2nd	..	4.071
3. S. Holland (7-9 Indian)	2nd	..	4.070

CLASS IV.—SIDECARS UP TO 600 C.C.

1. J. Hopwood (4½ B.S.A. sc.) ..	low	..	2.4

(Remaining five competitors did not complete the slow climb.)

CLASS V.—SIDECARS, UNLIMITED.

1. S. Bann (8 Matchless sc.)	2nd	..	4.0
2. W. Preston (3½ Sunbeam sc.) .	2nd	..	3.7
3. H. Sutcliffe (4 Norton sc.) ...	2nd	..	3.4

Leeds and District M.C.

Formula results are now available for the petrol consumption test on the 24th ult., and are as follows :

1, Miss E. Spink (2¼ Triumph), 282 lb., 180 m.p.g.; 2, A. T. Jenkins (4 Triumph sc.), 1,012 lb., 90 m.p.g.; 3, J. E. Chappell (Dawson car), 2,520 lb., 48 m.p.g.; 4, J. W. Mollan (4 Triumph), 692 lb., 91 m.p.g.

North London M.C.C.

The night run held recently was a great success. The members, led by the vice-captain, Mr. A. J. Beaurain, started from South Mimms Church at 8.30 p.m., and proceeded along the Holyhead Road through St. Albans to Dunstable. An excellent supper was obtained there at the Red Lion Hotel, after which the party returned in the moonlight through Luton and Harpenden.

Eastbourne and District M.C.C.

Results of the first competition of the year, a flexibility hill-climb, are now to hand, and are as follows :

350 c.c. OR UNDER. SOLO

	Difference m. s.
1. S. Dunford (2¾ Verus)	9 29½
2. F. S. Aitken (2¾ Verus)	8 5

UNLIMITED SOLO.

1. G. E. Stacey (2¾ Verus)	6 13
2. T. Pyecroft (6 James)	3 53½
3. W. Craddock (4 Triumph) ...	3 35

UNLIMITED SIDECAR.

1. S. Dunford (7-9 Harley-Davidson sc.)	8 57
2. G. Bush (8 Matchless sc.) ...	7 43
3. E. A. Firrell (7-9 Harley-Davidson sc.)	6 57
4. D. Ratcliffe (8 Royal Enfield sc.)	5 20½
5. A. A. Jumpson (6 Royal Enfield sc.)	5 16

Cardigan and District M.C. and L.C.C.

Held recently on Pentricourt Hill, a well-supported hill-climb resulted as follows :

CLASS 1 (Solo up to 350 c.c.).—1, J. Edwards (2¾ Verus), 1m. 5s.; 2, Dr. Clare (2¾ Douglas), 1m. 14⅘s.; 3, E. V. Evans (2¾ Douglas), 1m. 22⅘s.

CLASS 2 (Solo up to 550 c.c.).—1, Handel Davies (3 A.B.C.), 55s.; 2, D. Evans (3½ Norton), 55⅘s.; 3, J. Thomas (3½ Norton), 55⅘s.

CLASS 3 (Solo up to 750 c.c.).—1, Dr. Lindsay (3½ Norton), 50⅖s.; 2, Handel Davies (3½ Norton), 52⅘s.; 3, W. M. Griffiths (3½ Norton), 56⅘s.

CLASS 4 (Solo up to 1,000 c.c.).—1, J. Thomas (3½ Norton), 51⅘s.; 2, A. O. Saunders-Davies (7-9 Indian), 52⅖s.; 3, G. L. G. Jenkins (3½ Norton), 1m. 2s.

CLASS 5 (Sidecars, unlimited).—1, J. Thomas (3½ Norton sc.), 1m. 14⅘s.

CLASS 1 (Novice. Solo up to 500 c.c.).—*1, M. Price (3½ Norton), 58s.; 2, D. J. Jones (3½ Norton), 1⅖s.; 3, D. Evans (3½ Norton), 1m. 5⅘s.; 4, D. Griffiths (A.B.C.), 1m. 10s.

*An objection was lodged against this competitor on the ground that he had won before.

CLASS 2 (Novice. Solo 500 c.c. and Upwards.).—1, A. O. Saunders Davies (7-9 Indian), 53⅖s.; 2, D. Evans (3½ Norton), 56⅖s.; 3, M. Price (3½ Norton), 59s.

CLASS 3 (Novice. Solo 2-stroke up to 300 c.c.).—1, A. James (2¼ Enfield), 1m. 52s.; 2, E. James (2¼ Hudson), 2m. 20s.

FASTEST TIME OF THE DAY.—Dr. Lindsay (3½ Norton), 50⅖s.

Bury and District M.C.

Results of the trial for the Shepherd Walsh Challenge Shield (which, as state in *The Motor Cycle*, was presented to th club at an annual general meeting on th 21st ult.) have just been announced, an are as follows :

SHEPHERD WALSH CHALLENGE SHIELD —1, J. Knowles (4 Triumph); 2, O. Entwist (3½ Sunbeam); 3, F. Crompton (4 Triumph).

Reigate, Redhill, and District M.C.C

Bore Hill, Dorking, was the scene o a lively hill-climb recently. There wa a large number of spectators. Fastes time of the day was made by J. Riddoc on an 8 h.p. o.h.v. Zenith, who mad the ascent at 53 m.p.h. Results :

CLASS 1 (250 c.c.).—1, G. H. Symonds (2 Levis); 2, H. Watkins (2¼ Triumph).

CLASS 2 (350 c.c.).—1, C. W. Verney (2 Douglas); 2, H. Hudson (2¾ Douglas); 3, G. H Symonds (2¼ Levis).

CLASS 3 (500 c.c.).—1, R. A. Green (3 Norton); 2, C. W. Bowen (3½ Norton); 3, W. Steyning (4 Zenith).

CLASS 4 (Unlimited).—1, J. Riddock (8 Zenith 2, R. A. Green (3½ Norton); 3, A. O. Gruzeli (8 Zenith).

CLASS 5 (Unlimited Sidecar).—1, J. Riddo (8 Zenith sc.); 2, A. O. Gruzelier (8 Zenith sc

Wellingborough, Rushden, and District M.C.C.

Fifteen classes were run off in the hil climb at Woddington, and G. Rex, Lu low, on a 3½ h.p. Norton, which he ro from Cambridge straight to the hil made fastest time of the day. Full r sults are appended :

FLYING STARTS.—Under 275 c.c.: C. W. E (2¼ Cedos), 37⅘s. Under 350 c.c.: C. W. E (2¼ Cedos), 36⅘s. Under 500 c.c.: G. Rex Ludl (3½ Norton), 29⅘s. Under 550 c.c.: G. Rex Lu low (3½ Norton), 29s. Under 750 c.c.: L. R. Hill (4 Norton), 32s. Unlimited: L. R. A. H (4 Norton), 31s.

STANDING STARTS.—Under 275 c.c.: C. W Ette, 41⅘s. Under 350 c.c.: C. W. Ette, 41 Under 500 c.c.: G. R. Ludlow, 33⅘s. Under 5 c.c.: G. R. Ludlow, 32⅘s. Under 750 c.c.: G. Ludlow, 33⅘s. Unlimited: J. H. Glover (8 Zenit 36⅘s.

SIDECARS, STANDING START.—W. S. Catt (7-9 Indian sc.), 51s.

FLYING UNDER 550 c.c.—H. Macleod Triumph sc.), 57⅘s.

UNLIMITED.—W. S. Cattell, 43⅘s.

Manchester M.C.

Ideal weather conditions prevailed du ing the club's hill-climb at Ruislip Edg and members spent a most interesti and enjoyable afternoon. The cour was over a measured half-mile, and sor very fast times were accomplished, follows :

SIDECAR CLASS.—Fastest, H. Reed (8 D Jap sc.), 34s. 1, C. E. Smith (6 Bradbury s O. E. Carter (3 A.B.C. sc.) and G. E. Cowley (Norton sc.) tied for second place.

SOLO CLASS.—Fastest, G. E. Cowley (Norton), 27⅘s.* J. H. S. Gardiner (4 Triump C. H. Elliott (3½ Norton), and H. Bostock Zenith) tied for first place.

*Fastest time of the day.

Each competitor was allowed two ru and the one with the least degree error was given the premier award.

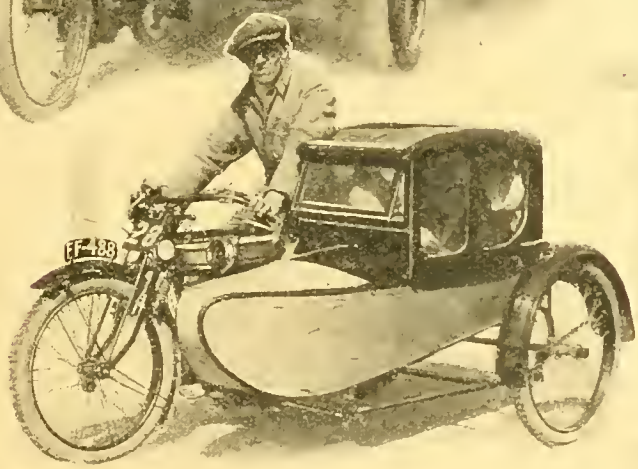
WITH THE CLUBS.



LOUGHBOROUGH & DISTRICT M.C.C.
H. R. Davies (2¾ A.J.S. sc.) receiving a push-off at the hill-climb in Charnwood Forest.



HORSHAM & DISTRICT M.C. & C.C. CLUBS.
T. Kent (3½ Sunbeam) starting on the club's recent trial.



STANDARD M.C.C. (COVENTRY).
A coupe top fitted to a sporting Montgomery sidecar and attached to a Norton seen at the last meet of the club





CARDIFF M.C.
Nortons and A.B.C. starting in the 500 c.c. class (experts) at the speed trials held on Porthcawl sands.

BRISTOL M.C.C.
J. Hodges (A.B.C.) in the trial to Torquay and back.

PORTHCAWL SPEED TRIALS.
A poor start in the unlimited class.

The A.C.U. One Day Trial



The Start.

Seventeen Stock Machines compete with Forty-three Others in a Searching Test.

FOR years the Auto Cycle Union has endeavoured to organise a trial for motor cycles taken out of stock, and to run them on the road in just the same condition as delivered to a private owner. At last its dreams have been realised.

Of the sixty machines in last Wednesday's trial, seventeen were chosen by A.C.U. officials, either from the stocks of the manufacturers or from the showrooms of agents.

The motor cycles and sidecar outfits were brought to Brooklands Track by means of lorries, but the three-wheelers were allowed to be driven down by road under observation, as they are usually delivered to customers in this manner. Consequently, these machines had some advantages over the motor cycles.

Stock motor cycles were handed to their drivers at 7 a.m. at the track, and the anxiety on the faces of their drivers, as they removed the wrappings from the machines to see that all parts were present, was quite amusing to watch. Cylinders and carburetters had been sealed by the official observers, while the contact breakers had been removed from the magnetos, placed in a toolbag, and sealed. This was to ensure that the start from Brooklands would be as if they had started out of the agent's depot.

Competing machines were then weighed to ascertain whether they conformed to the F.I.C.M. regulations. It is almost needless to say that Dr. Low, who was in charge of these operations, found that they all more than complied with international competition requirements, for these only call for minimum weights and mudguard sections, brakes, etc.

The next hour was solely occupied by the track test of the stock machines. They had to be pushed by hand to the fork, and were started off in batches of four for six laps (16 miles 539 yards), which they had to cover in one hour, during which time any adjustments might be made. There seemed to be few cases of difficulty in starting, but it was noticed that in several cases, as might be expected, generous use was made of the oil pump.

The Stock Machines.

Of the new mounts present among the stock machines may be mentioned the British Radial, whose rider, J. E. Manes, was in fear about his gear ratios, as were several other riders of the two-speed lightweights who anticipated the need for a three-speed gear box. The new chain-driven Wooler was another stock machine, unaltered since its appearance at the Show, save for a slightly different arrangement of the exhaust lifter. The two stock Hawker two-strokes were both ridden by famous airmen, one by T. O. M. Sopwith, who was last seen in an A.C.U. trial in 1904, and the other by H. G. Hawker, of cross-Atlantic flight fame. McNab's revived Trump-Jap with overhead valve engine was another new mount among the stock entry.

During the first hour two stops were made by F. W. Viles (Raleigh), A. G. Fenn (Raleigh), W. Hallett (L.S.D.), G. Dance (Sunbeam), L. Paynter (Norton), and Eric Williams (A.J.S. sc.). Thes stops were made for adjustment, fo which purpose this preliminary run wa instituted.

Though the weighing and examinatio had taken a little more time than wa anticipated, the start on the ninety mi road test was made punctually. Th course was very similar to that used fo last year's Arbuthnot Trophy Trial, an jokingly called the "worm in agony" s fearful are its contortions on the ma It comprised many stiff hills, but nothin a standard motor cycle should not climb and much stiffer grades such as "Ol Chalky" and White Downs in the neigh bourhood were omitted.

Owing to a mishap to our machine, w were rather in a quandary until we foun that a seat was at our disposal i "Bizzy" Bashall's Martinsyde sidec outfit. We were doubly lucky both a regards machine and driver. The 6 h. Martinsyde made light work of all th hills, and for skill few riders could bea the old hand at the tiller.

Excellent Arrowing.

Starting just before No. 1, C. I Michaelis (7-9 Harley-Davidson sc. whose machine we recently illustrated i *The Motor Cycle* to show its multitude o accessories, we set out to follow the cour to Succombs, the hill of the day. Eve contortion of the "worm" was clear marked with blue dye, each special poi was indicated by a clearly legible bla notice on a yellow ground, and an R.A.C road guide guarded every danger poi The greatest credit is due to Maj Dixon Spain for this part of the organis

The A.C.U. One-day Trial.—

tion, and to Mr. Loughborough and his numerous helpers for the organisation in general.

There was little of which to complain in the first part of the route, but after the acute turn in Leatherhead, where the Headley section was entered, there was a sharp corner to the left which our driver overshot. This was not on account of it not being clearly marked, but because he was travelling a shade too fast. Immediately after the turn came a sharp rise of about 1 in 6, which unseated several of the riders of low-powered mounts.

Succombs Hill.

Nothing further worth recording occurred till Succombs was reached after crossing the Caterham main road just north of that village. Very rough and steep at the approach, the gradient eases later and the surface improves; thereafter follows a really steep finish with a gradient said to be stiffer than 1 in 5.

The morning was cloudy and misty, heralding a fine day; consequently, the roads were dry. Notwithstanding the ideal conditions, Succombs took its toll of casualties.

Michaelis (Harley-Davidson sc.) came up in fine form, despite his load of gadgets. Sopwith was the first solo rider to arrive, and made an excellent ascent. Hinde (A.J.S. sc.) came up well, and so did Saddington (5-6 James). Watkins (3½ Enfield) climbed the rough and steep portion, but failed near the top. Duplock (A.J.S. sc.) got into difficulties, almost skidded into a wall, but recovered himself. A. G. Wall, riding a three-speed 2¾ Sedos, came up steadily. Waters (2¾ Douglas) followed the Enfield rider's example by taking the rough surface well and stopping higher up.

Good ascents were made by Olsson (Sunbeam), A. G. Fenn (Raleigh), Viles (Raleigh), Hull (Wooler), and Labin (Indian Scout), but the last named's driving was rather sketchy. Lewis (Zenith) dismounted and ran near the top. Harveyson, the star Indian rider, made a splendid ascent on his Scout, but on the whole the driving was poor.

Some Good Climbs.

H. R. Davies (6 A.J.S. sc.), with a member of *The Motor Cycle* staff as passenger, made a splendid climb, getting up easily. Schooley (Zenith) swerved somewhat badly, but got up satisfactorily. Dixon and Temple, the two Norton riders, came up well, but one of the Sun riders failed, as his mount was unsuitably geared. S. T. Tessier (8 Bat sc.) made a splendid ascent, waving and smiling to us as he passed, and this on 1 in 5 and a bumpy surface. Townshend (Zenith-Jap) was baulked by a competitor, but made a clever recovery.

Brandish (on a stock Humber) and Edmond (Triumph) came up in excellent form. Steytler (on the little P.V.) made a brave ascent; Hall (B.S.A.) passed going well, but with his stand trailing. Manes (British Radial) paddled; Fellows (Coulson), Jameson (Sunbeam), and F. W. Applebee (Levis), were in perfect form; but Hallett (L.S.D. cycle car) and Norriss (Sun) came to a standstill. Cunningham (on the stock P. and M.) made a good ascent, but his engine pinked slightly, probably owing to its newness. Paynter (Norton) and Reyre (5-6 James) came up well, but Parker (Sun) needed assistance. Mundy (Cedos) ascended without effort. Hartwell (Raleigh) did even as well as the others of this make. Greening, who rode a Sunbeam fitted with 3½ h.p. twin Jap engine, ran into the bank, and claimed a baulk. Next came a further batch of successful riders: H. F. S. Morgan (Morgan), Ellis (Matchless sc.), Elce (Morgan), Crow (on a ten and a half years old No. 7 Chater-Lea), and Cuffe (Metro-Tyler). Hawker (Hawker) came up well, as did his *confrère*, Sopwith.





SUCCOMBS—A TEST HILL WITH A SUGGESTIVE NAME!

(Left) Flat twins and a single on the worst hill of the trial. W. Brandish (4½ Humber), F. G. Edmond (4 Triumph), W. H. Jenks (2¾ Douglas). (Right) G. W. Hartwell (5-6 Raleigh) making a steady climb of the worst portion.

Luker (P. and M.) knocked slightly, but made a good climb; Pownall (Harley-Davidson) came to a stop; de la Hay (Sunbeam) missed his change from top to second, put his foot down, changed to bottom, and recovered; Williams (A.J.S. sc.) made a neat change down to first, and came up well; Pike (Levis) made a good ascent, as did Jones (Rover); but Jenks (Douglas) broke his belt at the base of the hill.

Half-way.

After Succombs, the course twisted and turned, including Polsteeple Hill, Cudham Hill—where Olsson stopped owing to the end of his muffler obstructing the air inlet of his carburetter—and then over improving roads to Brasted, bringing the competitors to the King's Arms Hotel, Westerham, where they enjoyed an excellent and quickly-served lunch.



F. J. Ellis (Matchless) and his passenger in good humour on Chalk Pit Hill. The steep bank formed a good "grandstand" for the many spectators.

The first half of the road trial had taken its toll. Prestwich (New Imperial-Jap) had his sprocket come loose; and Crow, after travelling well on his Chater-Lea, had a dry skid on Cudham, which buckled his sidecar wheel, and caused his withdrawal. Schooley (Zenith) arrived with a flat rear tyre. The parking of the machines was excellently arranged by Mr. W. H. Wells, who placed the machines in convenient positions for the restart.

Chalk Pit.

In the afternoon's run the chief hill was within about a quarter of an hour's drive of the luncheon stop. This was Chalk Pit, quite a steep rise over the North Downs, but not to be compared with "Old Chalky," which lies further to the east, and is only the mere pretence of a road. The worst gradient of Chalk Pit is not worse than 1 in 6, but the surface is loose and rough near the bottom, and there are two sharp bends. Michaelis (Harley-Davidson), Brown (3½ Sunbeam), Sopwith (Hawker), and McNab (Trump-Jap) all passed up in good style. Waters (2¾ Douglas) came by, his engine running beautifully; but a little further up it suddenly "conked out," probably owing to pre-ignition. Watkins (Enfield) fared no better than on Succombs, but shortly after a non-competitor, who was similarly mounted, made a fine ascent.

On the whole, the performance (as might be expected) was better than on the hill previously reported. Lewis (Zenith) stopped owing to a broken belt, while the L.S.D. was again unsuccessful. Manes (British Radial) was once more in trouble owing to an insufficiently low gear, and Norris (Sun) was in a similar difficulty. Pre-eminently good climbs were made by the Raleighs, the Morgans (especially the Morgan-Jap de Luxe, driven by H. F. S. Morgan himself), and the A.J.S.'s.

Jameson's machine came up in true Sunbeam style, but Dance had to mount slowly owing to a soft front tyre. The veteran F. W. Applebee made an excellent climb, and on accelerating past the last bad bend was heartily cheered. Edmond (Triumph), Harveyson (Indian), Fellows (Coulson), Temple (Norton), Cunningham (P. and M.), Jones (Rover), and Paynter (Norton) all put up creditable performances. Ellis (Matchless sc.) made a splendid ascent, but having lost his oil tank filler cap, the lubricant was welling over on the cylinder head and being flashed away in smoke.

Three More Hills—and Brooklands.

The course continued its windings, and there were still more hills to be negotiated, though none which could be accounted as really sever in these modern times. Those of note were White Hill, Wray Lane, and Pebblecombe.

Labin (Indian Scout) was seen to be very late at Reigate, his exhaust pipe having come adrift. Hull (Wooler) stopped near the eightieth milestone, and Viles (Raleigh) was observed making an adjustment near Effingham.

As he entered Brooklands, each man was sent up to the fork, and then, without stopping, to do his twelve laps (32 miles 1,077 yards) at certain minimum set speeds: 25 m.p.h. for lightweights and sidecar outfits up to 600 c.c., and 35 m.p.h. for the remainder.

There is nothing like Brooklands to find out weak spots in machines, and before long several engines developed unpleasant "tinny" sounds, and there were not a few casualties. These seemed especially hard when the machines had shown up well in the road test. Such was the case with the two Hawkers, which ran out of oil—one after doing four and the other five laps. Watkins (Enfield) retired, also owing to shortage of oil and a flat tyre. Labin (Indian Scout) had to give up, one cylinder cutting out owing to a defective magneto, while he also experienced a loose exhaust pipe and wheel bearing cap. The attractive violet-coloured three-speed Cedos ridden by Wall, after performing exceedingly well on the road, was withdrawn from the track with a flat back tyre.

Fuel Shortages.

Hinde (A.J.S.) had to return to the paddock owing to shortage of oil and fuel. The lubrication seemed to be a source of trouble to many while doing their speed test. Luker's P. and M. showed much distress after several laps, but recovered after generous use of the oil pump. Hartwell's Raleigh disclosed similar symptoms. Parker's Sun Vitesse retired in the speed test, while Fellow's Coulson and Richards's Velocette arrived in tow from the fork. Hull's Wooler shed its chain at the fork.

Altogether it was a most successful trial, which was useful and instructive as well as thoroughly sporting.

The distance to be covered after lunch, including the twelve laps round the track, was about eighty miles. Several machines exhausted either petrol, or oil, or both. Yet it is not uncommon for makers to guarantee 100 m.p.g. And all tanks hold at least a gallon of fuel.

The A.C.U. One-day Trial.—

NOTES ON THE TRIAL.

Mention has been made of the excellent marking of the route. It is interesting to note that it took twelve hours to accomplish, and over 3 cwt. of blue mixture, which is composed of ultramarine and whiting, was used. When the routes overlapped on the return journey, the turnings were not only indicated in blue, but the roads to be avoided were barred off by a red marking. The mixture was ladled out by hand from a large cask.

T. C. de la Hay, the well-known Sunbeam exponent, was really too unwell to start. This fact probably accounts for his poor gear changing on Succombs.

There may be some additions to the published results, as there are some doubtful cases to be considered.

It would not be wise for friends of Vivian Olsson to ask him the best method of wearing a muffler.

On Brooklands many competitors invited trouble by exceeding their nett speeds, thereby running risk of damaging their engines or exhausting fuel supplies.

OFFICIAL RESULTS.

1.—SPECIAL CERTIFICATES TO STANDARD STOCK MACHINES.

No.	Entrant.	Machine.	Driver.	Weight, Ready for Road.	Gear Ratio. Min.	Gear Ratio. Max.	Speed Test.
				lb.			m.p.h.
14	Raleigh Cycle Co., Ltd.	5-6 Raleigh	A. G. Fenn	340	5	13.2	47.22
24	A. J. Stevens Co. (1914), Ltd.	7 A.J.S. and Sc.	H. R. Davies	615	5	16	38.64
26	Humber, Ltd.	4½ Humber	W. Brandish	310	5	13.8	41.94
33	Triumph Cycle Co., Ltd.	4 Triumph	F. G. Edmond	263	4.75	13.3	42.35
42	Morgan Motor Co., Ltd.	Morgan Runabout	H. F. S. Morgan	757	4.5	11	38.65
44	Phelon and Moore, Ltd.	3½ P. and M.	P. Cunningham	289	5.57	9.5	40.57
46	Morgan Motor Co., Ltd.	Morgan Runabout	S. A. McCarthy	752	4.5	11	42.70
47	Norton Motors, Ltd.	3½ Norton	L. Paynter	269	4.5	13.25	47.46
64	Butterfields, Ltd.	2¼ Levis	P. Pike	150	6.25	11.125	30.02
65	A. J. Stevens Co. (1914), Ltd.	7 A.J.S. and Sc.	E. Williams	599	5	16	39.49

2.—FIRST-CLASS CERTIFICATES.

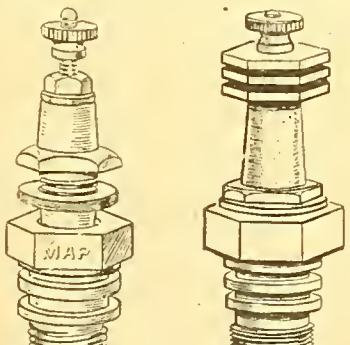
1	C. D. Michaelis	7-9 Harley-Davidson and Sidecar	Entrant	734	5.67	12.75	36.19
8	Reyre & Williams	5-6 James Sc.	H. H. Saddington	542	5.75	14.5	42.89
9	F. A. McNab	3½ Trump-Jap	Entrant	260	4.25	8	39.59
12	Vivian Olsson	3½ Sunbeam	Entrant	278	4.5	10	41.33
23	H. R. Harveyson	1 Indian Scout	Entrant	336	8	14	39.15
25	F. C. Townshend	6 Zenith-Jap	Entrant	327	3.5	8	49.10
32	R. M. Dixon	3½ Norton	Entrant	300	4.625	13.25	38.93
34	P.V. Motor Cycles, Ltd.	2¾ P.V.	R. P. Steytler	197	5.6	12.9	32.64
37	J. Hall	1¾ B.S.A.	Entrant	283	5	13	38.93
39	Butterfields, Ltd.	2¼ Levis	F. W. Applebee	207	5.75	14	37.33
48	F. J. Ellis	7 Matchless Sc.	Entrant	728	4.65	14	37.77
50	R. L. Richardson	3½ Alecto	Entrant	228	4.8	9.6	35.69
52	Metro-Tyler Co., Ltd.	2½ Metro-Tyler	G. E. Cuffe	214	6	18	27.21
54	S. M. Greening	3½ Sunbeam	Entrant	291	4.9	—	12.05
60	F. H. M. Luker	3½ P. and M.	Entrant	299	5.5	10.5	37.67
55	Hauwell & Son, Ltd.	2¼ Cedos	R. G. Mundy	189	6.33	17.67	31.77



The L. S. D. three-wheeler on Chalk Pit Hill. As will be observed by the number of spectators machines on the roadside, the trial created a good deal of interest.

A WELL-DESIGNED PLUG.

A SPARKING plug which we have been testing embodies a most useful arrangement for adjusting the gap. This plug, the M.A.P., is of the detachable type with mica insulator; but, although the "earth" electrode is of the bar type, its disposition is somewhat unusual, in that it forms a bridge, diametrically, across the base of the plug body. A single central electrode projects downwards, so that its extremity (if the central portion of the plug is fully screwed down just touches the upper surface of the cross bar. The desired sparking gap is obtained by inserting a greater or less number of thin brass washers between the insulator gland nut and the top of the plug body. These plugs have given splendid results in a Scott engine over a long distance.



M.A.P. adjustable plug and plug cooler

Since our plugs were fitted, the makers (Millfords, Ltd., Bullock Street, Great Lister Street, Birmingham) have placed on the market the M.A.P. plug cooler, a solid piece of brass possessing three radiating fins to fit the central electrode.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

THIS YEAR'S ARBUTHNOT TROPHY TRIAL.

Sir,—May I suggest that, if possible, the Arbuthnot Trophy trial may be held in August this year and in future?

It is usually impossible to get leave from ships in full commission in July, but a month later, when the Fleet is giving summer leave, I think many more entries would be received. J.D., Lt. R.N.

ELECTRICAL PHENOMENON.

Sir,—Your correspondent Mr. N. H. Bailey is apparently somewhat of a novice in electrical matters. The simple explanation of his mysterious phenomenon is that the insulation resistance of his flexible was too low to prevent part of the high-tension current short circuiting to earth *via* the bearing. Consequently he seriously weakened the spark at the plug, and this, coupled with the fact that a magneto does not readily spark at walking pace, accounts for his difficulty.

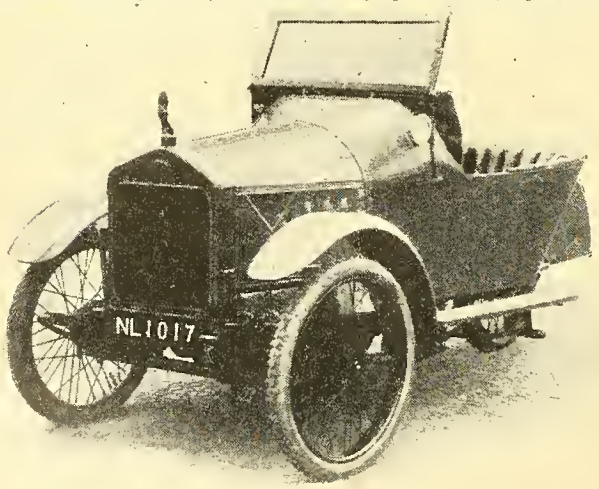
Shortening the flexible removed the earthing effect. He will be well advised to stick to standard rubber-covered high-tension cable in future. F. E. SCHOFIELD.

FIRTH OF FORTH FERRIES.

Sir,—It will be known to many of your readers that the N.B. Railway Co. have enormously increased the ferry charges at Queensferry by some 400% on cars, and, I believe, by the trifle of 900% on motor cycles; all on the well-known "principle" that the value of an article or service is what it will fetch, monopoly or no monopoly—parliamentary or other.

According to *The Scotsman* recently, the said railway company have lodged at the Scottish Office a Provisional Order for the taking over of Burntisland Harbour (whence the Granton ferry runs) "*without any price being paid or consideration given except the discharge by the company of the money advanced.*"

This would seem to be an excellent and very appropriate opportunity, by opposition to the Order, to obtain a reversion to more reasonable charges. W. L. SPENCE.



A RE-MODELLED THREE-WHEELER.

Given enthusiasm for the work and the necessary tools, it is surprising what can be accomplished with the most unpromising material. Here is a three-wheeler of quite pleasing appearance re-modelled from an old Chater-Lea chassis by Mr. H. Robinson, a blacksmith, of Loughborough, Northumberland. The engine is an old water-cooled single-cylinder De Dion.

RADIAL ENGINE DESIGN.

Sir,—With reference to the letter appearing in the correspondence columns of *The Motor Cycle* of the 14th ult., over the name of Mr. Redrup, in which are criticised several features of my design of motor cycle: whilst appreciating any criticism privately, at this juncture I do not wish to enter publicly into a discussion of the relative merits of an experimental design. I am replying to Mr. Redrup in a private letter. GEORGE F. HALLIDAY.

QUEER BEHAVIOUR OF A TYRE.

Sir,—My own experience of a tube fitted to the rear wheel of my Morgan may be of interest to your correspondent. The tyre behaved in precisely the same manner as he describes, and after much trouble was traced to a leaky joint, which had at some time been doubled up and so loosened. Sometimes the tube held the air apparently indefinitely, and at others could not even be blown up. W. WATSON.

Sir,—Your correspondent "C.P.V.T." concludes his letter in the issue of the 21st ult. on the "Queer Behaviour of a Tyre" by stating that "the tube is in perfect condition, etc." The eccentricities he refers to, however, would not be accepted by the generality of motor cyclists as evidence of perfection in tyres.

If there is no unsealed puncture in the tube the leak must necessarily have been *via* one of the (apparently) *sealed* punctures or *via* the valve or valve seating. The symptoms point to a patch which only develops a leak when warmed up in driving, or a valve seating which only develops a fault when the tube is *stretched*. Either of these faults would be aggravated if the tube adhered to the cover owing to lack of French chalk. The fact that the tube suddenly deflated on opening out suggests that this was so. The sudden pull of the outer cover would stretch the tube away from valve or patch and cause the mischief. The "give" of the cover would be sufficient to do this, even if the cover did not actually "creep."

I had a very similar experience some time ago. I never found the leak, but rode many weeks afterwards on the same tyre without further trouble after dusting the tube with French chalk. C.S.

Sutton.

Sir,—With reference to "C.P.V.T.'s" letter, I was almost writing to you last week for advice about a tyre of mine which behaved exactly similarly. When I finally found the puncture on the fourth occasion of having the tyre out, it proved to be at the point where the tube had been joined up. The ends of the tube are telescoped for about one inch, and it is quite understandable that the air pressure in the tube might very well seal the leak completely at times.

I can offer no suggestion for finding the leak in a case of this sort. Mine, I imagine, got gradually worse with repeated handling of the tube until the leak finally became permanent, and I was able to find it in the usual way.

I had thought perhaps of trying to put some coloured liquid in the tube which would betray the leak the next time the tyre went down, but I did not know of a suitably harmless liquid. A. K. GORDON.

UNDERSIZE NUMBER PLATES.

Sir,—Having recently received the tip from a friend who had been caught, I looked up the requirements of the law regarding number plates, and as I read these, it is necessary for each letter or figure to take up a width of 1½in. (there appears to be no exception for the figure 1), and for there to be at least ½in. between any two letters or any two figures, and ¾in. between the last letter and the first figure. This applies when the letters and figures are in one line.

On these measurements, for a number consisting of two letters and four figures, it appears to be necessary to have a plate 10½in. long, provided the necessary ½in. margin is left at each end. I have just been trying to obtain a plate of this length but without success. Although I have tried several London dealers, the longest I have seen is just over 9in., which I am told is the usual size. FC 3154.

London, S.E.2.

ANOTHER PROBLEM—COMPLETE WITH THE SOLUTION.

Sir,—Recently my machine began to give trouble. Instead of one hundred miles to the gallon, I only got forty. All sorts of adjustments were tried without effect—jets, plugs, decarbonising, rings, exhaust, brakes, etc. At last a bad rattle developed, like that which would be caused by a loose lens in the lamp. The lamp was stuffed with rag. Still the tinkling rattle. By sheer accident, the magneto chain cover was examined, and lo! here was the trouble. The chain had scored the cover, and had been acting as a brake. This cover on the Levis is only held by a central screw, and it (the cover) had gradually worked down on the chain. It is now fitted with a double spring washer, and will be watched in future. When the cover and the cause of the friction were removed, the cycle was tried. It just romped away, and the rider, after so long riding at less than the limit, was afraid to give full throttle.

We are warned that with lightweights we should eliminate all friction, but in this case the cause was baffling.

Richmond. JULY.

MUD—OPPOSITE VIEWS.

Sir,—May I venture to add my opinion to that of your correspondent "Unapproachable"?

I certainly object to mud, but am quite willing to put up with it for the sake of the sport.

When riding I generally wear trench boots, breeches, and a mackintosh, and find that they are ideal.

One cannot expect a motor cycle to be as comfortable as a car; it was never intended to be, so rather let manufacturers look to the general efficiency of the 'bus and cut out such unnecessary things as leg shields, etc. NORTON.

Tooting Bec.

Sir,—Referring to "Unapproachable's" naive query in your issue for April 14th, does he still carry mudguards on his machine? If so, why? They do but increase its weight, impair its speed, and deprive him of a portion of delectable mud that he so thoroughly enjoys.

Presumably, also, he finds a keen delight in periodically scraping it off his machine, particularly the engine, or does he regard it as a preservative, and leave it on?

But enough of such fooling. The *bête noire* of every man who daily uses his mount to get to and from business is mud, and, unfortunately, the majority of British motor cycle manufacturers are under the impression that we suffer from a climate as dry as the Sahara.

Your mud-bespattered readers laugh cynically as they peruse the innumerable advertisements in your papers enlarging upon the exquisite finish, sound constructional details, high-grade equipment, etc., of the respective mounts, ahead of all rivals and representing the acme of refinement. The jest is improved by the addition of an illustration showing a machine with the usual flimsy mudguards that serve but to collect the mud and spray it all over the rider.

It is a difficult matter to find a lightweight two-stroke that is equipped with adequate protection from mud, and likely to appeal to the daily rider.

Apparently, little attempt is made to cater for a market that is growing by leaps and bounds. Possibly manufacturers are not sufficiently aware of a business man's requirements.

Daresbury. UGH!

DOPE FOR "IXION."

Sir,—"Ixion's" "Occasional Comments" have just again, as for many years past, lit up the desert waste here. It is, however, in connection with his "S.O.S." for waterproof gloves that I venture to offer balm for his dear old soul.

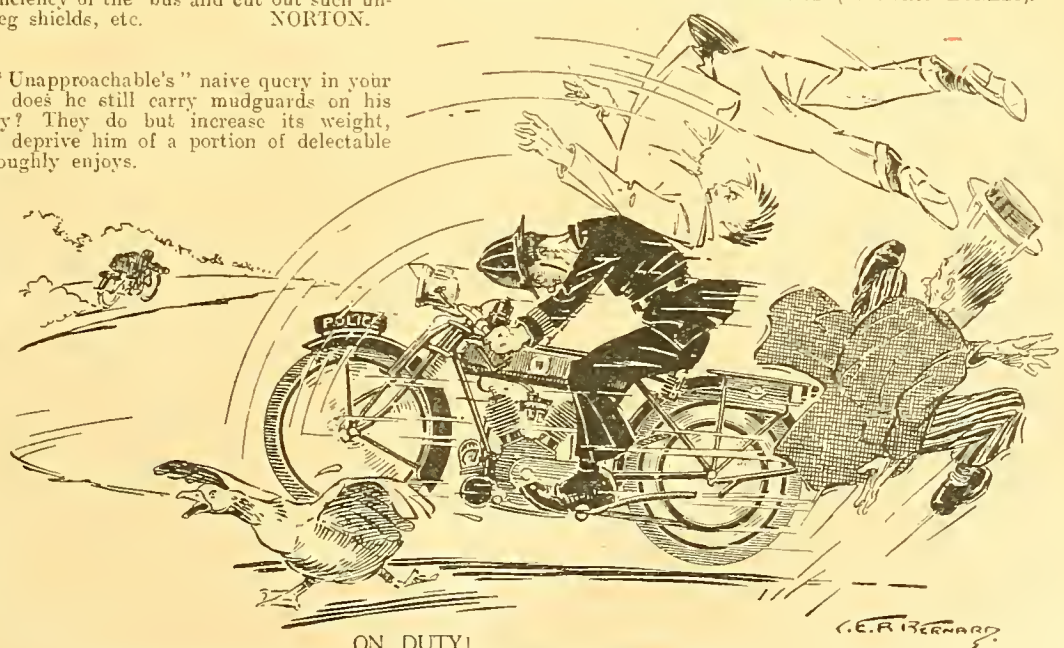
Now, read, mark, etc., the following:

The white of an egg (raw) beaten up, makes the best size to coat over gilding, bronze work, or gold paint. The objection gilders have to its use is that it cannot be removed by any ordinary process when regilding is required. It is imperishable in itself, and insoluble in water, ether, spirits, or turpentine. It is also more hermetic than glass, or any varnish or glaze, therefore it protects from the atmosphere or the elements whatever is under it.

Although infinitely closer in its texture than any varnish, it never becomes brittle, as all gummy varnishes and sizes do when they dry hard. It is always tenacious and elastic in its texture and adherence. It can be folded, *i.e.* silk, paper, parchment, velvet, or other fabrics may be folded, when coated over with this egg medium, without cracking in the slightest degree, no matter how many years may have elapsed since it has been used, as it stretches like india-rubber.

Should "Ixion" have no domestic supply from which to make up this "egg-flip," Messrs. Reeves and Sons, the artists' colour people, can supply him with a specially prepared egg medium. One of his tame slaves can supply the energy to coat all his old gloves, and any other garments if necessary. This medium might also possibly meet another of his requests for a protective armour for all twiddly-bits liable to rust. Some of the "knuts" might, with the addition of an opaque tint, like to try the medium in lieu of special racing kit to lessen wind resistance.

Khartoum. OMAR HADDEED (THE IRON DONKEY).



ON DUTY!

Shall we see this sort of thing on the roads when the police are thoroughly motorised?

ON THE ROAD WITH A 6 H.P. B.S.A. SIDECAR.

Sir,—Being the possessor of one of the new B.S.A. twin sidecar outfits since last summer, I was much interested in the article in your issue of the 14th April. A few remarks on my own road experience may be of interest.

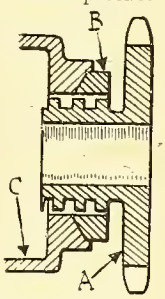
(*a.*) My petrol consumption has been *exceptionally low*, not "on the heavy side." Over 2,874 miles the figure works out at 60.3 m.p.g., based on the amount of petrol purchased and neglecting losses due to short measure and evaporation. I experimented with jets giving various deliveries, and found 90 c.c. per minute to be best.

(*b.*) My experience regarding the engine corroborates yours. I have never seen signs of overheating. I have never heard it "pink" yet (it is kept clean, of course). The torque developed at comparatively low speeds is exceptionally good, and it has given absolutely no trouble.

As you state, the valve gear seems a little noisy, but I think this is more apparent than real, owing to the very efficient silencer.

(*c.*) As in your case my passenger was uncomfortable, although only at first and until the front edge of the sidecar seat was raised by about 2½in.

(*d.*) The felt washer fitted to the gear box in some of the earliest machines is not very efficient as an oil seal. The design has been improved in later models, and I have had my machine brought up-to-date. A new type chain sprocket



An exaggerated view of the B.S.A. gear box sprocket referred to in the letter of Mr. J. Watt. M.I.A.E.:

A. New type sprocket

B. Brass ring, to replace felt washer, fixed to casing by four No. 4 B.A. screws (about $\frac{5}{64}$in. clearance) on the sprocket boss

C. Casing of gear box

can be obtained from the makers, and happily this sprocket, which has an oil-return screw on the boss, can be fitted to the early type case with comparatively little trouble. There is now absolutely no oil leakage at this point.

(*e.*) The gear box clamping nuts *must not* be pulled up hard with a 12in. engineer's spanner. The double-ended key supplied with the kit should be used.

(*f.*) On taking delivery of a new machine one should be careful to mount the sidecar wheel with the brake rim on the same side as the others. I met a rider of a brand new machine in distress owing to the agent having assembled the wheel the wrong way round, so that one of the ball races had screwed ont.

(*g.*) I agree with you that the latest model twin is a worthy co-product of the well-known single. Omitting the war period, I have owned a sidecar of this make from 1912 to the present day, each year's service including a very successful summer tour of 1,000 to 1,200 miles.

JAMES WATT, M.I.A.E.

Sir,—Permit me to endorse every good thing that you say regarding the 6-7 h.p. B.S.A. machines. I have driven one of these excellent outfits some 2,000 miles, and am satisfied that I could not get better service from a sidecar of any make.

Your remarks upon the engine are entirely to the point. It will maintain practically maximum speed all day long without tiring. On a trip from the Midlands to Nevin with my wife, son, and luggage, *via* Bettws-y-Coed, Capel Curig, and Beddgelert, I came out of top gear once only, viz., on the short, steep Wyle Cop, in the heart of Shrewsbury Town. The valve gear noise, which is really not extravagant, is, I think, due to steep cams, and when one remembers the function of the latter one is inclined to rest content.

As regards petrol consumption, I expect the trial machine was fitted with a No. 30 jet, which I believe is the size provided when the bicycle is sent out of the factory. With this jet, and before the engine was fully run in, I got 40 m.p.g., but soon improved to 50-55 with a No. 27 in the warm weather of the autumn. I confidently expect to attain sixty-five when Mr. Binks weighs in with the carburetter which I have on order.

Your article states that "only a few tools were supplied." This sounds like the standard outfit. The few tools furnished with my mount were mostly quite good, but the spanner which is alleged to free the induction and exhaust pipe lock nuts broke its "pip" at the first wrench. A new one of similar type, but about ¼in. thick, which I got made specially, serves admirably. Another, also specially made, doubled up at the mere idea of shifting the wheel bearing locknuts. In place of this I now have a spanner of the box type with projections to fit all four slots simultaneously.

No mention of front fork springing, which I find beautifully elastic—in fact, ideal—upon a decent road, but bumpy in pot-holes. Of three similar outfits (including my own) with which I am acquainted, all show a slight flattening of the fork girders, and there is further evidence of bumping upon the mudguard and head tube. Probably it is a case of "the devil and the deep sea," and the alternative a form of springing which would be too inelastic upon roads as they *ought* to be, but only sometimes *are*. T 161.

Wolverhampton.

LIGHTS ON STATIONARY VEHICLES.

Sir,—I was much interested in the notes on "Lights on Stationary Vehicles" which appeared recently. The practice of leaving motor cycles and cars by the roadside with strong lights facing in the wrong direction is, I consider, very dangerous.

Just before the war I was riding my motor cycle late at night through a village near Sheffield. A car came round a bend in the road about a quarter of a mile ahead. Its head lights were very bright and dazzling. When I got near to it I found myself mounting the footpath, and in another second was wrapped round an unlit gas lamp pole, fortunately without much damage.

The car, of course, had, after turning the bend, continued a little way, and then crossed the road to the wrong side to let down some passengers. Cannot this practice be made illegal?

EX-CAVALRY D.R.

Sheffield.

SUMMARY OF CORRESPONDENCE.

That machines should be sold on a maximum m.p.h. price basis (*i.e.*, £1 per mile for solo mounts, and £2 per mile for sidecar outfits) is the suggestion of a reader signing himself "W.H." Under this obviously impossible scheme three-speed and clutch models would be fractionally cheaper than direct belt T.T. machines with the same power unit. Our correspondent has also a good word to say for the small country garages in preference to the larger town and city shops.

"XF 1550" complains that makers of accessories often do not advertise the prices of their goods, and consequently the buyer sometimes pays considerably more than the actual retail price.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

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100 MILES PER HOUR ACHIEVED!

A Coveted Record. Crop of New Figures Set Up. Five Minute Champions



100 m.p.h. for the first time on a motor cycle in this country. D. H. Davidson snapped at his highest speed.

LAST week, for the first time on record in this country, a speed of 100 m.p.h. was attained by a motor cyclist. The honour fell to D. H. Davidson, formerly a comparatively unknown rider, who came into prominence as recently as the B.M.C.R.C. meeting on April 16th. His mount was a twin-cylinder Harley-Davidson, the V type engine, to all outward appearances, being of standard design with inlet over the exhaust.

There were three Harley-Davidson riders on the track, their machines having been especially prepared for track use in the Milwaukee factory. They arrived in this country quite recently, but it was found that the short frames originally adopted for board tracks were not quite suited to the concrete at Brooklands. As a result, the frames were lengthened slightly, which enabled the riders to hold the machines more easily, though it would never do to under-estimate the skill and courage required to sit a machine at such terrific speeds as these engines are capable of attaining.

High Practice Speeds.

All was ready for the attempt on Wednesday last week. When we arrived at the track the two Harley-Davidson riders, C. F. Temple and D. H. Davidson, were busy putting the finishing touches to their machines, testing the chain tension, and so forth. We had been told that the machines in practice had accomplished 104 m.p.h. over the flying kilometre. Due to the fact that only one timekeeper was present the actual attempt had to be postponed till 6 p.m., which was lucky in a way, as it gave opportunity to a goodly number of the A.C.U. One Day Trial competitors to witness the attempt.

In the meantime, that well-known rider, Le Vack, who had evidently got wind of the coveted record being in jeopardy, had got ready his eight-valve Indian machine (now ten years old, and familiarly known as "The Camel"). A Ford van dashed up to the track, rust marks all over the bonnet, and the radiator, from boiling water, showing that no time had been lost on the trip from Town. Aboard the van were Le Vack and the Indian, ready to take a sporting chance with the Harley-Davidson riders in reaching the "100."

LAST WEEK'S SPEEDS AT BROOKLANDS.

WEDNESDAY, APRIL 27th.

H. Le Vack (7-9 Indian) - 98.98 m.p.h.
C. F. Temple (7-9 Harley-Davidson) 97.26 m.p.h.
E. B. Ware (8 Morgan-Jap) 77.67 ,,

THURSDAY, APRIL 28th.

C. F. Temple (7-9 Harley-Davidson) 99.86 m.p.h.
D. H. Davidson (7-9 Harley-Davidson) 100.76 m.p.h.
C. F. Temple (7-9 Harley-Davidson) 88.28 m.p.h. for 5 miles; one lap at 89.10 m.p.h.
D. H. Davidson (7-9 Harley-Davidson) Flying mile 96.26 m.p.h. 10 mile standing start 84.58 m.p.h.
J. F. Newey (2½ New Comet-Climax sc.) 4 hrs. record in class, 161 miles 587 yards—40.33 m.p.h. 5 hours record in class, 200 miles 1,095 yards—40.12 m.p.h. 200 miles—4 hrs. 50 min. 53⅘ secs.—41.12 m.p.h.

FRIDAY, APRIL 29th.

H. Le Vack (7-9 Indian) 106.52 m.p.h.

It was a perfect sunny evening, and there was no wind to disturb carburation. C. F. Temple led the way, and, after a magnificent trial lap, approached the top of the banking for the crucial spurt along the railway straight. Swooping down at an almost incredible speed, he was unlucky in the attempt, as the front chain broke. D. H. Davidson followed in a most thrilling run, steering a magnificent course with never a misfire. His speed was subsequently given as 97.26 m.p.h.—a new record. Le Vack came next on his eight-valve red Indian, which has a shorter wheelbase than the Harley-Davidson, and was geared, he told us, at 3 to 1. He succeeded in clipping ⅖s. off the five-year-old record, giving a speed of 98.98 m.p.h., which time he could not improve upon.

Friendly Rivalry.

Meanwhile, W. H. Wells, learning that Le Vack was so near and yet so far, signalled to him for another attempt; but Le Vack could not respond, as he was thoroughly exhausted by his all-night tuning-up efforts. As it was getting dusk, it was decided to postpone any further attempts until the morrow.

The next day, true to promise, D. H. Davidson set out to achieve what had been found impossible on the previous evening. At 4.30 C. F. Temple made several attempts on his Harley-Davidson to annex the record, and again got aggravatingly close without achieving the task. His best time was 22.4s.=99.86 m.p.h.

It was now Davidson's turn, and on this attempt, in the perfectly wonderful time of 22.2s., he achieved a speed of 100.76 m.p.h., thus winning the Godfrey Cup for the first motor cyclist to accomplish a speed of 100 m.p.h. in this country.



D. H. Davidson and his mechanic with the 7-9 h.p. Harley-Davidson, to which trio fell the honour of accomplishing 100 m.p.h. for the first time in this country

Naturally there had been a good deal of friendly rivalry between Temple and Davidson, as the machines were supposed to be identical in their power output, and it was known that, given favourable conditions, each had the record within his grasp. Mr. Duncan Watson accordingly left them to toss for positions.

Temple made another attempt, but again recorded 99.86 m.p.h. Continuing, however, he made the extraordinary time for one lap of 1m. 49.8s. = 89.10 m.p.h.

Davidson next essayed the Flying Mile, and recorded 37.4s. = 96.26 m.p.h. Not content with his achievement, he then attempted the Ten Miles Standing Start Record, which he annexed with the greatest ease, the time recorded by Messrs. Ebblewhite and Reynolds being 7m. 5.6s. = 84.58 m.p.h.

Davidson's machine had Kempshall tyres, K.L.G. plugs, and Coventry chains. Temple had similar equipment excepting that the tyres were Hutchinsons.

77½ m.p.h. on a Morgan.

On Wednesday evening E. B. Ware captured the kilometre record for passenger motor cycles, using a Morgan Runabout with J.A.P. overhead valve water-cooled engine. In this he had no difficulty—indeed we had unofficially timed him in the afternoon to exceed 80 m.p.h. for a lap, so that his time over the kilometre of 28.8s. = 77.67 m.p.h. was not the best he could do by any means. As a matter of fact his engine misfired when half the course had been covered, shooting sheets of flame out of the exhaust pipes. From our observation his speed at the start must have been in excess of 85 m.p.h. Ware can be counted upon to improve his speed should his figures be challenged by any other racing man.

The Buzzing of a Gnat.

For hours during Thursday, while the majority of those present at Brooklands were speculating as to whether a speed of 100 m.p.h. would be attained, there was in the air a sound resembling the buzzing of a gnat. It was in everyone's ear, and the sight of a little sidecar machine bustling lap after lap round the track brought forth questions as to who, and what, it was. It proved to be J. F. Newey on a single cylinder two-stroke New Comet with a Climax engine, and its consistent running was something at which to marvel. After four weary hours he got inside record and then the interest started. Only very occasionally did he stop, and his willing engine went on averaging over 40 m.p.h. with a sidecar, always apparently ready for the usual spurt along the railway straight. The new records set up were as follows:

4 Hours ..	161 miles	587 yards	40.33 m.p.h.
5 Hours ..	200 „	1,095 „	40.12 „
200 Miles ..	4 hr. 59 min. 5⅘ sec.		41.12 „

The capacity of the Climax engine is 293 c.c., the bore and stroke being 70 mm. and 76 mm. respectively. The gear ratio was 4⅞ to 1.

Newey's choice of equipment included Palmer tyres, Dunlop belt, K.L.G. plug, and Amac carburetter, while Pratt's spirit and Vacuum oil were used.

On Friday Le Vack again brought out his eight-valve Indian and succeeded in beating Davidson's time, covering the kilometre in 21s., or 106.5 m.p.h.

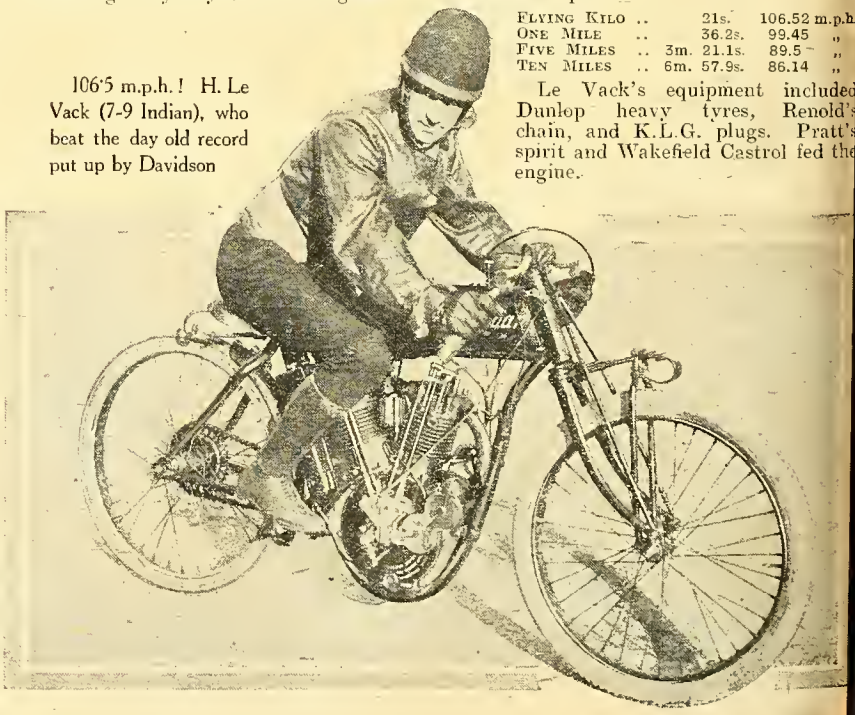
The flying kilometre record in Class E for solo machines not exceeding 1,000 c.c. was successfully attempted, this distance being covered in 21s., which constitutes a speed of 106.52 m.p.h.

A successful attempt at the one mile record was then made: eleventh-hour adjustment of the tappets, however, might have been the reason for the reduction in speed, which worked out at 99.45 m.p.h.

Flying Kilo ..		21s.	106.52 m.p.h.
One Mile ..		36.2s.	99.45 „
Five Miles ..	3m.	21.1s.	89.5 „
Ten Miles ..	6m.	57.9s.	86.14 „

Le Vack's equipment included Dunlop heavy tyres, Renold's chain, and K.L.G. plugs. Pratt's spirit and Wakefield Castrol fed the engine.

106·5 m.p.h.! H. Le Vack (7-9 Indian), who beat the day old record put up by Davidson



QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d. stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects

GEAR BOX LUBRICATION.

(1.) Is engine oil or grease required for the countershaft gears of a 1918 3½ h.p. Rover, and how often? (2.) Does the clutch oil itself from the gear box, or does it need special lubricating? I cannot find any oil cup. (3.) Does the silent chain from the engine to the countershaft oil itself, or must I take off the aluminium casing and oil it occasionally?—C.A.P.

(1.) Thick engine oil is suitable for the gear box and it should be renewed every 500 to 800 miles. (2.) The clutch does not require any lubrication. (3.) It is advisable to oil the chain separately from time to time.

STARVED CARBURETTER.

(1.) I own a "Big Four" Norton, which runs very well and has ample power. I experience the following trouble, however: On a straight road and with a cool engine I want to indulge in a speed burst. For the first two hundred yards, with full throttle, the machine goes very well. Suddenly it stops, and I am obliged to shut off the air, and after a few seconds I am able to repeat the speed burst, and immediately the trouble happens again, and so on. I thought at first it was caused by pre-ignition, but the engine was certainly not overheated, and, moreover, I have changed the plug. The symptoms are like starved carburetter or back-firing. I have dismantled the carburetter, and found some explosions had occurred in it, as it was burnt inside the air intake pipe. Have I to vary the spark timing or to change the level of the float? (2.) I can give full air with half throttle. Is it all right? (3.) I am unable to start the engine with the pilot on the "On" position. In fact, I have always to prime the engine to get a good start even when warm. (4.) What is the correct valve timing? (5.) I used Prices' summer grade oil throughout the winter. Do you think it was too thick? (Our winter is milder than yours.)—J.U. (Portugal).

(1.) In order to get maximum speed, you should, of course, fully advance the ignition. Probably the cause of the trouble is due to the carburetter being starved, as otherwise you would be more likely to get explosions in the silencer if it were an ignition fault. You might try the effect of slightly raising the petrol level; also make quite sure that the petrol flows freely from the tank, as it is quite possible that the starving results from an air lock in the tank itself, due to the filler cap being too tight a fit. Also clean any filters in the petrol pipe or carburetter unions. (2.) With this carburetter it is usually possible to give full air on half-throttle. (3.) Usually it is unnecessary to prime this engine when warm, although it usually helps matters when starting from cold. (4.) Time the valves by the following method: Rotate the engine until the piston is at the top of its stroke, and insert the cam wheels and rockers so that the exhaust valve is just closing and the inlet just about to open. Rotate the engine one complete revolution (forward), set the magneto with the contact breaker points just about to separate, and connect the driving chain. (5.) The oil is rather thick for winter use, and might interfere with starting.

OIL-PUMP DIFFICULTIES.

Would you kindly tell me what is the general principle of the Scott oil-pump? Mine does not seem to function until the engine has been running some time.—G.B.T.J.

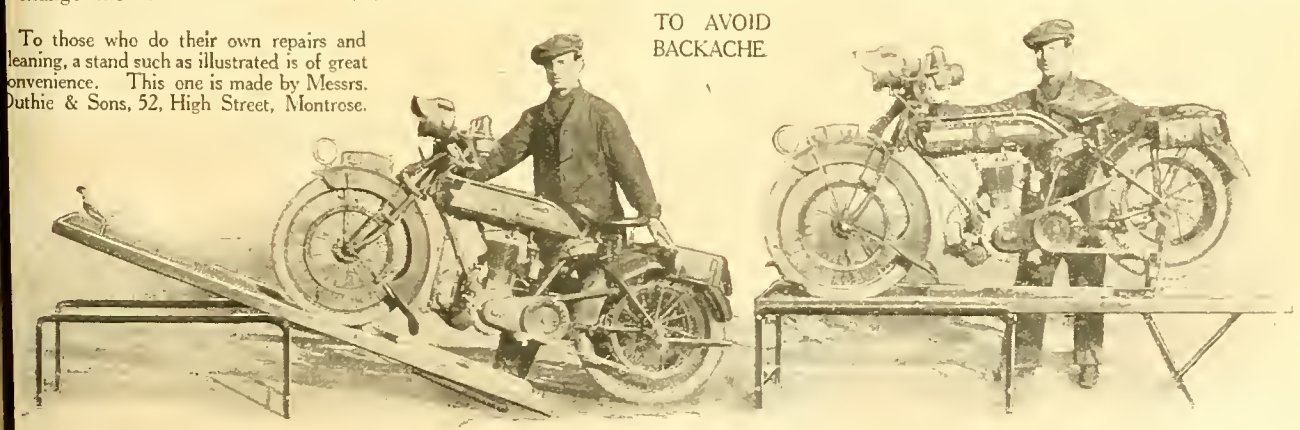
You will find a complete description with illustrations in the makers' handbook. The working of the hand pump should be the same, whether the engine is running or not; but if your machine is one of the 1919 or 1920 models, with separate lubricators to each crank case, it is not essential that you use the hand pump, since once the engine is running, crank case suction will induce a supply of oil automatically, and the amount of this may be regulated by the sight feed lubricators. It should be remembered that the oil pipes only communicate with the crank cases at definite periods.

TUNING A TWO-STROKE.

My machine (a 1920 two-stroke) is entered for a hill-climb. (1.) The piston has two rings, both at the top. The top ring is a deep one, about $\frac{5}{16}$in. deep, and the lower one about $\frac{1}{8}$in. deep. Do you think it would be any advantage to remove one of the rings for this event? If so, which one would you advise me to remove? (2.) At present I run on ordinary motor cycle oil, and get excellent results. Do you think it would be advisable to run on castor oil, and would the latter give better results? —F.W.

(1.) Do not remove either of the rings. (2.) It would be advisable to retain the oil which you find to be satisfactory. Pure castor oil is not suitable for motor cycle lubrication.

TO AVOID BACKACHE



To those who do their own repairs and cleaning, a stand such as illustrated is of great convenience. This one is made by Messrs. Duthie & Sons, 52, High Street, Montrose.

GEAR CHANGING METHODS.

Which is the correct method of changing gear up and down on the two following lightweight motor cycles: (1.) 2¼ h.p., two-speed, two-stroke Triumph? (2.) 2½ h.p., two-speed, two-stroke Clyno? —K.P.

In both the machines you mention the method of gear changing is the same. When changing up lift the compression release while moving the lever from one position to the other. When changing down there is no need to lift the compression release at all, merely throttle down and change gear quickly. On the Clyno you may change gear by using the clutch instead of releasing the compression, only do not allow the engine to race unnecessarily.

READERS' REPLIES.

DOUGLAS LUBRICATION ADJUSTMENT

We notice in your issue of the 14th ult., in replying to "D.H.S.," a reference to the adjusting of the oil supply from the pump to the crank case on his 4 h.p. Douglas. There is an adjustment provided on the by-pass, which means simply freeing the locking nut and unscrewing the main screw to curtail the consumption, and *vice versa* for giving more oil. This screw simply regulates the tension on the spring that governs the by-pass valve. By screwing inwards, greater pressure is placed upon the valve and less oil returns to the sump, while, by weakening the spring, more oil is returned to the sump and less delivered to the big end trays and front cylinder. —DOUGLAS MOTORS, LTD.

TWO-STROKE HINTS.

I notice that a reader asked for the reason of blow-back in carburetter. I have a machine fitted with C.A.V. magneto also, and had the same trouble, which I found was due to the fibre roller on contact breaker sticking up; on fitting a new roller the trouble disappeared. I find that the roller wears the spring, making an indentation into which the roller sticks, and a new, unworn roller clears it, although a new spring must ultimately be fitted. — DONALD MCDOUGALL.

OUTSIDE FLYWHEELS.

On two occasions recently I have read of readers having trouble with their flywheels working loose on two-stroke motor cycles. Here is a tip for what it is worth. Dismount the engine, and file about ⅛in. off the end of the crank case boss. Thoroughly grind the flywheel on to the crankshaft, using coarse and then fine grinding paste of the kind sold for truing up valves. Having ground the faces of the taper to reasonable truth, reassemble the engine, bolt it into the frame, and, having heated the flywheel almost red, screw it home, using a very large spanner and wooden mallet. It sounds rather cavalier treatment for a lightweight, but in my case, although both flywheel and crankshaft were badly scored, it worked like a charm.—LACHLAN MACLEAN.

EXPERIENCES WANTED.

"A. B. McL." (Cupar). — Degory, Atmos, or Binks carburetters fitted to Morgan (J.A.P. engine).

Important Dates.

Sat. May 7th—B.M.C.R.C. Open Meeting at Brooklands.
Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.
Sat., May 21st—Western Centre A.C.U. Open Hill Climb.
Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.
Tues., June 14th—Junior T.T. Race
Thurs. June 16th—Senior T.T. Race.
Sat., June 18th—North-Western Centre A.C.U. Open Speed Trials.
Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup
Fri., July 1st, and Sat., July 2nd—Arbuthnot Trophy Trial.
Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.
Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials.
Sat., July 9th—St. Andrews Speed Trials
Sat., July 9th—Cardiff M.C.C. and associated clubs Open Hill Climb.
Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.
Sat., July 16th—Ilkley M.C. and L.C.C. Open Reliability Trial.
Sat., July 23rd—East Midland Centre A.C.U. Open Speed Trials.
Sun., July 24th—Motor Cycle Grand Prix Race in France.
Sat., July 30th—Newcastle and District M.C. Open Speed Trials.
Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.
Sat., Aug. 6th—North Wales M.C.C. Open Reliability Trial.
Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.
Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

RECOMMENDED ROUTES.

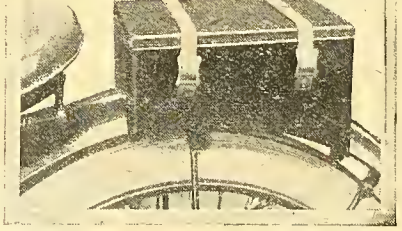
COLCHESTER TO KIMBOLTON.—R.E.F.

Colchester, Halstead, Haverhill, Linton, Cambridge, Caxton Gibbet, St. Neots, Kimbolton.

HATFIELD TO BRIGHTON.—H.W.G.

Hatfield, St. Albans, Radlett, Elstree, Bushey Heath, Harrow and Wealdstone Station, Sudbury, Ealing Common, Kew Bridge Station, Kew Bridge, Kew, Richmond, Petersham, Kingston-on-Thames, Tolworth, Ewell, Burgh Heath, Reigate, Woodhatch, Povey Cross, Lowfield Heath, Crawley, Handcross, Bolney, Hickstead, Albourne, Piecombe, Pangdean, Patcham, Brighton. Approximately 78 miles.

DISCARDING THE CARRIER.



Roomy metal toolboxes are coming into vogue, replacing the two small ones carried pannier fashion. This one is now fitted to the new Douglas sports model.

SPARKLETS

British Success in Holland.

At a race meeting held at Duindigt, Holland, on the 17th of April, the first prize (a gold medal) was won by a 3 h.p. Royal Ruby.

Over 100 m.p.h.

When D. H. Davidson, riding a twin Harley-Davidson at Brooklands last week, exceeded 100 m.p.h. for the first time in this country, his machine had K.L.G. plugs, Coventry chains, and Kempshall tyres.

Successful Magnetos.

The following successes have been gained by motor cycles fitted with E.I.C. magnetos: In the Victory Cup Trial, the Victory Cup, seventeen gold medals, and eleven silver medals. In the London-Land's End Trial, the Jarrott Cup, the Lister Trophy, fifteen gold medals, and three silver medals.

British Success in Italy.

A report reaches us that in the Circuito del Tevere (the first of a series of races for the Italian championship) two 2¾ h.p. Douglas machines were first and second in the 350 c.c. class. The riders were G. Cocchi and D. Gambini respectively, and the distance covered was 172 miles.

Price Reductions.

The standard 1921 Wooler S.T.T. model has been reduced to 85 guineas, the touring model with solid aluminium footboards will be 30s. extra, and the Brooklands model 90 guineas.

The New Rover Cycle Co. announce that their new prices will be as follows: 3½ h.p. T.T. model, fixed gear, £90, with hand-controlled Philipson pulley £100; 3½ h.p. single-cylinder, three-speed countershaft gear, chain drive, £115; 5-6 h.p. twin-cylinder, £130; 3½ h.p. single-cylinder sidecar outfit, £152 10s.; 5-6 h.p. sidecar outfit, £167 10s.; Rover coachbuilt sidecar, £37 10s.

Catalogues Received.

B.S.A. Cycles, Ltd., Small Heath, Birmingham. Spare parts list of the 6 h.p. twin-cylinder B.S.A. motor cycle. A very complete list showing all parts clearly by means of line drawings.

Excelsior Motor Co., Ltd., King's Road, Tyseley, Birmingham. A twelve-page list giving large scale photographs of the various Excelsior models, complete specifications and prices. The solo models appear to be very graceful and of well-balanced proportions.

Norton Motors, Ltd., Bracebridge Street, Birmingham. Well worthy of the famous machines which it describes, the Norton catalogue is well got up and beautifully illustrated, the photographs of the parts being especially clear. One page is filled up with a list of Norton records in small type, performances of which the makers may be justly proud.

CURRENT CHAT



SPECIAL FEATURES

THE A.C.U. ONE-DAY TRIAL.
100 mph. ACHIEVED.
TT. NOTES AND NEWS

Times to Light Lamps.

May	5th	... ...	8.57 p.m.
,,	7th	... ...	8.59 ,,
,,	9th	... ...	9.2 ,,
,,	11th	... ...	9.5 ,,

So Easy in Cambridge!

We understand that the police are very active in Cambridge, where motor cyclists should traverse the narrow streets at a slow speed.

The Belgian Grand Prix.

Copies of the rules and regulations of the proposed Belgian Grand Prix may be obtained from *The Motor Cycle*, 20, Tudor Street, London, E.C.4.

Welsh Speed Championships.

Fifty mile races are not common in this country, and Welsh motor cyclists will undoubtedly take full advantage of the long-distance event which the Cardiff and District M.C. and C.C.C. is including in the Welsh speed championships to be contested on Pendine Sands on Whit-Monday. There are also two twenty-five mile races for 275 c.c. and 350 c.c. machines, and two sprint events.

Hill-climbing in Canada.

A hill-climb was recently held by the Toronto M.C. in the Humber Valley. It was described as a "wicked hill," with no semblance of a road surface, and the course consisted of a surface of loose sand. The winning machine used a rear wheel without a tyre but with flanges fitted to . This occasioned several protests.

England v. Holland.

Dutch motor cyclists are doing their best to find a championship team to represent them in the Anglo-Dutch trial, which this year will be held in this country. On June 16th the Limburgsche Motor Club will hold a trial, followed the next day by another organised by the Motor Club Arnhem en Omstreken. The Twentsche Motorryders Vereeniging and the Noord Nederlandsche Motor Club will hold trials on June 18th and 19th respectively.

Knock-out Scottish Hill-climb.

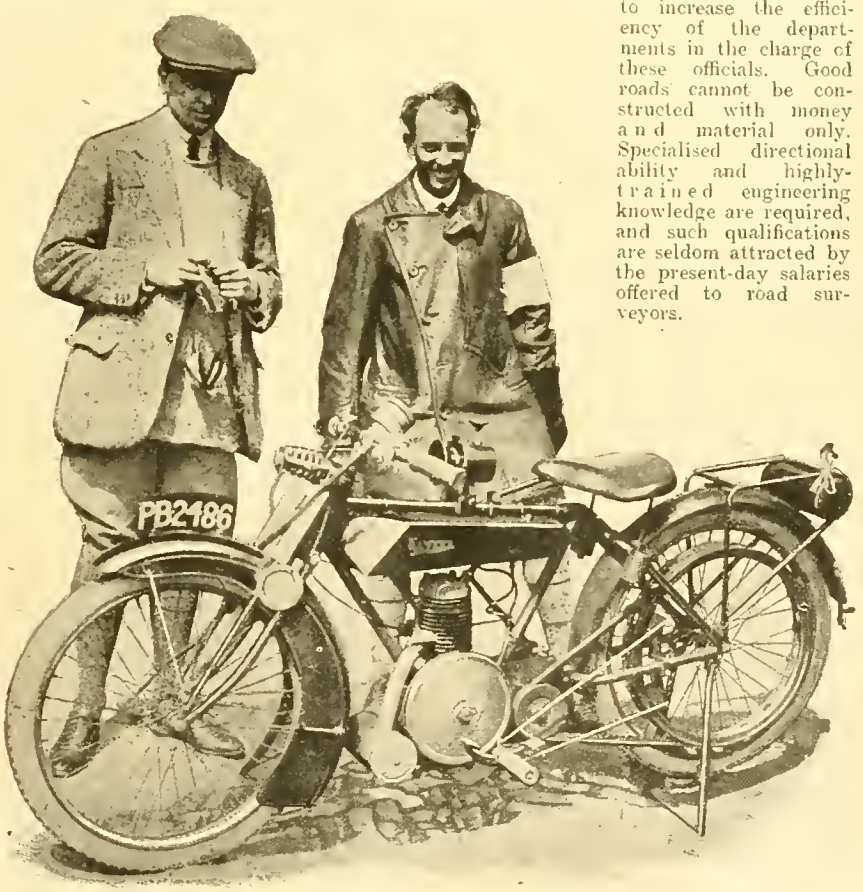
Next Saturday the Edinburgh and District Motor Club is holding an open hill-climb at Bevelaw Hill, near Balerno, by the kind permission of Mr. J. J. Cowan, of Bevelaw Castle. There are to be eight classes—250 c.c., 350 c.c., 560 c.c., and unlimited, "experts barred" and "open" in each. The events are to be run on knock-out lines, with a flying start, which is to be arranged as follows: Competitors will be allowed to start as far back as they like, but there will be three flag marshals at the foot of the hill, spaced at distances of twenty yards apart. If the competitors pass the first marshal level and at the same speed he will drop his flag, but if not the second or third marshal may act as starter. The flag marshals will have the power not to start the competitors if they see that one competitor is trying to manœuvre to start level with the others, but at a higher rate of speed.

The Next Open Hill-climb.

Chatcombe Hill, near Cheltenham, will be the venue on the 21st inst. of the Western Centre A.C.U. open hill-climb. As there are twenty-six classes, it is evident that all are being catered for; and it is therefore unnecessary to tabulate these classes in detail. Entries will be accepted (by the trials secretary, Mr. E. Featherstone, Leckhampton, Cheltenham) at single fee up to the 11th inst., and at double fee for four days after.

Road Engineer Specialists Wanted.

Now that motorists are paying so heavily for the upkeep of roads through greatly increased taxation, the Roads Improvement Association is urging local authorities to improve the status and remuneration of road surveyors, in order to increase the efficiency of the departments in the charge of these officials. Good roads cannot be constructed with money and material only. Specialised directional ability and highly-trained engineering knowledge are required, and such qualifications are seldom attracted by the present-day salaries offered to road surveyors.



THE SIMPLE TWO-STROKE.

Two famous airmen re-enter motor cycle competitions. T. O. M. Sopwith and H. G. Hawker, who rode the new Hawker two-strokes in the "stock machine" class, in last Wednesday's A.C.U. One-day Trial—their début in open competition.

Olympia, 1921.

The 1921 Olympia Motor Cycle Exhibition will open on Monday, November 28th.

Well Done, Stock Machines!

For the stock machines to do better than the rest of the entry in the A.C.U. Trial is a tribute to our manufacturers. Stock machines score 58.8% successes, the others only 34.8%

Pioneer Passes Away.

We regret to record the death of Sir Frank Bowden, Bart., F.R.G.S., founder of the Raleigh Cycle Co. Closely associated with the motor cycle movement in its pioneer days, Sir Frank took a great deal of interest in the world of wheels, and was a keen cyclist, having toured in many little known places with his bicycle.

Freak Hill-climbing.

Held in glorious weather on the 1st inst., the freak hill climb of the Bradford M.C. and L.C.C. on Rosedale Abbey Bank provided some excellent sport for the many spectators and competitors alike. Somewhat of a surprise was caused by A. Champion winning the solo class, by one point, on a 1912 3½ h.p. B.S.A. He also won the cup for the best performance irrespective of class. F. W. Dixon (7-9 Harley-Davidson sc.) and C. P. Wood (3¾ Scott sc.) headed the sidecarists with 118 points each, but the gold medal was awarded to Wood.

Open Hill-climb at Dublin.

An open hill-climbing handicap was held at Killinaein Hill, near Tallaght, on Saturday last. The three events resulted as follows :

SIDECAR CLASS.—Hon. H. Massy (7-9 Harley-Davidson sc.), owes 1s., handicap time 54⅘s.; N. Lepler (7-9 Indian sc.), scratch, 61⅘s.; P. Phillipson (6 A.J.S. sc.), 2s., 84⅘s.

HEAVY SOLO CLASS.—P. McInally (5 Indian), 2s., 35⅘s.; G. Tyson (7-9 Indian), owes 2s., 35⅘s.; C. Johnson (7-9 Harley-Davidson), owes 3s., 37s.

LIGHTWEIGHT CLASS.—R. H. Hill (2¾ Douglas), 2s., 56⅘s.; Dr. T. F. Broderick (2¼ Levis), 4s., 56⅘s.; T. Green (2¼ Enfield), scratch, 59⅘s.

There were fifty entries and thirty-eight competed.

New Models and New Prices.

The B.S.A. chain drive single is now offered with a sporting sidecar, selling at £145. The Ariels have been reduced in price, and are now : 3½ h.p., three-speed, £100; 6-7 h.p., chain-cum-belt, £115; 4½ h.p., chain drive, £110; and 6-7 h.p., chain drive, £125.

In addition to the above, Verus lightweight models are reduced to £99 15s. (2¾ h.p.), £112 (2¾ h.p., sports model), and £80 (2½ h.p., two-stroke); while Martinsyde 6 h.p. sidecar outfits have been reduced to £160.

Brooklands on Saturday.

An exceptionally good entry has been obtained for next Saturday's open meeting of the B.M.C.R.C. at Brooklands; including four cycle cars, there is a total of eighty-two down to compete in the motor cycle races. Almost all the most famous Brooklands men will attend, and the meeting will have an interesting pre-war flavour by the return of the Triumph, Trump-Jap, and Martin racers. Racing will commence at 2 p.m., and the five chief motor cycle events on the programme are : "Junior" and "Senior" open handicaps (where several "Isle of Man machines" will make an appearance), sidecar and cycle car open handicaps, and one two-mile sprint for solo motor cycles not exceeding 500 c.c.

WHITSUNTIDE HOLIDAYS.

Readers who wish to insert miscellaneous advertisements in the issue of "The Motor Cycle" dated 19th May, should note that "copy" must reach the publishers by first post on THURSDAY, 12th May.

Belt Drive and the T.T.

After our correspondence pages had gone to press we received the following letter anent the withdrawal of the Zenith-Bradshaw from the T.T. :

"We have noted with extreme surprise the paragraph on page 519 on the supposed necessity for a more positive drive for the Bradshaw engine.

"Mr. Emerson, who was engaged by us for six months for the purpose of testing all the points of this machine, has, on the completion of his engagement, stated that he entirely disagrees with the report, and we enclose his signed statement to this effect.

"The sole reason for our decision to withdraw from the T.T. is that the testing of this new machine has been so prolonged (in order to make sure of everything) that our production programme has been considerably delayed, and would be further delayed by T.T. preparations.

"We, however, confidently anticipate that these machines will be in the hands of the public before the date of the T.T. race, though not early enough for the necessary tuning up and running in, which many other makers find takes them several months.—ZENITH MOTORS, LTD."

"I have seen the note in *The Motor Cycle* about the belt on the Zenith-Bradshaw not being a positive enough drive for the engine. I entirely disagree with this view.—(Signed) J. EMERSON."

116 T.T. Entrants.

In addition to the list of ninety-two entries for the T.T. races already published in *The Motor Cycle*, a further twenty-four entries were received by the A.C.U. up to Monday last, when the entries closed at ordinary fees. There are now sixty-four senior and fifty-two junior entrants, and the additions include the following :

JUNIOR RACE.—F.N. (England), Ltd. (1); Massey Arran Motor Co. (1); Veloce, Ltd. (3); W. G. Harrison (2¼ Velocette); H. G. Hawker (2¾ Hawker); W. G. Green, Ltd. (2¾ Omega, rider N. Black); E. Longdon (2¾ Coulson); W. Hawarth (2¾ Dot-Jap); F. Boulton (2¾ New Imperial); Wooler Motor Cycles, Ltd. (2).

SENIOR RACE.—New Rover Cycle Co. (3); V. Horsman (3½ Norton); M. H. Edmond (3½ Triumph); G. Sutcliffe (3½ Norton); E. Longden (3½ Coulson); W Atkinson and Son (3½ Sunbeam, rider J. J. Whalley); Scott Motor Cycle Co. (four 3½ Scotts, riders J. W. Moffatt, R. W. Stansfield, C. P. Wood, and H. Langman); Ilkley M.C. and L.C.C. (one rider, G. Clapham); R. J. Braid and C. A. Vandervell (machines unspecified).

RESULTS OF MIDLAND CENTRE A.C.U. OPEN TRIAL.

AS anticipated, only few—twenty, to be exact, and including one sidecar only—of the 130 entrants in the first Midland Centre A.C.U. Open Trial, on the 24th ult., gained premier awards.

Ariel "A" team won the Manufacturers' Team Prize, with the Raleigh and B.S.A. teams a close second and third respectively. Redditch and the M.C. and A.C. No. 1 teams head the list, in the order named, for the Club Team Prize.

Full results follow :

GOLD MEDALS.

G. Lidstone (2¼ James).
A. W. Thrush (2¼ Levis).
E. Mundy (2½ New Hudson).
W. Bell (2¼ New Hudson).
L. E. Clulee (2½ Allon).
A. C. Cope (2¾ O.K.).
M. A. Atkins (2¾ Hobart).
G. M. Townsend (3½ P. and M.).
G. J. Baragwanath (3½ Sunbeam).
J. G. Arford (3½ Hoskison).
L. Stocks (6-7 Ariel sc.).
J. H. Walker (4¼ B.S.A.).
L. L. Scaley (4¼ B.S.A.).
F. A. Longman (3½ Ariel).
A. G. Fenn (5-6 Raleigh).
H. Poole (4¼ B.S.A.).
T. F. Blumfield (6 Ariel).
F. W. Viles (5-6 Raleigh).
H. F. S. Morgan (8 Morgan).
W. A. Ridley (10 New Hudson)

SILVER MEDALS.

C. H. Hanwell (2¼ Cedos).
W. A. R. Bown (2½ Bown-Villiers).
R. Cooper (2½ Allon).
C. Hollyoak (2½ Federal).
J. W. Parkes (2½ Sun V.T.S.).
A. H. Johnson (2½ Allon).
G. E. Cuffe (2½ Metro-Tyler).
F. C. Parkes (2½ Sun V.T.S.).
W. H. Garlick (2¾ Hobart).
F. J. Price (2¾ Diamond).
A. B. Clark (2¾ Coulson B).
E. Hawks (2¾ Excelsior).
F. G. Morgan (2¾ Cotton).
E. J. Weal (4 Triumph).
J. E. J. Whitaker (4¼ B.S.A.).
K. Holden (5-6 Raleigh).
S. Hall (3½ Sunbeam).
C. W. Lewis (3½ Beardmore).
W. E. Smith (3½ Norton).
V. Hawkins (2½ Excelsior).
T. Peck (4½ Ariel).
H. Greaves (3½ Beardmore).
T. Doyle (3½ Lea-Francis).
L. A. Bees (3½ Beardmore).
M. F. Powney (4 Triumph).
A. G. Cocks (3½ Beardmore).
A. Rollason (3½ Ariel).
R. W. Duke (4 Triumph).
W. B. Gibb (3½ Douglas).
W. T. Woodcock (3½ Ariel sc.).
W. R. Brown (3½ Sunbeam sc.).
F. W. Giles (7 A.J.S. sc.).
T. G. Amphlett (4½ James sc.).
J. W. Meredith (10 T.B.).

BRONZE MEDALS.

R. Mundy (2¼ Cedos).
P. J. Wilkins (2½ New Imperial).
R. C. Bennett (2½ Federation).
B. H. Norris (2½ Sun V.T.S.).
F. Haliam (2¾ Marloe).
L. Tonks (2¾ New Imperial).
G. W. Shepherd (2¾ Beaumont).
H. V. Collins (2¾ Marloe).
H. C. Jennings (3½ James).
C. N. Green (4 Triumph).
B. L. Bird (4¼ B.S.A.).
A. E. Taylor (6 B.S.A.).
F. A. Watson (3½ Sunbeam).
E. Williams (7 A.J.S. sc.).
H. Green (4 Triumph sc.).
N. Rycroft (4 Triumph sc.).
W. A. Carr (8 Morgan).

MANUFACTURERS' TEAMS.

1. Ariel "A."—Stocks (gold medal), Blumfield (gold), Peck (silver); total marks lost, 6.
2. Raleigh.—Viles (gold medal), Fenn (gold), Holden (silver); total marks lost, 18.
3. B.S.A.—Bird (bronze medal), Walker (gold), Sealey (gold); total marks lost, 22.

CLUB TEAMS.

1. Redditch.—Smith (silver medal), Poole (gold), Sealey (gold); total marks lost, 2.
2. M.C. and A.C. (1).—Peck (silver), Stocks (gold), Blumfield (gold); total marks lost, 6.
3. South Birmingham.—Cooper (silver), Johnson (silver), Clulee (gold); total marks lost, 29.

HIGH SPEEDS AT GARSHAKE HILL.

Glasgow Western M.C.C Hill-climb on Saturday—New Records by A. H. Alexander.



A close shave: A. H. Alexander trims the grass at the top of Garshake Hill on his 3½ h.p. Douglas.

UNDER ideal conditions the Glasgow Western M.C.C. held its first hill-climb of the year. The very large entry of 172 had been received, and as the surface of the hill was in good condition some very fine riding was seen. Much disappointment was evident when H. R. Davies, the A.J.S. expert, was unable to be present; but the excellent riding of the Alexanders and Geo. Grinton roused the large number of spectators to a high pitch of enthusiasm.

Three Thousand Spectators.

Fully 3,000 spectators were present, and the event was the most successful held in the West of Scotland. The organisation was very good, and the classes were run off promptly and without undue delay between the events.

The sidecar and light car classes were run off first. In the expert barred class nothing very startling was seen, but the experts provided some very fast climbs. Geo. Grinton (7-9 Harley-Davidson sc.) made a very speedy ascent and D. S. Alexander (7-9 Indian sc.) was not much slower. A. H. Alexander (3½ Douglas sc.) was also fast. In the time classes the same riders were well to the fore. The light car class provided nothing exceptional in the way of speed, and Claude Duncan (G.P. Morgan) was easily fastest.

W. G. Smith (2¾ Green) put up a very fine climb in the 350 c.c. solo class, as did D. S. Alexander (2¾ Douglas) in Class 2. Small (on a 3½ Norton) and A. J. C. Lindsay (3½ Rover) made good climbs. In the general class not exceeding 600 c.c. on formula, A. H. Alexander (3½ Douglas) made an excellent climb, and put up the new record of 26⅗s. for the hill. This, however, did not survive the afternoon, as D. S. Alexander (7-9 Indian) clipped 1⅗s. off this time in one of the later classes, his time being 25⅕s.

Record for the Hill.

He even beat this in the last class of the day, putting up the phenomenal time of 24s., clipping a full 3s. off the previous record established by H. R. Davies (2¾ A.J.S.) in the same club's hill-climb last October.

The new G.R.I. made its first appearance in competition in this event, and attracted much attention.

Electric timing was used throughout, the method of working being a most ingenious arrangement constructed by Mr. Alex. Graham, a prominent member of the committee, which worked perfectly throughout the competition. The club's slide rule expert was stationed at the finishing line, and results were obtainable immediately after the rider crossed the tape.

The officials all worked with right good will, and every credit is due to them.

Full Results.

SOLO (not exceeding 350 c.c.): Expert barred.—Formula: 1, J. G. Hamilton (2¾ Verus), 33.3 m.p.h.; 2, H. G. Deas (2¾ Royal Ruby), 32 m.p.h.

SOLO (not exceeding 350 c.c.): General.—Formula: 1, D. S. Alexander (2¾ Douglas), 40.4 m.p.h.; 2, W. G. Smith (2¾ Green), 36.6 m.p.h.

SOLO (not exceeding 350 c.c.): Expert barred.—Time: 1, G. Hope Wilson (2¾ Douglas), 36.9 m.p.h.; 2, H. G. Deas (2¾ Royal Ruby), 35.3 m.p.h.

SOLO (not exceeding 350 c.c.): General.—Time: 1, W. G. Smith (2¾ Green), 39.4 m.p.h.; 2, D. S. Alexander (2¾ Douglas), 38 m.p.h.

SOLO (not exceeding 600 c.c.): Expert barred.—Formula: 1, John Robertson (3 A.B.C.), 40.6 m.p.h.; 2, E. A. Small (3½ Norton), 43.7 m.p.h.

SOLO (not exceeding 600 c.c.): General.—Formula: 1, A. H. Alexander (3½ Douglas), 48.9 m.p.h.; 2, E. A. Small (3½ Norton), 42.5 m.p.h.

SOLO (not exceeding 600 c.c.): Expert barred.—Time: 1, A. J. C. Lindsay (3½ Rover), 43.95 m.p.h.; 2, E. A. Small (3½ Norton), 42.5 m.p.h.

SOLO (not exceeding 600 c.c.): General.—Time: 1, A. H. Alexander (3½ Douglas), 47.1 m.p.h.; 2, J. W. Walker (3½ Norton), 45.2 m.p.h.

SOLO (unlimited): Expert barred.—Formula: 1, E. A. Small (3½ Norton), 42.5 m.p.h.; 2, G. Hope Wilson (2¾ Douglas), 36.5 m.p.h.

SOLO (unlimited): General.—Formula: 1, J. W. Walker (3½ Norton), 47.8 m.p.h.; 2, A. H. Alexander (3½ Douglas), 48.2 m.p.h.

SOLO (unlimited): Expert barred.—Time: 1, G. Hope Wilson (7 Indian), 44.9 m.p.h.; 2, A. J. C. Lindsay (3½ Rover), 43.3 m.p.h.

SOLO (unlimited): General.—Time: 1, D. S. Alexander (7 Indian), 54.2 m.p.h.; 2, G. Grinton (7 Harley), 49.7 m.p.h.

SIDECARS (unlimited): Expert barred.—Formula: 1, M. Simons (3½ Triumph), 25.6 m.p.h.; 2, T. MacKenzie (5-6 James), 25.7 m.p.h.

SIDECARS (unlimited): General.—Formula: 1, A. H. Alexander (3½ Douglas), 37.2 m.p.h.; 2, G. Grinton (7 Harley), 41.7 m.p.h.

SIDECARS (unlimited): Expert barred.—Time: 1, G. Hope Wilson (7 Indian), 32.8 m.p.h.; 2, M. Fraser (8 Enfield), 32.3 m.p.h.

SIDECARS (unlimited): General.—Time: 1, G. Grinton (7 Harley), 42.8 m.p.h.; 2, D. S. Alexander (7 Indian), 42.2 m.p.h.

LIGHT CARS: General.—Formula: 1, Claude Duncan (Morgan), 28.7 m.p.h.; 2, Edgar Gearing (Deemster), 23.9 m.p.h.

LIGHT CARS: General.—Time: 1, Claude Duncan (Morgan), 28.5 m.p.h.; 2, Edgar Gearing (Deemster), 25.5 m.p.h.

SPECIAL PRIZES.

FASTEST TIME (private owner, club member).—J. W. Walker (3½ Norton), 27⅖s.

GRAHAM HAYES MEDAL (best performance on formula, private owner, club member).—J. W. Walker (3½ Norton).

BEST PERFORMANCE (novice, on formula).—John Robertson (3 A.B.C.).

A TRIAL WITHOUT HILLS.

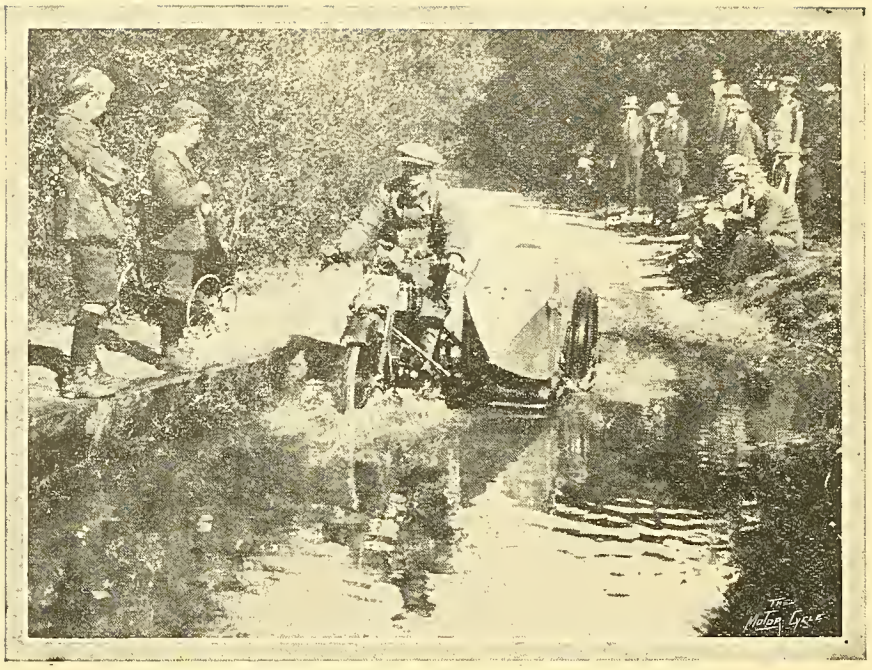
Watersplashes the Sole Obstacles in Midland Centre A.C.U. Team Trial.

DESPITE the fact that there were neither hairpin corners nor hills in last Saturday's A.C.U. Midland centre team trial only twenty-eight riders of forty-eight starters survived four non-stop circuits of a twenty-two and a half miles course.

Such a result must not be taken as an indication of the unreliability of motor cycles, for the bulk of the failures occurred in one or other of the two bad water-splashes which were encountered, and all went to show how the best machines could be eliminated if there was the slightest error of judgment or lack of restraint on the rider's part.

Seven Teams Compete.

The start from the Stonebridge Hotel on the Coventry-Birmingham road was made at two o'clock; perfect weather condi-



When speed is needed, T. C. de la Hay (3½ Sunbeam sc.) can win a T.T., but at Canley, on Saturday last, he wisely elected to enter the water "dead slow." The passenger also considered discretion the better part of valour!

tions prevailing. Seven teams (of seven riders) were present, and only one team started without its full number of men.

Four circuits of the course, which touched Coventry, Canley watersplashes, Kenilworth, Kenilworth ford, and Berkswell had to be completed at an average speed of from 17 to 20 m.p.h., without stopping, and the best five performances in each team were to count for the award.

Many failed at Kenilworth, where the large crowd of spectators was amused by a number of ducks which did not appear to be the least bit perturbed by the passing of the competitors, until one was unlucky and quacked its last protest under the front wheel of a sidecar outfit. Of the performances generally it is scarcely possible to say much in praise, or otherwise, for it is obvious from the results that those who completed the four circuits rode consistently. Results:

1.—COVENTRY AND WARWICKSHIRE M.C.
Brandish (5-6 Rover).
Edmond (4 Triumph sc.).
Atkin (5-6 Rover).
Astley (5-6 Rover sc.).
Wright (4½ Humber sc.).
Ravenhill (3½ Rover sc.).
*Ewens (7-9 Rudge).

2.—REDDITCH AND DISTRICT M.C.C.
Taylor (6-7 B.S.A.).
Bird (4¼ B.S.A.).
Cave (8 G.N.).
Poole (4¼ B.S.A. sc.).
Surman (4¼ B.S.A.).
*Swiffen (4 Norton sc.).
*Smith (3½ Norton).

3.—WOLVERHAMPTON M.C.C.
Chapman (6 A.J.S. sc.).
De la Hay (3½ Sunbeam sc.).
Williams (6 A.J.S. sc.).
T. C. Greenwood (3½ Sunbeam).
*J. E. Greenwood (3½ Sunbeam sc.).
*Harris (2¾ A.J.S.).
*Worrall (3½ Sunbeam sc.).

4.—SUTTON COLDFIELD A.C.
Thrush (3½ Sunbeam sc.).
Roberts (3 A.B.C.).
Hall (3½ Sunbeam).
Paynter (3½ Norton).
*Watson (3½ Sunbeam sc.).
*Boynton (5-6 James sc.).
*Richards (4 Triumph).

5.—M.C. AND A.C.
Rollason (3½ Ariel).
Blumfield (6-7 Ariel sc.)
Atcherley (4 Triumph).
*Peck (3½ Ariel sc.).
*Dawes (2½ O.K.-M.A.G.).
*Woodcock (3½ Ariel sc.).

6.—BIRMINGHAM M.C.C.
Stevens (6-7 James sc.).
Short (4¼ James sc.).
Amphlett (4¼ James sc.).
*Smith (3½ Norton).
*Haden (2½ New Comet).
*Peters (4 Triumph).
*Silver (4½ Quadrant sc.).

7.—SOUTH BIRMINGHAM M.C.C.
Cutler (4 Norton sc.).
Boydell (2¼ Velocette).
Cox (2¾ Armis).
*Cooper (2½ Allon).
*Johnson (2½ Allon).
*Walker (4¼ B.S.A. sc.).
*Clulee (2½ Allon).
*Failed to complete course.

OPEN TRIAL IN NORTH OF ENGLAND.

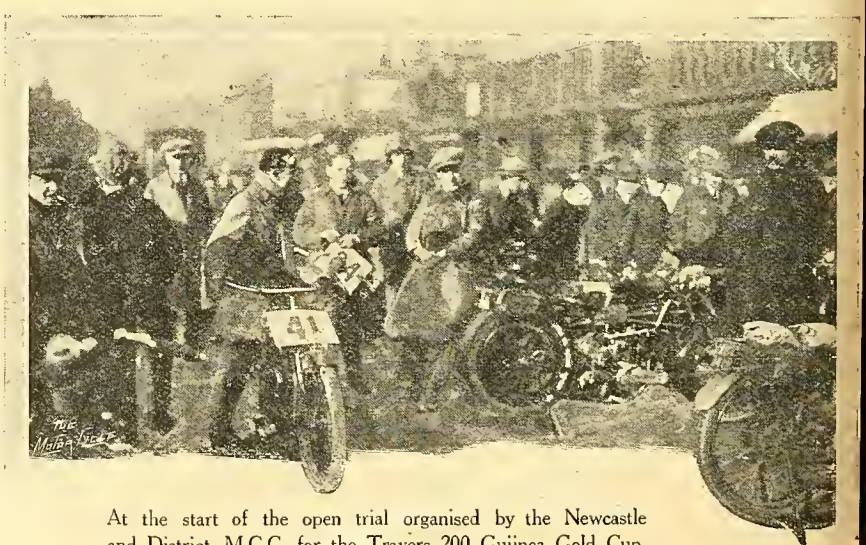
74 Riders Compete for Gold Challenge Trophy.

THE Newcastle and District Motor Club was favoured with splendid weather on Saturday, when the club successfully organised the first open event which the A.C.U. has ever authorised the North-eastern Automobile Association to hold.

In the solo class, out of an entry of forty-seven competitors, no fewer than forty-five weighed in at the start, whilst from thirty-one entrants in the sidecar and three-wheeler class there were only three non-starters; and all but one of the thirteen entrants in the cycle car and light car class failed to face the starter.

The chief attraction, of course, was the 200 Guinea Travers Challenge Trophy, with its accompanying prize of £50; and, in addition, there were gold medals for all competitors who gained full marks, with the well-known formula $\frac{C \times T}{W}$ to be brought into consideration at the climbing of Killhope, in the event of the club being otherwise unable to find an absolute winner.

The competitors from other centres included H. R. Harveyson (4 Indian), R. W. Loughton (2¾ Douglas), B. Bourke



At the start of the open trial organised by the Newcastle and District M.C.C. for the Travers 200 Guinea Gold Cup.

Open Trial in North of England.—

(2½ New Hudson), J. J. A. Dias, D. Robb, Hugh Gibson (8 Royal Ruby sc.), Mrs. D. Bell (7 A.J.S. sc.), the only lady competitor), G. Denley (2¼ Velocette), R. B. Clark (2¾ Coulson B), B. Kershaw (2¾ Verus), G. Kuhn (2¾ Verus), F. J. Ellis (8 Matchless sc.), G. Nott (8 Matchless sc.), and L. Newey (6 Ariel sc.).

The route selected would have been tricky in damp weather, but on Saturday was by no means difficult to the majority of the competitors, with the result that when the sheets are examined it will probably be found that the club will have to provide a good number of gold medals.

The outward journey was *via* Shotley Bridge, Edmundbyers, Middleton, Allenheads, Alston, and Allendale—a distance of over ninety miles—and the return journey was *via* Middleton, Stanhope, Lanchester, Annfield Plain, and Whickham—a distance of over seventy-eight miles.

There was a surprise just outside Allendale, for after climbing Lonkley Bank the competitors found that the watersplash, which is ordinarily only a few inches deep, and is used by farmers to water their cattle, had been dammed overnight.

There was another watersplash at Softerley, not too deep, but with a very treacherous mossy bottom, and in this some of the competitors slid for yards.

Messrs. A. V. Ebblewhite, T. Rutherford, and Q. A. Nicol, M.B.E., represented the Auto-Cycle Union. Mr. W. Baxter was the judge, and Mr. H. Gillies Wicks, the secretary of the meeting.

FROM LONDON TO HOLYHEAD.

Ealing and District M.C.C. Open Twenty-four Hour Trial.

THE Ealing and District M.C.C. carried out its second annual open event from London to Holyhead on Saturday last for the Maudes Challenge Shield, presented by Mr. George Pettyt.

For such a strenuous trial the weather conditions were ideal, and the club officials are to be heartily congratulated on their selection of such a sporting course, and the excellent way in which the whole trial was carried through.

The route selected passed through some of the most picturesque scenery in Wales, and included such well-known hills as Stay-a-Little, Bwlch-y-Groes, a very tricky observed hill near Rhayader, Dinas Mawddwy, and Blaenau Festiniog. Many of our readers will remember this route, which was followed in some of the early Six Days Trials in the days when fixed gears predominated.

Out of an entry of fifty-five, ten failed to face the starter at the Berkeley Arms Hotel, Cranford Bridge, and the first competitor, W. G. Boyer (5 Rover), was despatched by the club president, Dr. A. M. Low, at twelve o'clock midnight, others following at one-minute intervals. The route was through Reading, Wantage, Cirencester, and Gloucester.

Through the Night.

The first check was at Ann's Garage, Faringdon (3 a.m.), where hot coffee and sandwiches, in addition to petrol, were taken in by the dusty competitors. D. R. Dowson (2¾ Hawker) was a late arrival, having been delayed with lamp troubles.

The second check, in charge of W. B. Gibb, was at Gloucester. Coffee and sandwiches were provided by that well known rider; they were most welcome to the competitors.

Leaving Gloucester the roads were in much better condition, and the riders indulged in some fast riding. Just after Ross, S. A. Bevington (6 A.J.S. sc.), in avoiding a non-competitor, swerved, and hit the bank, damaging his front forks and twisting his frame; however, he arrived at the finish, feeling none the worse for his experience.

Breakfast was taken at the Hop Pole Hotel, Hereford, 127 miles from the start.

The first observed hill was just after leaving Rhayader, and E. W. Stevenson (3½ Brough) was the only failure, he having a puncture in the non-stop section.

The fastest ascents were made by E. V. Spencer (4 Omega) and S. T. Tessier (8 Bat sc.), while the Raleigh (ridden by E. Foster) made the climb steadily and evidently.

A number of watersplashes between the first observed hill and the secret checks caused several of the riders some difficulty in keeping up to schedule.

The second observed hill was Stay-a-Little. Brandon and Battley (on Triumphs) were particularly good; C. H. Hanwell (2½ Cedos) and P. Cunningham (3½ P. and M.), good; E. Foster (5-6 Raleigh) stopped; McDonald (7-9 Indian sc.), good; A. K. Smith (7-9 Harley-Davidson sc.), good; W. S. Jameson (3½ Sunbeam), very good; E. W. Spencer (4 Omega), very good; and T. O. M. Sopwith, C.B.E. (2¾ Hawker), was slow.

The third observed hill, Bwlch-y-Groes, was the titbit. Spencer (4 Omega) was again good; Sprosen (2½ Connaught), slow; Knight and Stevenson (3½ Broughs), fast; O'Sullivan (4 Harley-Davidson) failed with clutch slip; S. T. Tessier (8 Bat sc.) made a good climb; H. F. S. Morgan (8 Morgan) and F. S. Spouse (10 T.B.) showed what the three-wheelers could do; I. McDonald (7 Indian sc.) stopped, but started again, and made a fast climb; and H. Reed (8 Dot) also made a good performance.

List of Survivors.

W. G. Boyer (5-6 Rover).
A. G. Battley (4 Triumph).
P. Cunningham (3½ P. and M.).
W. H. Spiller (2¾ Wooler).
W. S. Jameson (3½ Sunbeam).
C. L. Sprosen (2½ Connaught).
J. R. H. Knight (3½ Brough).
E. W. Stevenson (3½ Brough).
E. Foster (5-6 Raleigh).
G. W. Shepherd (2¾ Beaumont).
E. V. Spencer (4 Omega).
W. P. Brandon (4 Triumph).
G. E. Cuffe (2½ Metro-Tyler).
J. A. O'Sullivan (4 Harley-Davidson).
A. G. Wall (2¾ Cedos).
T. O. M. Sopwith, C.B.E. (2¾ Hawker).
S. A. Bevington (7 A.J.S. sc.).
A. K. Smith (7-9 Harley-Davidson sc.).
S. T. Tessier (8 Bat sc.).
H. Reed (8 Dot sc.).
F. S. Spouse (10 T.B.).
H. F. S. Morgan (8 Morgan).



Smiles after breakfast. E. Foster (5-6 Raleigh) checking out of Hereford in the early morning.

A TRIAL FOR TEAMS OF PRIVATE OWNERS.

Oxford M.C. Team wins the Premier Award in Surbiton & District M.C.C. Trial.

THE Oxford M.C. riders were the only team to finish intact in last Saturday's team trial for the Maudes Challenge Shield.

It is true that the trial was open to private owners only, but there were many fine drivers among them, and it is hard to say why so many stops were reported.

The course was a thoroughly sporting one, and contained only four hills worthy of the name, while the surfaces were good on the whole. The entry list was an excellent one, and the following clubs competed: The Surbiton and District M.C.C., the holders of the Challenge Shield—the Gipsy Club, the Woolwich, Plumstead, and District M.C.C., the Bucks County M.C.C., the North-west London M.C.C., the Bedford and District M.C.C., the Ealing and District M.C.C., the Brighton and Hove M.C.C., the Wallington and District M.C. and L.C.C., the Herts M.C. and L.C.C., the North London M.C.C., the Public Schools M.C.C., the City and Guilds (engineering) College M.C.C., the Basingstoke M.C.C., the Oxford Motor Club, and the Reigate, Redhill and District M.C.C.

A Shortened Circuit.

The Essex Motor Club team did not start, and the Wallington Club was three men short. Teams were composed of three solo and three sidecar machines.

Started from the Talbot Hotel, Ripley, at 1.30 p.m., by Mr. George Reynolds, the competitors proceeded at half-minute intervals in the direction of Guildford, and were almost immediately afterwards misdirected by an A.A. scout, who sent them direct to Newlands Corner. This made a serious difference, as it shortened the thirty-three and a half mile journey by nine miles, and avoided Bright Street, Guildford.

The course was covered three times; and though it included three of last year's hills, it was quite different. The same route to Guildford, up Bright Street (about 1 in 6), and along the Clandon Road to Newlands Corner was followed. At the bottom of the slope a sharp turn to the right was taken, and then ensued a lovely journey over good roads through some of the most beautiful parts of Surrey. There was one long easy top gear climb, and then the next hill, known as Horse Block Hollow, leading on to Hart Woods and Winterfold. It was a long ascent terminating in a grade of about 1 in 5 with a rough but not too bad surface, but there were a few failures here. Then came a lengthy descent to Shere, where the famous Combe Bottom hill was negotiated. This was not very severe, but the descent on the other side was rough and uncomfortable. The remainder of the journey through Ockham was without incident.



A trio of the winning Oxford team taking a corner in the Surbiton Team Trial. L. and J. Avery (Harley-Davidsons) are shown in the foreground, and R. J. Piggott, riding ahead, on his 4 h.p. Norton.

The first casualty we saw was an Ealing man, Gordon (Harley-Davidson), who was in trouble near East Horsley. Just beyond Ripley, Browning (Zenith), Public Schools M.C.C., was held up by a flat back tyre. Five of his team had stops, and only one survived. This was pretty bad, but even more unlucky were the North-West London team who lost all their men.

Minor Troubles that Count.

The Bedford team suffered two stops. Hartop (Harley-Davidson sc.) had a broken plug porcelain, and Bristowe (their captain) experienced a short circuit.

The fate of the riders of the N.W. London M.C.C. is interesting. Goddard (Enfield sc.) had tyre trouble; Pittock (Henderson sc.) had a choked jet; Phillp (A.J.S. sc.) failed on Bright Street, Guildford; Auty (James) stopped on Horse Block Hollow; Moon's (Douglas) belt came off; and Whitefield (Triumph), who rode instead of the captain, H. J. Pooley, started with an almost empty petrol tank.

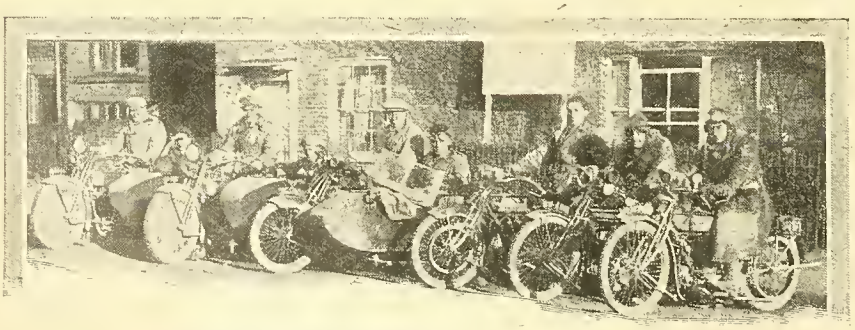
All credit is due to the winning team, which had further to come to compete than any of the others.

The results are as follows:

1. OXFORD MOTOR CLUB (winners of the Maudes Challenge Shield and Memento), error 38m. 38s.; average error per rider 6m. 26.3s.; all non-stop runs. E. Colgrove (4 Triumph), A. D. Cruikshank (3½ Norton), L. A. Welch (4¼ B.S.A.), R. J. Piggott (4 Norton sc.), J. Avery (7-9 Harley-Davidson sc.), and L. Avery (7-9 Harley-Davidson sc.).

2. NORTH LONDON M.C.C. (silver medals), error 43m. 37s.; average error per rider 8m. 43.4s.; five non-stop runs. C. C. Lahin (4 Indian), D. H. Williams (4 Indian), A. J. F. Beaurain (3½ Sunbeam), R. W. Greaves (4 Norton sc.), H. B. Shutes (7-9 Matchless sc.), and W. F. Emarton (7-9 Harley-Davidson sc.).

3. BRIGHTON AND HOVE M.C.C. (bronze medals), error 60m. 23s.; average error per rider 12m. 4.6s.; five non-stop runs. H. D. Dobson (3½ Norton sc.), E. Volk (4 Indian sc.), L. G. Watts (4 Triumph sc.), W. H. Sheraton (3½ Norton), A. B. Friend (3½ Nut), and G. S. Richards (4 Indian).



The winning Oxford Team. From left to right: L. Avery (Harley-Davidson), J. Avery (Harley-Davidson), R. J. Piggott (Norton), L. A. Welch (B.S.A.), A. D. Cruikshank (Norton), E. Colgrove (Triumph).

T.T. NOTES AND NEWS.

T.T. Mounts being Tried Out at Brooklands. Improved Landing Facilities at Douglas.

ONE of the J.A.P. riders who has recently been on the Island tells us that most of the course is in good condition. The mountain road is rather bad, but will not be repaired too early in case of rain rendering further repairs necessary.

* * * * * *

At present it is not intended that the T.T. Sunbeams will have o.h.v. engines.

* * * * * *

T.T. practising commences on Tuesday, May 31st, and not on Empire Day as has been announced.

* * * * * *

A new Binks racing carburetter is being produced, about which we shall probably hear more at Brooklands and the Isle of Man.

* * * * * *

We recently approached the Midland Railway Co. regarding its Heysham-Douglas steamer service, and are advised that the company does not propose to run any special steamers during the T.T. week.

* * * * * *

Strange as it may seem, reliability trials are quite favourite events for testing, or rather, perhaps, running in new T.T. machines.

* * * * * *

In the Victory Cup Trial in March de la Hay competed on a new sports T.T. Sunbeam, which it was then thought he would use on the Island this year. It is possible now, however, that he may have something even livelier for the race itself.

* * * * * *

There were some very fast New Imperial and Diamond lightweights in the last Midland Centre A.C.U. Open Trial. Some of these again were the actual T.T. machines.

* * * *

The new T.T. 350 c.c. J.A.P. engine is shaping well. D. A. Atkin used one in the Midland Centre Trial in his Hobart, which was particularly fast.

* * * *

One of the new T.T. machines for the Senior Race has been lapping Brooklands at 60 m.p.h. in second gear.

* * * * * *

For some time we have been in communication with the Isle of Man Steam Packet Co., Ltd., and the Isle of Man Harbour Commissioners urging that better provision be made for the loading and unloading of motor cycles at Douglas. We are now able to announce that the latter body has written *The Motor Cycle* stating it is hoped that for the period of the T.T. races a crane for dealing with motor cycles will be provided. This is indeed a step in the right direction, for the commissioners fully appreciate the necessity for improving the landing facilities, and it is not improbable that, before long, the pier will be widened and a permanent crane provided.

* * * * * *

This year the Indian T.T. machines will be of the single-cylinder type, practically half the well-known "7-9," in fact. R. R. Coes has arrived from the U.S.A. to take charge of the team.

* * * * * *

Carburetter experts are much in evidence at Brooklands just now, while so much tuning is being done for the Tourist Trophy.

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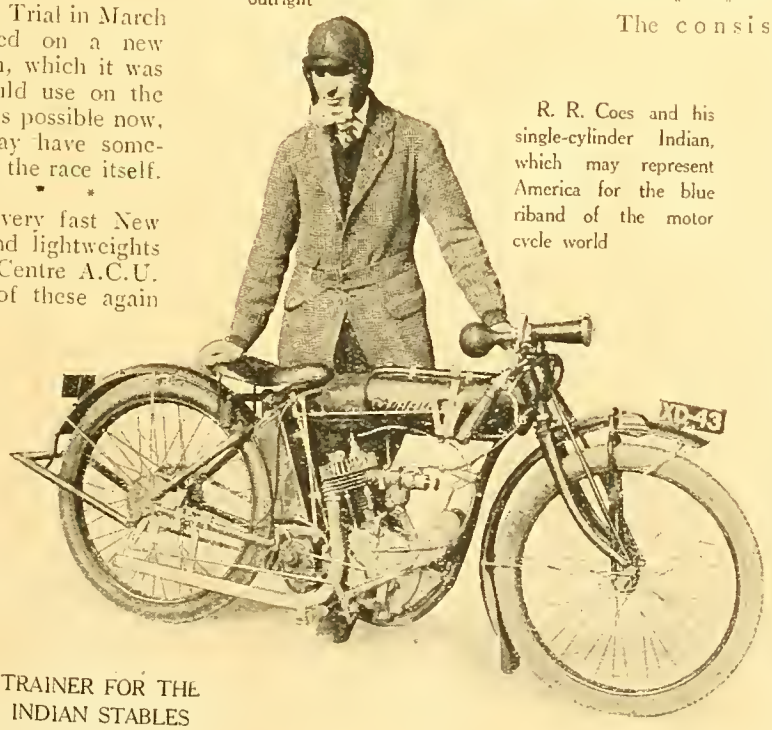
The consistent running of the Climax-engined New Comet at Brooklands last week, when it broke several long-distance records, revealed the vast improvement made in two-strokes of recent years. Before the war no two-stroke held a record, now they are beating four-strokes. The New Comet cruised round the T.T. course last year and averaged 30.4 m.p.h. This year, after twelve months of tuning, it should give a good account of itself.

* * * *

How would half the 100 m.p.h. Harley do for the Senior T.T.?



The Motor Cycle trophy for 250 c.c. lightweights in this year's Junior T.T. It weighs 48 oz., and, without plinth, stands 18in. high. As last year, the trophy will be won outright



R. R. Coes and his single-cylinder Indian, which may represent America for the blue riband of the motor cycle world

TRAINER FOR THE INDIAN STABLES

CLUB NEWS. (Continued from page 550.)

Yorkshire Centre A.C.U.

Owing to the industrial situation, the Sporting One Day Trial of the Yorkshire Centre A.C.U., to have been run off by the Sheffield and Hallamshire M.C.C. on the 7th inst., has been postponed.

North Wales M.C.C.

The club held a very successful petrol consumption test on April 23rd and 28th, and quite a good number of competitors turned out. The provisional results are as follows: 1, J. Howard Davies (3½ Norton); 2, R. Edwards (2¾ New Imperial); 3, R. M. Johns (2¾ New Imperial).

West Kent M.C.

W. L. Strong's team proved the winners of the team trial on Saturday last with an average time error of 6m., each member making a non-stop run. Team: W. L. Strong (4 Triumph), G. Lord (4½ Humber), J. Jessop (2¾ New Imperial), and J. Eastwood (8 Zenith). A special medal was awarded to Wilson-Smith (4 Blackburne) for the best individual performance.

Ystalyfera and Swansea Valley M.C.C.

On Thursday last members of the above club took part in a reliability trial in which three prizes were competed for. The first prize, a beautiful gold wristlet watch, presented by W. Payne, watchmaker and jeweller, Ystradgynlais, was won by A. E. Gardner (on a 3½ Norton), the second prize by D. E. Rees (3½ Sunbeam), and the third prize by Will James (4 Norton).

Leicester and District M.C.C.

Owing to the death of the President, the club's programme has been somewhat delayed. However, the Yates Trophy was competed for on Saturday, over a course of fifty-four miles of difficult going, at a schedule speed of 18 m.p.h. (without speedometers or watches). Out of thirty-six starters, thirty-five finished in the following order: 1, H. Cooper (4 Triumph); 2, H. J. Woodgate (8 Morgan); 3, A. Bowerman (2¼ Velocette).

Barrow and District M.C.

On the 1st May the club held a very well supported hill-climb on School Hill, Lindal. Results on time were as follows:

CLASS 2 (machines up to 350 c.c.).—1, L. S. Parker (2¼ Velocette), 49s.; 2, W. Dall (2¾ Omega-Jap), 52s.; 3, C. W. James (2¾ Francis-Barnett), 53⅘s.

CLASS 3 (machines up to 500 c.c.).—1, H. Jackson (3½ Sunbeam), 36s.; 2, Guy Jefferys (3½ Norton), 36⅘s.; 3, P. Hoggarth (3½ Norton), 37⅘s.

CLASS 4 (machines up to 550 c.c.).—1, H. Jackson (3½ Sunbeam), 36⅘s.; 2, Guy Jefferys (3½ Norton), 37⅘s.; 3, M. Sedgwick (3½ Sunbeam), 39⅘s.

Lewes and District M.C.C.

Complete results of the recent hill-climb are appended:

LIGHTWEIGHT SOLO CLASS.—1, E. Jenner (2¾ Royal Ruby), 1m. 35⅘s.; 2, L. Holt (2¾ Verus), 1m. 38s.; 3, W. J. Hylands (2½ Royal Ruby), 1m. 40s.

UNLIMITED SOLO CLASS.—1, W. H. Sheraton (4 Norton), 1m. 12⅘s.; 2, G. G. Pyecroft (4, Wilkin), 1m. 21s.; 3, R. G. Martin (3¾ Scott), 1m. 26⅘s.

UNLIMITED SIDECARS.—1, S. Dunford (7-9 Harley-Davidson sc.), 1m. 24⅘s.; 2, H. V. Warren (8 Enfield sc.), 1m. 25⅘s.; 3, G. W. Blakey (7-9 Harley-Davidson sc.), 1m. 33s.

CYCLE CAR CLASS.—1, J. A. Lawford (8 A.V.), 1m. 24s.; 2, L. Humphries (8 G.N.), 1m. 44s.

The A.V. did not carry a passenger.

Bridgwater and District M.C. and L.C.C.

Ideal weather and a very large entry attracted a huge crowd to witness the inter-club hill-climb held at Puriton Hill on Saturday last, 30th ult. The course was a measured half-mile, and some very fast times were recorded. H. Thorpe (3½ Douglas) made fastest time of the day, 33⅕s., beating V. G. Tucker (3½ Norton) by ⅗s. Results:

CLASS 1.—T. J. West (2¾ Douglas), 56s.
CLASS 2.—V. G. Tucker (3½ Norton), 33.4s.
CLASS 3.—V. G. Tucker (3½ Norton), 35.1s.
CLASS 4.—V. G. Tucker (3½ Norton), 34s.
CLASS 7.—E. Kickham (2¾ Douglas), 39.4s.
CLASS 8.—H. Thorpe (3½ Douglas), 34.2s.
CLASS 9.—H. Thorpe (3½ Douglas), 33.1s.
CLASS 10.—S. L. Bailey (3½ Douglas), 34.1s.
CLASS 5 (Sidecars).—V. Richards (4 Triumph sc.), 56.4s.
CLASS 6 (Sidecars).—J. Glanville (4 Norton sc.) and C. A. Pollard (8 Zenith sc.), 47.4s.
CLASS 11 (Sidecars).—E. Kickham (3½ Douglas sc.), 40s.
CLASS 12 (Sidecars).—E. Kickham (3½ Douglas sc.), 40s.

Week-end Club Events.

May 7.—Edinburgh and District M.C. Open Hill-climb.
May 7.—Ivy M.C.C. (Wolverhampton). Club Run to Clent.
May 7.—Holwood M.C.C. Club Run to Windsor.
May 7.—Coventry and Warwickshire M.C. President's Run.
May 7.—North Lindsay A.C. Reliability Trial.
May 7.—Canterbury and District M.C.C. Week-end Run to Brooklands.
May 7.—Oxford M.C. Hill-climb.
May 7.—Saltcoats and District M.C.C. Club Run.
May 7.—North West London M.C.C. "Optional Route" Half Day Trial.
May 7.—Dewsbury and District M.C.C. Reliability Trial.
May 7.—Bristol M.C.C. Hill-climb.
May 7.—Birmingham M.C.C. Half Day Efficiency Test.
May 7.—Bournemouth and District M.C. and L.C.C. Hill-climb.
May 7.—North London M.C.C. Hill-climb.
May 7.—Surrey M.C.C. Reliability Trial.
May 7.—Luton and South Beds. A.C. Hill-climb.
May 7.—Wellington and District M.C. and L.C.C. Club Run to Brooklands.
May 7-8.—Northern M.C. Leith Cup Reliability Trial.
May 8.—North Western Centre A.C.U. Championship Reliability Trial.
May 8.—Brighton and Hove M.C.C. Club Run to Pulborough.
May 8.—Central London M.C.C. Club Run to Amersham.
May 8.—Wolverhampton Auto Nomads. Club Run to Stratford-on-Avon.
May 8.—Exeter M.C. and J.C.C. Club Run to Berry Head.
May 8.—Sheffield M.C.C. Club Run to Birchinlee.
May 8.—Halifax and District M.C.C. Club Run to Southport.
May 8.—Newcastle and District M.C. Consistency Hill-climb.
May 8.—Wolverhampton M.C.C. Stevens Cup Competition.
May 8.—Reigate, Redhill, and District M.C.C. Petrol Consumption Test.
May 8.—Basingstoke and District M.C. and L.C.C. Club Run to Savernake Forest.
May 8.—Portsmouth and District M.C. and L.C.C. Club Run to Winchester.
May 8.—Berwick and District M.C. Non-stop Trial.
May 8.—Woolwich, Plumstead, and District M.C. Club Run to Rye.
May 8.—Herts. M.C. and L.C.C. Club Run to Ashbridge Park and General Meeting.
May 8.—Rochester, Chatham, and District M.C. and L.C.C. Club Run to Rye.
May 8.—Harley-Davidson M.C.C. Club Run to Sevenoaks and Westerham.
May 11.—Helensburgh M.C.C. Speed-judging Contest.
May 11.—Harrogate and District M.C.C. Social Run.
May 11.—Bishop Auckland and District M.C.C. Hill-climb.

A Section devoted to Club Announcements will be found on Supp. xlvii.

Coventry and Warwickshire M.C.

On Saturday there will be a social run to Moreton-in-the-Marsh, with tea at the Redesdale Arms Hotel, at the invitation of the president, Col. J. A. Cole.

Sheffield University M.C.C.

The opening run took place last Thursday afternoon to Castleton, about twenty-five members being present, the President (Mr. J. W. Kershaw, B.Eng., M.Sc.) leading. Speedwell Cavern was visited.

Ilkley M.C. and L.C.C.

W. Bradley (7-9 Indian sc.) was the winner of the recent "despatch rider" reliability trial. L. A. Runton (3 A.B.C.) and J. S. Duxbury (3⅝ Scott sc.) were second and third respectively.

Surrey M.C.C.

Six teams competed in the inter-team trial on Saturday, 23rd April. Starting from Guildford, competitors had to cover about fifty miles non-stop, and were only allowed to be one minute early or late.

The winning team was supplied by the Farnham and Farnborough Centre, which was represented by H. C. Mansell (3½ Rover), W. L. Taylor (4 A.J.S.), L. E. Fenn (3½ Rover sc.), and R. P. Robinson (8 Buckingham).

Loughborough and District M.C.C.

There were no fewer than 160 entries and 4,000 spectators at the hill-climb organised by the above club, and assisted by the Mansfield Club, at Beacon Hill, Woodhouse Eaves, on the 23rd ult. Each class was divided into two sections: one for all those unconnected with the trade or who had never been placed first in an A.C.U. open speed trial or hill-climb, and Section B for the rest.

The special medal given in the two-stroke class for the best time by a member of the Shepshed branch of the Loughborough Club was secured by T. W. Gent (2¾ Sun).

Results:

CLASS 1 (Sidecars between 450 c.c. and 550 c.c.).—On Time: 1, H. Petty (3½ Norton sc.); 2, R. Harris (3½ Norton sc.). Sidecars over 550 c.c.—On Time (amateurs only): †1, K. S. Topping (8 Zenith sc.); 2, D. L. David (7-9 Indian sc.). On Formula: 1, D. L. David; 2, K. S. Topping.

†Fastest amateur time, 67 m.p.h. solo; 52 m.p.h. sidecar.

SIDECARS (Unlimited Capacity). On Time.—Trade Section: *1, H. Petty (3½ Norton sc.); 2, H. R. Davies (2¾ A.J.S. sc.).

*Fastest sidecar time of the day, 56.2 m.p.h.

SOLO TWO-STROKE (Single-cylinder up to 350 c.c.). On Time.—Section A: 1, A. Bowerman (2¼ Velocette); 2, T. W. Gent (2¾ Sun). Section B: 1, J. R. Sylvester (2½ Velocette); 2, H. Petty (2½ Velocette).

SOLO MACHINES (not exceeding 350 c.c.). On Time.—Section A: 1, M. J. Wright (2¾ Douglas); 2, A. Bowerman (2½ Velocette). Section B: 1, H. R. Davies (2¾ A.J.S.); 2, J. R. Sylvester (2½ Velocette).

SOLO MACHINES (not exceeding 560 c.c.). On Time.—Section A: 1, H. M. Barron (3½ Norton); 2, F. T. Hatton (3½ Norton). Section B: *1, H. Petty (3½ Norton); 2, H. R. Davies (2¾ A.J.S.).

*Fastest time of the day, 70.8 m.p.h.

SOLO (up to 750 c.c.). On Time.—Section A: 1, F. T. Hatton (3½ Norton); 2, G. Mills (6 Matchless). Section B: 1, H. R. Davies (2¾ A.J.S.); 2, H. Petty (3½ Norton).

UNLIMITED. On Time.—Section A: 1, K. S. Topping (8 Zenith); 2, H. M. Barron (3½ Norton). Section B: 1, H. R. Davies (2¾ A.J.S.); 2, H. Petty (3½ Norton). On Formula.—1, H. Petty (3½ Norton); 2, H. R. Davies (2¾ A.J.S.).

The Mansfield prizes were as follows:

560 c.c. CLASS.—W. White (3½ Rudge).
750 c.c. CLASS.—G. Mills (6 Matchless).
UNLIMITED C.C.—1, G. Mills (6 Matchless), 31⅗s.; 2, E. Chandler, 31⅘s., on a machine of his own design.

Beldam

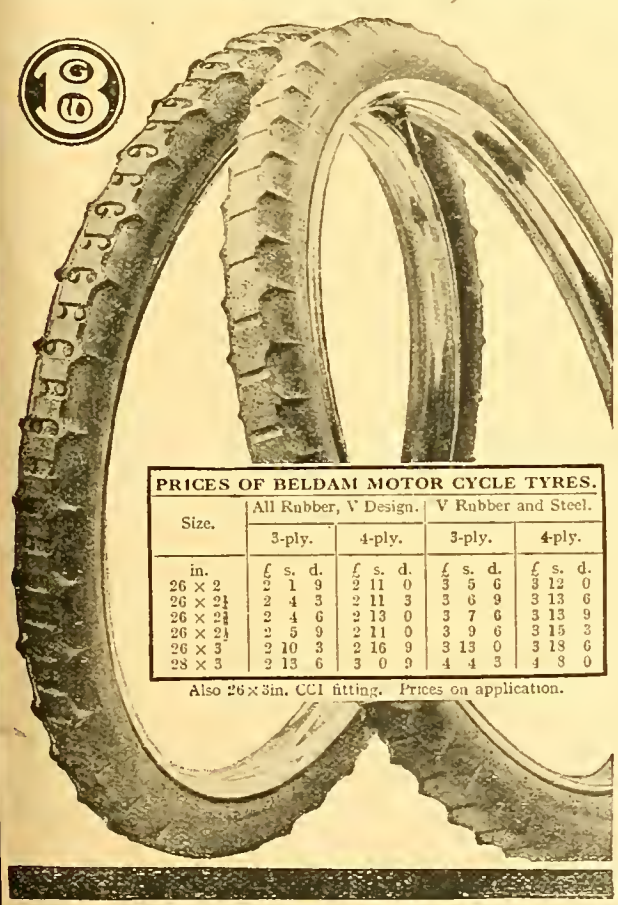
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Size.	All Rubber, V Design.				V Rubber and Steel.			
	3-ply.			4-ply.	3-ply.			4-ply.
in.	£ s. d.			£ s. d.	£ s. d.			£ s. d.
26 × 2	2 1 9			2 11 0	3 5 6			3 12 0
26 × 2½	2 4 3			2 11 3	3 6 9			3 13 6
26 × 2¾	2 4 6			2 13 0	3 7 6			3 13 9
26 × 2¼	2 5 9			2 11 0	3 9 6			3 15 3
26 × 3	2 10 3			2 16 9	3 13 0			3 18 6
28 × 3	2 13 6			3 0 9	4 4 3			4 8 0

Also 26×3in. CC1 fitting. Prices on application.

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GUARANTEED OVERHAULED SECOND-HAND MACHINES.

1920 **A.J.S.** 6 h.p. Combination, spare wheel, tax paid, as new, electrically equipped £180 0

1920 **HARLEY-DAVIDSON,** 7-9 h.p., and de luxe Harley Sidecar, completely equipped with all lamps, speedometer, horn, etc. Run under 1,500. As new £220 0

1920 **MATCHLESS** Model H Combination, Lucas dynamo lighting, horn, speedometer, hood, and screen, run under 2,000. New in every respect £180 0

1920 **ROVER,** 4 h.p., 3-speed, clutch, and kick-starter, and Swan sports Sidecar, completely equipped with largest P. & H. lamp set, separate generators for sidecar and rear lamp, speedometer, and mechanical horn, unscratched £145 0

1920 **DIAMOND-J.A.P.,** 2¾ h.p., Enfield 2-speed clutch £67 10

1920 **WOOLER,** 2¾ h.p., variable gear, all lamps, speedometer, etc., unscratched £75 0

1920 **WOOLER,** 2¾ h.p., variable gear, run under 500 ..... £70 0

1920 **JAMES,** 3½ h.p. twin, 3-speed, clutch, and kick-starter, semi-T.T. bars, long exhaust, very fast, and in new condition £90 0

1920 **ROVER,** 3½ h.p., T.T. Model, Philipson pulley, lamps and horn, run under 500, as new £85 0

1920 **HARLEY-DAVIDSON,** 5 h.p. flat twin, 3-speed, countershaft, clutch, and kick-starter, and Swan sports Sidecar, completely equipped with all lamps, horn, speedometer, unscratched, and indistinguishable from new. Cost £205 .. £155 0

1919 **ROVER** 3½ h.p. Combination, fully equipped, electric lighting, indistinguishable from new £125 0

1919 **MATCHLESS** 8 h.p. Victory Model Combination, spare wheel, lamps, horn, speedometer, etc., run under 2,000 miles, splendid condition £135 0

1919 **INDIAN** 7-9 h.p. Combination, electrically equipped, genuine Indian Sidecar, splendid condition £136 0

1919 **DOUGLAS,** 2¾ h.p., 2-speed, as new, all lamps and horn .. £70 0

1919 **DOUGLAS,** 2¾ h.p., 2-speed, new condition £70 0

1919 **NEW IMPERIAL-J.A.P.** 8 h.p. Combination, all lamps £110 0

1919 **INDIAN,** 7-9 h.p., and brand new bulbous back Sidecar, guaranteed in perfect condition £120 0

1919 **ENFIELD,** 3 h.p. twin, 2-speed, clutch, perfect £70 0

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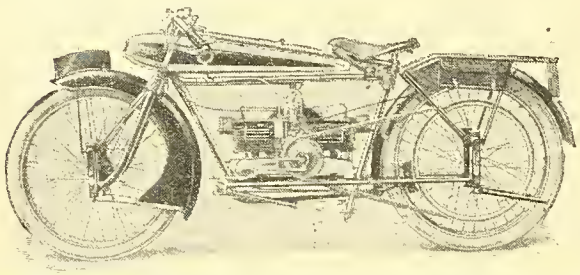
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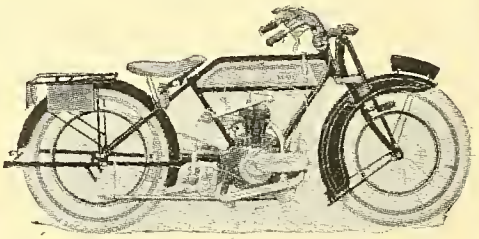
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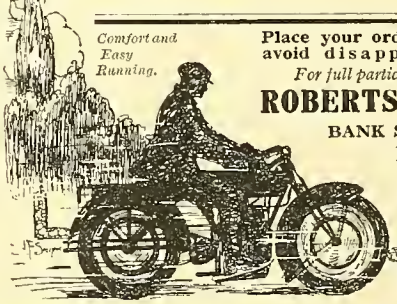


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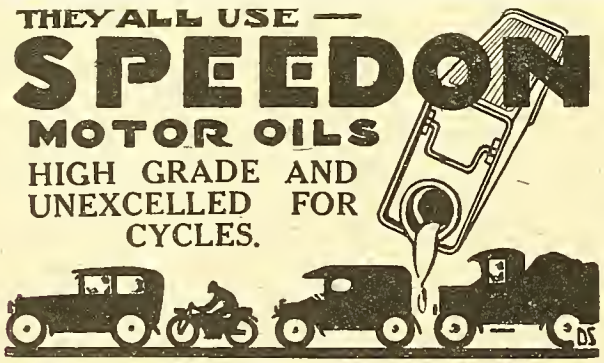


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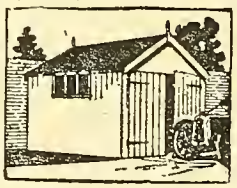
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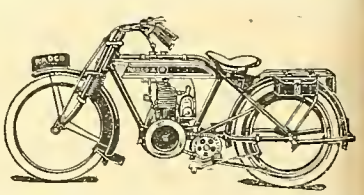
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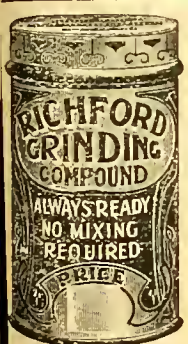
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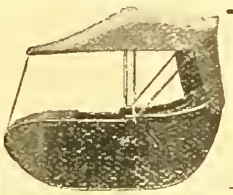
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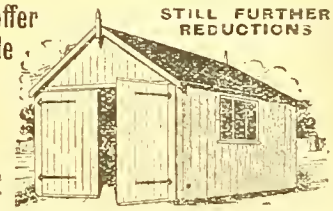
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9ft.	7ft.	5ft. 6in.	8ft.	13 0 0
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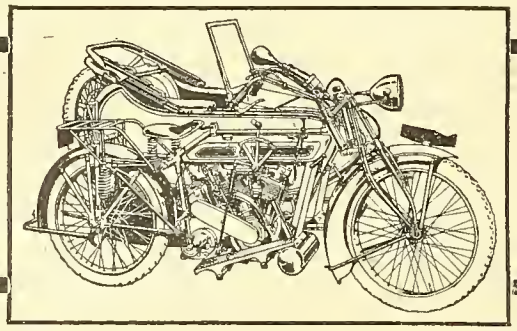
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For two-seater body with two screens, £7-10-0 extra.

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The super excellence of a "MATCHLESS" combination is well known by countless "MATCHLESS" Owners. Our service to "MATCHLESS" Owners is of the highest class, and our experience in the Motor Cycling World ensures complete satisfaction to our numerous clients. Why not call and see us now, and prepare for the Whitsun Holiday?

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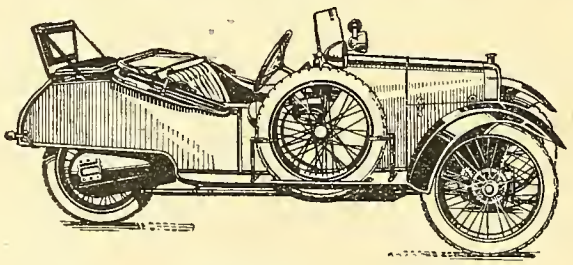
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Price, with Standard Equipment £185
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20 Ariel Combination, 3½h.p., electric lamps, etc., Cameo screen, perfect condition; £130.—n, Hornchurch, Essex. [7010

20 3½h.p. Ariel Combination, only done 400 miles, tax paid, £105; also 1914 T.T. model, £39.—86, High Rd., Lee. [6482

h.p. Ariel, 1920, and coachbuilt spring wheel sidecar, lamps, pillion, perfect; £115, lowest.—0, Oat Market, Nantwich. [6656

IEL Combination, 1917½, 3½h.p., 3-speed, K.S., clutch, tax paid, all on; any trial; £85, or nearest. Cedar Rd., Cricklewood, N.W.2. [6109

20 3½h.p. Ariel Combination, lamp sets, Klaxon, licence paid, guaranteed perfect; any trial, £125.—Bros., Newmarket Rd., Cambridge. [X2174

IEL 5-6h.p. and Sidecar, hood, screen, lamps, speedometer, 3-speed countershaft, tax paid, good tion; £110.—Mook, Sun St., Waltham Abbey. [6270

19 (December) Ariel Combination, electric lighting, horn, tools etc., mileage negligible; £110.—Museum 6626.—A.S.C., 60, Mortimer St., W.1. [6931

19 Ariel C.B. Combination, speedometer, lamps, etc., tax paid, perfect mechanical condition; , or near offer; seen Kent.—Box 3,640, c/o *The r Cycle.* [4732

IEL, 3½h.p., actually in stock; also other good makes, both new and second-hand.—Autoveyors, Service Depot, 13, Palmer St., S.W.1. 'Phone: 309. [0468

19 Model 3½h.p. Ariel Combination, lamps, horn tools, registration, excellent condition; £110.—er, 67, Selhurst New Rd., South Norwood, S.E.25. ne: 1328. [4388

19 Ariel 3½h.p. Combination, all accessories; £95; exchanges or extended payments.—The on Garages, 90, High St., Oxford. 'Grams: Inty. 'Phone: 581. [X2352

19 Ariel 5-6h.p., 1920 Montgomery sidecar, luggage grid, new Dunlops, lamps, speedometer, horn, rous spares, just overhauled; £95.—F.C., 11a, ire Parade, Sydenham. [5964

17 Ariel 3½h.p. Combination, hood, screen, lamps, horn, speedometer, luggage grid, Binks, ct condition, tax paid; £100.—Dyer, 9, Bethell Ilford. (After 6 p.m.) [7007

IEL 5-6h.p., twin-cyl., 1919, with new Royal Leicester sidecar, luggage carrier, new lamps, op heavy tyres as new, Cowey horn, mirror, spares, uaid, perfect order throughout, owner getting car; —Douglas Vicarage, Padbury, Bucks. [5680

IEL Service Depot.—Orders now booking for the new all-chain models, which are the Rolls-Royce otor cycles. All spares stocked. Prompt attention. Speakman, Ariel Expert, 7, Rochdale Rd., Harty, Manchester. Tel.: 325 Cheetham Hill. [8231

IEL.—This is the machine for reliability. We are practical riders and gold medal winners with this erfully efficient and reliable motor cycle. We can ou immediate delivery from stock. All spares in Trade supplied.—Jones' Garage, Muswell Hill, t Woodside Parade, N. Finchley. [0378

Bat.

. Bat-Jap, 3-speed hub, C.B. streamline sidecar; £65.—Mook, Sun St., Waltham Abbey. [6271

W 1920 6h.p. 3-speed Bat, spring frame, chain drive; £125, list price £160.—The Premier Motor Aston Rd., Birmingham. [X2258

T, 6h.p., 3-speed, 1920, all-chain drive, and Montomery sidecar, brand new; £150.—Wright's e, Saffron Walden. Tel.: 16. [6865

0 6h.p. Bat Combination, spring frame, new; list price £190; accept £150.—Bambers, Ltd., ank St., Southport. Tel.: 607. [X2241

Bat-Jap, nearly new tyres, T.T. bars, round ank, Cox-Atmos carburetter, very fast and ; £40.—33, The Parade, Golders Green. [6600

0 6h.p. Bat-Jap, chain drive, kick start, 3-speed, ely done 500 miles, like new; bargain, £90, or od lightweight in part exchange.—Boulton, Small- Staffs. [X2234

ORD.—6h.p. Bat-Jap combination, 3-speed, lutch, kick start, insured £140, exceptional conderliver 50 miles; £90.—Undergraduate, Some-Hilltop Rd., Oxford. [5935

Combination, brand new, 6h.p. 1920 model, -speed and clutch, all-chain drive, spring frame, ent turnout; list price £204, sacrifice £155.—r St., Worcester. [6192

Bat-Jap Combination, new, specially built show odel, Magdyno, 8-day watch, hood, electric horn, tyres, special large sidecar, fully equipped; 72,-East Dulwich Rd., S.E. [6441

6h.p. Model 4, 3-speed, clutch, kick-starter, makers' specification, 1920 model, shop-soiled bargain, £110 for cash only.—Mebes, 156, Gt. d St., W.1. 'Phone: Langham 2230. [6852

J.A.P. 1914 8h.p. Combination, 2-stroke, C.B. decar, spring frame, countershaft, chain, hood, Tan-Sad, licence, insurance; cheap; what offers? oll.—96, South Lambeth Rd., Vauxhall. [6191

6h.p. 1920 Model 4, Henderson Elite sidecar, reen, Tan-sad, lamps, speedometer, horn, iodisable from new; bargain, for cash only, £125. , 156, Gt. Portland St., W.1. 'Phone: Lang-30. [6851

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OF ALL PREVIOUS EFFORTS

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TWO ONLY 1920 4 h.p. **VERUS-BLACKBURNE,** 3-speed, kick-starter. List Price, £126. .. .. .. **£95.**

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B.S.A. 1914 3½h.p., 2-speed, fully equipped, splendid condition, tax paid; £50, or near offer.—64, Grosvenor Av., Hanwell. [59[illegible]

1917 B.S.A. Combination, E.L., spares insurance £90; exchange solo, offers.—7, Cambridge St., Wolverton, Bucks. [66[illegible]

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BOLTON.—B.S.A. twin combination, H2 combination and K2 combination in stock.—Grosvenor Garage, Bradford St., Bolton. [X21[illegible]

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B.S.A. 1921 6-7h.p. Twin Model A, with B.S.A. No. 1 sidecar; £175; immediate delivery.—Eagles and Co., 275, High St., Acton, London. [6[illegible]

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B.S.A 4¼h.p. Model K, 3-speed countershaft [illegible] coachbuilt sidecar, excellent condition: £8 Eagles and Co., 275, High St., Acton, London. [6[illegible]

B.S.A. 1920 4¼h.p., all chain, small mileage, new, Lucas lamps, horn, tax paid; £85.—Crow, c/o Hucklebridge, 133, Sloane St., S.W.1. [X[illegible]

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B.S.A. Combination, 1917, 4¼h.p., 3-speed, chain K.S., equipped, perfect; £78; must sell, going abroad.—30, Sterndale Rd., Hammersmith, W.6. [illegible]

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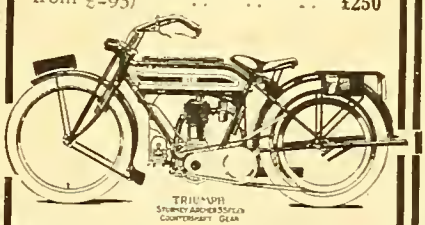
AMERICAN "X," 7-9 h.p., Millford de Luxe Sidecar (reduced from £217) **£175**

AMERICAN "X," 7-9 h.p., Millford de Luxe Sidecar, dynamo lighting (reduced from £238) **£195**

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MOTOR CYCLES FOR SALE.

Douglas.

1918 4h.p. Douglas Combination, condition as new, licensed; £95; no offers.—Dunham, Chapel St., Luton. [6600

DOUGLAS 2¾h.p., 2-speed, perfect running order, ride away; £35.—Maran, 7, Hartham Rd., Holloway, N.7. [6583

DOUGLAS 1921 All On Models from stock; best trade terms.—Batchelor, Clarence St., Kingston-on-Thames. [6578

DOUGLAS 2¾h.p., 1916, excellent condition, all on, tax paid; £50.—Shinkfield, 20, Lordship Lane, East Dulwich. [6279

2¾h.p., Douglas, 1915, good running order, recently overhauled; £58.—The Rosary, South Norwood Hill, S.E.19. [6446

1918 Douglas Combination, just overhauled, new tyres, etc.; £92.—Mundell, Adams, Hathern, Leicestershire. [5636

39 GNS.—Douglas 1916 2¾h.p., 2-speed Douglas, very fast; must sell.—20, Treen Av., Hoggers Corner, Barnes. [6479

EXCEPTIONALLY smart 1918 Douglas 2¾h.p., 2-speed, well equipped; £50.—60, Wallingford Av., N. Kensington. [6529

DOUGLAS 1918 2¾h.p., splendid condition, lamps, horn, tax paid; £45.—30, Crystal Palace Park Rd., Sydenham. [6262

DOUGLAS, 1915, 2-speed, fully equipped, in good running order; £35, for quick sale.—321, Edgware Rd., W.2. [7004

DOUGLAS 2¾h.p., as new, £45; also several new Bosch magnetos, £5 each.—D., 15, Birchwood Rd., Tooting Bec, S.W.17. [6370

DOUGLAS 4h.p. Combination, 1918, good condition, electric lighting and horn; £90.—60, Caithness Rd., Mitcham. [6988

GIBB, Gloucester, can give immediate delivery Douglas 1921 models and spare parts from stock.—'Phone: 852. [6340

1918 2¾h.p. Douglas, recently enamelled and plated, tax paid; £50.—Fitt, 10, Endlesham Rd., Balham, S.W.12. [6012

DOUGLAS 2¾h.p. T.T., 2-speed, new condition, all accessories; £42.—R. Foster, Station View, Hitcham, Maidenhead. [5845

DOUGLAS 2¾h.p., 1916, condition as new, mechanically perfect, first cash secures; £45.—4, Elm Gardens, Hammersmith. [6426

4h.p. Douglas, 3-speed, K.S., coachbuilt sidecar, good condition, accessories, tax paid; £85.—14, Southwest Rd., Leytonstone. [5974

£39; Douglas 2¾h.p., 2-speed, speedometer, lamps, Klaxon, tax paid, fast, perfect; bargain.—89, East Hill, Wandsworth. [6613

1917 Douglas 4h.p., splendid running order, special sidecar for 2; bargain, £85.—Bunting's Exchange, Wealdstone. Closed Sundays. [6926

£75.—4h.p. Douglas combination, splendid condition throughout, fully equipped.—Speechly, 86, Churchfield Rd., Acton, W.3. [6724

DOUGLAS 2¾h.p., 1911, tyres and belt almost new, just overhauled, licence paid; what offers?—Douglas, 47, Streatham Hill, S.W.2. [5959

4h.p. Douglas Combination, 1917, fully equipped, licensed, appearance and condition perfect; £78.—59, Aytoun Rd., Brixton. [6323

ALL-ON Douglas Models from Stock; 2¾h.p. 2-speed, £85; 3-speed clutch, £105; combination, £170.—Moffat, Yeovil. 'Phone: 50. [5043

£42; 2¾h.p. Douglas, 1915, enamelled, plated, overhauled, licensed; photo, stamp.—Strathaven, Thicket Rd., Sutton, Surrey. [6503

DOUGLAS, 2¾h.p., everything on, good all-round condition; best offer secures; appointment.—Pittaway, 48, Highbury Park, N.6. [6378

DOUGLAS 2¾h.p., latest model, complete, perfect, free engine clutch, kick-starter; nearest £50.—12, Mostyn Gardens, Kensil Rise. [5695

DOUGLAS 2¾h.p., 2-speed, fully equipped, speedometer, spares, splendid order; £66.—Davies, Coniston, Park Crescent, Erith. [5654

DOUGLAS Saxe Blue Combination, 1918, special engine, Triumph carburetter, 3in. Dunlops, lamps, etc.; £88.—106, Church St., Chelsea. [5595

1919 4h.p. Douglas Combination, equipped, new condition, little used; first reasonable offer.—149, Bowes Rd., Palmer's Green, N.13. [6265

DOUGLAS, late 2¾h.p., 2-speed, speedometer, full equipment, shields, new oversize tyres, chain, belt; £55.—8, Shalimar Rd., Acton, W. [6220

1919 4h.p. Douglas Combination and accessories, Easting wind screen, in good condition; £115.—Bounds, 223, High Rd., Kilburn, N.W.6. [5881

1919 2¾h.p. Douglas, 2 speeds, Amac, C.A.V., original enamel, lamps, accessories, licence, new condition; £65.—63, Solon Rd., Brixton. [6296

1919 2¾h.p. Douglas, very smart, all on, tax paid; any trial; aluminium toothcards; best offer secures. 96, Melfort Rd., Thornton Heath, Surrey. [6427

DOUGLAS 2¾h.p., 1916, uncrated March, 1920, accessories, tax paid; £55; evenings.—Badger, 65, Denman Drive, Golders Green, N.W.11. [6108

MOTOR CYCLES FOR SALE.

Douglas

1918 4h.p. Douglas Combination, nearly new heavy Dunlops, lamps, Klaxon etc., good running order; nearest £80.—15 Ranelagh Gardens, Ilford. [6369

F.O.C.H. have several good second-hand Douglas combinations and solos; bargains.—5, Heath St., Hampstead (near Hampstead Tube Station) [5979

T.T. Douglas, exceptional condition, long plated exhaust, beautiful tone, tax paid, all on; £68.—9, Pretoria Terrace, Brighton Rd., Purley. [6408

£55.—4h.p. Douglas, new appearance and condition, with sidecar chassis; genuine bargain.—Write F.S.C., 33, Sandringham Rd., Forest Gate, E. [5617

2¾h.p. Douglas, equipped, licensed, engine 33379, perfect; 55 gns., or part exchange 4h.p.; seen 6.30 p.m.—18, Elliott Rd., Thornton Heath. [5995

4h.p. Douglas, 1918, £80, replated and enamelled throughout, new mechanical horn and lamps, licensed, very smart; with sidecar, £95.—Below.

2¾h.p. 1916 Douglas, as uncrated; £48.—58, Blagdon Rd., New Malden. [7019

DOUGLAS 1914 2¾h.p., 2-speed, Miller lighting set, Klaxon, long exhaust, tools, etc.; £40; exchange.—1, Albert Cottages, Marlborough Rd., S.E.1. [5929

DOUGLAS Combination, 1919, accumulator lighting, speedometer, spares, mileage 2,000, overhauled, tax paid; £100.—98, Thornton Av., Chiswick. [6514

DOUGLAS Motor Cycle for sale, 2¾h.p., 2-speed, fully equipped and guaranteed; £50; a genuine bargain.—Elderson, 121, Burnt Ash Rd., Lee. [6384

1919 Douglas 4h.p. Combination, Easting, complete with accessories, exceptional outfit, best used outfit of its type that we have seen; £120.—Below.

1919 Douglas 4h.p. Combination, licence paid, all lamps, and horn; good value, £110.—Below.

1915 Douglas, 4h.p., complete with lamps, good appearance and condition; £60.—Below.

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1919 Douglas 2¾h.p., 2-speed, Binks, lamps, and generator, in good condition; £65; exchanges or extended payments; approval with pleasure.—The Layton Garages, 90, High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X2344

4h.p. Douglas, 1916 (November), electric lighting, Easting, completely equipped, £80; solo £65.—Woodward, Loxwood Cottage, Sundridge Av., Bromley. [6141

DOUGLAS 4h.p. Combination, late 1919, all accessories, tax paid, good condition; any trial; £115.—Apply, Hillcrest, Stanley Park Rd., Wallington. [5853

DOUGLAS 1916 2¾h.p., 2-speed, fully equipped, splendid condition, tax paid, not W.D.; sacrifice, £45 lowest.—138, Plaskett Rd., Upton Park. [6241

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DOUGLAS, 2¾h.p., 1917, 2-speed, all accessories, very little used; £48.—110, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Putney 2622. [6206

4h.p. Douglas, looks new, 3-speed, clutch and kick starter, tax paid; £90; offers, or 2-stroke and cash.—G., 66, Perry Vale, S.E. (Forest Hill Station). [6664

2¾h.p. Douglas, 1915, just overhauled, excellent condition, all on, aluminium discs, tax paid, mileage 4,000; £50.—Ufton, Bourne End, Bucks. [6864

DOUGLAS 2¾h.p., 3-speed and clutch, new Aug., 1920, run 2,300 miles, first-class order; £90, or nearest offer.—J. K. Wood, Church Farm, East Barnet. [5601

DOUGLAS 1916-17 Combination, 4h.p., 3 speeds, clutch, K. start, new tyres, dynamo lighting, good condition; £70.—Wadlow and Wright, Orpington, Kent. [5634

DOUGLAS 2¾h.p., 2-speed, August, 1919, Watford trip, P. and H. lamps, Klaxon, footboards, licensed, splendid condition; £55.—10, Grena Gardens, Richmond. [6119

4h.p. Douglas, 1919, solo, lamps, discs, Bonniksen, W.R.S. jet, practically new tyres, condition perfect; any offers about £85.—C.K., Bolnore, Hayward's Heath, Sussex. [5588

HOT Stuff 4h.p. Douglas, 3-speed, kick start, clutch, 1917, lamps, mechanical horn, licensed, very fast, splendid condition; sacrifice £65.—117, London Rd., Twickenham. [6257

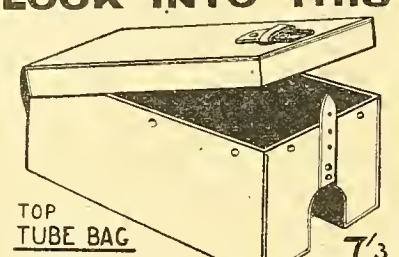
1920 Douglas Combination, late model, for sale, electric horn, spare tyre, tube, belt, springs, and valves, everything you want; £160.—109, Fratton Rd., Portsmouth. [6193

1920 3-speed 2¾h.p. Douglas, discs, leg shields, Binks carburetter, Tan-sad, complete in detail, distinctive appearance, tax paid; £75.—208, Peckham Rye, S.E.22. [6182

1919 4h.p. Douglas Solo, perfect model, plating and enamelling, unscratched, complete with lamp, horn, licence, real bargain; £92.—Parsons, 1, Acton Lane, Chiswick. [6667

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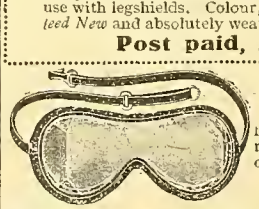
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DOUGLAS, 2¾h.p., fully equipped, aluminium chain guard, 1915, £55; ditto, 1919, £70; guaranteed.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0547

1916 Douglas 2¾h.p., 2-speed, with lamps, Klaxon, and numerous spares, tyres and whole machine equal to new; £60.—45, Brookfield Rd., Bedford Park, Chiswick, W.4. [6406

4h.p. Douglas Combinations, late models, perfect order throughout, a few only; £75; approval against cash and carriage.—Owen, 59, Scholefield Rd., Upper Holloway. [X2305

64 GNS., Urgent Sale.—1917 Douglas combination, makers' colours, 3-speed, clutch, kick start, fast, smart; any examination, trial.—Garage, Hansler Rd., E. Dulwich. (10-5.) [6286

SPECIAL.—2¾h.p. Douglas, 1915, clutch, K.S., 2-speed, Claudel carburetter, very fast and economical, all on, licence paid; £50.—Derrington, Grafton Rd., New Malden. [7016

4h.p. Douglas Combination, 1917, lamps, and fully equipped, ready to drive away, licence paid, genuine bargain; £75.—Andrews, 165, Lancaster Rd., Notting Hill, W.11. [6588

DOUGLAS, new pistons, bushes, etc., receipts £7, brand new T.B. mag., new footboards, frame re-enamelled, ride away; £28.—Basted House Stables, Borough Green, Kent. [6264

£50.—1914 2¾h.p. 2-speed all red Douglas, all on, new heavy Dunlop on back wheel, excellent order, licensed, light sidecar (less body).—Caddy, 5, Richmond Rd., Oxford. [6394

2¾h.p. Douglas, 1916; new lighting set, tyres, pump, tools; makers' enamel and plating as new; sacrifice, 55 gns.; exchange P. and M., Indian.—88, Gleneagle Rd., Streatham. [6211

DOUGLAS 2¾h.p., unrenovated, in exceptional good condition, minus a few parts; only £30 each.—Sulina Garage, 73, New Park Rd., Brixton Hill, S.W.2. 'Phone: Streatham 40. [6088

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0011

DOUGLAS Combination, 1920, 4h.p., 3 speeds, clutch, kick-start, lighting set, horn, etc., practically as new, low mileage; £115.—Dental, 769, Romford Rd., Manor Park, London, E. [4786

DOUGLAS 2¾h.p., 1915, fully equipped, Lucas lamps, Klaxon, speedometer, mirror, tools, pump, spare new Dunlop tyres, tax paid, condition as new; £48.—Five Wents, Swanley, Kent. [5846

DOUGLAS 2¾h.p., W.D., uncrated June, 1919, just overhauled, new cylinders, Lucas lamps, Bonniksen, perfect condition; £50, or near offer.—Petersen, Turner's Hill, Sussex. [5975

DOUGLAS 2¾h.p., 1919, discs, lamps, horn, tools, pump, many spares, specially tuned for speed, enamel unscratched, mileage small; offers, or exchange.—Leng, 36, West Hill, Sydenham. [6624

1917 2¾h.p. Douglas, 2 speeds, makers' colours, Amac, Thomson-Bennett, lamps, accessories, original enamel (unscratched), licence, new condition, £55.—63, Solon Rd., Brixton. [6234

2¾h.p. New Douglas with Accessories, 2-speed, £8 3-speed, clutch and kick-starter, £105; 4h.p. combination, £170, ex-works; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [6161

1916 2¾h.p. 2-speed Douglas, overhauled and enamelled, new tyres, head lamp, generator, tail lamp and tubing, horn, toolbag, etc.; £40.—Recvs, The Knoll, Rudgwick, Sussex. [6511

DOUGLAS 2¾h.p., clutch, kick start, fitted lid, sidecar, just overhauled, new pistons, belt, chain, tyre, excellent condition; £42, or exchange 4h.p. bike.—4, Florence Terrace, Ealing. [5811

4h.p. Douglas Combination, licence fitted, with luxurious Sandum body, Easting screen, petrol carrier, grid, etc., insurance policy included; £95.—336, Gray's Inn Rd., W.C.1. [0511

DE CORT and Flynn.—4h.p. Douglas combination, late type frame, forks, and tank, complete overhauled, enamelled, and plated, smart outfit; £65.—39, Essex Rd., London, N.1. [6811

GROVE.—2¾h.p. Douglas 1918 machines overhauled and as new, £55; 4h.p. combination, 1919 dit £105; easy payments arranged.—Grove Motor Co., Hereford Rd., Westbourne Grove. [6011

2¾h.p. Douglas, all accessories, including Co speedometer, kick start, clutch, 3-speed gear, less than 500 miles, condition as new; bargain, £90.—Vale, 30, Carlisle Rd., Romford. [5811

DOUGLAS, 1915, 2-speed, 2¾h.p., lamps, Klaxon, spare chain, belt, valve, etc., condition and expert examination invited; tax paid; £50.—Jan Thames St., Sunbury-on-Thames. [6011

4h.p. Douglas Combinations, thoroughly overhauled and re-enamelled, as new, complete with lamps, horn, tools, etc.; £98; guaranteed.—Eton and C Ltd., 260-266, Balham High Rd., S.W.12. [5811

2¾h.p. 2-speed Douglas, headlamp, mechanical horn, electric rear lamp, long copper exhaust, new cam engine, very fast, tyres and enamelling as new, £49.—Seen 18, Park Av., Golders Green. [6

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'ARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', South t, Lancashire. Tel.: 607. [5009

'ARLEY-DAVIDSON C.B. Outfit, 1920 electric model, 1921 paid, £20 of extras, perfect; £157/10. l, Coval Rd., Mortlake. [X2251

)20 7-9h.p. Harley Combination, electric model, condition as new, small mileage.—Benvis, 13, odberry Down, Finsbury Park. [5731

)20 Harley 7-9h.p., Millford sidecar, lamps, speedometer, horn, new, only run 654 miles; £195; £240.—Waite, Gainford-on-Tees. [5696

'ARLEY Combination, mileage 1,800, discs, Horley equipment, Easting, handsome condition; 140 gns.; hange.—19, Stuntley Rd., Kilburn. [6536

)20 4h.p. Harley, fully equipped, good condition, tax paid; £110, or offers; sidecar if desired.—Netherall Gardens, Hampstead, N.W.3. [6564

'ARLEY-DAVIDSON Combination, 1915-16 model, splendid condition, any reasonable trial; £120, near offer.—Hopkins, New St., Ledbury. [6890

'ARLEY-DAVIDSON Combination, 1916, excellent condition, Easting screen, unused during ; £130.—6, Kimberley Rd., Stockwell. [6594

'ARLEY 1919 Combination, mag. model, fully equipped, appearance like new; £110, or good tweight and cash.—47, Cambridge Rd., E.1. [6663

[ARLEY, 1920 (Nov.), 7-9h.p., electric model, under 200 miles, licence, lamps, horn, speedoter, as new; £145, lowest.—23, Ravensbourne Gdns., ieg. [5257

)15 4½h.p. Harley-Davidson Combination, lamps, horn, a genuine bargain; exchanges entertained; .—Bambers, Ltd., Eastbank St., Southport. Tel.: [X2242

)16 Harley-Davidson, with special 11h.p. K type engine, R.H. kick start, clutch, 3-speed, good ning order; £70.—Leith House, Oakdale Rd., Weydge. [6543

)17 7-9h.p. 3-speed Harley-Davidson, all accessories, fitted with new 40 gn. bulbous back Millford side; £125.—The Premier Motor Co., Aston Rd., Birmingham. [X2259

ATE 1920 Harley-Davidson de Luxe Combination, original tyres, beautifully equipped, discs, per ; £168; exchange.—60, Wallingford Av., N. Kenton. [6530

'ARLEY-DAVIDSON Combination, 1915, guarnteed in perfect order, Tan-Sad, electric and ncety- lighting; £90; after 7 p.m.—Webb, 30, High St., mpstead. [6135

)19 Harley Combination, equal to new, electric lighting, horn, spares, Goodyear tyres (nearly), tax paid; any trial; £150.—79a, Hillmorton , Rugby. [6808

)20 Harley Combination, electric model, 7-9h.p., licence 1921 paid, mileage 1,100, as new; £160, offers.—Barnett, c/o Boyce's, 329, Archway Rd., ighgate, N. [6513

)20 Harley Combination, electric model, discs, spares, licensed, speedometer, perfect order; £160. dwards, 50, Harrington Rd., South Kensington. one: 3709. [4180

'ARLEY-DAVIDSON Combination, late model, electric light, discs, speedometer, etc., in splendid r; £100; seen evenings 6 till 8 p.m.—25, Batter- Rise, S.W. [7012

110.—1918 Harley Combination, 7-9h.p., sporting sidecar, disc wheels, lamps, tax paid, wonderful climber, good condition; after 6.—55, Moncrieff Peckham, S.E. [6396

'ARLEY-DAVIDSON 1920 4h.p. Model, Swan sporting sidecar, electric lighting, good condition, as ; £185.—Parker's, Bradshawgate, Bolton; also 245, ngate, Manchester. [X2161

)18 Harley-Davidson Combination, Easting wind screen, electric lights, recently overhauled and namelled, tax paid; £125, or near offer.—21, Glouer Rd., E. Croydon. [6459

'ARLEY-DAVIDSON 7h.p. with Sidecar, lamps, Easting, tax paid, excellent condition; £118.— nham Motor Co., 223, Hammersmith Rd., W.6. one: Hammersmith 80. [5891

'ARLEY-DAVIDSON Combination, new condition, special sidecar, electric horn, lighting, spares, wants seeing; trial; bargain; tax paid.—Box 8, c/o *The Motor Cycle*. [6806

'ARLEY-DAVIDSON 7-9h.p., 3-speed, clutch, 1915, mechanically perfect, fast, sporty bike, us K engine; 50 gns., bargain.—4, St. John's d Park, Swiss Cottage, N.W.8. [6653

'ARLEY-DAVIDSON 1918 Combination, £115; 1919 combination, £125, renovated; 1918 unvated solo, in running order, £77/10.—Owen, 59, lefield Rd., Upper Holloway. [X2304

h.p. Harley-Davidson, 3-speed, late 1915, with 1918 Henderson Elite sidecar, tax paid, lamps, wind n, tools, etc., sound condition throughout; £90.— Jackson, East Parade, Keighley. [5863

'ARLEY-DAVIDSON 1918 7.9h.p., rebuilt and reenamelled, looks and runs like new; £85, or inge.—Cass's Motor Mart, Ltd., 5, Warren St., n Rd., W.1. Tel.: Museum 623. [5713

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,,	Hutchinson T.T. Ribbed	32/6	65/-
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MOTOR CYCLES FOR SALE.

Harley-Davidson.

LATE 1916 Harley 7-9h.p., 3-speed, dual clutch, Gloria sidecar, complete, and in fine condition; cash offer wanted, or exchange for 1916 Saxon.—770, Stratford Rd., Sparkhill, Birmingham. [6025

19 19 Harley Combination, 1920 sidecar (special), expensive accessories, splendid turn-out, electric horn, lighting; any trial, examination; tax paid; £150.—Box 3,819, c/o *The Motor Cycle*. [6807

HARLEY-DAVIDSON (Nov., 1919) Combination, new condition, hood, wind screen, speedometer, lamps, etc.; owner bought car; £160.—Wilson, 289a, Regent St., London. 'Phone: Mayfair 6666. [6455

HARLEY (late) 1920 Dynamo Combination, speedometer, discs, hood, screen, fully insured tax paid; one of the most handsome outfits on the road, unscratched; £220; cost £290.—Webb, Belmont, Surrey. [5990

19 19 Harley-Davidson, handsome special coachbuilt sidecar, just overhauled; a smart outfit; like new; £130.—Hill, 1, Chichester Mews, Chichester Rd., Paddington, W.2 (near Royal Oak Station, Met.). 'Phone: Padd. 3889. [6042

HARLEY-DAVIDSON and Henderson Elite Sidecar, 1919, not W.D., Tan-Sad, dissolved acetylene lighting, hood, screen, spare tyres, tubes, chains, valves, etc., in topping condition; £175.—Taylor, 28, Mitcham Rd., Tooting. [6044

19 20 Gold Medal Harley Combination, bulbous, hood, triple screen, Lucas dynamo set, horn, watch, mirror, Cowey trip speedometer, low mileage, any examination and trial, tax paid; £165; seen any time.—26, High St., North Finchley. [6948

19 20 Electric Harley Combination, fitted with aluminium discs and Tan-Sad seat, mileage 2,600, no punctures, tyres almost as new, mechanically perfect, mod in excellent condition; a bargain, £185; owner buying a car.—Lea, 6, East Park Parade, Northampton. [5765

HARLEY-DAVIDSON 7-9h.p., late 1920 electric model, fitted with Bastone Elite sidecar, complete with Cameo screen, speedometer, Tan-Sad, apron, etc., licence paid 1921, only done 1,000 miles; a genuine bargain; £210.—R.B., 228, Pentonville Rd., King's Cross, London, N.1. 'Phone: 2481 N. [6880

HARLEY-DAVIDSON 1920 7-9h.p. Combination, dynamo lighting, electric horn, speedometer, leg-shields, spare chain, valves, and solo sprocket, tools, etc., fully insured and tax paid, low mileage, 60 m.p.g., perfect running condition; £185; trial given by appointment. — Fletcher, 3, Tonbridge Rd., Maidstone, Kent. [5772

Hazlewood.

HAZLEWOOD-J.A.P. Combination, twin, 3-speed, clutch; £55, offers.—63, Arlingford Rd., Brixton. [6523

19 20 Hazlewood 5-6h.p. Combination, 3-speed, clutch, and kick starter, lamps, Klaxon, pillion seat, good condition; £110; tax paid.—390, Stretford Rd., Manchester. [X2285

NEW 6h.p. Hazlewood Combination, 3-speed, clutch and kick starter, a very reliable outfit, a few shop-soiled outfits, available at special prices for immediate delivery; £165; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [6158

Henderson.

E. KICKHAM for Henderson, sole agent for Bristol and Bath districts.—Stokes Croft, Bristol. [3354

19 20 10h.p. Henderson, Henderson Elite sidecar, Cowey, etc., tax paid, luxurious outfit; cost £275; £165.—114, Brixton Hill. [6982

HENDERSON 4-cyl. Clutch Model, as new, discs, electric light; £95, or exchange considered.—Box 3,841, c/o *The Motor Cycle*. [6968

HENDERSON 4-cyl. Combination, first-class condition, electric lighting, speedometer, Cowey horn; £100.—73, Claremont Rd., Luton. [X2282

10 h.p. Henderson, 4-cyls., 2-speed, clutch, handle start, guaranteed as new; £90.—106, Barlow Moor Rd., Didsbury, Manchester. [6675

HENDERSON 1919 4-cyl. 10h.p. Combination, electric lamps, splendid order; bargain, £150.—Jones, Cheveley, High Park Rd., Faraham. [5831

HENDERSON, with full electrical equipment, last of 1920 stock, new, but shop-soiled; £150.—George Wray, Virginia St., Southport. [6845

19 20 Henderson, dynamo lighting, speedometer, 3-speed, clutch, electric and mechanical horn, mileage negligible; best offer; cash urgently wanted.—13, Victoria Rd., Sheffield. [6790

19 20 4-cyl. Henderson, 60 gn. sidecar, lamps, electric horn, combination as new, must sell; £145.—J. Smith, 54, Hampstead Rd., N.W.1. 'Phone: Museum 5938. [6886

£160.—1920 Henderson combination, 10h.p., 4-cyl., bulbous back sidecar, electric lighting, not done 1,000 miles, guaranteed as new.—The Premier Motor Co., Aston Rd., Birmingham. [X2260

HENDERSON Combination, 4-cyl., 1916, just overhauled, re-enamelled and plated, fully equipped, tax paid, tip-top condition; £140; evenings after 6 (2 Saturdays).—Mayes, 51, Axodene Rd., Brixton Hill, S.W.2. [6288

HENDERSON 4-cyl., Renaoc tandem sidecar, like new, 2 screens, aprons, mirror, Watford trip speedometer, 5 gallons Mobiloil, licence, splendid condition throughout; £150.—32, Arcadian Gardens, Bowes Park, N.22. [6563

MOTOR CYCLES FOR SALE.

Harley-Davidson.

HENDERSON Combination, new April, 1920, mileage 1,800, 4-cyl. engine, just overhauled, electric lighting speedometer, large comfortable sidecar, with hood, the whole in first rate order; £190.—Ramsay, 68, Bellingham Rd., Catford, S.E. [5841

HENDERSON, 1920, dynamo lighting, special bulbous back, double seater sidecar to match, Easting Royal screen, Orto hood, side curtains, re-enamelled and plated, perfect condition; £175; appointment.—'Phone Streatham 1910, or 22, Earlsthorpe Rd., Sydenham. [6324

HENDERSON Combination, 1915, clutch model, low mileage, stored 3 years, lamps, speedometer, Klaxon, spare tyres, licence paid, expert inspection invited; £120; apply between 9 and 7 o'clock, or 'phone for appointment.—Tottenham 2120.—Little's Piano Factory, Elmhurst Rd., Bruce Grove, Tottenham. [6756

Hobart.

2½h.p. Hobart, 2-stroke, single-speed; £25.—Terry, 16, Grove Parade, East Finchley, N.2. [7023

1921 Hobart, J.A.P. engine, Sturmey-Archer gear, shop-soiled; £84.—Ross, 86, High Rd., Lee. [6484

1914 Hobart Twin Coach Combination, 3-speed, K.S.; gift, £39.—Ramsdens, 8, Mayhell Av., Blackpool. [6051

1920 Hobart-Villiers 2¼h.p., 2-speed, lamps, horn, tools, insured, licence paid, overhauled, perfect, agent's guarantee; £60, or nearest offer.—Gray, Hazelhead, Teignmouth. [6018

Humber.

HUMBER 1921 Models in Stock.—Smith's, Main St., Mexborough. [5627

HUMBER 2¾h.p., lamps, tools, new tyres, licence paid; £25.—49, Medway Rd., Bow. [5603

1921 Humber Flat Twin in Stock, £140; with sidecar, £170.—Cross, Agent, Rotherham. [X2293

HUMBER 3½h.p., sidecar, 2-speed, K.S.; bargain, £46, near offer.—25, Belmont Rd., Maidenhead. [6456

HUMBER Lightweight, good running order; £25.—25, Rosslyn Crescent, Wealdstone, Harrow. [6781

2h.p. Humber Lightweight, Bosch, B. and B., good order; £25, or exchange.—Baldock, West St., Dunstable. [6665

2¼h.p. Humber, Amac, Bosch mag., running order, 2¼ round tank; £25.—Blake, 216, Westbourne Grove, W.11. [6774

3½h.p. Humber, 2-speed, clutch, excellent condition; £38, or exchange for combination. — 93, Brudenell Rd., Tooting. [7021

£30; 1914 3½h.p. Humber, 3-speed, clutch, kick starter, beautiful condition; honest bargain.—89, East Hill, Wandsworth. [6611

HUMBER 2¾h.p. Twin, 3-speed, clutch model, in good running order, new tyres, racing bike; accept £35.—321, Edgware Rd., W.2. [7006

HUMBER 2h.p., overhauled, splendid condition, new tyres, lamps, horn, tax paid; £30, or nearest offer.—Harrington, 3, Neale Rd., Halstead, Essex. [5911

HUMBER Combination, 1912, 3½h.p., 2-speed, free engine, handle start, in good running order; £40.—4, Kersley Mews, Bridge Rd., Battersea, S.W.11. [5867

3½h.p. Humber, 1914, new engine, Sturmey hub, 3 speeds, clutch, kick starter, new parts, lamp, tax, spares; £35.—7, Stuart Crescent, Wood Green, N.22. [6245

£100.—Combination, 1919 3½h.p. flat twin Humber, perfect condition, new Millford Corvette sidecar, 4-point attachment.—15, Foleshill Flats, Foleshill, Coventry. [X2205

HUMBER Combination 4h.p. flat 1920, electric lamps all round, Lucas horn, sidecar screen, speedometer, condition as new; £155; close offer.—L.t. Burton, c/o Dan Guy, Weymouth. [0564

3½h.p. Humber Combination, 1914, 3-speed, clutch, kick starter, coachbuilt sidecar, wind screen, 3 new Duulops, sprung sidecar wheel and extra strong chassis, tax paid; £65.—9, Earlshall Rd., Eltham, S.E. [6711

HUMBER, 1913, 2¾h.p. twin, clutch, very fast, in really fine condition, appearance almost as brand new, been very carefully used; £27/10, a real bargain.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. [5917

4½h.p. New Humber Flat Twin, 3-speed, clutch and kick-starter, with magnificent sidecar; a very fine combination; in stock for immediate delivery; £176/3/6; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [6164

Indian.

INDIANS.—1921 models new ready.—Davies, 229, Deansgate, Manchester. 836 Central. [2437

E. KICKHAM for Indian, sole agent for Bristol and district.—Stokes Croft, Bristol. [3353

INDIAN 1916 7-9h.p., clutch, disc wheels, tax paid; £55.—10, Rosedale Av., Hayes, Middlesex. [6717

1919 unused Powerplus Indians, 2 only; £80 each.—4, Thornton St., Kempton, Bedford. [6761

7-9h.p. Indian Combination, 2-speed, clutch, lamps; £60; ready to drive away.—Laund Farm, Belper. [5708

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O.K. UNION ridden about 100 miles, as new **£35**

O.K. UNION, new, slightly shop-soiled - - **£40**

SPARKBROOK, new, 2-speed gear, shop-soiled - - - **£60**

DOUGLAS, 1920, 3-speed, kick-start and clutch, perfect and little used **£75**

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MOTOR CYCLES FOR SALE.

Indian.

INDIAN 7-9h.p. 1919 Powerplus, 3-speed, etc.; £75 —Speechly, 86, Churchfield Rd., Acton, W.3. [672

7h.p. Indian, in splendid condition, 1918; owner wi accept reasonable offer.—To be seen 28, Broo St., W. [587

INDIAN Powerplus, 1918, condition and appearanc as new; £65.—Owen, Scholefield Rd., Upp Holloway. [X230

1920 Indian 7-9h.p. Combination, first-class condition offers; appointment.—Bromley, 137, Cambrid Rd., S.W.20. [572

INDIAN 1914-15 Combination, electric, excelle condition, perfect running; £68.—3, Wallingfo Av., W.10. [62

INDIAN Powerplus Sporting Combination, disc whee legshields; £95.—Banks, 7, Princess Rd., Kilbur N.W.6. [61

INDIAN, 7-9h.p., 2-speed, clutch, tax paid; £5 part exchange lightweight.—28, Bourne Rd., Be ley, Kent. [69

INDIAN 7-9h.p., 1919, speedometer and horn, t paid, new condition; £85.—Monk, Sun St., W tham Abbey. [62

1915 7-9h.p. Clutch Indian, lamps, licence, insu ance, perfect; £48.—Write, Harper, 10, Sewir ton Rd., Hendon. [63

1920 Indian Scout, small mileage, good conditio speedometer, spares, etc.; £105.—Box 557, *The Motor Cycle.* [X23

1916 Indian Powerplus Combination, 7-9h.p., 3-spe accumulator lighting, tax paid; £75.—3, Co wood Rd., Harpenden. [60

LOOK!—Indians, 1918 7-9h.p., 3-speed, clutch, spr frame, like new, £60; ditto, 1919, £65.—32, L Gardens, Hammersmith. [31

SELECTED 1920 Indian Scout, electric lighting, fect condition; bargain, £125.—Harveyson, Station Rd., Finchley, N.3. [56

1916 Indian and Sidecar, good condition, 3 spee clutch; £85, near offer; would sell solo.—Jac Swan Brewery, Fulham Rd., Fulham. [4

1916 5-6h.p. Indian Combination, 3-speed, all ac sories, good going order; first offer £70.—Fi The Bungalow, North Town, Aldershot. [5

1916 Indian 7-9h.p., spring frame, 3-speed, clut kick start, condition perfect, tax paid; £5 Leith House, Oakdale Rd., Weybridge. [6

1921 Indian Combination, dynamo lighting, (new); £226.—E. Brown, Indian Specialist, 7a, Parker Lane, Burnley. Tel.: 1032. [X2

1920 7-9h.p. Indian Combination, dynamo light Henderson sidecar, discs, small mileage, as n £150.—Peart, Wood Hill, Hatfield, Herts. [5

INDIAN 7-9h.p., 1920, dynamo lightiug combinat perfect condition, all on, tax paid; bargain, £ or exchange.—619, Garratt Lane, Earlsfield. [6

5-6h.p. Indian Combination, 1916, 3-speed, clutch, start, Millford sidecar, Easting screen, sound or tax paid; £90.—75, Commercial Rd., Grantham. [6

INDIAN 7-9h.p. Clutch Model, 1915, speedome Klaxon, electric light, excellent condition; £ Manchester.—Box 3,765, c/o *The Motor Cycle.* [5

INDIAN 1916 7-9h.p., spring frame, 3 speeds, clo kick start, good condition; £65.—Parker's, B shawgate, Bolton; also 245, Deansgate, Manchester. [X2

LOOK!—Indians, 1918 7-9h.p., 3-speed, clutch, sp frame, like new, £60; ditto, 1919, £65.—32, I Gardens, Hammersmith. [3

INDIAN Combination, 5-6h.p., 3 speeds, speedom condition perfect, one new spare tyre; offe Bodsworth, 138, Sydenham Rd., Sydenham, S.E.2 [5

INDIAN 1914-15 7-9h.p. Combination, just overha electric lighting; £85.—Seen 22, Church M Hampstead (10-6), or telephone Garrett, Hamps 642. [6

1920 Indian Powerplus Combination, electric equipped, perfect; £145, or exchange lower p solo or combination.—The Poplars, Durkar, W field. [

INDIAN 5-6h.p., 1915, tax paid, 3-speed, clutch, recently overhauled, splendid condition, trial; or exchange 2¾h.p. Douglas.—Barlow, Sandy Cheshire. [

1914 7-9h.p. Indian Combination, hood, speedom electric lights, perfect condition, tax paid; reasonable offer accepted.—133, Liverpool Rd., Is ton, N.1. [

1920 Indian Powerplus, Millford bulbous sid dynamo lighting, speedometer, Easting, tax perfect order; £140.—Ellam, 2, Phœnix Place, Ho Park, W. [

INDIAN 1916 Powerplus Swan Combination, foot clutch, accumulator lighting, wind screen, condition; £85.—Smith, 26, Monson Rd., Wille N.W.10. [

1918 Indian 7-9h.p. Powerplus, as new, only 300 miles, with new 1921 bulbous sidecar, equipped, tax paid; £120.—R. Welch, Great Misse Bucks. 'Phone: 52.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

L.M.C.

L.M.C. 6h.p., 1920, 3-speeds, clutch, kick starter, as makers' specification, shop-soiled only, at bargain price of £105 for cash only.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230 [6858

L.M.C. 3½h.p., 1920, 3-speed, clutch, kick starter, as makers' specification, shop-soiled only, at bargain price of £85 for cash only.—Mebes; 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [6685

L.M.C. 4½h.p., 1920, 3-speed, clutch, kick starter, fitted Henderson B1 sidecar, apron, lamps, etc.; 97 10; exceptional bargain for cash only.—Mebes, 55, Gt. Portland St., W.1. 'Phone: Langham 2230. [6856

L.M.C. 6h.p., 1920, suspension frame model, Henderson B1 sidecar, apron, screen, speedometer, horn, as new, done under 200 miles; £125, for cash only.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [6857

Martinsyde.

1920 6h.p. Martinsyde Combination, fully equipped; 139 gns.—23, Brockenhurst Gardens, Mill Hill. [5763

6h.p. Martinsyde Combination, 6 months old, good condition, smart, reliable, owner buying solo, tax paid; £115.—Ives, Halesworth, Suffolk. [5704

LATE 1920 Martinsyde Combination, dynamo lighting, new condition throughout; £155, including licence.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X2218

1920 Martinsyde Combinations, 6h.p., 3-speed, kick start, clutch; £160 to clear; cannot repeat; open Sundays for supplies.—Wilshaw, Lythall's Lane Garages, Coleshill, Coventry. [X2254

MARTINSYDE Combination in Stock, £175; other models in a few days; catalogue of this gold medal winner on request.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. 'Phone: Victoria. 64. [5837

MARTINSYDE 6h.p. Combination, price reduced to £160, at which figure this represents undoubtedly the best value in the motor trade in sidecar combinations; demonstration runs with pleasure.—Andes' Motor Mart, 100, Gt. Portland St., London; 70, Paris St., Exeter; and at Walsall. [6871

Massey-Arran.

1921 Massey-Arran, 2¾h.p. Blackburne engine, 2-speed, K.S., disc wheels, Olympia Show model, brand new; £99/15; exchanges or extended payments; approval with pleasure.—The Layton Garages, 90, High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X2364

Matchless.

MATCHLESS.

1921 Combinations, any model from stock or in few days. Gradual payments can now be arranged. Every outfit personally tested by the Matchless specialists. Spares of all dates in stock.—J. Tassell, Bloomfield Rd., Plumstead. [5374

£174.—Matchless Combinations.

1920 Brand New H2 Models offered at this price owing to cancelled export order, spare wheel and tire 8 gns. extra, screen £2 12; makers' full guarantee.—Tassell, 1a, Bloomfield Rd., Plumstead. [5793

WULIANS of Reading have all Matchless models in stock. [0480

COLCHESTER.—T. S. Wilkin, Culver St., Matchless agent; 1921 model H2, family sidecar, in stock. [6691

1921 Matchless Combination, cannot take delivery; £195.—44, Longfield St., Southfields, S.W.18. [6784

1921 Matchless Combinations in stock for immediate delivery; £205. — Stacey, 12, Ecclesall Rd., Sheffield. [0574

MATCHLESS, 1920, Magdyno, speedometer, Tan-Sad, perfect; offers invited.—Box 3,840, c/o *The Motor Cycle.* [6977

MATCHLESS, 1921, in stock for cash or exchange, £205; brand new 1920 model, £185.—114, Sexton Hill. [6983

MATCHLESS Model H Combination, 1920, brand new; £175.—Wright's Garage, Saffron Waldeo. [6866

1912 6h.p. Matchless-Jap, V.S. gears, coach sidecar, screen; £57, offers; exchange.—Latham, Railway Cottages, Mexborough. [X2130

1921 2-seater Matchless, M.A.G., dynamo, cost £241, done under 50 miles, tax paid; £210.—253, Munster Rd., Fulham. [6366

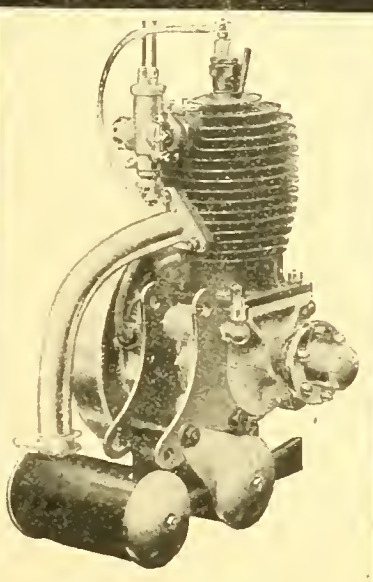
WE CAN Supply you immediately with new Model H Matchless; £185; usual guarantee.—Ross, 86, High Rd., Lee. [6497

MATCHLESS 1920 Model H, complete, genuinely as good as new; offer.—E. W. Pullen, 38, Brampton Rd., St. Albans. [5834

MATCHLESS 8h.p., speedometer, wind screen, hood, spare tyre, newly enamelled; 90 gns.—Garland, 2, Northbrook Rd., Ilford. [6015

MATCHLESS 1920 Model H Combination, dynamo lighting, etc., as new; £165.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E. 3155. [6955

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MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS 1921 Combination, M.A.G.; £205, from stock.—Gibb, Gloucester. [0443

YEOVIL.—Moffat, Town Hall Garage, Matchless agents; immediate delivery.—'Phone: 50. [3331

MATCHLESS 1920 Electric C.B. Outfit, £20 of extras, tax paid, as new, perfect; £165; 1921 paid.—54, Coval Rd., Mortlake. [X2250

1921 Matchless Magdyno Combination, M.A.G. engine, cost April 11th £235; accept £222.—White, 137, Westfield Rd., West Ealing. [5966

1914 8h.p. Matchless Combination, good condition, tools, 3 lamps, generators, horn, spare tube; what offers.—Morris Smith, Goathland. [X2069

MATCHLESS Combination, 7-9h.p. M.A.G. engine, 3-speed, all-chain drive; £115.—59, Pallrey Place, Dorset Rd., Clapham Rd., S.W.8. [6251

MATCHLESS Victory Model, spare wheel, new tyres, perfect throughout; best offer over £100; must sell.—123, Gray's Inn Rd., London, W.C. [6787

1920 Matchless Combination, as new, speedometer, hood, screen, spare wheel, etc.; £160; any trial.—3, West Gardens, Robinson Rd., Tooting. [6272

MATCHLESS 1918 Combination, 8h.p., spare wheel, dynamo lighting, speedometer, Enstine, new condition; £140.—183, Bow Rd., E.3. East 881. [6127

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8h.p. Matchless combination, 1920, dynamo lighting, spare wheel, etc., licence paid; £150. [6904

1921 Matchless Magdyno Combination, owner unable to ride, brand new, unused, unregistered; sacrifice, £198.—41, Madrid Rd., Barnes, S.W. [5450

MATCHLESS Model H Combinations, in stock; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5899

MATCHLESS-M.A.G., 1921, Model H, brand new, Lucas dynamo lighting, £215; another without dynamo, £190.—F.J., 172, Trevalyan Rd., Tooting, S.W.17. [5669

LATE 1919 Matchless Combination, tax paid, all spares, not run since end of 1920, in perfect condition; £140.—S., Pelican House, London Rd., Newbury. [5790

MATCHLESS 4h.p. J.A.P., Bosch, variable gears, perfect condition, must sell, best offer, and cane sidecar.—Butterworths' Garage, Mill Lane, Brixton Hill, S.W.2. [6289

MATCHLESS Late 1920 Model H Combination, M.A.G., all accessories; £175.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5893

1920-21 Matchless-M.A.G. Combination, Lucas lighting, many extras, absolutely new condition, unsoiled; £170; licence paid.—294, Kensington Park Rd., S.E.11. [6574

MATCHLESS, brand new, with makers' guarantee, without spare wheel, £174, or with Magdyno lighting £199.—Edwards, 50, Harrington Rd., South Kensington. [6924

MATCHLESS M.A.G. Combination, 1915, countershaft, Atmos carburetter, perfect running order; seen after May 10th.—Little, 148, Lower Addiscombe Rd., Croydon. [6790

MATCHLESS Late 1920 Model H Combination, Lucas, accessories, spare wheel, lavishly equipped; £160.—Porker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2168

MATCHLESS Model H Combination, Nov., 1920, perfect condition, mileage 500, mechanical horn, spare wheel, screen, tools; £175.—Bickmore, 15, Park Parade, Cambridge. [5619

MATCHLESS. Matchless. Matchless.—Latest 1921 model 8h.p. combination, for immediate delivery.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0418

MATCHLESS-M.A.G. Combination, July, 1920, lamps, horn, speedometer, spare wheel, screen, mileage 514, exceptional condition; £170.—Marston, 31, Bridge St., Chester. [6834

1921 Matchless Combination, M.A.G. 8h.p. engine, new; £205; exchanges or extended payments.—The Layton Garages, 90, High St., Oxford. T.A.: Integrity. 'Phone: 581. [X2342

LATE 1920 Matchless Combination, 8h.p., M.A.G. engine, Lucas Magdyno lighting, equipped regardless, original tyres; £160; exchange, tax paid.—60, Wallingford Av., N. Kensington. [6531

MATCHLESS, 8h.p. twin J.A.P., 2-speed countershaft gear, chain drive, Matchless sidecar, wind screen, Lucas lamps, luggage grid; £105.—Eagles and Co., 275, High St., Acton, London. [6733

MATCHLESS 1920 Magdyno Combination, speedometer, screen, splendid condition; 160 gns.; part exchange lower power combination or solo.—Spurling, 8, Courthope Rd., Hampstead, N.W.3. [5914

F.O.C.H. have a 1920 Matchless combination, Magdyno, small mileage, fully equipped, hood, screen, spare wheel, luggage carrier, tax paid; £175.—5, Heath St., Hampstead (near Hampstead Tube Station). [5983

MATCHLESS Model H 1920 Combination, Lucas lamps and horn, speedometer, wind screen, spare wheel, small mileage, now being completely overhauled; bargain, £160.—Philpot, St. George's St., Canterbury. [6608

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B29

MOTOR CYCLES FOR SALE.

Matchless.

1921 Matchless, M.A.G. engine, Lucas Magdyno lighting, electric horn, hood, screen, legshields, recently delivered, absolutely new, unridden, unregistered; owner buying car.—48, Haslemere Rd., Southsea. [6213

1916 Matchless-Jap 5h.p., 3-speed, clutch, kick starter, low mileage, enamel good as new, guaranteed perfect everywhere, new belt; price £60, including all accessories.—E. J. Gardner, Church St., Purton, Wilts. [7033

MATCHLESS Combination, 1920, 8h.p., small mileage, Magdyno, Cowey horn, tyres unpunctured, beautiful condition throughout, privately owned and carefully looked after; £170.—Matchless, 47, Streatham Hill, S.W.2. [5958

MATCHLESS Combination, 1915, 1920 improvements except spring frame), M.A.G. engine, spring wheel sidecar, detachable wheels, spare, car tyres, Lucas dynamo lighting, fine condition; £135.—64, Melrose Av., Mitcham. [6134

MATCHLESS Combination, late 1920, H2 model, Magdyno, M.A.G. engine, speedometer (under 4,000), registered, insurance, many extras; special offer, £155.—Stevenson, 55, Temple Row, Birmingham. Tel.: 893 Central. [X2265

MATCHLESS 1921 Models, immediate delivery; with Magdyno lighting £230, without Magdyno lighting £205, no waiting; in stock ready to drive away; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [6000

MATCHLESS Brand New 1920 Combination, unused, M.A.G. engine, spare wheel, screen, etc., makers' full guarantee; £165.—Authorised Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0067

MATCHLESS 1921 Family Model Combination, delivery from stock; £212/10; liberal easy payment terms or exchanges arranged.—Authorised Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0069

MATCHLESS 8B., 7-9h.p. M.A.G., 2-seater sidecar, electric side and tail lamps, acetylene head, spares, including covers and tubes, and back seat for third passenger, good condition; £110.—J.H., The Haven, St. James's Rd., Sutton, Surrey. [6117

1921 Matchless Combination, Model H2, M.A.G. engine, Lucas electric light, horn, hood, screen, step, speedometer, legshields, tax, insurance, 500 miles, makers' guarantee; any trial, cost £258/12/6; accept £233/10.—Reed, 201 New King's Rd., Fulham. [6359

MATCHLESS-M.A.G., Aug., 1920, electric horn and lighting, shields, discs, twin exhaust, hood, screen, step, spare wheel, grid, all tools, accessories and spares, unpunctured, as new, tax paid; £165, no offers; view any time trial 6 p.m.—252, St. Ann's Rd., Tottenham. [6436

1921 Matchless Combination, M.A.G., dynamo lighting, electric horn, speedometer, front band brake, double seater sidecar and step, Sandham screens, hood, and cover, one month from works, as new; £225.—150, Upper Richmond Rd., East Sheen. [6019

8h.p. Matchless Combination, late model, Lucas lighting, hood, curtains, Cowey horn and speedometer with trip, step spare wheel, legshields, J.A.P. engine, many extras, luxurious outfit as new; £165. Tel.: Tottenham 149.—C. Davis, 127, High Rd., South Tottenham. [5859

MATCHLESS Combination, 1919, J.A.P. 8h.p., 3-speed, clutch, kick starter, detachable wheels, oversize tyres, speedometer, accessories, in perfect condition, tax paid; best offer over £100.—Kinsey and Co., 352, Lr. Addiscombe Rd., Croydon. 'Phone: 1129. [6881

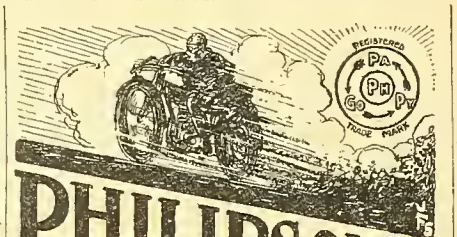
MATCHLESS Combination, 1918, 8h.p. J.A.P., spare wheel, wind screen, luggage carrier, lighting set, etc.; this machine is absolutely sound and reliable and in good condition; will accept first offer £110.—F. Knight, Sewardstone, Chingford. 'Phone: Waltham Cross 211. [5590

MATCHLESS Service Depot, 'Phone 751 Greenwich. —The leading Matchless agent. All 1921 models for immediate delivery, cash or deferred terms. Satisfaction guaranteed, and unlimited service from the agent of all high-class motor cycles.—Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [5665

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock, for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0381

1920 Matchless, Lucas acetylene, Auster Triplex screen and hood, side curtains, Cowey horn, speedometer, leg shields, sidecar step, mirror, child's folding seat, Tan-Sad (unused), with back and foot rest, numerous spares, special locks fitted, excellent condition, mileage, 2,500, licence paid, complete insurance just renewed; cost £265; take £190, or near offer.—Hancock, 29, Ellerton Rd., Wandsworth Common, S.W.16. [6263

MATCHLESS.—Whitsun Holidays. Don't worry about trains. Save coal. Buy one of these exceptional bargains: Brand new 1920 Matchless combination, standard model, £185; ditto without screen and spare wheel, £174; immediate delivery; the finest value to-day. —Write, call, or 'phone (Greenwich 751), the leading Matchless agent, Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [6318



PHILIPSON'S

PATENT AUTOMATIC GOVERNOR

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AND GEAR COMBINED.

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Ariel,	N.U.T.-Jap,
Swift,	Humber,
Abingdon,	N.S.U.,
Minerva,	Peugeot,
Precision,	Rudge,
Matchless,	Quadrant,
Ivy Precision,	Alldays,

Villiers Mark IV., and numerous Jap engines.

What is your make? Write us

Price £8 8 0 Carriage Paid.

Philipson & Co., Ltd.,

Astley Bridge,

BOLTON, LANCS

(Established over 40 years.)

MOTOR CYCLES FOR SALE.

Maxim.

MAXIM-DALM, Dec., 1920, 3h.p., 2-stroke, absolutely new, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, £52; ditto with clutch, kick start, £58/10.—224, Pentonville Rd., London, N.1. [4292

Metro.

1920 Metro-Tyler, 2-speed, new condition, valuable spares, etc., fully equipped; bargain, £58.—14, Godwin Rd., Forest Gate, E.7. [6028

METRO-TYLER, December, 1920, 2-speeds, enclosed gear box, as new, fully equipped; £62; exchange combination.—26, Newland Rd., Worthing. [6694

METRO-TYLER, brand new latest S type model offered at the special reduced price of £70, please call and inspect.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone Avenue 5548. [0066

Minerva.

£10.—2¾h.p. Minerva, mechanical valves, mag., less carburetter.—King, Egrove Farm, Oxford. [X221

MINERVA 3½h.p. Combination, tax paid, lamps, horn; £26; exchanges.—76, London St., Chertsey. [6655

3½h.p. Minerva, mag. drop frame, overhauled, re-enamelled, quick sale; £12.—Garner, Saffron Walden. [6424

MINERVA 3½h.p., splendid running condition, £22, or near offer.—24, Townshend Terrace, Richmond, Surrey. [6455

Moto-Reve.

MOTO-REVE Twin, 60° Ericsson mag., good tyres, good running order; £16.—Sherriff, Kenilworth Rd., Balsall Common, near Coventry. [X220

MOTO-REVE Twin Lightweight, mag., Druids; £2 or exchange for Skootamota; other offers considered.—Henson, Melton Rd., Oakham. [X227

Motosacoche.

1¾h.p. Motosacoche Lightweight, in good condition, £12/10, bargain.—54, St. John's Rd., Tunbridge Wells. [5755

2¼h.p. Motosacoche, splendid condition; £28, licence paid.—Lulham, East Court Cottage, East Grinstead. [5755

Monarch

1920 Monarch 2-stroke, licence paid, single gear, lamps and horn, reliable and cheap machine, really good order; £40; exchanges or extended payments; approval with pleasure.—The Layton Garage, 90, High St., Oxford. 'Grams: Integrity. 'Phone 581. [X233

New Hudson.

JULIANS of Reading have all New Hudson models in stock. [0515

1914 3-speed New Hudson, new condition; £36.—Ross, 86, High Rd., Lee. [6464

NEW HUDSON 1920 2¼h.p., 2-speed, little used, £55.—Dudley, Oakamoor, Staffs. [5955

NEW HUDSON 4h.p., engine, gears, tyres, excellent, £55, offers.—97, Calbourne Rd., Balham. [6555

1920 New Hudson 2-stroke; £50, or nearest; tax paid.—Bailey and Wright, Ewice, Chester. [5855

NEW HUDSON Lightweight, 1920 (Aug.), perfect, unpunctured; offers.—Fry, 2, Holly Hill, Hanstead. [6555

NEW HUDSON Ace-engined 2-stroke Lightweight, licence paid; £24, or nearest offer.—17, Goincoign Rd., Barking. [6355

NEW HUDSON 2¼h.p., 1920, excellent condition, lamps, horn, speedometer; £55.—Vinson, 1, Navy St., Clapham. [6755

NEW HUDSON Lightweight, latest model, 2-speed, hardly soiled, fully equipped; £65, offers.—Nightingale Rd., Wood Green. [5955

BRAND New 1920 New Hudson, 2-stroke, 2-speed countershaft 2¼h.p., fully equipped; £60.—Auckland Rd., Upper Norwood, S.E.19. [6555

6h.p. 1919 New Hudson Combination, Eastlamps, tax paid, perfect condition, no reasonable offer refused, must sell.—7, Tyrrell Rd., Dulwich. [6455

NEW HUDSON 2¼h.p., J.A.P., 3 speeds, clutch, all accessories, licence, perfect condition; £4 exchange 3½-5h.p.—349, Bristol Rd., Birmingham. [X2

NEW HUDSON Coachbuilt Combination, 4h.p., speed, clutch, kick start, equipped, excellent condition, trial, registered; £63.—27, Brisbane Av., Wimbledon [6955

NEW HUDSON 1913 4h.p. Combination, only ridden 1,000 miles, C.B. sidecar, 3-speed hub gear, speedometer, splendid condition and tyres; 65 gns. Laureldene, Cowfold, Sussex. [4255

NEW HUDSON, 1915, fast machine, 4h.p., 3-speed clutch, K.S., in good condition, lamps, horn, tools, and new tyres, Binks 3-jet carburetter, Bosch D. mag., ride away; £48.—321, Edgware Rd., W. [7055

2¼h.p. New Hudson 2-stroke, late model, B. and Thomson-Bennett, Druids, new Avon and Dunlop lamps, hooter, licence, new condition; £36; part exchange 2¾h.p. Douglas.—35, Perrers Rd., Hammersmith [6

MOTOR CYCLES FOR SALE.

New Hudson.

TWO New Hudson (June, 1920) Tourers, 2¼h.p., 2-speed, speedometers, lamps, horns, mirrors, licensed; 60 gns. each (cash), without accessories 53 gns. each.—Hopkins, 95, High St., Slough. [5848

1920 New Hudson 2-stroke 2¼h.p., 2-speed, lamps, in a smart little machine; £47/10; exchanges or extended payments; approval with pleasure.—The Layton Garages, 90 High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X2361

New Imperial.

IN Stock, 1921 8h.p. New Imperial combination.—Tillers, The Esplanade, Weymouth. [6799

NEW IMPERIAL Agents.—Lightweights and spare parts in stock.—Crow Bros., Guildford. [4709

3½h.p. 2-speed 1914 New Imperial, just overhauled, ¼ tax paid; £37.—54, Palace Rd., Streatham Hill, S.W.2. [6712

1921 New Imperial 8h.p. Combination, 400 miles only; £165.—Collier's Motories, Horton St., Halifax. [5951

1920 New Imperial, 2¾h.p., K.S., all accessories, speedometer; £65.—116, Iverson Rd., West Hampstead. [6941

NEW IMPERIAL, Oct., 1920, 2¾h.p., 2-speed, little used, lamps, licensed; £65.—Edwin Knight, Church St., Reigate. [5904

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, new 1921 model, footboards; special offer, £75.—Marston, 31, Bridge St., Chester. [6837

1920 New Imperial 8h.p., Millford sidecar, Klaxon, lamps, tax paid, excellent condition; £145.—161, Herbert Rd., Woolwich, S.E. [6136

1920 New Imperial 2¾h.p., 2-speed, K.S., accessories, spares, licensed; £65.—Wade, Hillside, Farmers Lane, Mill Hill. [6429

3½h.p. New Imperial-Jap, Albion 2-speed gear, lamps, ¼ tax paid, splendid condition; £35, no offers.—Low, 91, Mapledene Rd., Dalston, E.8. [6972

NEW IMPERIAL-J.A.P. 1920 2¾h.p., 2-speed, licensed, equipped, perfect, and unscratched; 45 gns.; deposit.—24, South St., Newport, Wight. [6505

1919 (Sept.) New Imperial-Jap Combination, 3-speed, K.S., had very little use, condition as new, with lamps: £130.—69, West Cliff Rd., Ramsgate. [6062

1918 2¾h.p. New Imperial-Jap, 2-speed, lamps and horn; sell £45, or exchange higher power.—E. Cooke, Nuneaton Rd., Bulkington, Nuneaton. [X2156

NEW IMPERIAL 2¾h.p., 1918 2-speed, kick start, Hand clutch, aluminium discs, lamps, tax paid; £50.—10, Crowborough Rd., Tooting, S.W.17. [X2331

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, kick starter, clutch, shop-soiled; £78, nearest offer to clear.—Parker, 33, Effingham Rd., St. Andrews, Bristol. [5724

NEW IMPERIAL-J.A.P., 2¾h.p., 2-speed, kick-starter, clutch, never been used, shop-soiled only; to clear, £79.—Central Garage, Henley-on-Thames. [3187

1919½ New Imperial-Jap 2¾h.p., 2-speed, clutch, kick start, all accessories, tax paid, perfect condition; 45 gns.; offer.—1, Park Terrace, Worcester Park, Surrey. [5714

NEW IMPERIAL 2¾h.p., 1921, J.A.P. engine, 2-speed, tax paid, lamps, Klaxon, tools, Dunlops, ride away; £48.—Wontner, 39, Stanhope St., Euston, N.W.1. [6520

NEW IMPERIAL-J.A.P., 1920 (July), 2¾h.p., kick starter and clutch, engine No. 20,6275, condition almost as new; £80.—50, Cromwell Rd., Caversham, Reading. [6449

57.—1920 New Imperial, 2¾h.p. J.A.P., 2-speed, new Dunlops, speedometer, Klaxon, lamps, tax paid, splendid condition; must sell.—Simmonds, 13, Tregunter Rd., South Kensington. [6552

1920 New Imperial Combination, 6h.p. J.A.P. engine, Millford sidecar, lamps, hood, screen, all accessories, tax paid, perfect condition, had little use; £75.—S. Last, 3, Nicholson Rd., Walthamstow. [5764

3½h.p. New Imperial, 2-speed, £80/17; ditto with B clutch and kick-starter, £89/5; 8h.p. combination, £186; in stock for immediate delivery; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [6162

ENGINEER'S Bargain.—Practically new 2¾h.p. New Imperial-Jap, 2-speed, clutch, kick starter, lamps, horn, pump, tools, new accessories, chain, valves, etc., unused; £62.—40, Wellington Rd., St. John's Wood, N.W.8. [6030

IMMEDIATE Delivery of any New Imperial Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, 2, South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0506

NEW IMPERIAL-J.A.P. 2¾h.p., 2 speeds, clutch, kick starter, new semi-T.T. bars, largest P. and H. lamp set, new horn, tools, etc., grand condition; trial; take 2 anywhere, licensed; £50.—103, Beulah Grove, Thornton Heath, Croydon. [5962

NEW IMPERIAL 1921 8h.p. Combination, latest type bulbous back sidecar, leg shields, and luggage carrier complete, brand new, just arrived from works; 178 gns; extended terms or exchanges arranged.—Rice and Co., 15-16, Bishopsgate Av., Camomile St., E.C. 'Phone: Avenue 5548. [0068



MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL 2¾h.p., 1919, 2 speeds, clutch, kick start, P. and H. 127 lamps, new Rom steel-studded on back, condition and appearance as new, only severe trial here, tax paid; £50.—Watkins, 7, Bryncheulog, Aberbeeg, Mon., S. Wales. [6707

New Ryder.

NEW RYDER 2-stroke, lamps and horn, condition guaranteed; £20.—Philpot, St. George's St., Canterbury. [6609

1921 New Ryder De Luxe, 2¾h.p., 2-stroke, kick starter, 2-speed clutch; cost 76 gns., accept £58.—121, Rotton Park Rd., Birmingham. [6646

New Scale.

SCALE, 3½h.p. Precision, £80; 4h.p. Blackburne, £100; motor cycles you will hear more about. I have always a stock of each model; trade supplied.—Davies, 229, Deansgate, Manchester. 536 Central. [2440

Norton.

PREMIER Motor Co. for 1921 Nortons.

ANY Model Norton delivered to your address, carriage paid, within twenty-four hours.—The Premier Motor Co., Aston Rd., Birmingham. [X2261

JULIANS of Reading have Norton 16H. in stock.

JULIANS of Reading have Norton Model 9 in stock. [0489

PICKERING, Shrewsbury.—All Norton models from stock. [X2505

YEOVIL.—Moffat, Town Hall Garage, Norton agents.—'Phone: 50. [3330

NORTON 1921 Famous 3½h.p. from stock; £132.—Gibb, Gloucester. [0444

DAN GUY, Weymouth. Norton official agent. Big 4 combination in stock. [0562

NORTONS, all models, delivery anywhere.—Smith's, Main St., Mexborough. [5626

WESTON-SUPER-MARE.—Jack Prues, Oxford St., for Nortons.—'Phone: 440. [6250

NORTON Motor Cycles.—Can deliver anywhere; early dates—Kelly, Bachelor's Walk, Dublin. [6128

NORTONS, 1921, all models; delivery anywhere; carriage paid.—Clifford Motories, Eastwood, Notts. [6268

NEW Sports Norton, 1921, 16H., only ridden home, very fast; £120, licensed.—Walter Madeley, Wem, Salop. [5744

NORTON 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72 [5005

1920 Big Four Norton and sidecar, fully equipped, spares, insurance, splendid condition; £150.—16, Priory St., Warrington. [6022

NORTON Big Four De Luxe Combination, Dec., 1919, unpunctured, sound, reliable, Easting; £120.—8, The Avenue, Chingford, E.4. [5922

NORTON T.T. Philipson, hand controlled, tyres, enamel, plating etc., as new, perfect, all on, £70.—Hughes, Heath Hospital, Bexley. [6371

NORTON Combination, 3½h.p., 1915, all on, tax paid; £110, nearest reasonable offer; trial appointment.—25, Burghley Rd., Leyton-tone. [5602

NORTON Model 16 3-speed T.T., £132; also Model 9 3½h.p. sports, £98; immediate delivery from stock.—Marston, 31, Bridge St., Chester. [6841

NORTON 1921 Motor Cycles, brand new, all models in stock, immediate delivery.—Palin, Sole Agent, Bourne St. (nr. Spot), Osmaston Rd., Derby. [3181

1920 Norton 3½h.p. T.T. Model, Philipson, speedometer, small mileage, and in excellent order, licence paid, fast; £95; approval with pleasure.—Below.

1920 Norton Big Four, 3-speed, K.S., fitted with lamps, horn, and knee-grips, has had very little use, almost new; £115.—Below.

1921 Norton, Model 16H, 3½h.p., 3-speed, with B.R.S. engine, certified to have exceeded 70 m.p.h. average for Brooklands lap; £147.—Below.

1921 Norton 3½h.p. T.T. Model, single gear, direct drive, adjustable pulley, special engine, brand new; £98.—Below.

1921 Norton Model 16H, 3½h.p., 3-speed, brand new; £132; exchanges or extended payments.—The Layton Garages, 90 High St., Oxford. T.A.: Integrity. 'Phone: 581. [X2358

NORTON 1921, famous No. 16H. speed model, used twice, Lucas lighting and horn; £120, licensed.—Ball, 14, Quarrendon St., Parson's Green, S.W.6. [6097

BIG Four Norton Sporting Combination, 1916, speedometer, discs, 2 lighting sets, insured, tax paid; £95. — 5, Daleview Rd., Stamford Hill, N. [6033

NEW 1921 3½h.p. Norton, 3-speed, kick start, 16H model, in stock; list price £132; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [X0631

NORTON Combination, 3½h.p., 3-speed, engine just been overhauled; £98; or would exchange for higher power.—Albany, Booth Rd., Collindale Av., Hendon. [6365

MOTOR CYCLES FOR SALE.

Norton.

NORTON 1919-20 Big Four, De Luxe sidecar, speedometer, all lamps, perfect condition, licensed for 1921; £135.—Mattock Motor Co., Mattock Lane, Ealing, W.5. [6428

4 h.p. Licensed Norton T.T., 1914, with 1920 engine, new Senspray carburetter, lamps, Klaxon, good tyres, very fast; £45. or offer.—Dyson, Croft Terrace York. [5690

1920 Big Four Norton Combination, lamps, Cowey horn, large sprocket and chain for solo, new condition, tax paid; £155.—A. E. Gore, Littleworth, Hednesford. [X2237

DAVIES, of Manchester, can deliver 1921 Nortons from stock; the machine you will eventually buy; all spares stocked; prompt attention.—229, Deansgate, 'Phone: 536 Central. [2432

NORTON Agents:—Motor cyclists in or near Oldham call. Our Mr. Mitchell will demonstrate to you the finest machine in the world.—Bulloughs Motors, Waterloo St., Oldham. [2050

NORTON 1920 Big Four, Swan sporting sidecar, Cowey speedometer and horn, acetylene and electric lighting, perfect condition, tax paid; £120.—Mizen, Oakleigh, Mitcham. [6392

16H Norton, all accessories, good tyres, 140 m.p.g. solo, Cancelet sporting, Triplex; £120 solo, £135 combination, or best.—Write, Williams, 20, Willoughby Rd., Hampstead, N.W.3. [5806

NORTON 1920 Big Four Model, Canoelet sidecar, fully equipped, low mileage, indistinguishable from new; £155.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2163

1921 3½h.p. Sports Norton, Model 16, lamps, Cowey horn and knee grips, not done 100 miles, also Norton sporting sidecar; whole cost £182.—Offers to Shufflebotham, Brooklands, Leek. [7029

NORTON 1921 Big Four, delivery from stock, the ideal two-purpose machine; £135; exchanges or extended terms.—Official Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0065

1921 Big 4h.p. Norton, 3-speed, etc., Lucas head lamp, Lucas horn, rear lamp, special 700×80 tyres, licence paid, only run 70 miles, absolutely as new; £130.—Bambers, Ltd., Eastbank St., Southport. Tel.: 607. [X2240

NORTON 1921 Big Four Model, Henderson sidecar, Lucas Magdyno lighting Cameo wind screen, oversized tyres, tax paid, insurance, indistinguishable from new; £195.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2164

N.S.U.

N.S.U. 4h.p. Twin, running order, licence paid; accept £22.—C. Huke, Beach Side, Aldeburgh. [6197

N.S.U. 5h.p. Twin, 2-speed, spring frame, lamps, coachbuilt sidecar, tax paid, enamelled black and gold; £65.—Blake, 216, Westbourne Grove, W. [6774a

6h.p. N.S.U., 2-speed, thorough order, fine Watsonian sidecar, underslung, good tyres; £38.—Greatwood, 55, Chaucer Rd., Herne Hill, S.E.24. Call after 6 p.m. [6230

N.U.T.

N.U.T., 6h.p., J.A.P., fixed engined, very fast, T.T.; with sidecar £95, solo £85.—Ward, Oakrord, Potters Bar. [5802

1920 Magdyno N.U.T., perfect condition; £130, or nearest offer. — Beechlea, Springfield Rd., Altrincham. [6775

1920 3½h.p. N.U.T., Magdyno, horn, licensed, as new; £98.—Edwards, 50, Harrington Rd., South Kensington. [6919

1921 Model N.U.T., Magdyno (Lucas), fully equipped, licensed, insurance, demonstration, as new; £125.—Swift, Ledbury, Herefordshire. [6187

NUT Sporting o.h.v. Twin, discs, speedometer, lamps, beautiful machine, very fast, tax paid; 68 gns.; offers, exchanges.—4, Roseford Terrace, Shepherd's Bush. 'Phone: Park 654. [5973

N.U.T. 3½h.p., 1920, electric lighting model, enamelling and plating absolutely as new, only run about 1,500 miles, perfect condition; any trial; £125. Apply, L. Bailey, 72, Mitcham Rd., Croydon. [5135

N.U.T. Special 500 c.c. twin Racing Overhead Valve Engine, very fast and light, polished nickel open exhausts, tank straps and fittings, geared from 3 to 5 to 1, lamps, horn, tax paid; £60.—88, Brook Green, Hammersmith [6175

N.U.T.—Special 500 c.c. speed model N.U.T., overhead valve engine, handle-bar controlled gears, just built up and guaranteed brand new except gear box, capable of 60 m.p.h.; this machine will appeal to sporting rider requiring a fast semi-touring model; moderate price.—Maudes' (below).

N.U.T., 1916, 5h.p. overhead valve J.A.P. twin, 3-speed countershaft gear, usual N.U.T. finish; moderate price.—Maudes' (below).

N.U.T.—Sole distributers for London, Middlesex, Hertfordshire, Essex, Surrey, Staffordshire, Cornwall, Devonshire, and Somerset; trade supplied; immediate delivery; exchanges or deferred payments.—Maudes' Motor Mart, 100, Gt. Portland St., London, W.1 (Museum 581); 100, Paris St., Exeter; and Wolverhampton St., Walsall. [6868



EXCHANGES or DEFERRED PAYMENTS

1921 NEW MODELS.

STANDARD, 11.6 h.p., 4-seater	£610	0
LAGONDA, 11.9 h.p., coupé, dickey, full equipment. Reduced price ..	£425	0
CALTHORPE 2-seater. Reduced price	£420	0
CALTHORPE 4-seater. Reduced price	£450	0
COVENTRY PREMIER 3-wheeler	£225	0
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O.K., 4-stroke, 2-speed, lamps, toolbags, excellent condition; £35.—Taylor, Meadow View, Kilnhurst, Rotherham. [5913

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2¼h.p. O.K., 2-speed, 2-stroke, accessories, running order, tax paid; £22/10, offers.—J. S. Taylor, 4, Clun Rd., Craven Arms. [6043

O.K. 2¼h.p., 4-stroke, 2-speed, all accessories, in perfect condition; snip, £37.—Robbins, 9, Little Exeter St., Marylebone, N.W.8. [5630

2¾h.p. O.K.-Union, single speed, 1920 model, shop soiled; list price £50/8, my price £43.—Davies, 229, Deansgate, Manchester. [0528

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OMEGA 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2438

OMEGA, 1920, as new, J.A.P. engine, 2¾h.p., 2 speeds, lamps, horn, licence paid; £55.—Wolstencroft, 76, Queen's Rd., Battersea, S.W. [4598

1919 Omega, T.D.C. 2¾h.p., 2-speed, 2-stroke, new P.H. lamps, speedometer, horn, new tyres, tubes, excellent condition; £38.—260, Victoria Dock Rd., Custom House. [5777

2¾h.p. Omega-Jap, late 1919, 2-speed, re-enamelled, rebushed, perfect condition, licence, horn, spare chains, belt, tube, accessories; £50.—Cranfield, Lord Roberts' Av., Leigh-on-Sea. [5961

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P. and M. Combination, Lucas lamps, speedometer, etc.; £90, tax paid, new insurance.—Blake, 196, Strand, W.C. [5611

P. and M. Combination, Easting, tools, lamps, good condition, tax paid; £75.—Snelling, 2, Morley Rd., Richmond Bridge. [6641

1918 P. and M., 2-speed, free engine, K.S., new Dunlops, perfect condition; £55.—356, York Rd., Wandsworth. [6611

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1920 P. and M., Lucas lamps, horn, spares, beautiful condition, tax paid, mileage 500; £90.—4, Esp Rd., Sparkhill, Birmingham. [X2201

P. and M. Combination, equal new, splendid condition throughout, fully equipped; £75.—Speechley, 86, Churchfield Rd., Acton, W.3. [6731

P. and M., 1918, perfect order, privately owned £60, or very near offer.—Ranelagh Garage, Lower Common, Putney. 'Phone: 684. [5831

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1920 P. and M., only ridden solo, and in perfect condition; bargain, £95 (tax paid).—Long, 1, Sheen Rd., Richmond, Surrey. [5711

P. and M. with Wicker Sidecar, K.S., Bosch Klaxon, splendid condition; £65.—Simmonds, 1, Cumberland Walk, Tunbridge Wells. [5961

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P. and M. Combination, 3½h.p., 2-speed gear, kick starter, mag. ignition, in working order; £50 for quick sale.—Idris and Co., 33, King's Rd., St. Pancras, N.W.1. [4398

P. and M. 1916 Combination, thoroughly renovated and equal to new, all lamps, horn, pump, etc.; £75 cash.—Butterworths' Garage, 64, Mill Lane, Brixton Hill, S.W.2. [6290

P. and M. and Sidecar, 3h.p., 2-speed, K.S., lamp, horn, Cameo wind screen, Tan-Sad, good condition, tax paid; £50, or near offer.—Briant, 71, Sheen Rd., Richmond. [6510

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PARAGON 3h.p., 2-speed, 2-stroke, unused; £44.—Thomas, 24, Townley Rd., East Dulwich, S.E.22. [5697

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PEUGEOT 6h.p., Chater-Lea fittings, excellent condition; £35.—Chambers, Heath Rd., Ditton, Surbiton. [6060

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PRECISION 3½h.p. Combination, coach, 1914, 3 speeds, lamps, accessories, spare belt, tax paid; £7—8, Highbury Terrace Mews, Ronalds Rd., Highbury. [5760

PRECISION 3½h.p. C.B. Combination, hood, wind screen, lamps, horn, 3-speed, kick starter, Bosch, tyres nearly new, good running order; lowest offer £45; seen any time.—P.H., 159, Trinity Rd., Upper Tooting, S.W.17. [5728

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1912 Premier, 3½h.p., complete, less power unit; £12. Approval.—51, High St., Chatteris. [5920

PREMIER 3½h.p. and Sidecar, excellent running order; bargain, £50, or near offer.—47, Essex Rd., Barking. [5688

3½h.p. Premier, Millford tradesman's sidecar, engine overhauled as new; £36.—Derrington, Grafton Rd., New Malden. [7015

PREMIER 2½h.p., Bosch, B. and B., good condition, running order, all on; £20.—Watkins, 7, Poplars Av., Willesden Green, N.W.2. [6508

PREMIER 3½h.p. Coachbuilt Combination, 2-speed gear box, clutch, footboards, excellent condition, tax paid; £50.—Engles and Co., 275, High St., Acton, London. [6734

3½h.p. 2-speed Premier F.E. Combination, just overhauled, tax paid, 42 gns.; ride 50 miles to purchaser, excellent condition.—Whitmore, York Rd., King's Lynn. [6654

PREMIER 1917 Combination, 4h.p., 3-speed, countershaft, kick start, 28 gns. 1920 sidecar, new tyres, lamps, tools, speedometer, tax paid, grand order and condition, fit for any journey; accept £72.—136, Church St., Edgware Rd., W.2. [6999

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PREMIER 7·9h.p. Combination, 3-speed countershaft, double-seater sidecar, 3-fold wind screen, lamps, new tyres, clutch, kick start, just been overhauled, ready to ride away, tax paid; photo; 75 gns., or near offer.—2, Mascotte Rd., Putney, S.W.15. [6623

Quadrant.

1920 Quadrant Combination, nice order; £90.—Ross, 86, High Rd., Lee, S.E. [6485

QUADRANT 4h.p., 1921, chain-cum-belt, solo, used demonstrations only; £96.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd., S.E.1. [6738

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RADCO 2-stroke, good condition, in running order; £20, tax paid.—Apply evening, 31, Charrington St., Mornington Crescent, N.W.1. [5869

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RALEIGH Solo or Combination; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5898

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1916 Reading-Standard Combination; £100.—Ross, 86, High Rd., Lee, S.E. [6493

1920 10h.p. Reading Standard Combination, unused, dynamo lighting, wind screen, spares, tools; genuine bargain, £180; after 6 p.m.—118, Upper Tulse Hill, S.W. [4807

Regal.

REGAL-PRECISION, 1915, T.T., 50 m.p.h., 2¾h.p., good running order; bargain, £30.—Write, V. Smith, Hill End, Droitwich. [6391

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REX 6h.p. Combination; condition, good; £50.—Kensington, Wellington St., Slough, Bucks. [5623

1920 Rex Combination, electric lighting, spare wheel, hood, screen, 5h.p.; £115.—Ross, 86, High Rd., Lee. [6486

REX 7h.p., coachbuilt sidecar, 2-speed, handle starting, perfect running order; £50.—1, Norwood Rd., S.E.24. [6252

1914 Rex 4h.p., long stroke, Bosch, adjustable pulley, hand clutch, lamps, fast and reliable, trial; £25.—22, Fort St., Spitalfields, E.1. [6604

1914 6-8h.p. Rex, 2-speed, handle start, all worn parts renewed, and new pistons complete; £40, or nearest; seen any time.—35, Cardiff Rd., Luton. [5632

REX 6h.p. Combination, free engine, 2 speeds, nearly new coachbuilt sidecar, wind screen, lamps, good order throughout; £49.10.—H., 30, St. James' Sq., Holland Park, W.11. [6978

3½h.p. Rex Combination, 3-speed, clutch, perfect condition, lamps, tax paid; exchange higher power machine, or sell 30 gns.—19, Lee St., Ravensthorpe, Dewsbury, Yorkshire. [6219

REX Coachbuilt Combination, 6h.p., 3-speed, clutch, kick starter, tax paid, wind screen, tyres good, ride away; bargain, £45.—Jackson, 8, Marsh Terrace, Workington, Cumberland. [6006

6h.p. Rex Coachbuilt Combination, 2-speed, foot clutch, handle starting, new tyres, lamps, hood, luggage grid, appearance and mechanical condition as new, little used; bargain, £38.—7, Killarney Rd., Wandsworth. [6969

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FAST, tractable, sporting solo, T.T. Rover engine, everything best, new, tax paid 30/-; accept £80.—Bird, Ronken Glen, Stoke Rd., Guildford. [5751

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MOTOR CYCLES FOR SALE.

Rover.

ROVER, 1919, T.T., Philipson pulley, full equipment, perfect throughout; worth £85, no reasonable offer refused.—Cautrill, 172, Cross Rd., Coventry. [X2269

ROVER Combination, 3½h.p., late 1918, overhauled by Rovers last July £30, electric lighting, spares, any trial; £100.—Thomas, 34, Mayow Rd., Sydenham. [5589

3½h.p. T.T. Rover, Philipson pulley, Klaxon horn, discs, enamel and plating as new, knee-grips.—Duncan and Shepherd, 33, The Parade, Golders Green. [6598

3½ h.p. Rover, 1919, Canoelet sidecar, lamps, horn, speedometer, 2 new tyres, mileage 3,000 excellent condition; £105; tax paid.—Perriman, Grove Rd., Chertsey. [6950

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery; hire-purchase if desired.—Collard, Cook's Garage, Shifnal. [2684

1919 T.T. Rover, delivered February, 1920, Philipson pulley, good condition, just overhauled by Rovers; £75, offers.—Graham, Mirabelle, Carshalton Park Rd., Carshalton. [5629

ROVER T.T., 1920, Phillipson pulley, shop-soiled only, as per makers' specification, at bargain price for cash only of £85.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [6859

ROVER 3½h.p. Countershaft, 1915 model, very good tyres, Lucas lamp set, first-class running order; £55.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [5444

3½h.p. New Rover, 3-speed clutch and kick starter, fitted with Royal Leicester sidecar, screen, and apron, reduced to £145; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [6160

ROVER 3½h.p. Sports Model, h.c. Philipson pulley, all accessories and spares, just been completely overhauled, new condition; bargain, £55, or near offer.—Philpot, St. George's St., Canterbury. [6605

JOHN Citizen!—A reliable, equal new condition, 3½ h.p. 3-speed 1920½ Rover, mileage 1,500, equipped Lucas accessories, tax paid; £90; exchange Norton T.T.—Morris, 81, Huntingdon Rd., Coventry. [X2195

1920 (July) 3½h.p. Rover, C.S., all-chain, with Swan sporting sidecar to match, fully equipped, original tyres, unpunctured, tax paid perfect; one of the smartest combinations on the road; £130.—Holliday Bros.—Below.

1920 (July) 3½h.p. Rover, C.S. all-chain, with Show model canoelet sporting sidecar, apron, screen, fully equipped, tax paid, perfect; £125; exchanges entertained.—Holliday Bros., 20, Queen St., Hammersmith, W.6. 'Phone: Hammersmith 1944. [6684

ROVER 5-6h.p. Twin, brand new, late 1920, coachbuilt combination, list price £235, reduced £150; also a similar 1920 machine without sidecar, unused, £115.—Eagles and Co., 275, High St., Acton, London. [6729

1919 3½h.p. Rover Combination, 3-speed, Lucas electric lighting, horn, Eastings, luggage grid, good condition, tax paid; £145, or near; privately owned.—Apply, J. Snell, c/o Vincent's Garage, Market St., Yeovil. [5615

ROVER 3½h.p. 1921 Touring Model, 3-speeds, clutch, kick starter, shop-soiled only, as per makers' specification, at bargain price of £100 for cash only.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [6860

BARGAIN.—3½h.p. Rover Montgomery Combination engine No. 5566, 3-speed countershaft, kick start, clutch, silent chains, complete with lamps, generator, horn, Easting, guid, 2 new tyres and tubes, all worn parts replaced with new, licensed; £65, or nearest.—Keen, Leominster. [592

Royal Ruby.

PICKERING, Shrewsbury, agent for Royal Ruby exchanges. [X250

3h.p. Royal Ruby, 2-speed, kick starter, 1920 model as new; £90.—Pullen, Ltd., Sittingbourne. [585

1920 3h.p. Royal Ruby, as new; absolute gift, £7—Ramsdens, 8 Maybell Av., Blackpool. [604

R. D. VARTY, Thundersley, Essex.—Agent for Royal Ruby motor cycles; immediate delivery. [248

ROYAL RUBY-J.A.P. 2¾h.p., 2-speed, lamps, horn, condition as new; £42.—Marston, 31, Bridge St., Chester. [68

DAVIES, of Manchester, can deliver 1921 Royal Rubys from stock.—229, Deansgate. 'Phone: 5 Central. [24

1919 8h.p. Royal Ruby Combination, fully equipped, perfect; £95; exchange.—60, Wallingford Av., N. Kensington. [65

ROYAL Ruby (1919) 8h.p. Combination, in perfect condition, tax paid; £130.—Kensington, Wellington St., Slough, Bucks. [56

ROYAL RUBY 2¾h.p. 1921 Sports Models, delivered from stock.—Fowler and Brigden, 130, Eustace Rd., N.W.1. Museum 4827. [05

ROYAL RUBY 2¾h.p. Lightweight, 2-speed, spring, new engine, tyres, perfect; bargain, £4 Sessions, 155, Maryvale Rd., Bourneville. [57

ROYAL RUBY 1917 2¾h.p., 2-stroke, good condition lamps, new belt; 30 gns.; ride away 7 p.m.—39, Broughton Rd., West Ealing. [5

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

Royal Ruby.

1920 Royal Ruby 8h.p. Combination, 3-speed, done 1,000 miles, completely equipped, Tan-Sad, etc.; 180.—Junction Garage, Silverhill, Hastings. [3107

1919 8h.p. Royal Ruby Combination, J.A.P. engine, condition and appearance as new; any trial or examination; £105.—2, Fortunegate Rd., Harlesden. [6423

ROYAL RUBY 1919 8h.p. Combination, lamps, electric and bulb horns, Easting, 3-speed, kick start; £135, or near offer.—Ivydene, Herne Grove, Sunstans Rd., East Dulwich. [6137

8h.p. Royal Ruby, new Jan., 1921, tax paid, mileage 200, perfect, owner getting combination; sacrifice £85, or without lamps and horn £80; near Birmingham.—Box 553, c/o *The Motor Cycle.* [X2233

8h.p. Royal Ruby, spring frame, 2-speed, clutch and kick starter, complete with lamps, horn, and tools cost £130 when new, only run about 50 miles; price reduced to £90; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [6157

Rudge.

1921 I.O.M. Rudge, T.T. model, absolutely new; £85.—Below.

1920 Rudge Multi, 7-9h.p. twin, Klaxon, mileage 250, condition as new, and cost £150; an exceptional bargain at £97/10; exchanges or extended payments.—The Layton Garages, 90, High St., Oxford Grams: Integrity. 'Phone: 581. [X2365

1921 Rudge Multi 3½h.p. in stock.—Morris and Co., 139, Finchley Rd., N.W.3. [5816

1915 Rudge Multi, new tyres, licensed; £35; bargain.—3, Park St., Wellington, Salop. [X2231

RUDGE 1914 3½h.p., excellent running order, owner returning India; £55.—19, Corlton Rd., Ealing. [4254

1914 I.O.M. Rudge, clutch, perfect, genuine; gift, 29 gns.—Ramsdens, 8, Maybell Av., Blackpool. [6053

1918 Rudge Multi 3½h.p. C.B. Combination, any trial; £65.—Cox, Hill Farm Newtown, Newbury, Berks. [5698

-6h.p. Rudge Multi Combination, new January, excellent condition; £120.—Pullen, Ltd., Sittingbourne. [5849

RUDGE Multi 3½h.p., sloping tank roadster, pedal start, just delivered; £85.—Multi, 47, Streatham Hill, S.W.2. [5960

RUDGE 3½h.p. Semi-T.T., £35; also latest Rudge Multi, in stock, £85.—Marston, 31, Bridge St., Chester. [6840

1920 Rudge Multi Combination, 5-6h.p., new condition and appearance; 100 gns.—Farrow, St. James's Rd., Gravesend. [5836

BRAND New 3½h.p. Rudge, T.T., full guarantee; £85.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0543

RUDGE Multi, 1919, 3½h.p., engine perfect, foot, speedometer, electric light, spares; £70.—Mallam, 7, Spon St., Coventry. [X2150

1920 Rudge Multi Combination, 3½h.p., electric lighting, condition perfect; £90.—382, York Rd., Wandsworth, S.W.18. [6247

RUDGE Multi 1919 Combination, all accessories, splendid condition; £65.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E. 3155. [6956

1920 I.O.M. Rudge and Coachbuilt Underslung Sidecar; £95, or nearest offer.—Jeffery, 3, Hermit Grove, Southend-on-Sea. [6258

1921 Rudge Multi at £85, the finest value to-day; cash or easy payments.—S. E. Clapham (Motors), Rockwell St., Greenwich, S.E.10. [5667

RUDGE Multi, 1915, 5-6h.p., fast sporting mount, new Palmer cord, must sell; £50; trial (Lnn-)—Box 3,812, c/o *The Motor Cycle.* [6335

BRAND New Rudge Multi, latest pedal starter, unused, all accessories; exceptional opportunity, £.—294, Kennington Park Rd., S.E.11. [6573

RUDGE Multi, 3½h.p., sloping tank, roadster, with pedal starter, in stock; £85.—Peacock, 219, High St., Balham. 'Phone: Streatham 170. [6911

RUDGE 3½h.p., I.O.M., late 1920, lamps, horn, spares, excellent condition; any trial; £75, or nearest.—143, Promenade Rd., Fleetwood. [6642

RUDGE Motor with N.S.U. 2-speed Gear, nearly new sporting canoelet sidecar; price £40, or near offer.—Hayward, 69, Trumpington St., Cambridge. [6086

RUDGE 1913 3½h.p., clutch, single speed, K.S., lamps, etc., tax paid, £35; sidecar for same, £10.—Timbs, 43, Birnam Rd., Tollington Park, N.4. [6719

1920 I.O.M. Rudge Multi, small mileage, lamps, horn, speedometer, absolutely as new; special price to clear, £70.—Rhosha Motors, South St., Romford. [5948

1920 Rudge Multi, I.O.M., Lucas lamps, horn, unpunctured, perfect; £75; would exchange with for late combination.—20, Derby Rd., W. Croydon. [6765

1920 3½h.p. Rudge Multi, excellent condition, spares, accessories, tyres perfect, very fast, any or examination given; £75, or near.—N. Smith, Bye, Wilts. [6036

Burlington
MOTOR CYCLE CO. LTD

Confidence



In our workmanship enables us to give a

THREE MONTHS' GUARANTEE

with every machine we recondition.

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DOUGLASES

indistinguishable from new. Fitted with New Carburetter, New Tyres, New Belt, New Chain, etc., and fully equipped for immediate service on the road.

2¾ h.p., 2-speed £65
4 h.p., 3-speed, k/s, solo £85
4 h.p., 3-speed, k/s comb., with Brand New Burlington Sidecar £110

If you can't ride, we teach you—FREE

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Not W.D.)

MOSELEY HEAVY

26 x 2¼" 26 x 2⅜"
26 x 2½" 28 x 3" } 32·6.

Carriage 1s. extra. Trade Supplied

TUBES 26 x 2¼" 5/6.

SLOUGH

We have still a number of P. & M.'s and Clynos in the rough at our dump at Slaugh. There are also some P. & M., Clyno, and Douglas Sidecar Chassis and Bodies, which are selling rapidly at scrap prices. Enquiries should be made quickly at the dump or to

The BURLINGTON MOTOR CYCLE COMPANY, LTD.,

7, South Side, CLAPHAM COMMON, S.W.4.

'Phone: Brixton 2417

'Grams: "Burlington Motors, Clapham."

(50 yards from Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

Rudge.

RUDGE Multi, late 1919, 3½h.p., clutch model, large Miller lamp, Klaxon, little and carefully used; thorough trial and inspection; £58.—Barker, Seberghan, Dalston, Cumberland. [5860

1916 3½h.p. T.T. Rudge Multi, handle-bar clutch, kick starter, speedometer, C.A.V., Senspray, lamps, accessories, licence, new condition; £65; 2¾h.p. Douglas part.—63, Solon Rd., Brixton. [6299

1920 (late) Rudge Multi, I.O.M., 3½h.p., T.T., speedometer, knee-grips, spare belt and case, tube case, copper exhaust, tools, etc., excellent condition and appearance; £65.—Yarnold, Huntingdon. [6629

RUDGE Multi 3½h.p. T.T., brand new, pedal starter, immediate delivery from stock at makers' latest reduced price; £85, no waiting; in stock ready to drive away.—Wilkins, Simpson, opposite Olympia, London. [6002

3½h.p. Rudge Multi 1916 Combination, just overhauled, reconditioned, re-enamelled, condition and appearance perfect, coachbuilt sidecar, screen, new tyres, speedometer, etc.; only wants seeing; £85, tax paid.—Tavistock, Cowper Gardens, Wallington. [5653

1919 (Nov.) Rudge Multi, I.O.M. tourer, mileage 3,000, Cowey speedometer, lamps, horn, spare belt, tube, cover, tax and insurance paid; this machine is perfect throughout, and open to any trial or expert examination; £70.—D., 53, Chetwynd Rd., N.W.5. [6967

Scott.

SCOTT Latest 1921 Model in stock; £130.—Marston, 31, Bridge St., Chester. [6843

SCOTT 3½h.p., 2 speeds, perfect condition; trial; £30.—17, Heaton Rd., Mitcham. [6273

£35; Scott, needs little attention; write appointment.—Scott, 75, Richmond Rd., N. [6680

SCOTT Combination perfect, all on, tax paid; offers.—David, Westgrove, Bath Rd., Stroud. [6016

1913-14 Scott, overhauled by agents, fully equipped; —40, Rice Hey Rd., Egremont, Cheshire. [6217

SCOTT 3½h.p., 1921, from stock, £130; or with Watsonian sidecar, £152/10.—Gibb, Gloucester. [0445

SCOTT, 1910, mechanically perfect, wants adjusting, tax and all on; offers.—Sowerby, Beelsby, Grimsby. [6340

BRAND New 1921 Scott, unpacked, will exchange for Triumph or B.S.A., or sell for £115.—Box 3,795, c/o *The Motor Cycle.* [5873

1920 Scott, speedometer, lamps, horn, licensed, excellent condition; £88.—Edwards, 50, Harrington Rd., South Kensington. [6918

1920 Scott, 3in. Palmers, lamps, horn, licence, Binks carburetter, exceptionally sweet and economical; sacrifice £90.—Bunting, Wealdstone. [6929

1920½ Scott Combination, lamps, horn, tax paid, insurance policy, little used; 111 gns.—Gardiner, New Lodge, Hyde Park, W.2. [6477

SCOTT, 1920, semi-T.T., mileage under 500, unpunctured tyres, excellent condition; offers around £100.—36, New End Sq., Hampstead. [7025

1920 Scott, complete, lamps, tools, etc., mileage about 1,000, just overhauled by makers, climb anything; £95.—85, Bencosfield St., Bolton. [6195

1915 Scott, engine 2914, just re-enamelled and overhauled; £48; exchange any 2¾h.p. Blackburne.—35, Francis Rd., Stechford, Birmingham. [X2267

SCOTT 1916 Combination, completely overhauled and re-enamelled, new tyres, chains, etc.; £85, no offers.—Mylam, 197, London Rd., Croydon. [6767

SCOTT 3½h.p. Motor Cycle, solo, in top-hole condition, new 1920, very little used; price £105, or near offer.—Apply, Pearce, 77, High St., Sandgate. [2308

1913 Scott, Bosch mag., Binks, lamps, horn, tax paid, engine and gears thoroughly overhauled, splendid condition; £35.—Dawson, 34, Aspthill Rd., Bedford. [5906

SCOTT Coachbuilt Combination, good condition and appearance, Amac, spare Binks, all accessories; £55; week-day evenings only.—Seal, 14, Woodend, Sutton. [5976

1919½ Scott, semi T.T., Lucas lamps, Cowey speedometer, tax paid, tyres good, splendid condition, fast and reliable; £90.—199, Sumatra Rd., West Hampstead, N.W.6. [5668

1921 Scott Squirrel, only one left, brand new; price £130; exchanges or extended payments.—The Layton Garages, 90, High St., Oxford. T.A.: Integrity. 'Phone: 581. [X2343

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. Phone: Brixton 2417. [0510

SCOTT, 1915, 2-speed, clutch, all-chain, new Miller lamp set, Lucas horn, tax paid for year, T.T. model, very fast, splendid condition, appearance very smart; any trial; £42/10.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. [5916

SCOTT Combination, enamel, etc., in good condition, recently overhauled, genuine Scott sidecar, lamps, horn, etc., licensed, ride reasonable distance to purchaser, any trial; £65, or exchange late model high powered solo.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [6678

MOTOR CYCLES FOR SALE.

Scout.

1921 3¾h.p. Scott and Sidecar Chassis, fitted with Lucas Magdyno lighting outfit, Bonniksen trip speedometer, Ace aluminium discs, Palmer light car tyres, special gear control, flexible exhaust pipe, has been carefully run in for 500 miles only, and in perfect tune, enamel unscratched; any examination; cost £220, price £175.—Fitton, Birkby, Northfields, Dewsbury. [5676

Singer.

1913 2¼h.p. 2-speed Countershaft Singer, lamps and horn, in perfect order; £25.—Wilderspin, Chatteris. [6936

1914 4½h.p. Singer C.B. Combination, 2-speed, thoroughly overhauled; £65.—Seen 216, Westbourne Grove, W.11. [6539

1914 2½h.p. T.T. Singer, 2-speed Albion, lamps, Brampton forks, fast; £25.—Shaw, New St., Wellington, Salop. [X2227

SINGER 4½h.p. Combination, 2 speeds, countershaft, clutch, kick start, Millford, Tan-Sad, lamps, etc., thoroughly overhauled recently; £65.—144, Lansdowne Rd., Tottenham. [6645

Sparkbrook.

1920 2¾h.p. Sparbrook, done 700 miles, lamp and horn; £50.—Wilderspin, Chatteris. [6937

SPARKBROOK Villiers 2-stroke, 2-speed countershaft; £38.—Sharp, 274, York Rd., Wandsworth, London. [6419

1921 Sparkbrook, just delivered from works; £72/10; complete with lamps.—B. Pullan, Cirencester. [5926

NEW Sparkbrook Motor Cycles: single-speed, £64; 2-speed £70; in stock for immediate delivery; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [6167

SPARKBROOK 1920 2½h.p., 2-speeds, as makers' specification, shop-soiled only; three of these at the bargain price of £50 each for cash only.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [6861

Sun.

SUN V.T.S. 2¾h.p., 1917, speedometer, accessories, tax paid; £34.—193, Ham Park Rd., Forest Gate, London. [5594

1914 Sun-Precision, 3¾h.p., 3-speed, Sturmey hub, electric lamps, perfect order; £49.—2, Appian Rd., Bow. [6029

SUN, V.T.S., 1917, 2½h.p., 2-stroke, overhauled, lamps; price £40.—Browne, White House Hotel, Earl's Court Sq., S.W. [5735

Sunbeam.

SUNBEAM, latest new 1921 light special speed model in stock.—Moss, Wem. [X2287

YEOVIL.—Moffat, Town Hall Garage,—Sunbeam, 1921 models.—'Phone: 50. [3333

SUNBEAM 3½h.p., 1916, Bonniksen, licence, insured; £95.—51, Beauchamp Rd., S.W.11. [6509

E. KICKHAM for Sunbeam, sole agent for Bristol and district.—Stokes Croft, Bristol. [3352

8h.p. Sunbeam Combination, spare wheel; £130.—Write, 272, High Rd., Tottenham, N.15. [6577

SUNBEAM 1921 3½h.p., immediate delivery; list price.—Wiggins and Sons, Romsey, Hants. [6063

1916 3½h.p. Sunbeam, as good as new; seen; £90.—Bounds, 223, High Rd., Kilburn, N.W.6. [5885

SUNBEAM 8h.p., hood, screen, spare wheel, Lucas dynamo; £165.—Long, Ditton Rectory, Surbiton. [6797

IN Stock, latest 3½h.p. Sunbeam 8h.p. combination, with lighting set and spare wheel.—Tilleys, The Esplanade, Weymouth. [6798

SUNBEAM 3½h.p., Lucas lamps and horn, speedometer, Ace discs; price £90.—Wessex Garage, opposite Theatre, Exeter. [6099

SUNBEAM 3½h.p., 1915-16, Lucas accessories, stored during war, good condition; £80, offers.—30, Roy-land Rd., Loughborough. [X2281

SUNBEAM Combination, 8h.p. twin, practically new condition, any reasonable trial; £180.—Hopkins, New St., Ledbury. [6889

SUNBEAM 3½h.p. 1919 Combination, all accessories, little used; accept £140 for quick sale.—Philpot, St. George's St., Canterbury. [6607

BRAND New 8h.p. Sunbeam Combination, spare wheel, unregistered, unridden; 170 gns.—Fox, 102a, Church St., Chelsea. [6499

SUNBEAM 3½h.p. 1920 Combination, fully equipped, small mileage, condition perfect; £160.—Philpot, St. George's St., Canterbury. [6606

3½h.p. Sunbeam Combination, fitted Lucas lamps, Cowey, Klaxon, Swan sidecar, wind screen; £100.—37, Arlington Rd., Surbiton. [6277

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

£75.—1916 3½h.p. Sunbeam, just fitted new cylinder, piston, gudgeon pin, rings, valves, and springs; no offers.—Ford, 62, Gerrard St., Derby. [X2155

1920 8h.p. Sunbeam de Luxe Combination, lavishly equipped, original tyres, tax paid; £180; exchange.—60, Wallingford Av., N. Kensington. [6532

THE MOTOR CYCLE

Insurance Policy



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A Reward of £15 is offered by the Autocar Fire and Accident Insurance Co., Ltd., of 77, Cheapside, London, E.C., to the first person giving information leading to the recovery of the motor cycle as under, and the apprehension of the thief or thieves:—

7-9 h.p. "Indian" Motor Cycle, with Millford Sidecar, upholstered dark green leather, 1919 model, registered No. X.C.577, Dixie Magneto, Schebler Carburetter, Dunlop Tyres, Corbi Brown Speedometer, Electric Horn, Dynamo Lighting, Speed Chassis spring broken.

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MOTOR CYCLES FOR SALE.

Sunbeam.

NEW 1921 3½h.p. Sunbeam, 3-speed, kick start clutch; list price £155/8; exchanges entertained —Bambers', Eastbank St., Southport. Tel.: 607. [X063

LATE 1920 Sporting Sunbeam 3½h.p., practically unused, for sale, as owner leaving England; also 4h.p. Douglas.—Scott-Hansen, 61, Evelyn Garden S.W.7. [413

3½h.p. Sunbeam Combination, indistinguishable from new, 1920 engine, under 300 miles, Luca accessories; £130.—Melrose, Nursery Walk, Worcester. [624

SUNBEAM 1920 Sporting 3½h.p., electric lighting horn, speedometer, licence, insurance, superl condition; £135, or nearest.—2, Queen's Drive, Tbame Ditton. [677

1920 Sunbeam 3½h.p., sidecar, Lucas lamps, Wat ford, engine just overhauled by makers; trial £155.—Powell, 28, Stafford Terrace, Kensington London. [699

GROVE.—3½h.p. 1919 Sunbeam Combination, over hauled and as new, full equipment, tax paid £135.—Grove Motor Co., 34, Hereford Rd., Westbourn Grove. [608

1921 3½h.p. Sunbeam, 3-speed, etc., Lucas horn licence paid, only run 120 miles, absolutely a new; £138.—Bambers, Ltd., Eastbank St., Southport Tel.: 607. [X223

8h.p. Sunbeam Combination, Nov., 1919, delivery all accessories, including spare wheel; trial by appointment; £175, or nearest offer.—M.D., 145, Harley St., W.1. [622

SUNBEAM 1915 3½h.p. Model, with sidecar, com plete with all accessories, excellent condition £110.—Parker's, Bradshawgate, Bolton; also 245, Deans gate, Manchester. [X216

3½h.p. Sunbeam, 1919, mileage only 2,000, splendi 2 running order, fitted speedometer and carrier bag 1921 licence, complete; seen Norwich; £95.—Box 3,769 c/o *The Motor Cycle*. [578

SUNBEAM 3½h.p., 1920 Sunbeam sidecar, lamps tools, etc., used chiefly solo, licensed, excellent con dition throughout; £159.—Dr. Warren, 175 Enfield Highway, Middlesex. [678

SUNBEAM 1919 (Oct.) 3½h.p. Sports Model, lamps horn, knee grips, Ace discs, long plated exhaust lovely condition; £125, or near offer.—Howell, St Leonards, Hereford. [567

SUNBEAM, solo model, re-enamelled and plated indistinguishable from new, main parts and al accessories new; no reasonable offer refused.—41, Gt Dover St., S.E.1. [603

SUNBEAM 1920 3½h.p., special engine, gold medal Stile Cop climb, Cowey, lamps, spares, mileage 1,700, 90 m.p.g.; cost £186; £145,—Freeman, 88 Shorrolds Rd., S.W.6. [560

1919 (Oct.) 3½h.p. Sunbeam Combination, first used March, 1921, Lucas lamps, Cameo screen, le shields, usual accessories, excellent condition; £150.— Piddock, Kingswinford. [607

SUNBEAM 1919 8h.p. Twin Combination, dynamo lighting, electric horn, hood, screen, spare wheel new tyre, excellent order; bargain, £150.—Jones, Cheve ley, High Park Rd., Farnham. [583

1920 Sunbeam Combination, 8h.p., double lightin set, speedometer, hood, screen, spare, accessorie tax, insurance paid, perfect condition; bargain, £180.— 47, Rochester St., Kempton, Brighton. [525

1920 (late) Sunbeam Combination, 3½h.p., screen speedometer, Lucas lamps and horn, mileage 400 indistinguishable from new; snip, £150.—48, Warlock Rd., Paddington. Tel.: Willesden 1744. [579

8h.p. 1921 Sunbeam Combination, Magdyno lighting set, electric horn, interchangeable wheels, in cluding tax, insurance, spare cover, fully equipped £250.—Baker, Poulton, Sneyd Park, Bristol. [641

3½h.p. Sunbeam Combination, 1916, electric light 2 ing, Easting, new cylinder, piston, chains, Dun lops (receipts shown), tax, insurance (Oct.), spares £100.—93, Corrance Rd., Brixton, S.W.2. [638

1919 3½h.p. Sunbeam Combination, black and gold child's seat, hood, College leg shields, Cowey speedometer, electric lamps, new condition, tax and insurance paid, any trial; £139, or close offer.— Richardson, 380, Kingsland Rd., London, E.8. [602

GENUINE Bargain, 6h.p. Sunbeam, June, 1915, full equipped, overhauled throughout, replated and enamelled in makers' colours, and sidecar chassis with spring wheel; any trial; £128 for quick sale; no offers.—Hampton, Finchampstead, Farnburn Av., Slough [564

1915 3½h.p. Sunbeam Combination, overhauled by makers, re-enamelled and plated, sidecar re trimmed and coach painted; price £120, which in cludes speedometer, lamps, luggage grid, spares, licence etc.; photo; privately owned.—Enquiries and on view at 1, Townshend Cottage, St. John's Wood, N.W.8. [560

1920 Sunbeam 8h.p. Combination, accumulator lighting, speedometer, horn, mirror, lamps screen, waterproof apron, new tyre on spare wheel, in terchangeable wheels, luggage grid, Binks, tyres very good, appearance like new; £200, or near offer.—The Layton Garages, 90, High St., Oxford. 'Grams: Integrity. 'Phone: 581. [X234

MOTOR CYCLES FOR SALE.

Sunbeam.

1919 Sunbeam 3½h.p., licence paid, 3-speed, K.S., and clutch, speedometer, Lucas accessories, in very fine order throughout; price £115; exchanges or extended payments; approval with pleasure.—The Layton Garages, 90, High St., Oxford. Grams: Integrity. Phone: 581. [X2347

LATE 1920 3½h.p. T.T. Sunbeam, under 500 miles, unscratched, leg shields, Cowey horn, 3-jet Binks, B. and H. lighting, Bonniksen speedometer, interchangeable wheels, 3in. Dunlops, tax and insurance; price £145; after 6.—E.B., 5, Sandown Villas, Grove Road, Mitcham, Surrey. [5779

Torpedo.

TORPEDO-PRECISION, 1915, 2-stroke, 2¼h.p., 2-speed, lamps, legshields; any test; £29.—371, Earlsfield Rd., London, S.W. [6129

TORPEDO-PRECISION, 2¾h.p., new engine, 1919, 2-speed, tax paid; £27, near offer.—Waters, 10, Somerset Rd., Tunbridge Wells. [6343

Triumph.

PREMIER Motor Co. for 1921 Triumphs.

TRIUMPH; at the new reduced prices now in stock.

WE Can Deliver to your address within 24 hours 2¼h.p. lightweight Triumph, £70; W.D.B. reduced, £95; Type H 4h.p., 3-speed, £115; Typo S.D., chain drive, £125; sidecars from £25 to £50; buy your machine direct from the Triumph specialists.—The Premier Motor Co. Aston Rd., Birmingham. [X2263

TRIUMPHS, S.D., 1921, in stock; £125.—Smith's, Main St., Mexborough. [5625

CROSS, Rotherham, can give delivery of all model Triumphs from stock. [X2291n

1913 Triumph 3-speed Combination, good order; £48.—3, Park St., Wellington, Salop. [X2228

1920 Triumph Combination, 3-speed, well equipped; £120.—144, Ladbroke Grove, W.10. [6817

1919 Triumph, late, condition new, all accessories; £90; offers.—555, Fulham Rd., S.W. [6122

1919-20 Triumph-Gloria Combination, absolutely equal to new; £130.—114, Brixton Hill. [698

1918 Triumph, excellent tyres, just overhauled; £66; bargain.—3, Kildowan Rd., Goodmayes. [5604

TRIUMPH 3½h.p., perfect order and condition, lamps, horn, etc.; £35.—17, Vicarage Rd., Sunbury. [6716

TRIUMPH 1917-18, C.S., excellent condition, lamps, Klaxon.—446, Rotherhithe New Rd., S.E.16. [6404

TRIUMPH, 1918, new lamps, P. and H. horn, perfect condition.—Biggs, Guildford St., Luton. [6184

DAN GUY, Weymouth.—1921 Triumph combination, £182/10; Triumph 2-stroke, £75; in stock. [0555

1921 4h.p. Triumph Model H in stock; £115.—Morris and Co., 139, Finchley Rd., N.W.3. [5813

1921 Junior Triumph, 2-speed, in stock; £70.—Morris and Co., 139, Finchley Rd., N.W.3. [5814

£65.—Countershaft Triumph, renovated, lamps, horn, sound condition.—King, Egrove Farm, Oxford. [X2215

TRIUMPH 1921 Baby Model, £70; W.D.B. models, £90 and £95.—Marston, 31, Bridge St., Chester. [6830

COUNTERSHAFT Triumph Combinations from £80.—Owen, 59, Scholefield Rd., Upper Holloway. [X2306

1914 T.T. Triumph, complete lamps, a fine sporting mount; £42.—Cross, Agent, Rotherham. [X2291

IN Stock, Triumph Model H; £115; open to exchange, or arrange terms.—Bunting, Wealdstone. [6927

TRIUMPH 3½h.p. Combination, licensed; £60.—Chambers, 100, Aldborough Rd., Seven Kings. [5994

COUNTERSHAFT Triumph Combination; £85.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [6250

TRIUMPH Junior, 1920, perfect condition; £60, or near offer.—Thompson, The Elms, Prestwich, Manchester. [X2107

TRIUMPH Combination, 3½h.p., overhauled; £45, bargain.—3, St. Ann's Terrace, St. John's Wood, W. [7011

TRIUMPH 1912 Coachbuilt Combination, Grade gear, tax paid; £40; trial.—89, Rushey Green, Catford. [6046

1918 4h.p. Triumph 3-speed Countershaft Combination, perfect; 95 gns.; not W.D.—27, French St., Sunderby. [6240

1920 Triumph Combination, Easting screen, tax paid, new condition; best offer.—27a, Nicholls St., Coventry. [X2196

BABY Triumph, done 250 miles only, Sterling shields, lamps, licensed; £70.—Mitchell, Studley Rd., Brixton. [6801

COUNTERSHAFT Triumph, reconditioned as new, full equipment; any trial; £65.—4, Queen's Mews, Windsor. [6224

TRIUMPH 1921 in stock, cash or exchange H. £115, S.D. £125, latest reduced prices. 114, Brixton Hill. [6984

Don't use a Hammer and Chisel on an inoffensive nut because it is awkwardly situated, round headed, or tight.

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persuades such a nut to yield and never slips. Acts as a set key, adjustable, and ratchet spanner.



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27, Notting Hill Gate, London, W.11

MOTOR CYCLES FOR SALE.

Triumph.

1919 Triumph and Sidecar, complete equipment, excellent condition; £120.—Hopkins, New St., Ledbury. [6892

4h.p. Triumph, 3-speed countershaft, excellent condition, accessories; 58 gns.—Tersfield, Westbury Rd., New Malden. [6189

TRIUMPH, 1914, 3-speed, perfect, £46, gift, or sell parts; stamp.—Creed, 66, Umfreville Rd., Harringay, N. [6630

3½h.p. Triumph, adjustable pulley, excellent condition, fast, sporty, tax paid; £30, lowest.—711, Garratt Lane, Tooting. [5988

1920 Triumph, Model SD, all chain drive, brand new, unridden; special price to clear, £115.—Below.

1920 Triumph Model HC Gloria Combination, brand new, unridden; list price £165; special price to clear, £150.—Rhosha Motors, South St., Romford. Tel.: 95. [5949

1918 Countershaft Triumph, renovated, makers' colours, guaranteed fully equipped; £67/10.—1, Othello St., Liverpool. [6699

1918 Countershaft Triumph Combination, beautiful condition; £85; solo £65.—60, Wallingford Av., N. Kensington. [6534

TRIUMPH 3½h.p. 3-speed C.B. Combination, complete, excellent condition; any trial; £58.—102, Kenyon St., Fulham. [6635

1914 Triumph 4h.p., 3 speeds, extra good tune, nice coachbuilt sidecar, excellent turnout; £55.—Bunting, Wealdstone. [6928

56 GNS.—Triumph, 1918, countershaft model, new belt and tyre; must sell.—20, Treen Av., Hoggers Corner, Barnes. [6478

TRIUMPH 4h.p. Countershaft Combination, 1918, little used, appearance as new; £120, all on.—A.M., 31, Burditt Rd., Bow, E.3. [6121

TRIUMPH 4h.p., late 1920, countershaft, solo only, lamps, horn, tax; £106, offers.—Robson, Helmdon, Brackley, Northants. [6447

TRIUMPH Combination, 1918, new Canoelet touring sidecar, all accessories; £90, or offer.—4, Moore St., Colne, Lancs. [X2217

TRIUMPH Junior, 2-speed, in splendid order, complete with lamps, Lucas horn, tools; £48.—Rolfe, 133, Stockwell Rd., S.W.9. [5961

TRIUMPH, 1918, engine No. 54628, and sidecar, perfect order, tax paid; £95.—Broomfield, 322, Whitehorse Rd., Croydon. [6792

2¼h.p. Triumph, 2-speed, free, recently overhauled, accessories, Tan-Sad, insurance; what offers?—102, Brookhill Rd., Woolwich. [5997

1919 Triumph and Langford Sidecar, speedometer, lamps, horn, luncheon basket, licensed, perfect condition; £98.—Below.

1917 and 1918 Triumphs, reconditioned, in perfect running order, from £60.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. 'Phone: Ken. 3709. [5448

TRIUMPH 1918 4h.p. Countershaft, renovated, tyres as new, splendid condition; £65.—30, Crystal Palace Park Rd., Sydenham. [6261

TRIUMPH Combination, 4h.p., countershaft, late 1918, little used, accessories, Mills-Fulford; 85 gns.—Piott, High St., Reigate. [6185

£27 Triumph, 1920 tank, drop frame, large lighting set, mechanical horn, perfect condition.—88, Brook Green, Hammersmith. [6177

1914 Triumph, condition absolutely as new, 3-speed Sturmey hub; £57/10.—Syd. Pearson, Gate House, Cheylesmore Coventry. [X2309

SMART Turnout.—Triumph combination, C.B. sidecar, in good running order, all on, tax paid; £55.—8, Malvern Rd., Dalston, E.8. [5733

TRIUMPH, countershaft, 3-speed, 1918, engine and gear box overhauled by makers; accept £62/10.—179, Brixton Rd., London, S.W.9. [X2562

1921 Triumph, Model H, new 3 weeks ago, tax paid, lamps, horn; £118. — Haddon, Jun., Lower Tysoe, Kineton, Warwickhire. [X2527

1919 Triumph Gloria Combination, tax, Triplex screen and scoop, accessories, new condition; 120 gns.—39, Warren Rd., Wanstead. [6111

1914 Triumph 4h.p., 3-speed Sturmey, in perfect condition; accept £60, or nearest offer; tax paid.—Butcher, Wellesbourne, Warwick. [5927

1918 4h.p. Triumph, renovated, perfect condition, lamps, horn; £70.—Blake, 4, Park Crescent Mews East, Gt. Portland St., W.1. [6239

TRIUMPH, 1919, renovated, brand new throughout, lamps, and horn, tax paid; £72.—304, Fulham Rd., S.W.10. 'Phone: Kens. 2372. [6100

TRIUMPH Baby, 1920, excellent condition, lamps, horn, licence, aluminium guards, spares; £65.—14, St. Andrew's Rd., Enfield, Middlesex. [5907

TRIUMPH, 3½h.p., clutch model, adjustable pulley, overhauled, kick start, first-class machine; £32; worth double.—321, Edgware Rd., W.2. [7000

1918 Triumph, countershaft, overhauled this season, polished crank case and chain guard, licensed; £70.—58, Blagdon Rd., New Malden. [7018

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH Gloria Combination, 1920, accessories, tax paid and insured, splendid condition; £145.—67, Thurleigh Rd., Wandsworth Common, S.W. [6138

TRIUMPH Junior, 1919, mileage about 3,000, first-class condition, accessories, tools; Birmingham; £58.—Box 3,797, c/o *The Motor Cycle*. (D) [5875

1920 Triumph and Sidecar, fine condition; £105; fine assortment at prices to suit all; 3 months' guarantee given.—Ross, 86, High Rd., Lee. [6490

1919 Countershaft Triumph Combination (tax paid), like new; £89, lowest.—Garaged at Sells, five doors from Rosendale Hotel, West Dulwich. [6183

TRIUMPH 1919 4h.p., countershaft, speedometer, lighting, Klaxon, very good condition; £88; appointment.—Crossley, The Drive, Chingford. [6986

1919 Model H 4h.p. Triumph Combination, lamp set, Cowey, spares, tube, cover, belt, like new; £105.—Peters, 85, Samuel Rd., Portsmouth. [6023

TRIUMPH 3½h.p. Combination, 2-speed clutch, needs little attention, compression very good; £25.—Colonial Motors, 104a, Finchley Rd. Hamp. 7822. [6878

1919 Triumph Gloria Combination, speedometer, hood, horn, Easting, 3 lamps, footboards; any trial, ready for road.—Reed, 201, New King's Rd., Fulham. [6360

1912 Clutch Model Triumph, lamps, horn, tools, recently overhauled, enamelled, grand running order; £26.—2, Poplar Grove, Shepherd's Bush. After 6. [6113

TRIUMPH Combination, 1918, countershaft, 3-speed and kick-starter; £90.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. Hampstead 2767. [0587

SPORTING Offer to Sportsmen.—1920 Triumph, 4h.p., fixed engine, perfect condition, 100 m.p.g.; £65.—Spear, 80, East Sheen Av., East Sheen, S.W. [6651

1920 Triumph-Gloria Combination, electric lighting, tax, splendid outfit, little used; sacrifice £135, quick sale.—40, Park Avenue South, Hornsey. [6662

TRIUMPH, 4h.p., late 1914, condition nearly new, fully equipped; best over £50.—Seen, Harvey Hudson and Co., High Rd., South Woodford, Essex. [5610

TRIUMPH 1920 4h.p. Model, Triumph sidecar, Watford speedometer, as new; £160.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2166

NEW (not W.D.) 1920 Triumph, 3-speed, fully equipped, licensed; any trial (after 6.30); £80.—Rhodes jun., 199, Algernon Rd., Ladywell, S.E.13. [6905

TRIUMPH Countershaft, 4h.p., unscratched, indistinguishable from new, fully equipped; £75.—72, Longridge Rd., Earl's Court. 'Phone: Western 1344. [6395

TRIUMPH 4h.p. 3-speed, first-class condition, £65; also another, £69.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5895

1921 Triumphs at revised prices; cash or easy payments to secure; immediate delivery. Try Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [5666

TRIUMPH Combination, 3-speed, K.S., electric light, Klaxon, 2-seater sidecar, tax paid, spare belts, tyre, tube; £70.—Sgt. Thorpe, Police Station, Bethnal Green, E. [5612

LATE 1919 Triumph Model H., with coachbuilt sidecar, lamps, horn, speedometer, all spares, everything perfect; £110; after 6.—177, Roundhay Rd., Leeds. [5607

1920 (early) Triumph Junior, perfect running order, Lucas lighting, new tyres, tax paid; £55; after 1 p.m. Saturday.—Bennett, Birchtree, Keresley, Coventry. [X2788

1918 4h.p. Triumph, countershaft, 3 speeds, kick start, lamps, horn, excellent condition, ready to ride away; 65 gns.—Brawn, 94, High St., Beckenham. [6603

F.O.C.H. are Triumph agents. Combinations and solos, new and second-hand, in stock; bargains.—5, Heath St., Hampstead (near Hampstead Tube Station). [5980

£33; Triumph 3½h.p., 1912-13, stored 5 years, good mechanical condition, Bosch, tax paid, seen after 6 p.m.—44, West Side, Wandsworth Common, S.W.18. [6586

TRIUMPH, 3½h.p., clutch model, 1912, splendid condition, all accessories, tax paid; £28.—110, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Putney 2622. [6204

TRIUMPH, 4h.p., 1918, 3-speed countershaft gear, in excellent condition throughout; £65.—110, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Putney 2622. [6202

TRIUMPH 1914 4h.p. Combination, in good condition, 3-speed, accessories, engine and gears perfect; £60.—Woods, 330, Balham High Rd., S.W.17. Tel.: Latchmere 4368. [5616

1921 Triumph Combination, Model H., mileage 500, unscratched, fully equipped, tax paid, as new; bargain, £130.—48, Warlock Rd., Paddington. Tel.: Willesden 1744. [3797

TRIUMPH Late 1919 Combination, top gear change, Easting, Lucas lamps, Klaxon, Tan-Sad, accessories, in splendid condition; £120. After 7.—3, Harrington Sq., N.W.1. [5722

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MOTOR CYCLE SETS COMPLETE WITH ALL NECESSARY FITTINGS

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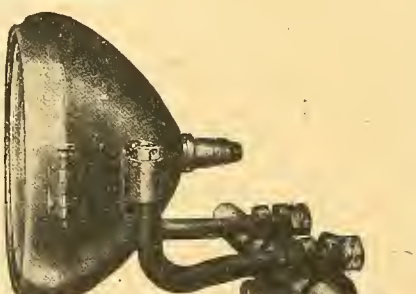
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'ASTRA' DYNAMOS are SIMPLE, RELIABLE, EFFICIENT, and can be run at high speeds without danger of burning out or damaging the accumulator.



Front 6¾in.

No. 1 Type Motor Cycle Head Lamp.

Price **63/-** nickel finish, with bulb and bracket.

This lamp, which is also suitable for light car work, is beautifully finished and scientifically designed so that a perfect focussing adjustment is obtained.

We can offer excellent Trade Terms for this Lamp.

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Astra Dynamo Co.,

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Telephone: Victoria 7545.

MOTOR CYCLES FOR SALE.

Triumph.

57 GNS. Spot Cash.—1918 4h.p. countershaft Triumph, excellent running order and condition; inspection invited.—436, Whitehorse Rd., Thornton Heath, S.E. [6640

£75.—Countershaft Triumph combination, new condition, been stored, sidecar blue, gold lined, extra heavies, speedometer, lamps, licensed.—Lambert, 1, Pollake, Croydon. [6526

TRIUMPH, 1914, 3-speed, clutch, just overhauled, enamelled, and plated, guaranteed mechanically sound; £45, or near offer.—Davies, 471a, Holloway Rd., London, N. [6584

TRIUMPH-GLORIA, late 1919, recently overhauled my makers, equal to new, Lucas lamps, horn, discs, spares, etc.; £130.—174, Church Hill Rd., Handsworth, Birmingham. [X2244

1914 3½h.p. Triumph, Philipson, clutch, Bosch, P.H., lighting set, heavy Dunlops, tools, etc.; £70; exchange Indian.—R. Taylor, Bulwick, Peterborough, Northants. [6065

3½h.p. Triumph Combination, 2-speed, K.S., hood, screen, Klaxon, lamps, tools, spare tubes, tax paid, fully insured; £60.—Baker, 149, Vartry Rd., Amhurst Park, N.15. [6755

CROYDON Agents for Triumph motor cycles. All models in stock, ready for immediate delivery.—Moore's Presto Motor Works, Ltd., 145, North End, Croydon. 'Phone: 2624. [1348

3½h.p. Triumph, 1912, single speed, clutch, kick starter, adjustable pulley, speedometer, Klaxon, Lucas lamps, excellent condition, tax paid; 40 gns.—40, Bexley Rd., Belvedere. [6556

1913 3½h.p. Triumph, overhauled 1920, clutch, Philipson, lamps, horn, speedometer, insured, tax paid, in perfect order, private owned; £40.—Bushe, White's Garage, Camberley. [5639

TRIUMPH 1914 4h.p. Combination, 3-speed, clutch, lamps, horn, speedometer, tax paid, good condition, running order; £75, near offer.—McKenzie, Grafton House, Acton Vale, W.3. [6327

TRIUMPH, 3½h.p., T.T., 1913, 3-speed, clutch, original condition, little used, lamps, horn, speedometer; £39.—110, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Putney 2622. [6203

TRIUMPH, 1918, practically new, 3-speed, clutch, kick start, £85; also 3½h.p. Triumph, replaced, 2-speed, £35.—Dental, 769, Romford Rd., Manor Park, London, E. 'Phone: Ilford 500. [6521

SEVERAL 1917 and 1918 Countershaft Triumphs, renovated, 3-speed, clutch, and kick-starter; £65.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube station. Hampstead 2767. [0586

TRIUMPH 1913, 3-speed, clutch, excellent condition, lamps, Tan-Sad, spares, accessories, new heavy Dunlops, insurance, tax paid; any trial; £55.—Young, 107, Central Park Rd., East Ham. [5809

TRIUMPH Countershaft 3-speed C.B. Combination, lamps, Cameo W.S., tools, etc., tax paid; £80, or near offer for quick sale.—H. E. Dodman, 84, Brondesbury Villas, Kilburn, N.W.6. [6713

BRAND New Chain-cum-belt Triumph, just received from makers, not ridden, semi-T.T. bars, good reasons for selling; £116; seen any time by appointment.—Temby, Okehampton, Devon. [5128

TRIUMPH, 1920, and sidecar, 4h.p., 3-speed, K.S., countershaft, hand clutch, equal to new, Cameo screen, Stewart horn, tools, tax paid; £115, near offer.—Dudley House, Park Rd., Wembley. [6300

TRIUMPH 1916 4¼h.p., countershaft model, with coachbuilt sidecar, complete with all accessories, in excellent condition; £95.—Alfred Wastnage, 65, Gt. Portland St., W. Tel.: Langham 2172. [3060

COUNTERSHAFT Triumph, W.D. Model, renovated, replated, re-enamelled, guaranteed 3 months; £20 down and 12 instalments of £5/15. — Auto-Traders, Ltd., 84, Jermyn St., London. [6747

1919 (Nov.) Junior Triumph, 2-speed, only done 900 miles, tax paid, fitted up regardless of cost, many spares, take two anywhere; £57; 1 to 2 a.m., or after 7 p.m.—55, Kenilworth Rd., Kilburn. [5707

1920 Triumph H Combination, Gloria sidecar; Cameo wind screen, lamps, mirror, mechanical horn, speedometer, Tan-Sad, tax paid, splendid condition; £135.—11, Grove End House St. John's Wood. [6139

TRIUMPHS.—We are the North London agents, and can give immediate delivery; chain drive, chain-cum-belt, and renovated models.—Jones Garage, Muswell Hill, N.10; and at Woodside Parade, North Finchley. [0382

TRIUMPH and Sidecar, 4h.p., 1918, 3-speed countershaft gear, clutch, and kick starter, all accessories, tax paid, very little used; £85.—110, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Putney 2622. [6205

TRIUMPH 1913-14 3½h.p., T.T., clutch, stored war, guaranteed faultless condition, fully equipped, Sensprav carburetter, 102 m.p.g., numerous spares include 2 nearly new covers and belt; £45.—2, Glen Rd., Leigh-on-Sea. [6554

IMMEDIATE Delivery of any Triumph Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0504

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Twenty-one Years' Progress.

TO-DAY (Thursday) the twenty-first anniversary of the historic 1,000 Miles Trial of 1900 is being celebrated in London. This meeting will no doubt be the means of a great deal being said and written concerning the progress made in mechanically-propelled vehicles since that date.

Anyone, who has followed the remarkable development of the motor cycle and the car concurrently must be impressed by the outstanding fact that the former has made greater strides than the larger vehicle. The cars of twenty-one years ago embodied almost every main feature of the present-day vehicle. In other words the 1900 types formed in general design and disposition of parts the nucleus of the 1921 car *de luxe*.

On the other hand, motor cycles have altered out of all recognition, both in appearance and practice. Then, the most popular types were tricycles and quadricycles, neither of which type survives to-day. Engines of 1900 had a low compression ratio, but here again, except for their ignition and carburation systems, and the fact that mechanically-operated exhaust valves are now general practice, they differed very little from the standard types in use to-day.

It is in external design and transmission systems that the greatest progress is observable. Since 1900, we have passed through several transient stages of progress, each marked clearly, one by the advent of the spray carburetter, another by the magneto, and a third by the countershaft gear box.

From high and unstable machines with pedalling gear, the motor cycle has developed into a type of vehicle which can be handled with comfort and confidence by the inexperienced. The modern motor cycle is also practically fool-proof.

Those who both ride motor cycles and drive cars should ask themselves whether the latter type of vehicle is any easier for the novice to manage than its ancestors of the types that competed in the 1,000 Miles Trial. Almost anyone can be taught to drive a motor cycle in an hour without undue risk of damaging the engine or the gears. Not so with the car, to change the gear of which requires, in most cases, skill that is not acquired by the novice without a great deal of practice.

If the main object of the automobile and the motor cycle industries has been to produce vehicles for people who are not mechanical and who require the minimum amount of tuition, then it can be said that motor cycle manufacturers have made greater progress to this end.

In one direction, at least, the car has made greater progress. It is, mechanically, practically silent, whereas the majority of the motor cycle engines of to-day cannot be compared with the modern car engine on this point.

Motor cycle progress during the past twenty-one years has been in clearly defined epochs, and we think that recent developments in engine design (which has been practically stagnant for so many years) are about to start another of these epochs. This year's T.T. race and Brooklands meetings will reveal the form these developments will take.

Public Interest in the Sporting Side.

IT would seem that the all-popular football match has at last found a serious rival as a week-end attraction for the crowd. Several recent *local club* events have each attracted several thousand spectators.

Speed has a wonderful lure; and miniature Brooklands events, on quiet hills or private roads, attract the public in ever-growing numbers. Those who come for thrills at present may in the future attend as a matter of interest, which may eventually beget the desire for possession.

Never has the enthusiasm of the general public for motor cycles been greater, and every competition attracts large crowds to the test hills. The younger generation in vast numbers takes an interest in the motor cycle movement, which must eventually augment the numbers of motor cyclists.

An index to the advertisements in this issue will be found on the page facing the back cover



OCCASIONAL COMMENTS By "IXION"

Some Dream.

THE other day the surgeon who takes up the bearings of my physical prime mover found it necessary to give me a whiff of some infernal dope, which in the language of his trade is known as "A.C.E." As luck would have it, just before I went off, a well-tuned two-stroke passed the open window of the nursing home—probably O'Donovan on his Velocette—anyhow, it had a *lovely* exhaust. Thanks to this I spent forty-five minutes of what the doctors humorously term "unconsciousness" at the wheel of the 450 h.p. Sunbeam. Some readers will fancy that to enjoy such a 'bus, even in imagination, is worth while waking up all blood and bandages with a complexion the colour of mustard. Opinions differ. In my dream the 450 h.p. Sunbeam shed both her front wheels immediately after we started, but by keeping the pace up to 150 m.p.h. it was just possible to keep her breastbone off the road. The route lay through Devonshire lanes. Wonder my hair was not grey when I came round. Next time I have to take anæsthetic, I shall put plasticine in my ears, and hang a copy of "The Soul's Awakening" at the foot of the operating table.

Gossip and Libel.

MY week's postbag has been rather interesting in quite an unusual way. If I had forwarded certain items from it to the manufacturers concerned, a crop of libel actions would have followed. Motor cycling circles are always as full of gossip as a mothers' meeting or a bank clerks' luncheon party. Jones starts the ball rolling by saying that the valves of the "A" break this year; Smith, not to be outdone, says that anything is better than owning a "B," because its roller bearings melt; and Brown tops the yarn by saying the "C" has just been reduced because the factory has 2,000 in store, and the firm's mechanics are being allowed to buy them for £25 cash. Such imaginary statements have a variety of origins. In some cases they are malicious lies spread by persons interested in a rival make. In others, the amateur motor cyclist invents the yarn (or 99% of it) because he likes to pose as being in the know. Occasionally, the story is an ingenious expansion of an isolated mishap into a universal catastrophe. Decent men will be very careful how they spread discreditable statements without any guarantee of their accuracy. Gossips should at least have the commonsense to recognise that the law admits of rather heavy damages for commercial libel.

It is particularly hard for makers and agents to earn an honest living just now, and the air is full of these lies. Private owners should be uncommonly careful how they pass them on.

Sutton Bank.

THE spectacle of so many attempted suicides on the bad corner of Sutton Bank in the York M.C. climb started some of the greybeards talking. The hotel contained three ancient riders, each of whom claimed to have "discovered" Sutton. One alleged that the hill was never heard of until the gentleman who represents the latter half of P. and M. climbed it for a bet on his firm's first two-speeder in or about 1904. No. 2 claimed to have tackled it in all innocence on a holiday trip to Scarborough about 1905, and to have pushed up every yard of it. No. 3 took three people up it on a Riley tricar in 1905, and was so impressed by the gradient that he came back next day with a surveying apparatus to measure the rate of ascent. Any other claimants? I well remember my own *début* on the hill, for it developed a blow-hole in a brand new cylinder which had duly passed its pressure test at the factory.

The T.T.

THIS year's T.T. ought to be a regular breath-catcher. In the Senior event most of the machines will be more than capable of all the speed which the course can hold. There is also a large entry. Stamina is more commonly wedded to speed than it used to be, and one no longer expects the hares which lead after two laps to crack up in lap three, and let the tortoises through. I know it is said that there is a shortage of first-class jockeys, but I do not believe it. If we could unearth five or six class riders per annum in the old days when there were perhaps only 30,000 motor cyclists in the country, of whom not one in 500 had ever straddled a 60 m.p.h. 'bus, how many good speedmen can we produce now that there are 186,000 of us? It is quite on the cards

Ixion's "MOTOR CYCLE REMINISCENCES" have lately been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

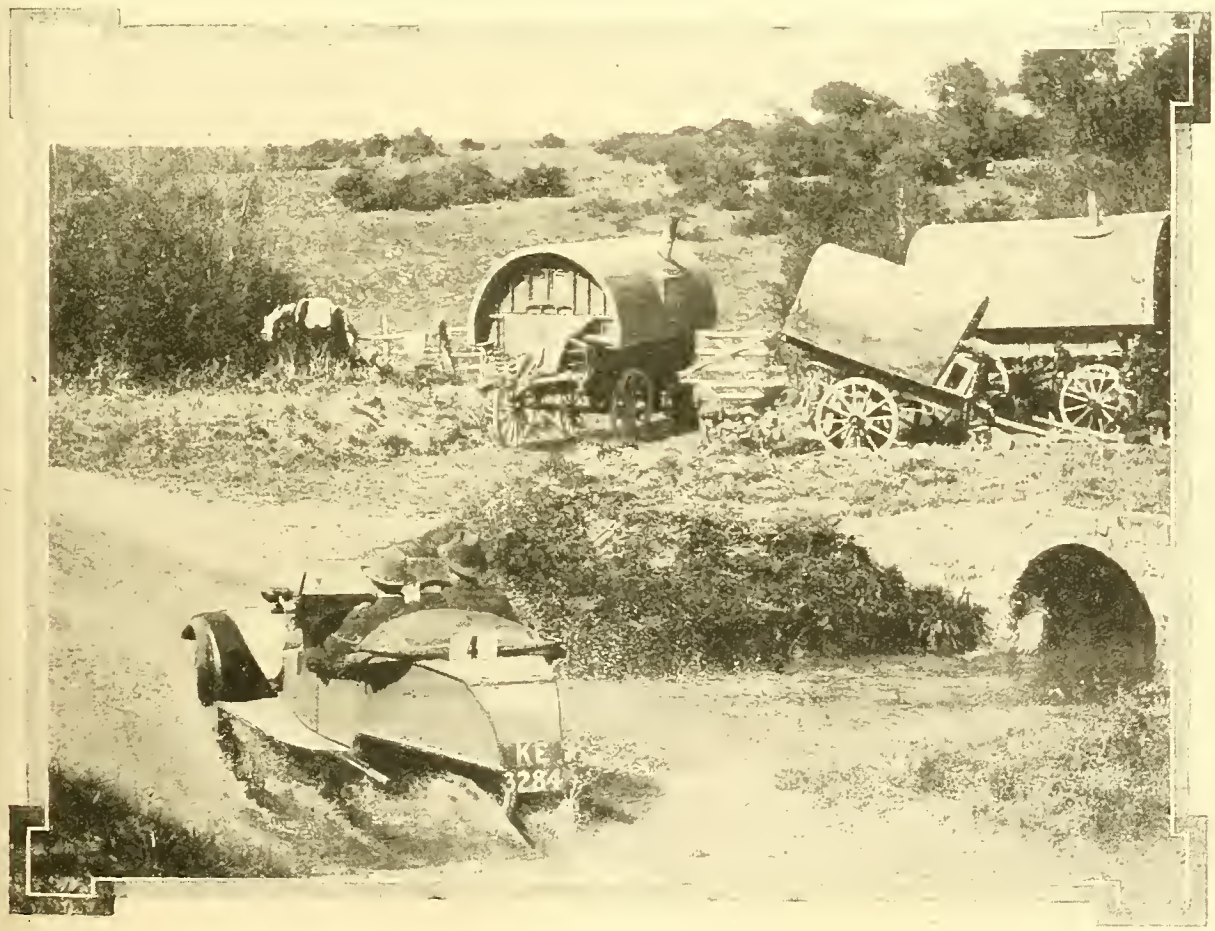
that the start of the concluding lap may see five or six men fighting out the issue. No keen rider should fail to cross to the Island this year—we ought to see the finest motor cycle race in history.

Well Dodged.

IT was a balmy evening, and I sucked the pipe of contentment in the garden of my host. Entered *via* the hedge the stateliest black Tomcat I had ever seen, and minced delicately over towards where the day-old Indian Runner ducks were imperfectly fortified. Just as I decided to interfere, my host's greyhound espied Thomas, and came across the lawn at a cool 50 m.p.h. Thomas never turned a hair, but waited disdainfully in his tracks. Just as the hound arrived, Thomas shot up vertically about 2ft. into the air, waited aloft till the hound had passed by, and then descended again. I fell to envying the cat's coolness and strategy. Anon I rode home. As I burbled along at perhaps 30 m.p.h. I came up level with a little maid of some ten summers. She dropped her ball, which rolled under my front wheel, whither she promptly followed it. There was no time to think. By force of pure instinct I executed the most miraculous right-angle turn outwards, instantly succeeded by another right-angle turn inwards to save me from crashing into a wall. I comfort myself with the reflection that perhaps we are still as dexterous as the lower animals.

Impulse Starter Magnetos.

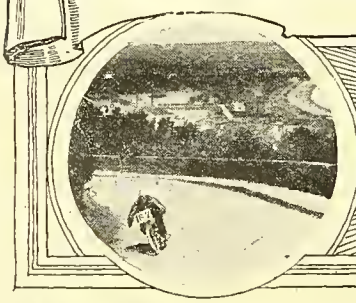
THE impulse starter magneto was originally devised for use on the sort of engine which cannot be swung by less than two men unless it is hot, and the inventor had no thought of motor cycles in his mind. We have one of these interesting gadgets in the office just now—a sample of the M-L breed. I suppose all my readers know how the thing works. There is a dog joint in the drive; a pawl chocks the armature before each sparking position, whilst the driving shaft goes on and winds up a clock spring. Just when the spark is needed, the pawl is freed, and the spring jerks the armature past its maximum at the dickens of a bat. The result is a spark so hot that the engine simply *has* to fire. These special magnetos are not particularly expensive, and are of some interest to any motor cyclists who wish to reduce the labour of starting their engines—disabled men, girls, and very elderly riders. The general effect is simply that at 50 r.p.m. you get a 500 r.p.m. spark.

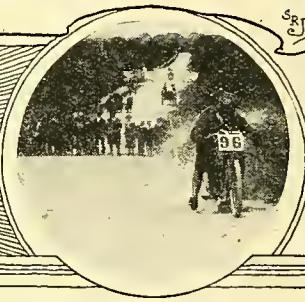


NOMADS. Consciously or unconsciously, the open road lures every class, and judging by the typically reposeful attitude of the gipsies, it is a good world to live in. The scene is between Great Rollright and Lower Brailes, and depicts R. Croucher (Coventry-Premier) during the Midland Light Car Club Trial in which he obtained a gold medal.

T.T. NOTES AND NEWS.

An Analysis of the Entries—Thirteen Nortons, Eight Sunbeams, and Eight Triumphs in the Senior Race, Many Private Riders.





THE following table of entries for the T.T. shows the numbers of the various motor cycles represented in the annual race:

SENIOR.

A.J.S.	2	Martin	2
*Blackburne	2	*Norton	13
B.S.A.	6	Rover	3
†Coulson	1	†Rudge	2
Douglas	3	Scott	4
Indian	4	*Sunbeam	8
James	3	*Triumph	8

* Entered by manufacturers: Norton 6 Sunbeam 4, Triumph 6, and Blackburne 1.
† Private entries.

JUNIOR.

A.J.S.	6	*Massey-Arran	3
*Blackburne	5	New Comet	1
*Coulson	2	*New Imperial	5
Dot-Jap	1	New Scale	1
*Douglas	5	N.U.T.	2
Hawker	1	Omega	1
*Ivy	5	*Velocette	3
Levis	4	Wooler	2
Martin	2		

* Entered by manufacturers: Douglas 3, Ivy 1, Coulson 1, Velocette 1, Blackburne 3, Massey-Arran 2, and New Imperial 4.

* * * * * *

In our correspondence pages this week we publish a letter from the well-known Midland competition rider, H. Boynton, who suggests that *The Motor Cycle* Cup should be known as "*The Motor Cycle* Lightweight Tourist Trophy."

* * * * * *

There will be at least two Rudge Multis in the Senior race, and they will be watched with interest, since this make won the 1914 event.

* * * * * *

The entry of four Scott Squirrels again brings the two-cylinder two-stroke into the front rank as a possible winner of the senior event. Twice the Scott has won, and from all accounts the new Squirrels are "hot stuff." Their even torque and ability to corner at high speeds make them particularly suitable for the T.T. course.

* * * * * *

J. J. Whalley, who is riding a $3\frac{1}{2}$ h.p. Sunbeam for W. Atkinson and Son, is a promising rider whose performances at Northern hill-climbs we have watched with interest. He is one of the post-war school of riders.

* * * * * *

L. Mitchell is another rider who should give a good account of himself on a Norton. The corners and bends on such hills as Waddington Fells and Sutton Bank have given him some excellent T.T. practice.

* * * * * *

Of the Scott riders, C. P. Wood is prime favourite at present, but R. W. Stansfield should be watched. Langman should be able to put up a good performance also; he practically lives on a Scott.

* * * * * *

The Ilkley Club has entered its captain, G. Clapham. Why have not other clubs entered a representative?

* * * * * *

A new entrant in the Junior race this year is the Omega.

* * * * * *

Eric Longden is riding a $2\frac{3}{4}$ h.p. Coulson in the Junior and a $3\frac{1}{2}$ h.p. of the same make in the Senior. He rode in last year's event on a Dot-Jap twin.

* * * * * *

Contrary to expectations, the T.T. Sunbeams will not be special racing machines designed expressly for the race. The o.h.v. Sunbeams will not be used, but standard sports model engines with side-by-side valves. The Sports Sunbeam is a standard model evolved from the T.T. machines used in last year's race. There may, of course, be minor additions, such as mechanical lubrication.

* * * * * *

500 c.c. motor cycles with their 75 to 92 m.p.h. capabilities are too fast for the T.T. course. What is wanted are machines that will be easy to steer, quick to accelerate, and that will put up a high average speed rather than bursts at phenomenal speeds like those that beat kilometre records.

* * * * * *

The average speed of last year's Senior winner (T. C. de la Hay, Sunbeam) was 51.79 m.p.h. for the 226 miles. The fastest lap was made by G. Dance (Sunbeam) 55.62 m.p.h.

* * * * * *

Next week, on the 21st, there will be Junior and Senior T.T. Races at Brooklands.

ACTIVITY AMONG THE CLUBS.



(1) 70 m.p.h. on Wingsdown Hill. H. Thorpe crossing the tape on his 3½ h.p. Sports Douglas at the Bath M.C.C. Hill-climb. (2) R. Charlesworth making light of Bright Street Hill on his Zenith sidecar in the Surbiton and District M.C.C. Team Trial. (3) W. W. Chase (2¾ Coulson) on a grass track in the Newcastle M.C. Open Trial. (4) Public interest in motor cycle events is always aroused at a watersplash. T. G. Amphlett (4¼ James sc.) going well in the Midland Centre (A.C.U.) Club Team Trial.

HOLIDAY EVENTS.

A Varied Whitsuntide Programme in all Parts of the Country.

FEW clubs will be inactive this Whitsuntide; and never has the programme been more varied.

Of course, the big event will be the M.C.C. London to Edinburgh Run, with its 230 entries, and with which we deal fully elsewhere. It is becoming increasingly popular for clubs to organise runs to see the M.C.C. event at points of interest *en route*. The Central London M.C.C. is attending the start, both the Luton and South Beds. A.C. and the Herts. M.C. and L.C.C. are running out to Biggleswade (a check) on Friday night, Yorkshire clubs will no doubt turn out in force on Cray or Buttertubs, the Northern M.C. (a Newcastle organisation) has announced its intention of making up a party of spectators, and, on the Border, the Berwick and District M.C. is doing likewise.

On Saturday the Birmingham M.C.C. will start its trial to Land's End, over a course which includes Porlock and Lynton Hills, with the Lycett Trophy as the chief award; the return journey on Tuesday, including the ascent of Countisbury and Rising Sun Hills, will constitute an entirely separate trial for the Sangster Cup. This classic event is open to all members of the Midland Centre A.C.U.

An enterprising West-country club, the Bristol M.C.C., was originally to have run its Whitsun week-end trial to Land's End, but to avoid overcrowding it has now been decided to alter the destination to Newquay. Taunton and District M.C.C. is also holding a reliability run to "The End."

On Whit-Monday the Welsh speed championships will be fought out on Pendine Sands. As fifty, or even twenty-five mile, races outside of Brooklands are all too rare in this country, the trials of the Carmarthen and Dist. M.C.C. have an attraction all their own.

In the North the N.E.A.A. (Motor Cycle Branch) is scheduled to hold, also on Whit-Monday, a one day reliability trial, and several important northern clubs have kept this date open in their programmes.

Opinion appears to differ amongst individual clubs as to the best lines on which to arrange the holiday programme; while one or two are organising trials and hill-climbs the great majority have decided on social runs and week-end tours. Some of those adopting the more strenuous course are the Blaina and District M.C. and the Exeter M.C. and J.C.C. (both trials); the Bournemouth and District M.C.C., the West Kent M.C., the Reigate, Redhill and District M.C.C. (hill-climbs).

Ambitious social runs are being undertaken by the Middlesbrough and District M.C., with a week-end tour in historic Galloway, and the West Birmingham M.C.C. with a Welsh tour to Llanfyllan.

Speed-judging competitions, fuel consumption tests, paperchases, and gymkhanas also figure in the list, and all these events will attract their own coteries of enthusiastic competitors and spectators. When it is realised that several closed club events recently have attracted from three to five thousand spectators, in each case, the true significance of a very full fixture list is realised.

Finally, two novel events on Whit-Monday call for a passing mention; one is the three-mile handicap race of the Worcester and District M.C.C. on the Worcestershire County Cricket Club grounds in aid of a local charity, and the other is the New Brighton Tower race meeting, where, in addition to the pedal cycle events, there will be motor cycle pursuit races, and another attack on the track records by G. W. Baker on his 2¾ h.p. A.J.S.

PRICES OF SECOND-HAND MOTOR CYCLES.

A Schedule of Prices at which used and shop-soiled Motor Cycles were being offered in the miscellaneous advertisements of last week's issue of "The Motor Cycle."

NAME, YEAR, H.P.	CLASSIFIED PRICES.	AVERAGE PRICE.
A.B.C., 1920, 3 h.p.	£93, £100, †£100, £110	£101
Acme, 1920, 8 h.p. sc.	£140, £150	£145
A.J.S., 1920, 6 h.p. sc.	£160, †£170, †£175, £180, †£200, †£202	£181
Allon, 1920, 2½ h.p.	£65, £68, £70	£68
Ariel, 1920, 3½ h.p. sc.	£105, £110, £130	£115
Bat, 1920, 6 h.p. sc.	*£150, *£155	£153
Beardmore, 1920, 3½ h.p.	£85	—
Blackburne, 1920, 4 h.p. sc.	£98, £130	£114
Blackburne, 1920, 8 h.p. sc.	£165, £180, £185	£177
Bradbury, 1920, 6 h.p. sc.	£140	—
Bradbury, 1920, 4 h.p. sc.	£130	—
B.S.A., 1920, 4 h.p. sc.	†£120, £125, £130, £130, £130, £130	£128
Cedos, 1920, 2¼ h.p.	£55, £60	£58
Chater-Lea, 1920, 2¼ h.p.	£65	—
Clyno, 1920, 2½ h.p.	£45, £50, £55, £55, £55	£52
Coulson-B., 1920, 2¾ h.p.	£70	—
Coulson-B., 1920, 4 h.p.	*£100	—
Coventry Eagle, 1920, 3½ h.p. sc.	£105	—
Diamond-Jap, 1920, 2¼ h.p.	£60, £65	£63
Douglas, 1920, 2¾ h.p.	£75, £78, £85	£79
Douglas, 1920, 4 h.p. sc.	£125, £126, £131, £160	£136
Edmund, 1920, 2¾ h.p.	£70	—
Enfield, 1920, 2¼ h.p.	£48, £55, £58	£54
Enfield, 1920, 8 h.p. sc.	£140, †£150, †£165	£152
Harley-Davidson, 1920, 7-9 h.p. sc.	†£160, †£165, £168, †£185, †£210, †£220	£185
Harley-Davidson, 1920, 4 h.p.	£145	—
Hazlewood, 1920, 5-6 h.p. sc.	£110	—
Henderson, 1920, 10 h.p. sc.	£145, †£160, £165, †£175, †£190	£167
Hobart, 1920, 2½ h.p.	£60	—
Humber, 1920, 4 h.p. sc.	£155	—
Indian, 1920, 7-9 h.p. sc.	†£140, †£150, *£150, †£155, †£180	£155
Indian, 1920, 4 h.p.	£105, †£125	£115

NAME, YEAR, H.P.	CLASSIFIED PRICES.	AVERAGE PRICE.
James, 1920, 5-6 h.p. sc.	†£130, †£180	£155
James, 1920, 2¼ h.p.	£48, £60	£54
Lea-Francis, 1920, 3½ h.p.	£78, £93, *£100	£90
Levis, 1920, 2½ h.p.	£45, £50, £50	£48
Martinsyde, 1920, 6 h.p. sc.	£147, †£155	£151
Matchless, 1920, S h.p. sc.	£160, †£160, †£165, †£165, †£165, †£170, £175, £175, †£175, †£190	£170
New Hudson, 1920, 2½ h.p.	£48, £50, £55, £57	£53
New Imperial, 1920, 2¾ h.p.	£47, £65, £65, £80	£64
Norton, 1920, 4 h.p. sc.	£150, £155, £155	£153
N.U.T., 1920, 3½ h.p.	†£98, †£120, †£130	£116
O.K., 1920, 2¼ h.p.	£40, *£43	£42
P. & M., 1920, 3½ h.p.	£90, £93, £95	£93
Quadrant, 1920, 4½ h.p. sc.	£95	—
Reading Standard, 1920, 10 h.p. sc.	†£180	—
Rover, 1920, 3½ h.p. sc.	£125, £130	£128
Rover, 1920, 3½ h.p.	£90	—
Royal Ruby, 1920, 8 h.p. sc.	£180	—
Royal Ruby, 1920, 3 h.p.	£79, £90	£85
Rudge, 1920, 3½ h.p.	£65, £70, £75, £75, £75	£72
Scott, 1920, 3½ h.p.	£88, £90, £95	£91
Scott, 1920, 3½ h.p. sc.	£117	—
Sparkbrook, 1920, 2½ h.p.	£50, £50	£50
Sunbeam, 1920, S h.p. sc.	£180, £180, †£200, †£250	£203
Sunbeam, 1920, 3½ h.p.	£135, £145, £145	£142
Triumph, 1920, 4 h.p. sc.	£120, £130, £135, £135, £145, *£150, £160	£139
Triumph, 1920, 4 h.p.	£80, £115	£98
Velocette, 1920, 2½ h.p.	£55	—
Verus, 1920, 2¾ h.p.	£80	—
Wilkin, 1920, 4 h.p. sc.	£110	—
Wooler, 1920, 2¾ h.p.	£70, £75	£73
Zenith, 1920, S h.p. c/shaft mod. sc.	£120, £130, £143, £160, £190	£149

*Unused. †Dynamo lighting.

Guide to the London-Edinburgh Run



228 Motor Cycles and Cycle Car Entrants for this Year's Classic Run to the Scottish Capital. 107 Cars Entered. 400 Miles to be Covered at Schedule Speed in 24 Hours. A Procession of Vehicles 50 Miles in Length.

THE 1921 London-Edinburgh run starts from Highgate to-morrow (Friday) evening. At half a minute after the hour of seven the first of the several hundred competitors will be timed away on his 400 miles journey to the Scottish capital, and at intervals of half a minute the "send-offs" will be continued until nearly ten o'clock.

Present among the competitors, officials, or spectators will be several who competed in the first London-Edinburgh run seventeen years ago, when an entry of fewer than fifty was considered most satisfactory.

This year the competitors' numbers run to nearly 350, of which no fewer than 228 have been reserved for drivers of motor cycles and three-wheeled cycle cars. When the last man is leaving Highgate, the leader will be over fifty miles away.

An Early Check.

Although the entry is not quite so large as it was last year, a fifty-mile procession of motor vehicles may be considered to be quite long enough, especially to those willing officials who do so much to make the event a success. After the start, the first group of checkers will be met at Biggleswade, forty miles on the way. They will commence their timekeeping and the work of obtaining signatures on the time sheet at a little after nine o'clock and finish about midnight; at which time another group will be ready to check the riders at Grantham. They, too, will be on duty several hours while the competitors partake of a hot meal.

Again, at Ilkley, the halfway mark on the route card, there will be more checkers, more breakfast, and a welcome hour's respite.

One Difficult Non-stop Section.

The next hundred miles includes the titbit of the run—the ascent of Buttertubs Pass, a rough rise from Wensleydale over the hills that separate that valley from Swaledale.

As will be seen from the contour given on the following page, the summit is 1,726ft. above sea level, and rises 1,000ft. in three miles. The preceding twenty miles is by no means easy, for the ascent of Cray Ghyll (from Wharfedale) and the descent of Kidstones Pass take the riders through country in which indifferent roads turn and twist between crooked stone walls. Any competitor who finds himself late in the middle of this third hundred-mile section will find it difficult to make up time.

Opinion as to the difficulty of Buttertubs is divided, but the following notes on the condition of the roads in this section, which have been sent to us by readers, are of interest.

Mr. H. E. Philpotts, the hon. secretary of the Keighley M.C., reports that most of the course from Kettlewell to Hawes is in quite good condition. About one-third of a mile at the top of Kidstones, which the competitors descend, is rather bad. A number of gulleys across the road from Buckden to Cray Ghyll require careful negotiation.

Another Yorkshire reader writes: "If anyone is interested in the tyre trade, let him persuade all friends (but especially enemies) to take several runs over the Keld-Nateby moorland road, which comes after the Buttertubs Pass."

Mr. Bernard Newboult, of Shipley, writes that he recently traversed Buttertubs from Hawes, and experienced no difficulty, although for one short steep stretch the surface was very rough.

"A Mere Cart Track."

A Leeds reader mentions that the road between Park House and Nateby deteriorates into a mere cart track, with long stretches of loose, unrolled metal.

Thus it will be seen that the competitors this year are riding under conditions much more severe than those of the early runs to Edinburgh were made. The Buttertubs section is a leaf out of the book of a pre-war Six Days Trial, and, as it comes in the third hundred miles after an all-night ride, it is sufficient to try men and machines very severely.

B7

Guide to the London-Edinburgh Run.—

After Buttertubs a further fifty odd miles brings the competitors to the luncheon check at Carlisle, where a stay of little more than an hour is made. A semi-final check is arranged at Moffat, 350 miles from the start, and the final at the Waverley Market House, Edinburgh, where the first man is due at 7 p.m., exactly twenty-four hours after his time of departure from London.

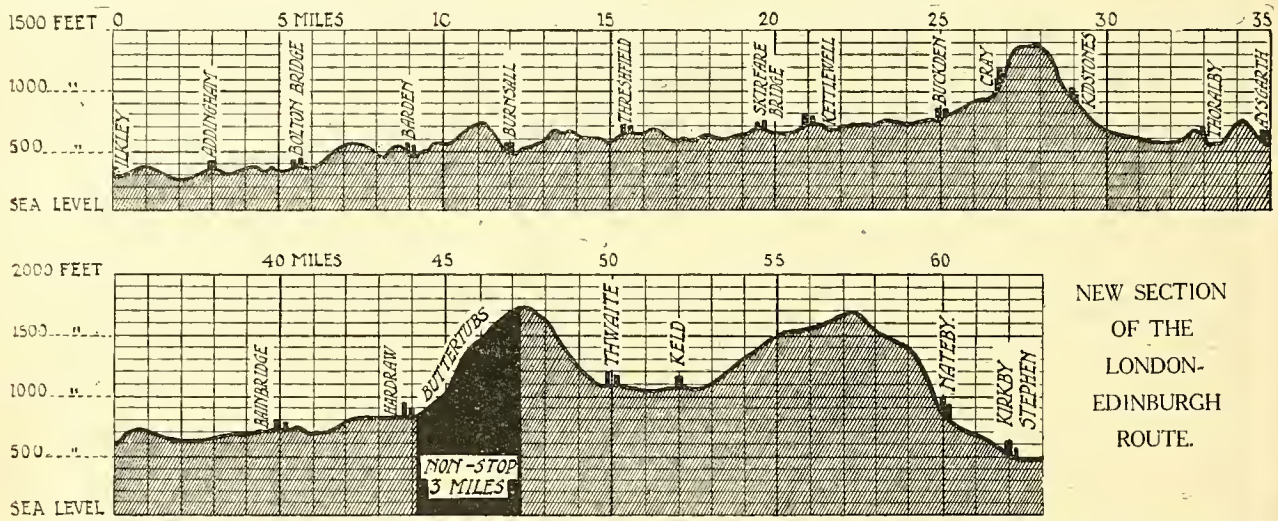
A long trip truly, and any competitor who is found more than 15m. ahead of his schedule time at any point of the course will be disqualified. Quite a simple matter to avoid, the uninitiated may think, but to obtain a gold medal a competitor must also be not more than ten minutes late at any point of the course, and, in addition, must complete the three-mile section from the foot of Buttertubs Pass without stopping.

Secondary Awards.

Silver medals will be awarded to those who lose only thirty minutes, and bronze medals to those who complete the journey in twenty-five hours, and otherwise comply with the regulations.

That the large majority of the competitors will survive this test and win awards is certain, and once more the modern motor cycle will be proved capable of running to a rigid timetable.

Below and on the following page we give a complete list of competitors with their official numbers. By this means spectators will be able to follow the riders' performances on the more interesting parts of the route.



NEW SECTION OF THE LONDON-EDINBURGH ROUTE.

After leaving the breakfast stop at Ilkley the valley of the Wharfe is followed to Buckden, where commences a bad surfaced climb of three miles (Cray Ghyll). The descent of Kidstones Pass brings the competitors into Wensleydale, which is crossed at Bainbridge. At Hardraw, the main road is left for Buttertubs Pass, and in the three miles non-stop section the road has a total rise of 1,000ft. From the summit, rough and undulating roads at a high altitude culminate in a long descent from the mountains to Kirkby Stephen. The official route card contains several divergences from the local and map spelling of place names, but the route is easy to follow.

LIST OF SOLO, SIDECAR, AND THREE-WHEELER ENTRIES.

MOTOR BICYCLES.

No.	Driver and Machine.	Registration No.
1	Ed. Pond (4 Triumph)	XF 1889
*2	L. A. Baddeley (3½ P. & M.)	X 7062
3	V. Gayford (8 Zenith)	PB 3483
4	H. Karslake (8 Brough Superior)	AU 4359
5	Geo. Brough (8 Brough Superior)	HP 2122
6	Kaye Don (6 Zenith)	PB 3484
7	T. S. Sharratt (4 Indian Scout)	LY 7
8	Jas. A. Hoult (3¾ Scott)	XF 1151
9	C. F. Plowman (3½ Sunbeam)	NK 1613
10	F. A. Longman (3½ Ariel)	MD 144
11	L. Pulham (3½ Ariel)	MD 2099
12	G. W. Dawson (3½ Rudge Multi)	J 3791
13	J. C. Walker (2¾ Edmund)	MA 1514
14	H. Gibson (2¾ Royal Ruby)	FY 99
15	S. Eastwood (2¾ Royal Ruby)	CF 3490
16	R. C. Staunton (4 Triumph)	XD 2176
17	M. O'Reilly (5 N.U.T.)	PB 4122
18	J. R. Watkins (3 Royal Enfield)	AN 2307
19	C. F. Edwards (4 Triumph)	KE 450
*20	H. G. Bell (7 F.N.)	FN 4267
21	J. S. Bennett (2½ Metro-Tyler)	XC 3663
22	G. E. Cuffe (2½ Metro-Tyler)	MD 6165
23	V. Thompson (3½ Norton)	——
24	A. Ellison (6 Zenith)	XC 2600
25	E. Hawks (2¾ Excelsior-Blackburne)	——
26	H. R. Lane (2¼ Levis)	OB 5142
27	W. Atkinson (4 Triumph)	ON 8
28	R. T. Leather (3½ N.U.T.)	KC 988
29	H. W. Turner (2½ Clyno)	LW 2533
30	C. Bourlet (3½ Ariel)	HT 9
31	B. F. C. Fellowes (2¾ De Dion)	AU 4466
32	J. A. Leyland (3½ P. & M.)	CP 1504
33	J. A. Peacock (3 A.B.C.)	CB 2148
34	G. P. S. Clark (7 F.N.)	CL 3482
35	J. Haworth (2½ Connaught-Miniature)	BN 5037
36	J. C. Watson (7-9 Harley-Davidson)	LP 2123
37	H. V. Bateman (2¾ Diamond)	PA 4527
38	A. M. O. McLachlan (10 Reading Standard)	XB 132
39	G. E. Stacey (2¾ Verus)	AP 5274
*40	A. C. Robbins (2¾ Wooler)	XA 4671
41	S. Dunford (2¾ Verus)	AP 5552
42	P. Street (3½ Sunbeam)	PA 4169
43	A. Wilward (3 A.B.C.)	XD 2095
44	F. W. Stevenson (3½ Brough)	AU 4428
45	A. S. Pinchbeck (3 A.B.C.)	PB 3442
46	A. G. Battley (4 Triumph)	MC 3630
47	R. M. Dixon (3½ Norton)	PB 3182
48	D. Hall (2¾ Verus)	BB 4214
49	G. W. Shepherd (2¾ Beaumont)	U 8692
50	J. W. Morton (3½ James)	SG 2002
51	W. A. McKeggie (3½ Brough)	R 5152
52	J. J. Lister (3½ Norton)	WR 8266
53	H. Reyre (5-6 James)	AR 9919
54	J. Harrison (4 Corona Junior)	MX 8525
55	A. G. Wall (2¼ Cedos)	XF 2165
56	A. A. Prestwich (2¾ New Imperial-Jap)	MD 4594
57	C. N. Green (4 Triumph)	DU 8402
58	F. C. Benest (2¾ Wooler)	MD 3101
59	B. P. Bridgeman (2½ Gamage)	XC 1203
†60	A. C. Rhodes (3½ N.U.T.)	HK 8378
61	H. S. Moorhouse (4 Triumph)	DU 301
62	H. F. Fellowes (4 Coulson-B)	BL 8471
63	P. Pike (2¼ Levis)	CO 3644
64	P. Vickers (2¼ Velocette)	FY 4041
65	R. T. Ball (3¾ Scott)	EK 1158
66	R. G. M. Jones (4 Indian Scout)	EK 1537
67	A. Conville (3½ Lea-Francis)	EM 1169
†68	T. Morgan (4 Triumph)	XF 1983
69	T. Francis (4 Triumph)	XC 2466
70	R. B. Roberts (4 Triumph)	DU 1409
71	F. Begley (4 Dalton)	NB 7761
72	H. R. Hancock (3½ Lea-Francis)	XB 3442
73	N. Hall (2½ O.K. Junior)	OH 2061
74	Geo. Wray (4 Triumph)	FY 997
75	C. S. Boome (4 Triumph)	AR 8237
76	E. J. Hardwick (4 Triumph)	RY 3100
77	C. H. Mocatta (7-9 Harley-Davidson)	PB 2114
78	J. A. O'Sullivan (4 Harley-D.)	XA 6285
79	P. R. Dowson (2¾ Hawker)	PB 1543
†80	D. S. Baddeley (3½ N.U.T.)	BB 3526
81	H. J. Seale (4 New Scale)	NB 7539
82	J. G. Bluhm (4½ B.S.A.)	MD 2950
83	R. B. Clark (2¾ Coulson-B)	LF 2575
84	H. F. Edwards (2¾ Coulson-B)	XB 2189
85	J. A. Hilger (5-6 Rover)	EB 2421
86	F. W. Applebee (2¼ Levis)	OB 9743
87	F. E. Jones (3¼ Ariel)	MX 3733
88	J. F. Hull (2¾ Wooler)	LA 2799
89	R. H. Baxter (2¼ Radco)	HK 416
90	C. C. Labin (4 Indian Scout)	XC 1624
91	P. H. Ingham (4 Indian Scout)	EC 2630
92	J. McBirnie (7-9 Indian)	MC 1161
93	W. W. E. Clarke (2¼ Triumph Junior)	XF 1421
94	J. A. Watson-Bourne (4 Powell)	CA 3650
95	H. W. Harrington (2¾ Douglas)	AN 3404
96	S. J. Marks (4 Triumph)	HM 1170
97	J. K. H. Knight (3½ Brough)	AU 4737
98	A. F. Pryor (2¾ Omega-Villiers)	MD 687
99	F. G. Waters (2¾ Douglas)	CE 3929
*100	E. Kickham (3½ Douglas)	HT 793
101	J. S. Holroyd (4 New Scale)	PB 1876
102	D. J. Stone (2½ Olympic)	DA 5065
103	E. M. Barrett (2¾ Zenith)	PB 543
104	R. R. Rothwell (4 Triumph)	TB 1820
105	Frank Clay (2½ Champion)	W 5420
106	C. H. Hanwell (2¼ Cedos)	NH 2422
107	P. H. Hall (4 Blackburne)	IW 417
108	C. Guthrie (5 Raleigh)	BN 4869
109	E. Foster (5 Raleigh)	——
110	E. F. Chidley (3½ P. and M.)	XF 3817
111	R. T. Lloyd (2¾ Wolf)	XF 3070
112	W. R. Preston (3½ Sunbeam)	D 7362
†113	H. Guy (2¾ Coulson-B)	XB 98
114	L. Nicholson (2¾ Coulson-B)	——
115	J. Godsal (7-8 Bat)	LB 422
116	H. R. Harveyson (4 Indian Scout)	LR 1812
117	E. R. Johnson (4¼ Humber)	LT 1909

SIDECARS.

No.	Driver and Machine.	Registration No.
*118	E. A. Bridgman (7 Indian)	SJ 80
119	W. J. Simpson (7 Indian)	XB 6
120	R. R. Coes (7 Indian)	XB 12
121	N. H. Brown (7 Indian)	XD 40
122	S. T. Tessier (8 Bat)	XF 2566
123	C. Wilson (4½ Quadrant)	XF 2530
124	W. Pattison (5 Quadrant)	OE 6604
125	J. Wallis (8 Reading Standard)	XF 2870
126	C. D. Michaelis (7-9 Harley-Davidson)	XA 4029
127	J. D. Marvin (8 Brough Superior)	XF 665
128	J. G. Bryson (8 Royal Enfield)	MD 4988
129	H. W. Glendinning (8 Rex)	——
130	W. A. Fell-Smith (8 Rex)	——
131	E. Cross (6 A.J.S.)	ET 1713
132	J. A. Thompson (4½ B.S.A.)	OB 4535
133	R. A. Lucking (8 New Imperial)	LW 3896
134	W. P. Brandon (4 Triumph)	CR 5691
135	Jas. Mackenzie (6 Humber)	NH 193
136	J. Bradbury (4 Triumph)	R 5692
137	J. E. Pantard (8 Chater-Lea)	LE 146

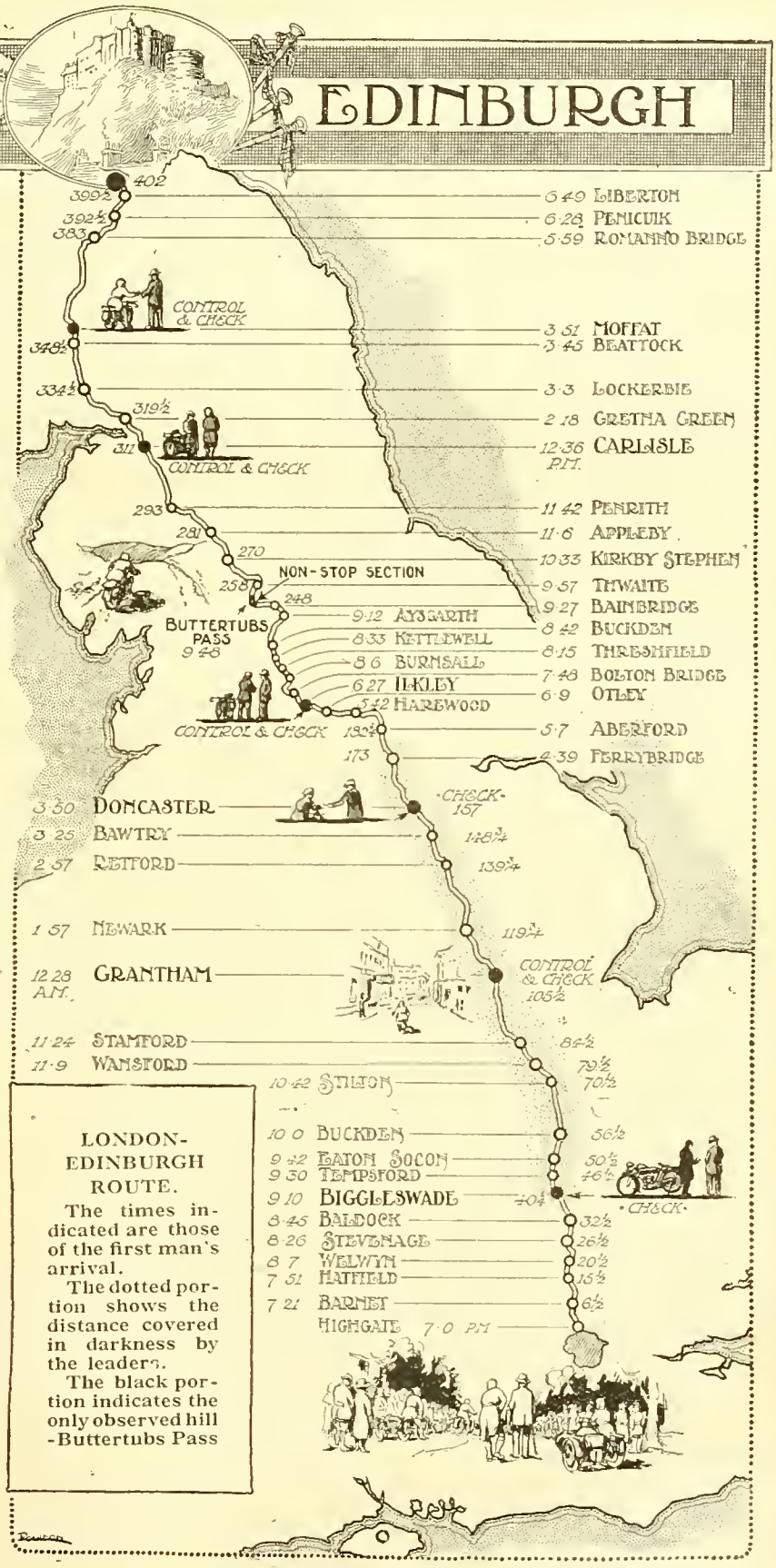
LONDON — EDINBURGH

No.	Driver and Machine.	Registration No.
138	S. Julian (4½ Homber)	DP 3588
139	H. F. Brockbank (8 Blackburne)	FY 3933
*140	J. Chater-Lea (8 Chater-Lea)	XH 65
141	W. E. Leather (7 A.J.S.)	XF 1979
142	E. S. Taylor (8 Blackburne)	MS 3173
143	H. M. Selby (7-9 Harley-Davidson)	XC 2635
144	W. H. Julian (7-9 Harley-Davidson)	DP 3601
145	E. J. L. Strong (7-9 Harley-Davidson)	TA 293
146	H. B. Shutes (7 Matchless)	MD 1212
147	J. L. R. Jensen (7 Harley-Davidson)	KB 8219
148	G. Milner (8 Sunbeam)	XB 3675
149	W. A. Kay (8 Royal Ruby)	MA 5239
150	L. A. Apsey (8 Royal Ruby)	CR 2249
151	H. Dale (8 Royal Ruby)	CR 3856
152	C. D. Hardee (7 Matchless)	LU 1318
153	F. J. Ellis (7 Matchless)	A 6212
154	G. Packman (8 Matchless)	KN 9973
155	W. F. Gniver (8 Matchless)	XF 1184
156	L. V. Freeman (8 Sunbeam)	MD 4643
157	W. E. Grange (6 Bradbury)	WR 8151
158	A. J. Hooper (5 James)	MD 2634
159	O. Wade (7 A.J.S.)	KC 1204
*160	Geo. Nott (7 Matchless)	XF 952
161	T. J. Ross (7 Matchless)	LY 1551
162	D. S. Parsons (7 Matchless)	HK 9930
163	R. Rayner (7 A.J.S.)	XF 658
164	G. S. Davison (2¼ Levis)	NM 325
165	E. G. Opperman (4 Corona Junior)	XD 3604
166	W. E. Brough, sen. (5 Brough)	AU 4209
167	R. H. Attwood (4 Norton)	RE 288
168	D. Wright, jun. (4 Norton)	LS 827
169	R. E. B. Reeves (4 Triumph)	XC 1259
170	J. R. Bell (7 A.J.S.)	G 3905
171	M. J. Fraser (7 A.J.S.)	GA 7857
172	J. Joynson (5-7 Coventry Victor)	K 223
173	H. H. Saddington (5-6 James)	NH 552
174	A. P. H. Pehrson (4½ Dunelt)	LT 3521
175	T. G. Bullus (3½ P. & M.)	AK 8775
176	Leo Heller (3 Calthorpe)	XP 3054
177	F. W. Giles (7 A.J.S.)	DA 3010
178	F. J. Watson (6 Ariel)	MX 6199
179	J. Richardson (5 Lea-Francis)	XB 1332
*180	W. O. Hemy (7 A.J.S.)	EC 21
181	B. Jefferys (4 Norton)	DA 5571
182	A. R. Penney (7 A.J.S.)	PB 1745
183	J. F. Bashall (6 Martinsyde)	PB 3052
184	W. H. Bashall (6 Martinsyde)	BH 6372
185	R. Newitt (7-9 Harley-Davidson)	LY 3296
186	S. Goodfellow (6 Bradbury)	AK 7745
187	G. M. Townsend (3½ P. & M	XC 3103
188	P. Cunningham (3½ P. & M.	LO 3221
189	R. Charlesworth (8 Zenith)	XF 2854
190	C. B. Dyson (7-9 Indian)	XA 6162
191	B. G. Robbins (8 Matchless)	PR 1876
192	R. Carey (8 Blackburne)	BH 6500
193	R. Pugh (4 Triumph)	XF 1225
194	G. Fletcher (4 Douglas)	BD 4160
195	A. J. Bosworth (5 Brough)	W 8988
196	P. W. White (8 Sunbeam)	DU 1534
197	D. Bradbury (4 Norton)	DU 1437
198	J. P. Le Grand (6-8 Rex)	LM 324
199	W. A. Jacobs (8 Rex)	DA 5573
*200	J. A. Masters (7-9 Harley-Davidson)	DU 1496
201	D. H. Noble (7 A.J.S.)	NS 255
202	F. White (8 Rex)	DP 3015
203	E. Atkins (3½ Ariel)	B 6171
204	H. D. Hinde (6 A.J.S.)	EI 140
205	S. C. Tait (7-9 Harley-Davidson)	KE 3555
206	R. A. Biggs (6 A.J.S.)	
207	R. M. Veale (6-7 B.S.A.)	

THREE-WHEELED CYCLE CARS.

*208	W. H. Elce (10 Morgan)	MD 839
209	S. A. McCarthy (8 Morgan)	BT 2283
210	A. B. Care (10 Morgan)	CJ 743
211	H. E. S. Morgan (8 Morgan)	AR 9346
212	S. Hall (10 Morgan)	XF 2207
213	F. S. Spouse (10 T.B.)	DA 3148
214	J. W. Meredith (10 T.B.)	RE 125
215	J. Wainwright (10 T.B.)	WA 2765
216	F. W. James (10 Morgan)	
217	Jesse Baker (4 Scott Sociable)	TB 141
218	E. Sumner (8 Dandy)	MD 1352
219	D. Henry (10 Castle Three)	FX 5968
220	H. E. K. Sawtell (10 Morgan)	CX 3075
221	A. Sugden (8 L.S.D.)	CX 4786
222	C. F. Swaine (8 L.S.D.)	CX 4787
223	W. Hallitt (8 L.S.D.)	AB 9233
224	S. Goodwin (10 Castle Three)	
225	R. Croucher (7-9 Coventry Premier)	KE 3284
226	G. G. Newman (10 Morgan)	XD 5055
227	F. H. Douglass (10 T.B.)	OH 5673
228	W. E. Line (10 New Hudson)	XE 5500
229	H. Richards (10 Morgan)	

*Travelling marshals.



LONDON-EDINBURGH ROUTE.

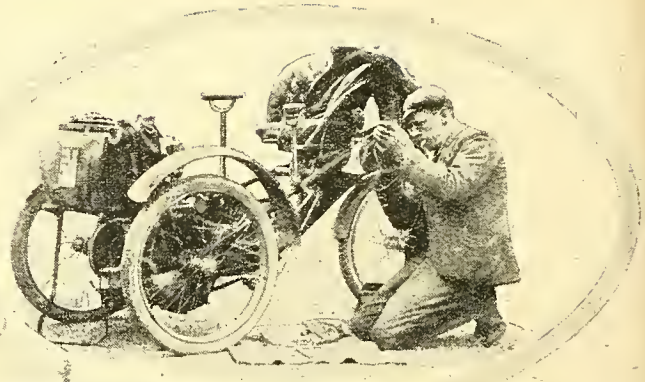
The times indicated are those of the first man's arrival.

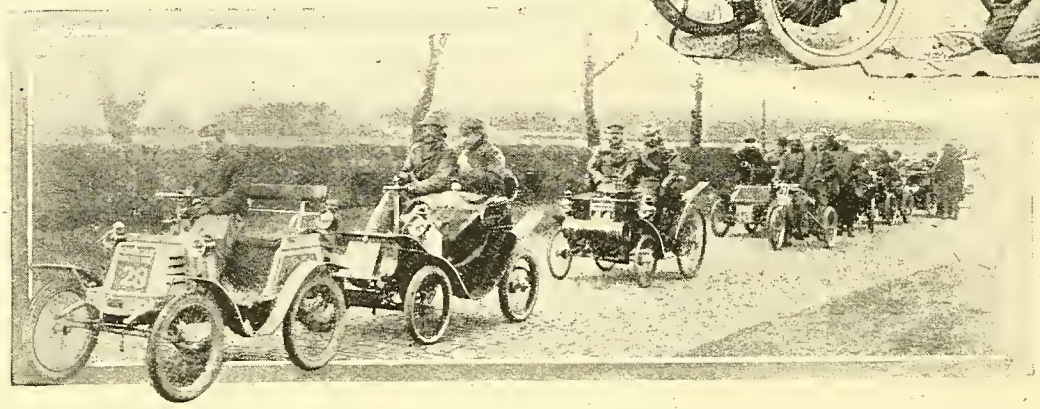
The dotted portion shows the distance covered in darkness by the leaders.

The black portion indicates the only observed hill-Buttertubs Pass

TWENTY-ONE YEARS AGO!

Some Notes on the Historic 1,000 Miles Trial of 1900, when Most Cars were Cycle Cars.





(Left) CYCLE CARS OF TWENTY-ONE YEARS AGO. The start from Edinburgh in the 1,000 miles trial of 1900.

(Right) PART OF THE GAME. A driver of the Simms motor wheel appears to be in no hurry, and is evidently intent on a delicate adjustment.

TO-NIGHT (Thursday, May 12th) most of the survivors of those who participated in the historic 1,000 miles trial of 1900 will sit down to a re-union banquet to celebrate the twenty-first anniversary of the event. Over nuts and wine, no doubt, reminiscences will be related of the days when most cars were cycle cars, and motor cycles with engines over 3 h.p. were considered monstrosities.

After all, twenty-one years is not a very long time on which to look back. Pedal cycles have scarcely been altered during that period: modern locomotives, steamships, sewing machines, and typewriters differ very little from their contemporaries of 1900. Yet, so rapid has been the development of the motor cycle that machines of 1900 are in museums, and those who rode them are regarded as veterans and honoured as such.

In these days of 60 h.p. cars and motor cycles capable of doing 100 m.p.h., the 1900 trial organised by the R.A.C., then the Automobile Club, is ancient history. The largest car was only 12 h.p., and many of them were only 3 h.p., while most of the motor cycles and ancient cycle cars had engines just about as large as those of the modern lightweight.

Sixty-five Entries in 1900.

Those who maintain that the cycle car and the light car are comparatively modern productions will find light on the subject in the 1900 volumes of our parent journal, *The Autocar*. A glance at the illustration in the heading will show that the light car of 1900 was as much a cycle car as any 1921 design.

There were sixty-five competitors in the trial, and of these only six were over 8 h.p. These were the Daimlers and Panhards.

Among the entries were an Ariel Quad, two Ariel tricycles (one with a trailer), Simms, M.M.C., and Empress tricycles and a 2¾ h.p. Enfield Quad; the last-mentioned owned by Mr. Edward M. Iliffe, director of Iliffe and Sons Ltd., proprietors of *The Motor Cycle*. There were also two Werner motor cycles, one ridden by a lady.

The route followed was: London, Bristol, Birmingham, Manchester, Kendal, Carlisle, Edinburgh, Newcastle-on-Tyne, Leeds, Sheffield, and London.

20 m.p.h. on 1 in 8.

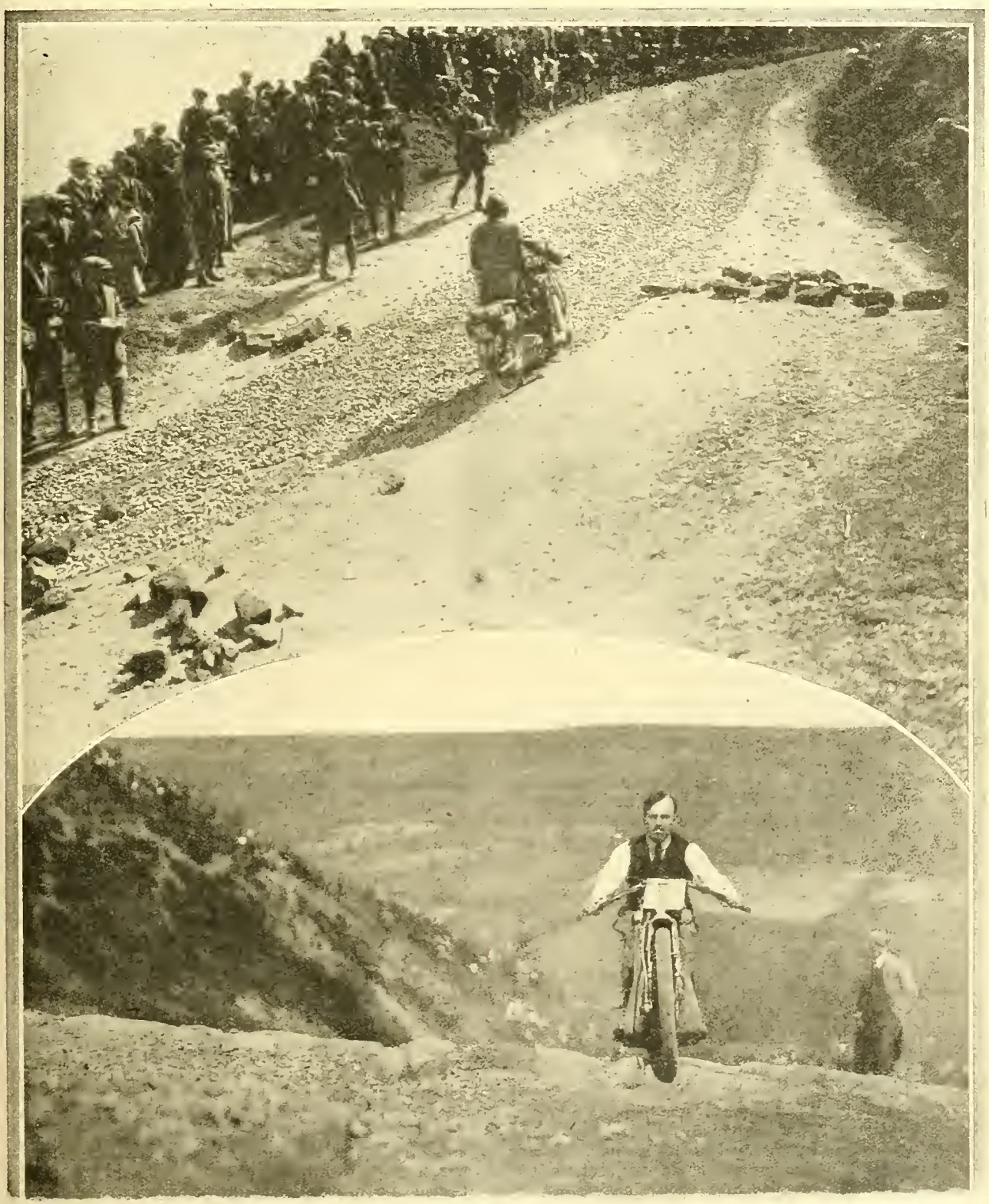
Dunmail Raise was one of the test hills. This hill includes gradients of 1 in 8½, 1 in 11, and 1 in 12, and the timed distance was 3,013½ yards. The speeds of these 1900 machines are well worth recording. Mr. E. M. Iliffe's Enfield Quad made second fastest time, 6m. 15s., being second only to the Hon. C. S. Rolls's 12 h.p. Panhard, which occupied 5m. 49s. An Empress tricycle came next with 6m. 36⅘s., followed by Mr. J. W. Stocks, Ariel Quad, 9m. 37s., with a 7 h.p. Peugeot light car, 10m. 32⅖s.

The following extract from *The Autocar's* report of the performances on Taddington Hill (between Bakewell and Buxton) reflects the spirit of 1900.

"Our Peugeot was doing her best up a fair grade when we heard a faint toot-toot far down the valley. A glance back showed us that the sound proceeded from the horn of the grand twelve horse-power Panhard belonging to Mr. Harmsworth (Lord Northcliffe). . . . The road was straight, naked, and desolate. There was nothing to stop her. With a crish of whirling wheels, a wild flash of plated work, the deep hum of her flying engines, she was past and gone with a just perceptible wave of hands from our Editor aboard, and Mr. Harmsworth sheltering behind his broad shoulders. No sight but that of the Flying Dutchman Westward bound twenty miles out of Town, and in a hurry, too, ever approached it. The up grade, which necessitated our third, and hard put to it at that, this powerful car *de luxe* was taking on her top speed and flinging the miles behind her."

On the hill in question Mr. A. J. Wilson's Ariel tricycle made fastest time = 18.9 m.p.h., the Hon. C. S. Rolls, 12 h.p. Panhard, being second at 17.7 m.p.h. Incidentally, in the speed test from a standing start, the Hon. C. S. Rolls accomplished a speed of 48 m.p.h. Forty-eight finished the course.

BANDS AND BOULDERS ON ROSEDALE ABBEY BANK.



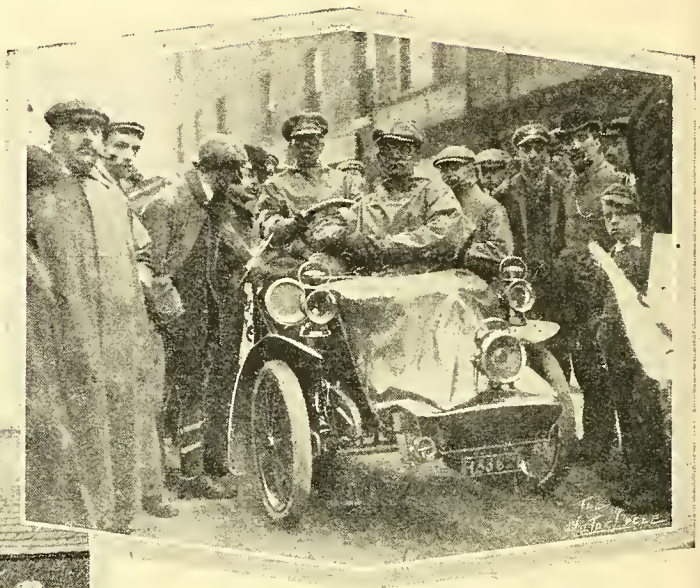
There was a brass band in attendance when the Bradford M.C. and L.C.C. held a "freak hill-climb" on Rosedale Abbey Bank, but apparently the chief attraction for the huge crowd was—the climb. Although the track was in unusually good condition, the club felt compelled not to disappoint the spectators, hence the barricades of boulders which are causing the soloist in the photograph to take to the rough.

R. W. Stansfield, the Scott T.T. rider, is shown in the lower picture on the crest of the hill.

THE LONDON-EDINBURGH RUN: 1904-1920.

Some Reminiscences of an Old Hand.





(Left) Competitors passing through Wetherby in 1907.
(Right) Wilbur Gunn and his Lagonda tricar with which he competed in 1905 and 1907.

WHEN the London-Edinburgh run was first instituted in 1904, those who took part in it were looked upon as foolhardy heroes, as the four hundred mile journey to be covered in twenty-two hours was then considered to be a very wonderful feat.

Even in those early days the now classic run was supported with very great enthusiasm, and considering the youth of the pastime, the entry was exceptionally good. It had one remarkable effect: it really was the making of the Motor Cycling Club.

For the first run it was decided to follow the traditional route traversed by the old mail-coaches, so on that occasion the start was made from the G.P.O. Competitors and officials foregathered at a weird little city public house, and partook of a very indifferent meal, which was little suited to fortify them for their long journey. Forty-six actually started out of a total of seventy entries, and even this inconsiderable number found great difficulty in manœuvring among the crowd.

A Test Hill at Highgate.

At that time electric tramways were being laid along the Great North Road, and to avoid the consequent obstruction the competitors had to surmount West Hill, Highgate, which proved quite an obstacle to some. Twenty qualified for gold medals, and among the survivors those well-known to our readers as expert motor cyclists were J. Crundall (Humber), W. A. Sale and T. Silver (Quadrants), and W. H. Wells then riding a Vindec. Mr. Wells is Trials Honorary Secretary for the London-Edinburgh run this year.

In 1905 the weather was wet at the start, which, like the first one, took place at the General Post Office, and *The Motor Cycle*, I recall, criticised the action of the club in not finding a more suitable place. This time I took an active part in the competition and travelled as a passenger in a 10 h.p. Lagonda tricar, driven by Basil Crump, who was well-known in those days as a motoring journalist. The organisation at the start was not very good, and I recall that in the confusion several of the competitors mounted their machines and rode away before the word "go" was given. There were fifty-seven starters on this occasion, and the solo riders had a pretty bad time on the wet roads through London streets. Imagine the joys of passing through Old Street and Goswell Road in the pouring-rain, on a high framed single-geared motor bicycle which was far more prone to skid than those of modern design. On they had to go, past The Angel, Islington, then along the Liverpool Road, the Holloway Road, up Highgate Hill, and along the newly-made tramlines to Barnet. Many riders came to grief and some others preferred walking to riding over the treacherous surfaces.

Bad Catering Arrangements.

Somewhere in Holloway a spectator heaved an ancient and redolent mackerel at Wilbur Gunn, who was driving a Lagonda. This incident reminds me that the feeding arrangements in those days were appalling. For the early breakfast at Grantham we were regaled with half-cold soup, half-cold tea, blancmange and prunes, and other delicacies, and this in the small hours of the morning when vitality is at its lowest.

My chief recollections of this run were of the wonderful pulling powers of the Lagonda until Don-

The London-Edinburgh Run : 1904-1920.—

caster was reached. After that, when slight hills were met with, the tricar engine overheated badly so that it had to be withdrawn. Twenty-three competitors reached Edinburgh that year.

Dangers of Sleep !

The following year I decided to enter as a competitor, and on this occasion drove a similar machine to that in which I had travelled as a passenger on the last occasion. My companion was the late Captain M. A. J. Orde, R.A.F., who met with a sad end while flying last summer. He was quite a youngster in those days, an excellent companion and a thorough sportsman. This year the run started for the first time, from the Old Gate House Hotel, Highgate, an excellent place which has been used ever since. The run commenced in the rain, but the weather cleared up later, and the rest of the competition took place in fine weather. This is what usually happens during London-Edinburgh runs. The inhabitants of the villages were distinctly amused at my passenger, who slept like a log, rolling from side to side in the basket when I took the corners.

This was a year of tricars. There were numerous examples of these early cycle cars in this competition; one of them was driven by E. W. Brewerton, the well-known oculist, who entered for many subsequent London-Edinburgh runs. It is curious that in these early days the riders used occasionally to go to sleep on their machines, often falling off, but fortunately for themselves the present-day riders do not seem to indulge in the habit. This, the third London-Edinburgh run, was much better organised than its predecessors, but competitors still entered Edinburgh by the east-coast route, which is not nearly so pleasant as that now employed, as it entailed passing through the Durham coalfields, and approaching the Scottish capital through much traffic and over bad surfaces. Of the fifty-two starters in the motor bicycle class thirty-four finished the journey in the schedule time.

My own experience was a good run as far as Berwick, where I found a small burst in one of the front tyres, and a piece of the red inner tube showing through. I was in plenty of time, and could have had a patch put in, but being young and foolish I decided to push on and chance to luck. Of course, luck failed me, the tyre burst, and patches would not hold. I then tried to finish on the rim. Spokes began to fall out of the wheel, and I had reluctantly to retire at Dunbar.

It was this year that the return journey for the cup was first introduced. Only twelve riders entered for this, and, of these, eleven arrived at Barnet.

In 1907 I was passenger in a four-seated car, and had one of those thrilling experiences which have often happened to motorists, without serious results. The car, driven by that well-known motor cyclist, A. J. Sproston, was running perfectly and travelling fairly fast when, somewhere in Yorkshire, it suddenly charged to the off side of the road. Sproston skilfully applied the brakes and we came to a standstill, tilting over at a dangerous angle on the very edge of a deep ditch. The steering tie-rod had fallen on to the ground. I was rescued by C. A. Vandervell, with whom I had a delightful run to Edinburgh.

Police Interest.

Police organisation at the start has always been excellent, and in the early days Superintendent Vedy had the arrangements in hand. He was very sympathetic towards the Motor Cycling Club, and did much to help them. Later he became an enthusiastic motor cyclist, driving a P. and M., and competed in the run two or three times.

In 1908 I was unable to continue beyond Biggleswade for reasons unconnected with the machine. It was a splendid run, with excellent weather, and most enjoyable.

I remember nothing particularly interesting in the 1909 run, part of which I followed on a 4 h.p. J.A.P. engined Zenith, nor in 1910, 1911, or 1912. The organisation had been reduced to a fine art and motor cycles were proving themselves to be more and more reliable each year. Entries also increased to a tremendous extent.

It was not, however, until 1913 that I again became a competitor, and this time I rode a 2¾ h.p. Douglas



This scene at the start of a London-Edinburgh run conveys an idea of the great public interest this classic event creates.

The London-Edinburgh Run: 1904-1920.—

on which the throttle jammed owing to grit thrown up from the road by the front wheel, necessitating the last fifty miles being driven on the exhaust lifter. It was two days before my hand recovered from its stiffness. However, I qualified for a gold medal. This run was over the Lowland hills avoiding the worst traffic into Edinburgh, and was a great improvement.

In 1914 I again rode a Douglas, but of that year's make, and had a wonderful no-trouble run. Then came the war, and it was not until 1919 that the London-Edinburgh was revived. Now there had been 187 entries in 1914, and there were 142 in 1919, which was a really remarkable entry considering the fact that many members had not been demobilised, and that new machines were practically unobtainable.

Embarrassing Public Curiosity.

I had an interesting experience on this occasion, being mounted upon one of the only two A.B.C.'s then made, just at the time that the machine was creating a regular furore of enthusiasm. I remember riding from home to the starting point, and being chased by a youngster on a 1¼ h.p. antediluvian mount, who shouted after me, "Hi, sir, please stop just a minute," but being in a hurry to reach my destination I could not gratify his curiosity.

At York I was quite royally received by a Yorkshire photographer who welcomed me on the machine with almost deferential ceremony. The machine ran well, but was rather troublesome to control at slow speeds during the night, owing to the uneven firing on a closed throttle. During the day time it developed appalling clutch slip, and it was only by very careful handling that I got it to recover itself. However, the clutch did not slip again and no further trouble was experienced until after lunch, when we met a tremendous gale ascending towards Mosspaul Summit. The wind was so terrific that it blew the toolkit off the carrier of the machine on an occasion when I stopped to adjust one of the mudguard fixings.

A No Trouble Run.

Last year's event is still fresh in the minds of our readers, and entries surpassed all previous records since there were 316 (these figures do not include car entries). On this occasion I rode a Scott, the tool bag of which I never opened from start to finish. It was a wonderful run and earned for me my fourth gold medal in succession.

In conclusion, a word or two on that somewhat debated point, the severity or otherwise of the run, may not be out of place.

Four hundred miles cannot be considered a run of unusual difficulty nowadays, and the inclusion of Buttertubs, although a commendable attempt to make things more difficult, is not likely to save the M.C.C. many gold medals. Kirkstone Pass, last year, caused considerable anxiety before the event, and did actually account for about a third of the starters, but it is doubtful whether Buttertubs is as difficult, despite its rougher surface.

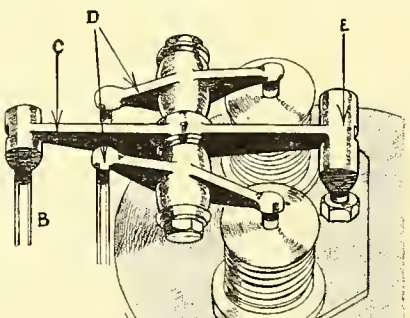
CONSTANT TAPPET CLEARANCE.

Suggested Design for Self-compensating Overhead Valve Gear.

IT will doubtless be a matter of surprise to the majority of motor cyclists to learn that it is quite common practice to adjust the tappets of many gas engines while they are running.

This is rendered necessary by the great difference in expansion, particularly noticeable in tandem engines, between the cylinder and the tappets operating the overhead valves. This is of sufficient extent to upset the inlet timing and shorten the duration of the suction period.

To remedy this the man in charge of the engine has to get two great spanners, and, by sheer knack, engage them with the tappet screw and lock-nut while they are operating up and down. This performance takes place every time the engine warms up after starting.



An ingenious method of retaining constant tappet clearance designed by Mr. Raymond Morgan. Expansion of the cylinder automatically corrects any alteration of the valve lift caused thereby.

It was to avoid this procedure that the compensating gear illustrated herewith was designed by Mr. Raymond Morgan, 1, Crown Office Row, Temple, E.C.4, and it is of interest in offering a solution of the push-rod clearance problem in air-cooled engines and engines having aluminium cylinders.

In engines of this type the aluminium, having a greater coefficient of expansion, is instrumental in causing the tappet clearance to vary considerably. In large air-cooled engines this variation amounts to .0035 or over $\frac{1}{32}$in., which is very considerable.

The action of the device is extremely simple, and derives, from the relative expansion which is the source of trouble, a cancelling motion which keeps the tappet clearance unaltered.

The rocker D, instead of having its pivot mounted on a forked column on the cylinder head, is pivoted to a compensating lever C. This lever is pivoted to the column E, and at its other end carries a tie-rod B, connecting it with the timing case.

It will be seen that by suitable proportioning of the levers the extent to which the rocker pivot is raised is reduced to the exact amount necessary to keep the clearance unaltered.

The lever C does not add to the reciprocating weight—in fact, as the tie-rod B presents an ideal and accessible place for the tappet adjustment (or, to be more precise, the provision of an exactly similar effect), the adjusting screw and lock-nut can be omitted, the push-rod tucked right down into the tappet, and a marked saving effected in the reciprocating weight.

This method might well and fairly easily be adapted to a number of existing overhead valve motor cycle engines.

AIR-COOLING.

Extracts from a Paper read before the Institution of Automobile Engineers.

THE majority of engines holding British records have a type of combustion head which, theoretically, is the least efficient. This statement was made by Mr. H. D. Teage in a paper he read on Wednesday of last week before the Wolverhampton Centre of the Institution of Automobile Engineers.

The subject of the paper was "Air Cooling as Applied to Motor Cycles," and the author remarked that it is particularly noticeable that those few motor cycles which produce a reasonably high power output per capacity attempt high-speed work for *short distances only*. From this it may be deduced that they are incapable of maintaining their outputs.

Possible Improved Efficiency.

It may be argued by some that present-day cooling is sufficient for the requirements of the average rider; but this is a most unsatisfactory basis on which to work, since it is an undoubted fact that considerable improvement can be made in output per capacity, fuel consumption, and reliability by paying attention to cooling.

It may be true that existing methods of cooling are sufficient for the needs of the average motor cycle engine of to-day; but the average engine at the present time is much less efficient than it should be, and its cooling arrangements are often distinctly haphazard and sketchy.

The two main sources of trouble with air-cooled engines are distortion owing to local overheating, and pre-ignition due to the same cause, the most vital spot being the centre of the cylinder head. These two subjects may be dealt with together, since the primary cause is common to both.

The obvious cures would appear to be a symmetrical cylinder with equal cooling all around, or a method of conducting away the heat from the hottest to the coolest part of the cylinder quickly.

With existing types of poppet valve gear, it is obvious that the nearest approach to the symmetrical cylinder is obtained by the use of overhead valve gear; and, since we are confined to cast iron as a medium for conductivity, we must take care that there is enough of it to ensure a rapid flow of heat within the body of the casting.

Side-by-Side Valve Disadvantages.

At the present moment, over 90% of motor cycle engines are fitted with side-by-side valve cylinders, though there is a steady tendency to adopt overhead valves.

The cylinder head of a side-by-side valve engine quite obviously cannot approach the symmetrical, and the valve side of the cylinder barrel is partly shielded by the ports. To avoid distortion, it is desirable to keep the ports as far from the barrel as reasonable cylinder head design will permit, and to separate the ports entirely from the barrel. This infers a division in the cooling ribs, which in the case of a one piece casting is apt to complicate pattern making and foundry work. On the other hand, two of the most successful modern motor cycles have adopted this practice with admirable results. A separate head permits the same ends to be obtained in a simpler manner; but the head joint is apt to interfere with conductivity between head and barrel, and thus, though it should help to eliminate distortion, the detachable head will require slightly greater cooling area.

Theoretically, the L headed engine is the least efficient form found on motor cycles, yet engines of this type hold the majority of British records. The reasons probably lie in matters not directly connected with cooling, such as port and cam design, also in that, until lately, comparatively little experimental work has been carried out on overhead valve motor cycle engines.

Next in order of theoretical efficiency comes the L head cylinder with one valve placed above the other. This type is a simpler foundry job, and is easier to keep cool, especially if the exhaust port is disposed above the inlet and carried well clear of the head, the lower or inlet port being detachable.

Overhead Valve Types.

Next comes the flat headed overhead valve type, easy to construct, but remarkably difficult to design to give good results.

It would appear that the ports should be set across the frame (in which case there are dead pockets behind the ports), and that horizontal ribs should be used. The last alternative is probably the best, especially if the head is thickened up towards the centre, to enable one or two extra ribs to be employed.

In order to employ valves of adequate size for high speed work and yet provide sufficient air space between the ports, it will be necessary to increase the diameter of the head unless a very short stroke engine is contemplated.

From the point of view of foundry work, the simplest proposition is also the most efficient and easiest cooled. A hemispherical combustion head with valves inclined at an angle of approximately 45° is an easy proposition to cool with horizontal ribs and a simple foundry job.

Radiating Fins.

Regarding the design of fins, the other named four points to be considered are: (1.) It is useless to employ long ribs unless a reasonable thickness of rib is allowed. (2.) Where thin cylinder walls are used, a considerable radius should be allowed between the root and the wall. (3.) Where one rib springs from another (as in the case of vertical head ribs springing from a top horizontal rib), the base rib should be thickened up, or the secondary ribs will be so much useless weight. (4.) All ribs should lie in the line of the normal air flow.

Taking these points in order, the reasons are fairly obvious.

(1.) Heat will not be conducted to the tip of a long rib unless there is a sufficient body of metal to convey it.

(2.) On removing a thin cylinder after a period of hard use, it is often possible to note the *exact position of each rib* on the *inside of the bore*, showing that unless a radius is used the space between the ribs is insufficiently cooled, and expands to a greater degree than the ribbed portion.

(3.) It is evident that there must be sufficient metal in the base rib to conduct the heat to the vertical ribs if the latter are to be of any practical value.

(4.) If the ribs do not lie in line with the air current, the air will be deflected over the tips of the ribs, and will not reach the cylinder walls or rib roots; a tilt of only 15° is enough to cause this effect.

Faulty Piston Design

Faulty piston design is one of the most common causes of overheating and bad petrol consumption. Most frequently the fault lies in the use of insufficient metal behind the piston rings. Just as in cylinder design, it is most important to provide sufficient metal to conduct away the heat from the head. In the case of pistons, it must be remembered that oil and conduction to the cylinder walls through a film of oil are the only methods of cooling, and, consequently, the utmost use must be made of these rather inadequate methods.



FROM PARIS TO THE SPANISH BORDER.
B.S.A. riders, who formed the only British team, entered for the Paris-Pyrénées Trial, which finished last Saturday.

A FRENCH TRIAL ON BRITISH LINES.

Thirty Five-mile Circuits, taken Non-stop, weed out Many Competitors. Good Performances by British Machines.

THE first non-stop motor cycle reliability trial to be held in France, and for which the national body, the Union Motocycliste, made itself responsible, was a complete success. Forty-nine machines started, and thirty-three finished, of which seven only had clean scores. Because of this, certain French writers are disposed to find the competition too severe, and to claim that the first French non-stop was an athletic competition, a steeplechase — in fact, anything but a motor competition. The fact is that, compared with British standards, the event was not unusually severe, and, in view of the fact that all the riders were professionals with very long road experience, and came, or should have come, with machines in the very best mechanical condition, there was nothing at all in the trial to which objection can be taken. It is even to be hoped that when further events of this class are organised the difficulties will be gradually increased. For the first time French motor cyclists have been given an event in which it was impossible for everybody to be a winner, and as a consequence those writers who have become past masters in the art of excusing failures find nothing better than to blame the conditions.

The following are the results of the trials :

250 c.c.

		Marks Lost.
1.	Vernillet (Royal Enfield)	25
2.	Berger (Velocette)	59

350 c.c.

		Marks Lost.
1.	Bauer (Yvels)	10
2.	Denis (Diamond)	13
3.	Péan (Peugeot)	20



Barthelemy, on one of the clean score Nortons, climbing the test hill.

500 c.c.

		Marks lost.
1.	Naas (A.B.C.)	0
	Bastide (Norton)	0
	Barthelemy (Norton)	0
	Rolly (A.B.C.)	0
2.	Dard (Norton)	2
	Bernard (A.B.C.)	2
3.	Gabriel (Triumph)	8
4.	Borgotti (A.B.C.)	10
5.	Plateau (Norton)	18

750 c.c.

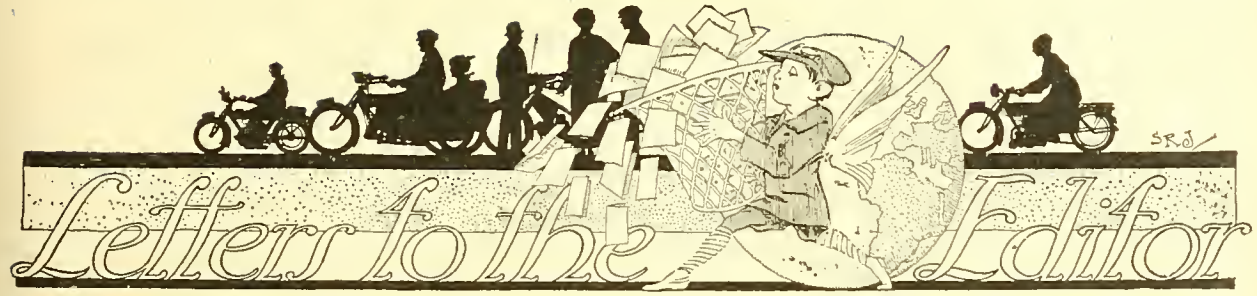
		Marks lost.
1.	Pinney (Triumph)	0
	Duverne (Saroléa)	1
2.	Duvanchelle (Triumph)	2
3.	Delabre (Rover)	10

Sidecars (1,000 c.c.)

1.	Cabet (Harley-Davidson)	0
2.	Oblin (Royal Enfield)	4
3.	Verlet (Harley-Davidson)	26



Graeme Fenton (A.J.S.) crossing a main road on to the narrow side track that led to the road shown above.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

THE WAY TO TILBURY FERRY.

Sir,—Might I warn all readers travelling in the vicinity of Tilbury that the signposting is disgraceful? There are several Tilburys, and the posts make no distinction. Would it not be advisable to mark up a road to "Tilbury Ferry," and so stop all the "humbugging about" on "pot-holey" roads? MISLED.

Ipswich.

CAMPING AND THE LAW.

Sir,—I note that Mr. J. Jameson, in your issue of *The Motor Cycle* dated April 28th, is rather doubtful as to the correct law regarding camping. With a view to spending a camping holiday myself, I recently interviewed a member of a well-known firm of tent manufacturers in Holborn. I was informed that camping on the roadside was permissible provided that a period of twenty-four hours was not exceeded. During that time no person could lawfully eject one.

HERBERT RICHARDSON.

AVOIDING CHOKED ACETYLENE BURNERS.

Sir,—Among the minor troubles of motor cyclists, there is nothing more annoying, and conducive to bad language, than the constant choking with dust of an acetylene lamp burner. It will be found that the rubber tip from a fountain pen filler will furnish an entirely satisfactory means of obviating this nuisance. The dust trouble, of course, disappears (theoretically) as soon as the lamps are lighted and a constant flow of gas is passing through the burners.

J. PECK.

A USEFUL MAGNETO TIP.

Sir,—On re-reading the accounts of last year's T.T. races I notice that more than one competitor was delayed by the breaking or pulling out of his magneto control wire. This can be obviated by a simple alteration which can be carried out on most magnetos in fifteen minutes, as follows: Fit the control so that the lever is at full advance position with a slack wire; this means transferring the lever to the opposite side of the contact breaker cover—the lever is nearly always attached by a screw and is easily movable. A hole must be tapped in the end plate of the magneto to take the Bowden wire stop block. Why manufacturers do not always send out their controls so adjusted is a mystery to me—as "full advance" is the most usual position—why, therefore, keep the wire continually at full stretch to get it? I invariably alter my own control and so do not have to worry with boot laces, etc., when the wire breaks. J. M. PHILPOTT.

SILENCE V. "MELLOW" NOISE.

Sir,—With reference to the correspondence on noisy motor cycles, it is not generally realised that safety lies in such machines. To give my own case.

My engine was very quiet as delivered by the makers, and as I use the machine chiefly for city riding (the streets here are very narrow with sharp turns and a double set of tramlines in the main streets), I found that the continual use of the horn was necessary, as the machine could not be heard coming. This meant that I had to drive through traffic controlling, practically, with one hand, to the *danger* of the public and myself.

To make a machine loud is objectionable, so I obtained a piece of copper pipe (the possessor of which is usually termed a "knut") and fitted it to the exhaust pipe. This gives a mellow sound which is not a nuisance, and enables the approach of the machine to be heard, with the result that I very rarely have to use the horn, and can have both hands free to control the machine, which means *safety* to the public and myself. DRAIN PIPE.

Norwich.

SIDECAR DRAG.

Sir,—On all sidecar machines I have ridden, I have found that, even when correctly aligned, there is a constant drag on the handle-bars or tendency for the front wheel to turn in one direction or the other according to the following conditions:

(1.) The position of the machine on the camber of the road.
(2.) Whether accelerating or retarding.
(3.) Whether climbing or descending a hill.
(4.) Whether turning corners right or left.

The effort required to counteract this varies with the different makes of machines, and one may say as a comparison that some outfits are heavier on the steering than others, assuming always that there is correct alignment.

I have seen it stated (I believe it was in *The Motor Cycle*) that the drag on the handle-bars when turning corners (see No. 4 above) may be greatly reduced by:

(1.) Using the engine when turning to the left.
(2.) Using the brake when turning to the right.

I do not know of any suggested solution to conditions Nos. 1, 2, and 3. What do experienced sidecarists do to overcome these effects? W. N. DYKE.

THE TEMPORARY ENGINE "SEIZURE" PROBLEM.

Sir,—Many readers of *The Motor Cycle* are apparently troubled with engine seizure, or apparent engine seizure.

I have had the same trouble myself on engines ranging from 3½ h.p. to 160 h.p.

If I am troubled with slowing up, I always suspect the plug. It may not be a faulty one, but the look of it tells one many things. Motor cyclists should remember that they have much more inside than a piston and a "conn. rod." Having had a look at the piston, and assuming it to be all right, I should suspect the timing gear. Nothing puts the brake on an engine better than a sticky timing gear. Take out the timing gear and drill vertical oil holes in the bushes, in position, in the timing gear cover. Make a point of drilling them as far back as possible, to allow oil to circulate at the blind end of the hole. They should be well countersunk at the top to catch oil in the vicinity.

These holes will, of course, act as air releases to their respective bushes, by allowing oil to be worked along from the other end. An extra washer behind the cover will prevent any undue pressure being exerted on the gear. Another air release fitted to the timing case will also be an advantage.

On several occasions, while testing large engines on the brake, they have suddenly dropped in "revs." and stopped very abruptly with a loud squeak. Immediately afterwards I was able to crank over by hand. The engine was put on threequarter throttle, and when it was commencing to lose "revs," a few smart turns on the timing cover bolts, to slacken off things inside, would cause it to pick up suddenly. The trouble was therefore located. It was nearly always a tight bush in the timing gear.

If such trifles as these can stop engines of 90 h.p. or so, surely we can expect the same troubles from our little engines of 500 c.c. MAURICE HOLROYD.

SIDECAR V. CYCLE CAR—COMPARATIVE PERFORMANCES.

Sir,—I see in your issue of April 14th that "Tyrconnell" requires particulars of personal experiences as to costs of running a sidecar and a cycle car of modern date. I give here experiences I have had with a 1920 big twin spring-framed sidecar outfit in fourteen months over 14,000 to 15,000 miles, and with a 1920 cycle car in six months over 6,000 miles.

PARTICULARS OF SIDECAR.

MILEAGE.—14,000 to 15,000.

REPLACEMENTS.—Nil, except bulbs which have burnt out, and two new plugs.

TYRES.—Never been punctured or removed, beyond changing the front tyre with the back at 8,000 miles. Good for 4,000 miles at least. The treads on the back and front tyres are equally worn. The sidecar tyre shows no apparent signs of wear whatever. The tyres on the machine are Goodyear, and on the sidecar a Hutchinson. Have travelled all over England between Brighton and Derby, and have covered some atrocious roads.

CHAINS.—No renewals. One breakage of a short chain. [Cause of breakage: Travelling at a very high rate of speed—over 50 m.p.h.—without sufficient lubrication.]

OIL CONSUMPTION.—700 to 800 m.p.g. approximately.

PETROL CONSUMPTION.—Maximum, with two up, 60 m.p.g.; usual, with two up, 55 m.p.g.; with three up, 50 m.p.g. With two or three up an average speed of 35 m.p.h. can be kept up comfortably on respectable roads on a good run.

SPARES.—On this machine spares are fairly expensive, taken on the whole.

PARTICULARS OF CYCLE CAR.

MILEAGE.—6,000 miles.

REPLACEMENTS.—Nil, except defective magneto and reverse gear, which were exchanged free of charge.

TYRES.—Michelin. Never been punctured. No perceptible wear whatever. Have been over very bad roads.

CHAINS.—No trouble at all.

OIL CONSUMPTION.—1,000 m.p.g. approximately.

PETROL CONSUMPTION.—Maximum, with two up, no freak jet setting, average speed 25 m.p.h., 80 m.p.g.; average, with two up, 60 to 65 m.p.g. An average of 35 m.p.h. can be kept up comfortably on a long run. I find I can keep up this average or even a higher one with more comfort and less fatigue than on the sidecar outfit. Also, the machine is weatherproof, and the fact that one can keep perfectly clean and dry is a great consideration.

SPARES (when necessary) are, on the whole, cheaper than with the sidecar.

Another great thing. The cycle car is twice or three times more accessible than the sidecar.

L.M.W.

Leicestershire.

Sir,—Will you permit me to reply to "Tyrconnell," who enquires for comparative details of cycle cars and sidecars?

What details I can supply are written from the standpoint of the touring, family-coach kind of driver. I am no longer very young, and my road experience goes back to the old cycle road-racing days, when the pneumatic tyre was something to stare at.

I have driven nearly every kind of motor cycle, including the tricars, and think I know the needs of the average driver pretty well. I have a model H Matchless sidecar outfit and a *modèle de luxe* Morgan. These are both 1920 models, and have just completed 5,000 miles on each. Having driven these with the same passenger, over the same roads, under practically the same conditions, I am able to compare performances. Both are very fine machines, the engines being practically identical. Prices: Matchless, with equipment, £232; Morgan, £233. Miles per gallon: Matchless 62; Morgan, 52. Miles per hour: Matchless, 45; Morgan, 49. Neither are racing outfits, and the speed taken is by the Watford speedometer over short level stretches of road. The average speed over a long trip of 100 miles or more shows a slight advantage in favour of the Morgan, owing to its faster hill-climbing and greater comfort over bad roads.

REPAIRS AND REPLACEMENTS.—The Matchless has never shed so much as a nut, nor has it cost a penny in repairs. The Morgan broke a gear fork early in its career, which was replaced free of charge.

ACCESSIBILITY.—The Matchless is certainly less easy to get at than the Morgan when adjustments are necessary. The presence of the sidecar and the chain cases alone account for this. The engine of the Morgan can be taken straight away from the front, but the Matchless is not so easy.

THE TERMINATION OF BUTTERTUBS PASS IN THE LONDON-EDINBURGH RUN.

The summit of Buttertubs leading into Swaledale—a scene characteristic of this hilly country. The sidecarist is descending the last steep stretch which will confront L.-E. competitors.



HILL-CLIMBING.—Both are good. Matchless gears are 4.65, 7.77, and 12.97 to 1; Morgan, 4.50 and 8 to 1—practically identical, but the Morgan will hang on to top gear in a marvellous way, and in the low gear will climb anywhere that the back wheel can get a grip. I must certainly give the Morgan the preference here.

FINISH.—The Matchless is certainly much better as regards finish. The sidecar body is a lovely piece of work. The Morgan body is good, but the details are rough.

COMFORT.—The passenger says that she does not notice much difference. I, as driver, notice a great deal. Well-sprung as the Matchless is, I find the Morgan far and away more comfortable, particularly at the end of a long run. There is not that wrist-weary feeling, and in winter, with a rug across my knees, I bless Mr. Morgan and all his works.

LUGGAGE ROOM.—The Matchless will take pretty nearly as much as a Ford, and an extra passenger. The Morgan has neither room for a spare petrol can nor a spare passenger. Luggage is not so well carried either, and jolts about more than when attached to the Matchless grid.

SOCIABILITY.—Here the Morgan scores heavily, and I cannot understand why youth is content to drive about with a yard of ironmongery between himself and his best girl when he can sit beside her in a Morgan at the same cost.

TYRES.—Neither machine is hard on tyres. The spring frame of the Matchless prevents the back wheel from bouncing, and there is a good deal of wear on a bouncing wheel if one did but realise it.

The Morgan is very heavily shod, and the 5,000 miles does not seem to have had any effect. Punctures: Matchless, three; Morgan, one (side wheel).

Honours would appear to be easy, and yet I would not exchange the Morgan for the best sidecar outfit on the road. I do not know what cycle cars "Ixion" refers to as a "weird variety" in his comparison with an A.J.S. I can assure him that the Morgan *is* substantial: it does *not* wobble, neither does any part flap and rattle. TICKER.

Midhurst.

LUBRICATION OF BOWDEN CABLES.

Sir,—Many thanks to "W.G.R." for his good tip on page 336 *re* the above. Its use on my carburetter controls has made driving a pleasure. I modified his method, using a foot of acetylene lamp tube as an oil reservoir, and an inflator to supply the motive power. Messy but most effective.

J. STUART-WHITE.

IDEAL TOOL-BOX POSITIONS.

Sir,—With reference to "Ixion's" comments on top tube tool boxes, I quite agree with him in his preference for the tank box, but the one on my 4 h.p. Blackburne is neither small, nor does it rattle. I can comfortably carry without undue packing a standard tool roll plus a double-ended B.S.A. spanner and an extra mag. spanner, spare plug in box, large repair outfit, a wooden plug case full of French chalk, several chain links and lamp burner, roll of copper wire, a box of matches, and on top a bulky Renold chain rivet extractor. The box is absolutely unlined except for a pad of rag between the lid and the chain punch. I have yet to hear the slightest rattle or thump from this tool box even over the worst roads. My only criticism is that it restricts the movement of the handle-bars somewhat.

I should very much like to know why the makers this year fit a pair of microscopic pannier tool cases to the carrier of their machines where they endure continuous concentrated vibration which, in my experience, is sufficient to cause a plug to pound the bottom out of its metal box despite careful cardboard and rag packing. E. A. L. PARKER.

FOUR-WHEELERS IN A.C.U. EVENTS.

Sir,—It is very seldom I disagree with the opinions expressed from time to time in your leaders, but I think you are doing the four-wheeled cycle car an injustice in a recent editorial column headed "Trial for Stock Machines." I think you will find that the real reason for the lack of four-wheeler entries is inability to comply with the conditions of entry. At least, this is so in my case, as my G.N., normally weighing over 8½ cwt., cannot be stripped to the 772 lb. limit imposed by the F.I.C.M. It takes me all my time to reduce the weight to 8 cwt. Had the weight limit been feasible I should most certainly have entered, and I think my case is exactly typical of all G.N. owners, and probably other four-wheeled cycle cars as well. I think you will have great difficulty in finding any four-wheelers that are eligible as the definition now stands.

I think you will find that the manufacturers of these vehicles would welcome the chance to compete with sidecars, and would suggest that you use your influence to obtain an alteration in the weight limit, which is admittedly too low.

It is of interest to note that in the recent Western Centre trial all the four-wheeled cycle cars finished and obtained awards. This makes an interesting comparison with the percentage of finishers in sidecar classes.

As I think your leader may cause those "invidious comparisons" you mention, I shall be glad if you will give publicity to this side of the question. Usual disclaimer.

H. OSWALD HAYES.

[When *The Motor Cycle* urged that the Auto Cycle Union should take over control of cycle cars, we put forward a definition of 1,100 c.c. engine capacity and 8 cwt. weight limit.—ED.]

LIGHTWEIGHTS AND THE TOURIST TROPHY RACE.

Sir,—The very fact that your excellent paper introduced and put up "*The Motor Cycle* Cup" for machines up to 250 c.c. prompts me to write you to continue your good work for the "little 'un."

In my opinion, the 250 c.c. class is just as important in its way to the lover of sport as the Junior and Senior Tourist Trophy. It is practically a certainty that the winner of the 250 c.c. class will be as fast this year as the best in 1914.

As the majority of motor cyclists know, I am not a lightweight rider; but what I should like to see is the same honour meted out to the 250 c.c. class as to the others.

I would even go so far as to suggest that "*The Motor Cycle* Cup" be renamed "*The Motor Cycle* Lightweight Tourist Trophy." It would then give the same amount of honour to the winner as in the other classes. At the present time this is not the case. H. BOYNTON.

We submitted a copy of our correspondent's letter to the secretary of the A.C.U., who has replied as under:

"You are, of course, aware that the Competitions Committee of the Union has gratefully accepted your offer of a cup for the winner of the 250 c.c. class in the Junior T.T. race; but I feel sure that the suggestion put forward by your correspondent that this cup should be renamed '*The Motor Cycle* Lightweight Tourist Trophy' would not meet with general approval on account of probable confusion with the two classic trophies already in existence.

"At the moment there is no intention on the part of the committee to offer any trophies other than those presented by the Marquis de Mouzilly St. Mars, as it is felt that any addition to these must detract from their value.

"May I say that the Union has always encouraged the production of 'flyweight' motor cycles, and feels certain that a tremendous amount of appreciation will be accorded the winner of the 250 c.c. class in the Junior Tourist Trophy Race. "T. W. LOUGHBOROUGH, Secretary."

BOOKS AND MAPS FOR MOTOR CYCLISTS

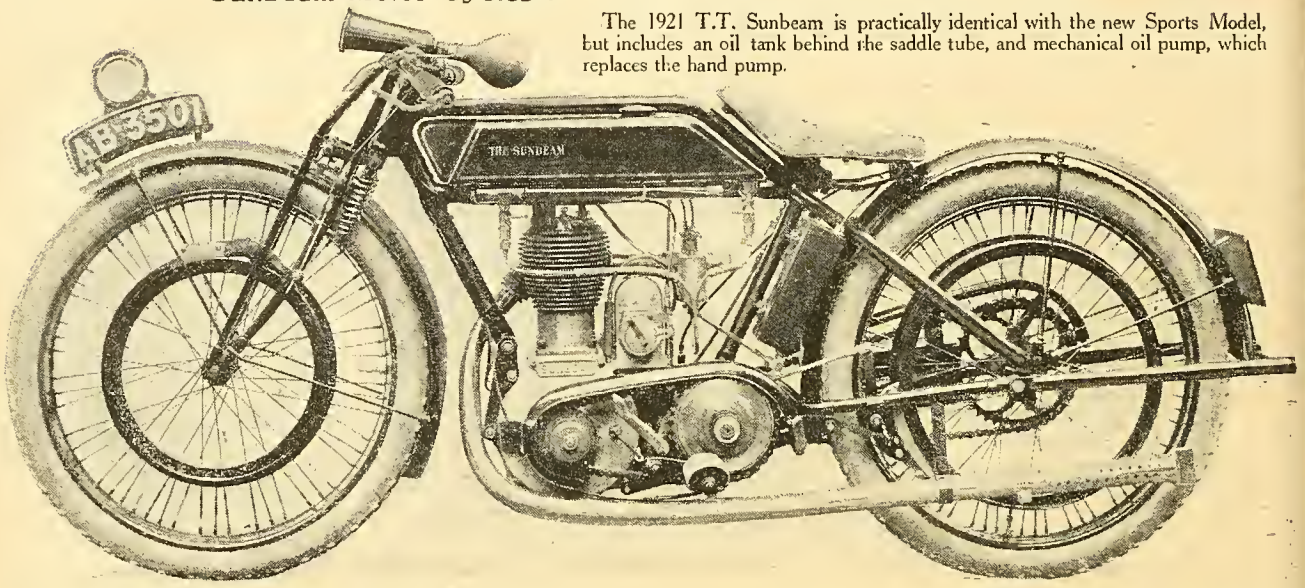
Issued in conjunction with *The Motor Cycle*.

	Price net.	Book post.
"HINTS AND TIPS FOR MOTOR CYCLISTS." Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Seventh Edition	2/-	2/3
"TRACING MOTOR CYCLE TROUBLES." A system for tracing motor cycle faults and of remedying them when found. Fourth Edition ..	2/-	2/3
"MAGNETOS." By A. P. YOUNG. A complete treatise on magneto ignition for motor cars, motor cycles, and aeroplanes. Second Edition	4/6	4/10
"TWO-STROKE MOTOR CYCLES." A reliable treatise on Two-strokes, from the rider's point of view. Just published	3/-	3/3
"MOTOR CYCLE REMINISCENCES." By "IXION," of *The Motor Cycle*	5/-	5/4
"THE MOTOR CYCLE" ROAD MAPS, England and Wales, Scotland, London (showing roads into and out of London and avoiding London). Mounted on linen. Set of three, complete in case.	5/6	5/10
"THE MOTOR CYCLE" ROUTE BOOK. With 32 pages of Road Maps of England and Wales, Scotland, and the London District ..	5/-	5/4

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 23, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

A STANDARD ENGINE FOR THE T.T.

Sunbeam Motor Cycles for the Senior Race in the Isle of Man.



The 1921 T.T. Sunbeam is practically identical with the new Sports Model, but includes an oil tank behind the saddle tube, and mechanical oil pump, which replaces the hand pump.

CONSIDERABLE interest is already being manifested in 1921 T.T. machines. It is known that several very special engines are being prepared for the race; but, in contradistinction to these, at least two manufacturers will enter practically standard sports models.

Of these the T.T. Sunbeam so closely resembles the new sports model as to be almost indistinguishable except for special lubrication arrangements, which will relieve the rider from worry during the race. These lubricating arrangements, however, are of some interest. A large oil tank is carried behind the saddle tube, and a mechanical plunger pump carried on the magneto chain case attends to the supply of oil to the engine. For emergency use, however, a heel-operated pump is fitted.

Closer Gear Ratios.

For racing purposes slightly closer ratios are employed in the gear box, and a larger tank is fitted. The gear box is carried rather high, and a flat steel stay is fitted from the lower part of the crank case to the chain stays on each side of the gear box.

Controls are of vital importance for such a severe test as the Tourist Trophy races, and every lever and pedal is arranged in the most convenient position—in fact, when we took T. C. de la Hay's machine for a short spin on the road we felt absolutely at home on the machine, and an extraordinary feeling of security was noticeable in spite of the machine being strange to us.

A semi-slipper aluminium piston is used, and long rollers are fitted in a bronze cage for the big end bearing.

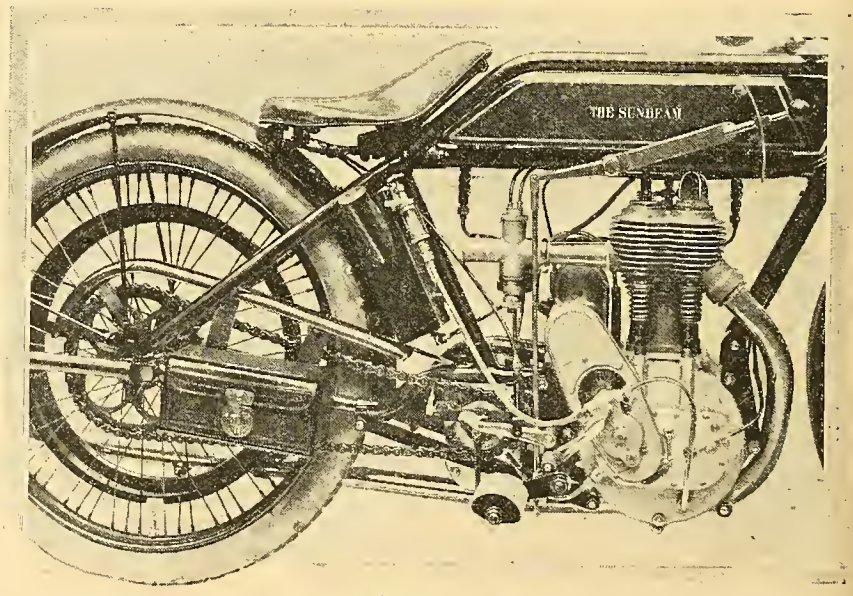
Both front and rear brakes are of the belt rim type, and 26×2⅜in. tyres are employed. A somewhat unconventional position for the toolbag has been decided on, a large metal covered bag being carried on the right-hand chain stay. Both chains are covered by light guards over the top run, and both are lubricated by excess oil from the crank case, directed by pipes leading from the crank case relief valves.

Similar to Last Year's Winner.

We were particularly impressed by the thoroughly workmanlike manner in which the whole machine has been carried out, and since last year's winner is still one of the favourites for the coming event, it is interesting to know that he will ride a machine practically identical with his last year's mount. It is common knowledge that an overhead valve engine has appeared from the Sunbeam works, but the management prefer to rely on their standard machine, which is considered fully fast enough for the Isle of Man course, and which has been thoroughly tried out for more than a year past.

One further detail should perhaps be mentioned, for in all probability petrol-resisting rubber pipe will be employed in place of copper petrol pipes, and this will ensure absence from fracture in this vital point—a trouble which has been experienced by many in past I.O.M. events.

In the rest of its equipment, *i.e.*, such items as Sunbeam-Druid forks and Brooks racing saddle, the T.T. mount is obviously similar to the sports model.



Lubrication arrangements are clearly visible in this illustration. An auxiliary heel pedal is fitted in case of necessity. Observe also the unconventional position of the tool bag, and the special exhaust cap with vertical radiating fins.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects. **ROUTES.**—By special arrangement with the Automobile Association and Motor Union, readers of "The Motor Cycle" desiring routes may enjoy the benefit of the Road Service Department of that organisation. Queries should be addressed to the Editor in the ordinary way (enclosing a 2d. stamp), and will be dealt with by the A.A. and M.U., who are regularly in receipt of reports from their representatives all over the country as to the existing state of the roads in any particular locality.

A TROUBLESOME HUB GEAR.

I have a 5-6 h.p. twin motor cycle which has an Armstrong three-speed and clutch hub, and recently I paid quite a large sum for repairs to the latter, and it was satisfactory for a while, but now the second gear will not work. Do you think it advisable to have the wheel repaired again?—W.J.V.

It seems to be largely a matter of deciding whether the machine is worth the expense of having the gear again overhauled. Hub gears are no longer made, and unless they are very carefully used they are scarcely suitable for high-power twin-cylinder machines used with sidecar. It may be, of course, that an adjustment only is required.

CLUTCH SLIP.

Having a 7 h.p. Indian and sidecar, I shall be pleased if you will advise me the best way to cure a slipping clutch, and also of adjusting the centre screws. Apparently, the fabric lining is quite good. I fitted a set of new springs without effect, especially when going up hills.—W.B.

You do not give the date of your machine, therefore we are not quite sure what instructions to give you, as the machine varied considerably from year to year prior to 1918. If the clutch is slipping the centre screw should be slackened a half-turn at a time only until the clutch holds. Your best plan is to write to the makers, mentioning the date of the machine, as they will no doubt be able to supply you with a copy of their instruction booklet.

CONVERTING TO MAGNETO IGNITION.

I have got an old P.F. 45° twin engine about 5-6 h.p., which has accumulator ignition, and I wish to know (1) the correct way to convert it to the magneto ignition, and (2) the size of the magneto chain sprockets to use.—T.E.P.

A magneto suitable for 45° V-twin engine will be needed, and it must run in an anti-clockwise direction (looking at the spindle end). (1.) Remove the contact breaker from the half-time shaft of the timing gear and replace it with the magneto driving sprocket. (2.) The actual size of the sprockets is immaterial provided that they both have the same number of teeth.

ANGLE OF OLD V TWIN.

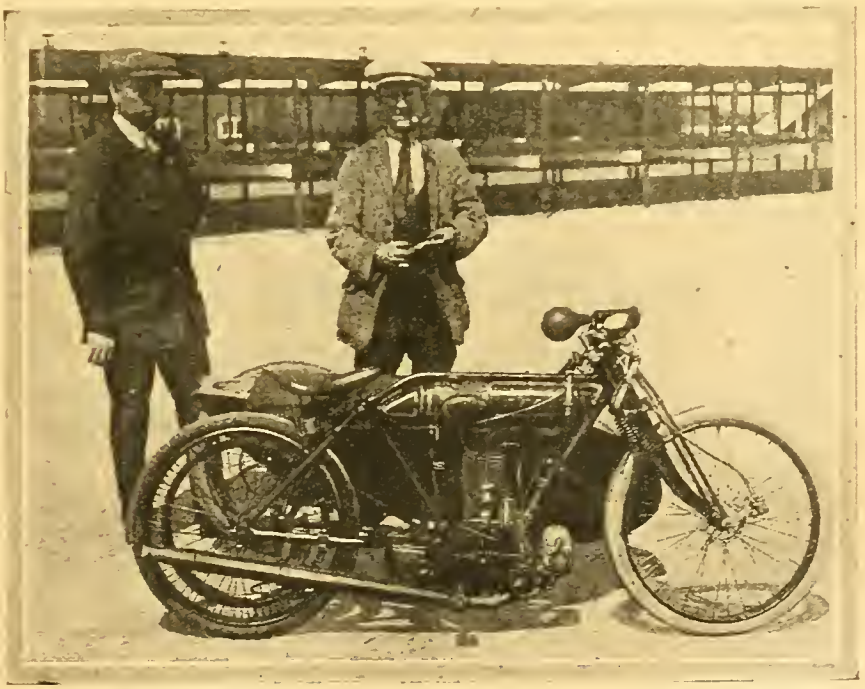
An old 1909 twin Rex which I have is minus the magneto. Can you tell me what degree magneto would suit it? I have a 50° Bosch magneto (anti-clock), but find this unsuitable.—W.H.M.

The angle of the cylinders of the 1909 twin Rex is 48°. However, a 50° magneto can be altered so as to be fairly satisfactory by grinding down 1° from the leading end of one of the cams in the contact breaker.

HIGH LEVEL AND LARGE JET.

I have a 6-7 h.p. B.S.A. fitted with an Amac carburetter and 32 jet. The compression is perfect when hot. At less than quarter throttle, with air lever wide open and ignition fully advanced (timing correct), I only get approximately 42 m.p.g. Recently I turned off the benzole supply while running, and noticed that when the float chamber had partly emptied the engine was running much faster, without missing, until just prior to exhausting fuel in the float chamber, with control levers in the same position as they were before turning off the supply at the tank. (1.) Is this caused by the size of jet or height of float—the float is of reversible type without means of adjustment—with top intake having a loose needle? (2.) Would you suggest a smaller jet or a variable jet adapter set to same size as at present, since I propose using a sidecar later? I just want to go at a comfortable pace.—J.P.

(1.) From the symptoms which you describe, the jet appears to be slightly too large, and the petrol level also might be reduced advantageously. The latter may be done by fitting a light washer between the top of the float and the collar on the needle. (2.) You might try the effect of a smaller jet (say a No. 30), or you could use a variable jet adapter, which, of course, allows you to experiment.



The Climax-engined New Comet which recently beat the 4 and 5 hours and 200 miles records for 350 c.c. machines with sidecars, with J. F. Newey, its designer, and driver.

READERS' REPLIES.

GEAR ADJUSTMENT.

Re "H.R.'s" query of gear slip. It seems to me that the adjustment necessary is on the gear lever; in all probability it is keyed on to the operating lever. By trying the lever for rock, when middle gear is out of mesh, he will find it will "give" a little, sufficient to allow the high or low gear dogs to slip out and burr. Tighten up, after re-keying, with a big spanner, until threads threaten to give. That is how I cured my own trouble on a 3½ h.p. Rover after endless efforts, both at garages and at home.—L.B.

EXPERIENCES WANTED.

"E.H.B." (Bedford).—Rudge-Multwin; petrol and oil consumption, comfort, stability on grease, reliability, etc.

"N.M.J." (Scarborough).—1920 Scott; best carburetter for milcage; jet size with standard Amac; most suitable sparking plug.

RECOMMENDED ROUTES.

BATH TO CHELMSFORD.—E.C.S.

Bath, Slough, Uxbridge, Ickenham, Ruislip, Eastcote, Pinner Green, Pinner and Hatch End Station, Bushey Heath, Elstree, Barnet Gate, Arkley, Barnet, Hadley Green, Hadley Church, Enfield, South Street (Ponders End), Chingford Marsh, Chingford Green, Woodford Green, Chelmsford. Approximately 148 miles.

DERBY TO CAMBRIDGE.—H.B.D.

Derby, Alvaston, Kegworth, Loughborough, Quorn, Mountsorrel, Leicester, Oadby, Great Glen, Kibworth, Market Harborough, Desborough, Rothwell, Kettering, Barton Seagrave, Cranford, Thrapston, Bythorn, Spaldwick, Ellington, Huntingdon, Godmanchester, Fenstanton, Cambridge. Approximately 96 miles.

Important Dates.

Fri., May 13th, and Sat., May 14th—M.C.C. London-Edinburgh Run.

Sat., May 21st—Western Centre A.C.U. Open Hill Climb.

Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.

Tues., June 14th—Junior T.T. Race

Thurs. June 16th—Senior T.T. Race.

Sat., June 18th—North-Western Centre A.C.U. Open Speed Trials.

Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup

Fri., July 1st, and Sat., July 2nd—Arbuthnot Trophy Trial.

Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.

Sat. July 2nd—500 Mile Race at Brooklands for the Miller Gold Cup.

Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials.

Sat., July 9th—St. Andrews Speed Trials

Sat., July 9th—Cardiff M.C.C. and associated clubs Open Hill Climb.

Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.

Sat., July 16th—Ilkley M.C. and L.C.C. Open Reliability Trial.

Sat., July 23rd—Fast Midland Centre A.C.U. Open Speed Trials.

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Sat., July 30th—Newcastle and District M.C. Open Speed Trials.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland

Sat. Aug. 6th—North Wales M.C.C. Open Reliability Trial.

Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.



First off on the London-Holyhead run. A flashlight photograph of W. S. Boyer, on his 5-6 h.p. Rover, being started from Ealing on the Ealing club's recent 24 hour run. (See last issue)

SPARKLETS

Where so many Failed.

Owing to some confusion in competitors' numbers, we stated in our report of the Midland Centre A.C.U.'s open trial that A. G. Beesley (3½ Sunbeam sc.) was the sidecarist shown, at a standstill, in the background of one of our pictures illustrating the event. Actually, Beesley made a good climb of Knapp, the hill in question.

Runs for Unattached Riders.

A realisation that the popularity of the motor cycle movement as a whole will ultimately benefit the trader as an individual is no doubt behind the far-seeing policy of P. Pike and Co., Ltd., of Exeter. This firm is placing a room at the disposal of motor cyclists. As well as being a rendezvous, current literature will be provided. In addition, a number of afternoon and evening reliability runs open to any local motor cyclist are being arranged. Prizes will be given, and there are no entrance fees. The address is 174, Sidwell Street, Exeter.

A Locking Petrol Tap.

The petrol tap and lock which was described in our issue of January 27th as the Ceal, has been renamed the Steno, and is now sold by A. J. Dew and Co., 19a-21, Endell Street, Long Acre, London, W.C.2.

Catalogues Received.

Massey-Arran Motor Co., Ltd., Bell Barn Road, Birmingham: Details of the complete range of Massey-Arran machines. 2¾ h.p. Blackburne-engined sporting and touring models are illustrated, as well as the 2¾ h.p. single and 5 h.p. twin J.A.P.-engined types.

Enfield Cycle Co., Ltd., Redditch: Entitled "The Book of the Royal Enfield," the latest publication of the Enfield Co. contains copious instructions on the driving and management of the 8 h.p. sidecar outfit. A spare parts list is also included.

A. W. Gamage, Ltd., Holborn, London, E.C.1.: "Everything for the Motorist" is the title of a catalogue which is largely devoted to motor cycles and motor cycle accessories, all the best examples of which are illustrated, described, and priced.

Veloce, Ltd., Victoria Road, Six Ways, Aston Manor, Birmingham: One of the most noteworthy features of the Velocette is its mechanical lubrication, and the working parts of the system are shown clearly in the latest catalogue. Three models are listed—the two-speed, the three-speed, and the lady's model.

Burlington Motor Cycle Co., Ltd., 7, South Side, Clapham Common, London, S.W.4: A series of sidecars mounted on underslung chassis; the design appears to be sound and straightforward, and a wide choice of models and finish is offered.



Current Chat

Times to Light Lamps.

May 12th	... ...	9.7 p.m.
,, 14th	... ...	9.10 ,,
,, 16th	... ...	9.13 ,,
,, 18th	... ...	9.16 ,,

Noisy Motor Cycles in Birmingham.

Birmingham possesses a very enthusiastic detective who is mounted on an old Triumph-O.H.8, and is very active in stopping motor cyclists whose machines he considers to be unduly noisy.

Banking of Road Bends.

In order to eliminate the risk of side slip at corners, and to reduce the excessive wear of road surfaces due to the uneven bearing of vehicles on present day cambered roads, the Roads Improvement Association is developing a scheme for the banking of bends; this should greatly increase the safety of all types of vehicles, and would be specially appreciated by motor cyclists.

An Enterprising Garage.

The North Road Garage and Motor Works at Gt. Ponton (three and a half miles south of Grantham) will be open all night on the occasion of the London-Edinburgh run. Petrol, benzole, oil, covers, tubes, and all accessories will be at the disposal of the competitors, and a large staff will be in attendance. Should any competitor need assistance in the district, there will be a box van and two touring cars in readiness.

Convalescent.

Graham W. Walker, the Norton rider who fell during the recent hill-climb at Axe Edge, is progressing quite favourably, and hopes to be in the saddle again in a few weeks' time.

Trying Out the T.T. Mounts.

On the Saturday immediately following the Whitsun holiday, the 21st inst., and less than four weeks before the T.T. races, there will be, in accordance with usual custom, two long distance races at Brooklands for genuine T.T. machines, *i.e.*, motor cycles fitted with variable gears as entered for the races in the Isle of Man. The occasion will be the second members' meeting of the B.M.C.R.C., and the capacity limits in these twenty-four and twenty-eight lap events will, of course, be 350 c.c. and 500 c.c. respectively. The Olai and Mellano Cups are the chief awards.

There will also be an unlimited three-lap scratch race for solo machines not exceeding 1,000 c.c., and a three-lap handicap for sidecars and cycle cars conforming to the F.I.C.M. definitions.

Is it because it is Spring Time?

Our postbag brings us many curious queries. One of the latest is from a reader who wants to know if we can tell him where cowslips can be gathered!

A Recovery.

The A.C.U. recently made a smart recovery of a stolen machine. The Head Office advised their guides of the machine's disappearance, and one of the road guides, in a locality distant from the place where the machine was taken, observed the machine and had the rider detained.

Rural Council Objects to Dye.

A sequel to the recent A.C.U. Trial was an emphatic protest at a meeting of the Godstone Rural District Council, when exception was taken to the use of public roads for the trial of motor cycles, and a committee has been appointed to take drastic action to deter this in future. Mr. J. Topham Brown, the district councillor who raised the protest, said that for long distances the roads were smeared with Reckitt's blue to mark the route to be taken by the competitors. It appeared to him in these days of turmoil and recklessness there was a disposition to make light of public rights. Mr. D. W. Lewis, another district councillor, said the District Council should demand a satisfactory explanation from the A.C.U.



Mr. F. Eagles, a Zenith rider, of Addlestone, who disappeared from his home on his machine in January last. His sister, Mrs. E. Beard, of 42, Albert Road, Addlestone, Surrey, wishes to learn his whereabouts. Mr. Eagles's machine is a 6 h.p. model, and bore the registration number P.A. 2,308.

Special Features.

TWENTY-ONE YEARS AGO!

GUIDE TO THE LONDON-EDINBURGH RUN.

Hill-climb in Yorkshire.

Entries for the Yorkshire Centre hill-climb on Otley East Chevin close on the 21st inst., one week before the event, which is being held on the 28th by the Harrogate and District M.C.C.

Sidecars and Cycle Cars Compared.

Worcester and District M.C.C. is showing another example of enterprise in the trial, which it is organising on Thursday, the 26th inst., in which sidecar outfits will run against three and four-wheeled cycle cars, light cars, and cars, the current list price of which does not exceed £500. Some interesting comparative data should be obtained, which is the aim of the event; and it is therefore hoped that a good entry will be secured. Entries, which are open to all members of the Western Centre A.C.U., must reach the hon. trial sec., Mr. Eric Williams, Lowesmoor, Worcester, by the 23rd inst.

Found.

From our letter-bag: "Found, on Sevenoaks Road, motor cycle tool kit.—Apply, Gravett, 19, Bartlett Road, Gravesend, giving particulars and date of loss."

Motor Cycles and Perfect Carburetters.

Professor Low, lecturing recently at Birmingham University, described a novel apparatus for the examination of mixture in the inlet pipe of a motor cycle engine, by means of which it was possible not only to detect the amount of liquid fuel in suspension, but in the case of two-stroke engines to distinguish between oil and petrol vapour particles.

He described how the destruction of an oil film due to incorrect mixture can lead to knocking of various kinds, and went on to discuss the modern system of carburation.

The lecturer expressed the view that the existence of many hundreds of carburetters proved the absence of perfection in any. He pointed out at the same time that motor cycling conditions do not demand perfect mixture, and that it is not always desirable to have a perfect mixture for an engine which is not necessarily always required to run on its most efficient speed.

In the case of hill-climbing, it might be necessary, for example, to use a slow burning inefficient mixture to obtain comfortable running.

London-Edinburgh Addendum.

The M.C.C. advises us that an addition to the list of competitors in the London-Edinburgh Run given on page 579 is A. P. McGowran (4 Triumph sc.), No. 230.

London-Edinburgh and the Coal Strike.

It was thought at one time that the fate of the London-Edinburgh Run hung in the balance owing to the coal strike, but the feeling of the Motor Cycling Club Committee is that since the Government has approved of horse-racing during this unfortunate period, there is no reason why this popular competition should be abandoned.

London-Edinburgh Hints.

We repeat several time-worn hints to competitors in this event, which may be of some service to novice riders. Alcohol is best avoided until the journey is over; competitors should remember to wind their watches at the start; it is especially necessary to see that lamps are in order; competitors riding with machines improperly illuminated will be severely dealt with by the committee; groups of riders of sidecar outfits of the same make are urgently requested not to ride together. This raises an abnormal amount of dust, and causes much annoyance to other people on the road.

And now a word to spectators. Spectators who watch the passing of the competitors by night are earnestly requested to point their lamps facing northwards, so as to avoid dazzling the riders.

London-Holyhead Awards.

Maude's Challenge Shield, the premier award in the London to Holyhead Trial, organised by the Ealing and District M.C.C., was won by A. W. Brittain on a Calthorpe car.

Gold medals in the motor cycle and three-wheeled cycle car classes went to W. G. Boyer (5-6 Rover), A. G. Battley (4 Triumph), P. Cunningham (3½ P. and M.), W. S. Jameson (3½ Sports Sunbeam), C. L. Sprosson (2½ Connaught), G. W. Shepherd (2¾ Beaumont), E. W. Spencer (4 Omega), G. E. Cuffe (2½ Metro-Tyler), S. T. Tessier (8 Bat sc.), H. Reed (8 Dot sc.), F. Spouse (10 T.B.), and H. F. S. Morgan (8 Morgan).

Silver medals were won by W. H. Spiller (2¾ Wooler), J. R. K. Knight (3½ Brough), F. W. Stevenson (3½ Brough), E. Foster (5-6 Raleigh), W. P. Brandon (4 Triumph), J. A. O'Sullivan (4 Harley-Davidson), T. O. M. Sopwith (2¾ Hawker), and A. K. Smith (7-9 Harley-Davidson sc).

S. A. Burington (7 A.J.S. sc.) gained a bronze medal.

No Double Fee for T.T. Entrants.

As we go to press we learn that in consequence of the industrial position the A.C.U. have decided to waive the double fee, and will accept entries at ordinary rates for the T.T. up to Monday next.

Fifty-mile Race on Pendine Sands.

Carmarthen and District M.C.C., and not the Cardiff club, is organising the Welsh speed championships at Pendine Sands on Whit-Monday. This event, to which we referred last week, includes a fifty-mile race, with the Norton Cup as the premier award.

New Coulson Models.

A new sports model Coulson is being placed on the market with the 2¾ h.p. J.A.P. engine, footrests instead of footboards, and with two-speed gear at 90 gs., and with three-speed gear at 6 gs. extra. The firm is also selling a Blackburne-engined Coulson sports model at 97 gs. with a two-speed gear, and 100 gs. with three-speed gear, and fitted with a slightly different tank.

The Five Hundred Miles Race.

Considerable interest is naturally being taken in the 500 miles race on July 2nd for the gold cup presented by Capt. A. G. Miller, which will be the longest race ever run on Brooklands Track.

The rules for this competition will be as simple and as free from vexations as possible, the winner being the motor cyclist in any class who, having driven personally during the whole period, has covered 500 miles in the shortest time. Any part of the motor bicycle may be renewed except a cylinder or the crank case, which parts will be sealed. Every entrant must nominate two lap-scoring assistants, one of whom will have to be on duty. An innovation will be the introduction of colours for each class. Class A riders will wear white sateen jackets, Class B riders will be in blue, Class C in yellow, Class D in green, and Class E in red.

Situated at the fork will be a series of standard replenishment huts, with a frontage of 6ft.×4ft. 6in. They will be boarded up 3in. high, above which will be wire netting to the roof. These huts will be hired to entrants, and an entrant may hire any number of them.

The Manx Steamers.

Owing to the coal strike there are only three steamers per week to the I.O.M.

The Arbuthnot Trophy.

This year the Arbuthnot Trophy Trial, which is open to officers serving in the Royal Navy, the Royal Naval Reserve, the Royal Naval Volunteer Reserve, and the Royal Marines, will be held on July 1st and 2nd. The district in which the trial will take place will be Kent and Surrey. A circular course has been selected, which will be covered three times on the Friday and once on the Saturday, the trial terminating at Brooklands Track in time to see the finish of the 500 miles race. There have been two Arbuthnot Trophy competitions, the first of which was won by Lieut. Evans Greaves, R.N., and the second by Lieut. G. P. Glen-Kidston, R.N.

The Travers Trophy Trial Results.

According to the results just published, but subject to confirmation by the A.C.U., the 2¼ h.p. Velocette, driven by G. Denley, wins the Travers Trophy in the Newcastle and District M.C. Open Trial on April 30th.

THE TRAVERS TROPHY AND £50 (presented by Messrs. Travers, Ltd., of Newcastle).—G. Denley (2¼ Velocette).

SPECIAL PRIZE (presented by the Lord Mayor of Newcastle, Councillor T. W. Rowe, for the best performance by a member of the Newcastle and Dist. M.C.).—W. H. Lindon-Travers (3½ Norton).

SPECIAL PRIZE for the best performance by private owner on a sidecar machine or three-wheeler.—W. Marriott (4 Norton sc.).

SPECIAL PRIZE for the best performance by private owner on formula in the hill-climb.—T. W. Toovey (3½ Norton sc.).

GOLD MEDALS.—H. R. Harveyson (4 Indian Scout), W. G. Harrison (2¼ Velocette), W. W. Chase (2¾ Coulson B.), Stanley Bell (3½ N.U.T.), R. S. Scoon (3½ N.U.T.), G. A. Strange (3½ James), J. Lidstone (2¼ James), G. Hill (3¾ Scott), A. R. Naylor (3½ Sunbeam), G. S. Davidson (2¼ Levis), J. W. Wilson (3½ Sunbeam), G. M. Townsend (3½ P. and M.), B. Kershaw (2¾ Verus), E. Hawkes (2¾ Excelsior), C. Webb (3½ Sunbeam), A. Dixon (3½ Rover), J. J. A. Dias (3½ Sunbeam), D. Robb (3½ N.U.T.), C. P. Wood (3¾ Scott), W. R. Haggas (4 Triumph), J. Joynson (6 Coventry Victor sc.), W. R. Brown (3½ Sunbeam sc.), L. Newey (6 Ariel sc.), J. Wainwright (10 T.B.), F. W. Giles (7 A.J.S. sc.), W. E. Grange (6 Bradbury sc.), S. Hall (Morgan), G. E. Stobart (7 James sc.), Mrs. Duncan Bell (7 A.J.S. sc.), J. Littlewood (7 A.J.S. sc.), F. J. Ellis (Matchless sc.), G. Nott (Matchless sc.), J. Walker (7 Indian sc.), J. Kish (4 Norton sc.), and J. Adams (5 Rover sc.).

SILVER MEDALS.—R. M. Wilson (2¾ Hobart), W. Walker (3 A.B.C.), and R. P. Reid (Morgan).

BRONZE MEDALS.—K. Dixon (3½ Sunbeam), W. Waller (3 A.B.C.), and R. P. Reid (Morgan). Norton sc.).



Keen interest was displayed both by competitors and spectators at the Neath and Ystalyfera M.C.C. Speed Trials, held in Margam Park last Saturday. The illustration depicts H. Lewis at speed on his Douglas.

PARIS-PYRENEES TRIAL.

Seventy-five per Cent. of the Competitors fail to Qualify for First-class Awards.

THE reliability trial from Paris to the Pyrenees and return, a distance of 1,205 miles covered in seven stages, attracted forty competitors. Undoubtedly the event was severe, and this was shown by the number of penalisations incurred, for the road from Paris to Bordeaux, although generally level, is not good, and the climbs in the mountains were trying for all. On three occasions the competitors had to ascend to more than 3,000ft. above sea level, and the highest point touched was 4,850ft. The basis of the competition was reliability, at the regulation speed of 30 kilometres (18⅝ miles) an hour.

Start from Versailles.

Starting from Paris, the route up to Versailles was not observed, and the official start was given in the ancient city of the Kings of France. The first day's run was to Poitiers, by way of Vendome, where a stop was made for lunch, and then through Tours.

Two of the competitors failed to arrive at the end of the 206-mile stage, these being Schelby, an amateur in the 350 c.c. class, and F. Turvey, one of the members of the B.S.A. team. Dubost, the rider of the two-stroke D.F.R. of his own construction, was in difficulties, and decided not to go beyond this stage. Three others were penalised for late arrival.

When Bordeaux was reached at the end of the second stage thirty-seven competitors were present, but the number of clean score men had been reduced. Roth, an amateur in the 750 c.c. solo class, fell near Poitiers, and, in addition to personal injuries, broke one of the springs of his front fork. He repaired and continued after losing an hour and a half. Fournier, on his own cycle car, took off a cylinder, made repairs, and then speeded after the group so fast that at the end of the day he had lost only seven points.

The south-west corner of France, between Bordeaux and Pau, is famous for its rough *pavé*, which was largely responsible for the reduction of the competitors to thirty-three, and for penalisations to several others. Sykes, one of the Sunbeam riders, had a rather bad spill near Belin, and had to be taken to hospital at Bayonne for medical attendance. Sexé, riding a 250 c.c. S.C., broke a rim, and, in falling, injured his knee. Boulangier, in the 350 c.c. class, suffered in the same way, and several others, among them L. L. Sealey of the B.S.A., were penalised on arrival at the midday halt. During the afternoon, Psalty, the Rover agent in Paris, who had a 500 c.c. solo machine, was obliged to abandon owing to mechanical trouble. Tisseraud also dropped out with his 250 c.c. S.C., the cause being magneto trouble. This left a total of thirty-three arrivals at Pau.

In the opinion of all, the mountain stage from Pau to Toulouse, a distance of 193 miles, was the most difficult of the entire competition. The Col d'Aspin had to be climbed in the morning, and the natural difficulties of this were so great that any time lost for mechanical causes entailed penalisations, while in the afternoon the Col de Peyresourde and the Col du Portet d'Aspet had to be tackled. Twenty-nine out of the thirty-two who started on this stage continued to the end, but large numbers of them lost marks for late arrival. Duverne, the rider of a Janoir sidecar, had a very bad spill when coming down the Col d'Aspin. Machine and riders went over a ravine, Duverne breaking his arm and his companion escaping without injury. Lombard on a G.N. broke a spring and retired, and Leveque on the Ruby cycle car dropped out of the competition. During the morning stage fourteen competitors were penalised, and several more lost points in the afternoon.

Few Clean Scores.

From Toulouse the machines doubled back to Bordeaux, where a public exhibition was held for one day, and from this town the return was made to Paris over the same route as for the outgoing journey. This stage was not very difficult, with the result that no further losses occurred, twenty-nine competitors checking in at the Wine City. At Bordeaux only ten men remained with clean scores, as follows: Chappez (Sunbeam); Pinney (Triumph); Labarre (—); Capt. Brass (B.S.A. sc.); Fontaine (B.S.A. sc.); Vuilliamy, Verlet, and Walbron (all on Harley-Davidsons); Bueno and Honel (on G.N. cycle cars). All the riders in the 250 c.c. class lost marks, these including Berger and Lezin on Velocettes.

SCOTTISH SIX DAYS TRIALS.

960 Miles: From Monday, July 11th, to July 16 h. Applecross included on the Fifth Day.

THE rules of the 1921 Scottish Trials are now announced, and do not appear to depart from the regulations of previous years; machines entered, however, must be genuine touring mounts with complete touring equipment and lamps. Cycle cars must have engines not exceeding 1,100 c.c., and a total unladen weight of 9 cwt. or less; while light cars under 1,500 c.c. capacity may also be entered.

Marking will be the same as in the previous Scottish Trials in the main, and the well-known system whereby each time-check stands by itself, so that time lost in one control cannot be regained in another, will be retained. No check will be less than one hour, however, and arrival times only are to be taken.

Test Hills.

There will be eight test hills as follows: Monday—Amulree; Tuesday—Ballochandrain; Wednesday—Dalnacardoch; Thursday—Abriachan, Glendoe, and Inverfarigaig Corkscrew; and Friday—Tornapress and Applecross.

The start is from Edinburgh on Monday, July 11th, and the average mileage per day is 165 miles. The route which has been selected for this year is as follows:

FIRST DAY. — Edinburgh, Stirling, Crieff, Amulree, Kenmore, Killin, Tyndrum, Dalmally, Oban. 150 miles approximately.

SECOND DAY. — Oban, Lochgilphead, Strachur, Leanach, Otter Ferry, Strachur, Inveraray, Dalmally, Oban. 170 miles approximately.

THIRD DAY.—Oban, Dalmally, Killin, Fearnan, Tummel Bridge, Dalnacardoch, Kingussie, Inverness. 160 miles approximately.

FOURTH DAY.—Inverness, Abriachan, Tomnacross, Invermoriston, Tomdown, Glendoe, Foyers, Inverfarigaig, Dores, Inverness. 120 miles approximately.

FIFTH DAY.—Inverness, Strathpeffer, Jeantown, Applecross, and return to Inverness. 180 miles approximately.

SIXTH DAY.—Inverness, Kingussie, Pitlochry, Aberfeldy, Crieff, Stirling, Edinburgh. 180 miles approximately.

Entries must reach the secretary, Mr. Campbell McGregor, 6, Castle Terrace, Edinburgh, before Monday, June 27th.

A NEW "WORST" HILL IN WALES.

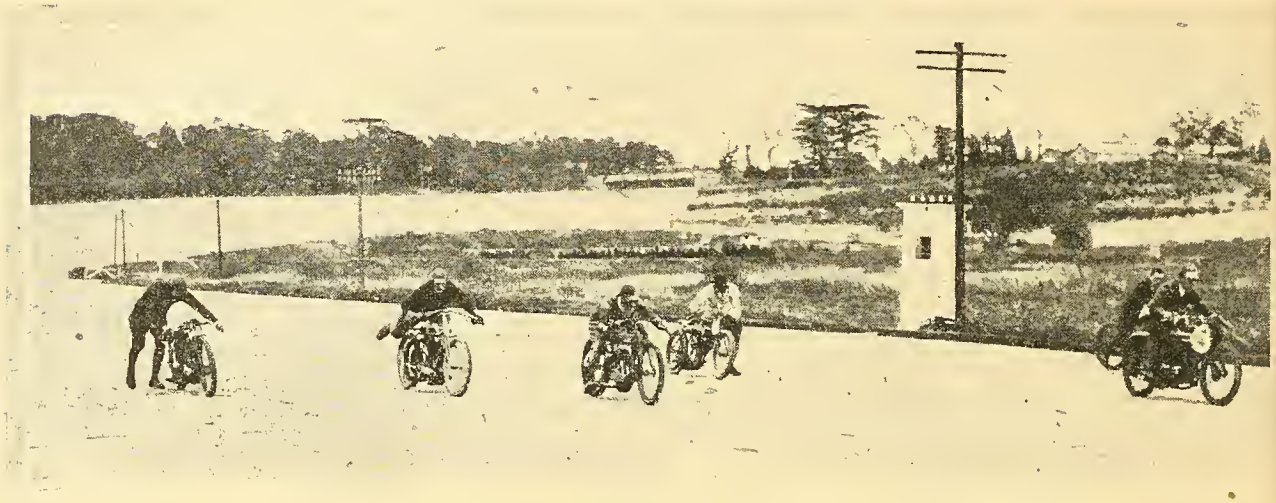
THE "Screw Road" is the name of a hill in North Wales discovered by *The Motor Cycle*. On Saturday last about sixteen well-known competition riders gathered in the market place of Carnarvon, and were guided thence along devious byways.

On reaching the hill, a party examined the surface and the five hairpin bends. After a consultation it was decided that no machine should be allowed to descend the top hairpin without assistance, since a mistake might have ended in a serious fall over a precipitous bank.

The interesting part of the hill is about half a mile long, though the climb continues for over a mile. A loose surface, combined with acute hairpin bends and two sections of approximately 1 in 3, were the main features, but the steep, unprotected side caused more than one to take the worst surface rather than ride too near the edge. All the solo machines eventually made good climbs, and the little two-strokes shone in particular. Only one sidecar outfit made a clean ascent, and, considering the surface, this was a notable performance. Further particulars of this interesting event will be published in the next issue.

B.M.C.R.C. FIRST OPEN MEETING.

Good Racing in Four Spirited Events. Cycle Cars competing with Sidecars.



Start of the Two Miles Open Sprint on the railway straight. V. Horsman (Norton), on extreme left, was the last to get away. He won comfortably from Kaye Don on a sister machine.

LIGHT gusts of drizzly rain were blowing across Surrrey last Saturday afternoon, but the showers were never long enough or heavy enough to wet the track. Here and there a pool showed where a slab of concrete had sunk an inch or so, and helped the men to dodge a bump. Spectators were sent scurrying to cover on three or four occasions, but racing was not inferfered with in the slightest.

The five projected events were whittled down to four on the programme. As the cycle car race only attracted three Morgans and a G.N., these machines were put into the sidecar handicap.

B.M.C.R.C. meetings will not become spectacular until the new motor cycle paddock at the fork is complete, a consummation promised in time for the 500-mile race in July. At present the machines start far away on the distant horizon. The bulk of them are unrecognisable as they circle round the track in the middle distance. Here and there a particular rider may be identified by his friends with the aid of a brilliant vermilion or primrose sweater; but when perhaps a score of starters are contesting what is almost a three-lap race, and their handicaps range from three seconds to nearly three minutes the crowd get extremely fogged as to the progress of the event.

Between Start and Finish.

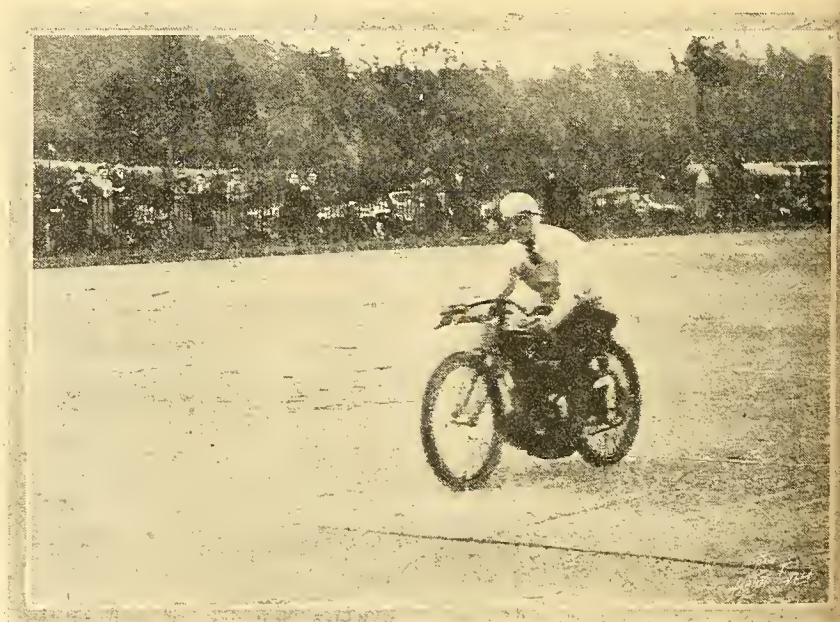
After the parade in the paddock, most visitors devote themselves to flirtation, gossip, bets, and the like until the bell announces that somebody is entering the finishing straight. All this will be altered when general headquarters are transferred to the fork. Spectators will then be able to watch the start, to see who is forging ahead on each lap, and generally to follow the details of the struggle, which, under the present *régime*, are never known in full to anybody, except that *rara avis*—a winner who starts from scratch and runs right through his field.

Saturday was once more a Norton day. Victor Horsman romped home with two firsts out of four races; and Kaye Don, that man of many mounts, was hard on his heels in the two-mile sprint. The J.A.P. people have no cause to be ashamed of their afternoon's work, for their engines propelled a variety of machines, which annexed one first, three seconds, and two thirds out of four events. The Wooler, which is still something of a newcomer at Brooklands, ran very prominently in the 350 c.c. event, finishing a good second to the speedy Diamond; and the remaining three prizes were carried off by American machines.

Bridgman's Indian did not need to flurry itself in winning the passenger event, and Davidson's Harley ran into third place, though he was giving the formidable start of 3m. 12s. to the limit man. Le Vack's Indian might possibly have finished higher than third in the big solo race if he had ventured to let it right out.

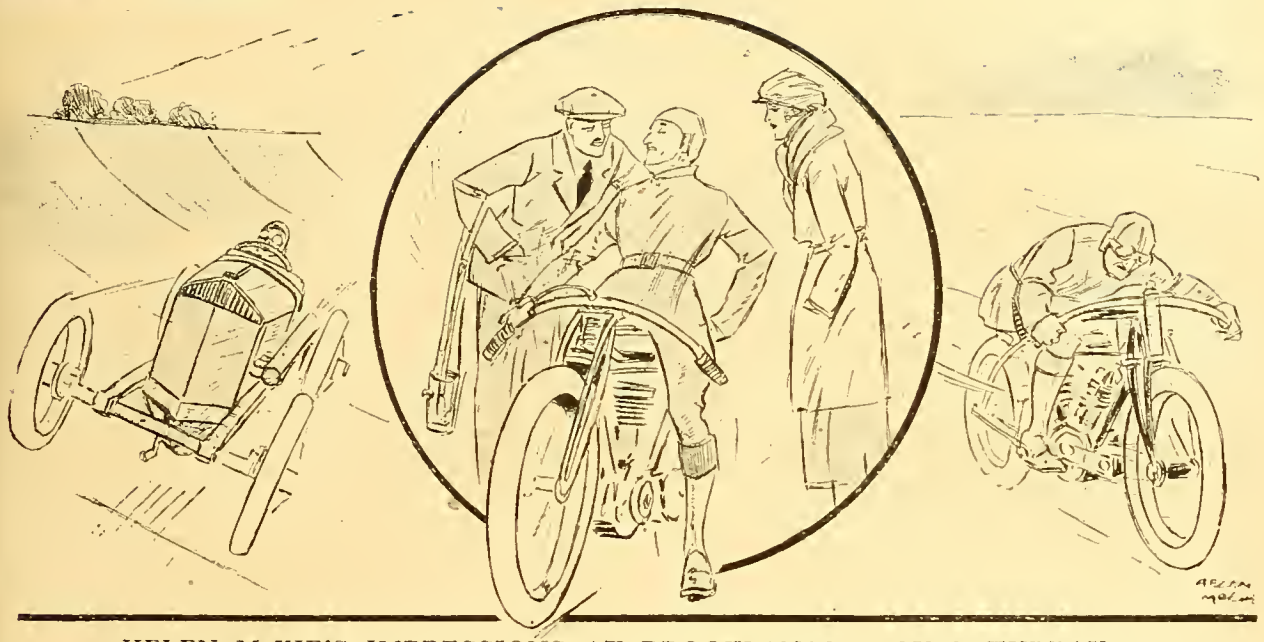
Absence of T.T. Machines.

There was a very noticeable absence of T.T. machines, and many firms who will be out for blood in the Island were unrepresented. None of the "hush-hush" engines, about which all the motor cycle world is whispering, were on view, and



Kaye Don (2½ Diamond) winning the Junior Open Handicap of 8½ miles. His speed was over 63 m.p.h.

B.M.C.R.C. First Open Meeting.—



HELEN McKIE'S IMPRESSIONS AT BROOKLANDS LAST SATURDAY.

the racing was practically confined to old stagers whose form is fairly well exposed, and to young aspirants who have yet to earn a reputation.

Racing managers differ profoundly as to the wisdom of using Brooklands events as a trial canter for their T.T. mounts. Some experts consider that persistent hard work on the track is infinitely the most satisfactory method of trying out a spare T.T. engine or two. Others consider that it is bad for the *morale* of their T.T. riders to know that their engine is perhaps a shade less speedy than some of its rivals, and so prefer to divorce their preliminary tests from all public events.

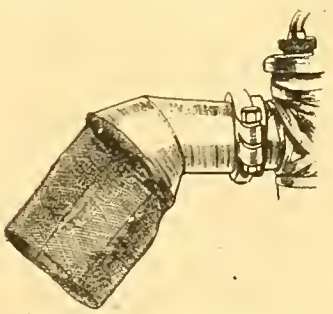
The programme of the next B.M.C.R.C. meeting on May 21st is specifically designed to attract T.T. machines; more of them will be ready for hard work by that date, and we shall see what we shall see.

Details of the racing on Saturday were as follows:

JUNIOR OPEN HANDICAP, not exceeding 350 c.c. 8½ Miles.

	Start. m. s.
A. A. Prestwich-Dot-Jap, 348 c.c.)	—
E. B. Ware (N.U.T.-Jap, 349 c.c.)	—
Tudor Thompson (Douglas, 350 c.c.)	15
T. Eve (Martin, 344 c.c.)	27
J. V. Prestwich (Diamond-Jap, 249 c.c.)	39
Kaye Don (Diamond, 249 c.c.)	39
E. Longden (Coulson-Jap, 348 c.c.)	51
H. Martin (Martin-Jap, 247 c.c.)	51
W. J. Lord (Hobart-Jap, 249 c.c.)	1 21
V. Longden (Coulson-B., 348 c.c.)	1 33
S. C. Hall (Douglas, 350 c.c.)	2 0
J. F. Hull (Wooler, 345 c.c.)	2 0
A. A. Swanu (New Imperial, 293 c.c.)	2 0

With over a dozen men starting at the fork, some of the limit men being rather slow and some of the cracks being very fast, the race was about as easy to follow as a particular speck of glass in a kaleidoscope. Two or three were noticed to fall out, of whom Martin appeared to have trouble with a chain, E. Longden with a tyre, and V. Longden with "drying up." Kaye Don's white sweater was conspicuously gaining on the limit men, with both the Prestwiches very fast. However, Hull's Wooler showed remarkable speed for a machine which had previously shone in the long distance "stamina" records rather in short sprints, and Don must have doubted his ability to catch Hull. After all, his engine was only a baby in competition with larger machines, but he achieved his end in the last lap.

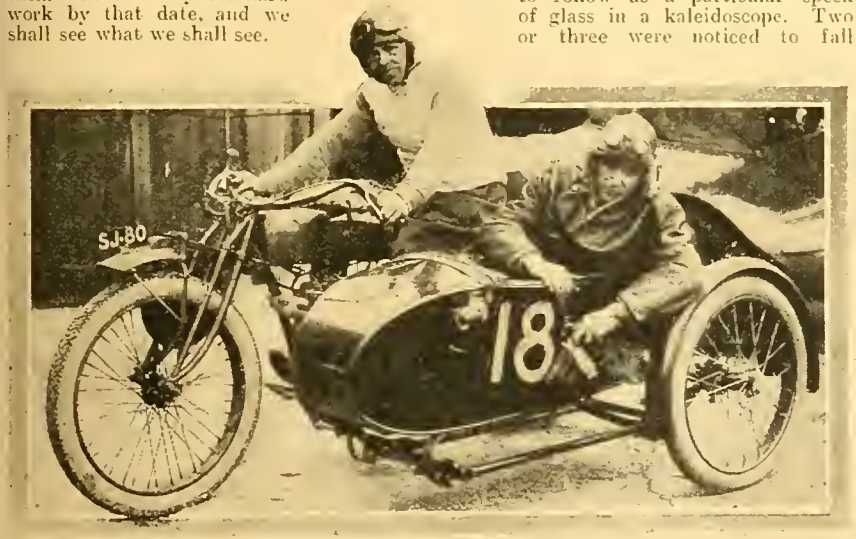


Air funnel, protected by a gauze cylinder, fitted to O. de Lissa's racing Motosacoche.

and ended up a comfortable winner by perhaps 75 yds. J. V. Prestwich hunted the Wooler home at a respectable interval, with A. A. Prestwich and S. C. Hall bringing up the rear. The rest of the field were easing up, and their placings were meaningless; but no other back markers seemed able to catch the long start men.

1. Kaye Don (Diamond) ..... 63¾ m.p.h.
2. J. F. Hull (Wooler) ..... —
3. J. V. Prestwich (Diamond-Jap) —

Car races organised by the Essex Motor Club were sandwiched between the motor cycle events, and lent a pleasant variety to the proceedings.



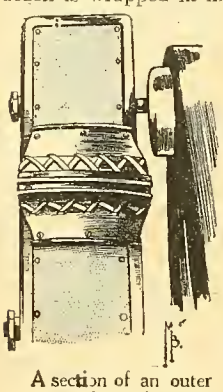
E. A. Bridgman, winner of the Sidecar and Cycle Car Open Handicap of 8½ miles on an Indian sidecar.

B.M.C.R.C. First Open Meeting—

SENIOR OPEN HANDICAP, exceeding 350 c.c. 8½ Miles.

	Start. m. s.
H. Le Vack (Indian, 994 c.c.)	—
D. H. Davidson (Harley, 989 c.c.)	3
C. F. Temple (Harley, 989 c.c.)	3
J. Woodhouse (Martin, 996 c.c.)	21
H. R. Harveyson (Indian, 998 c.c.)	27
Kaye Don (Zenith-Jap, 986 c.c.)	39
V. E. Horsman (Norton, 490 c.c.)	54
F. C. Townshend (Zenith, 988 c.c.)	1 24
T. Thompson (Douglas, 499 c.c.)	1 24
R. N. Stewart (Trump-Jap, 493 c.c.)	1 48
W. L. Gard (Norton, 490 c.c.)	2 9
F. A. Longman (Ariel, 498 c.c.)	2 36
R. Ayres (Rudge-Multi, 499 c.c.)	2 36

It was disappointing that thirteen out of twenty-six entrants failed to turn out for what should have made a most exciting race. W. H. Sinnett damaged the gear box of his A.B.C. on his way to the post, but the absence of the other dozen is wrapped in mystery. Rain had fallen since the first race, but the wind and sun had dried the track, and considerable surprise was expressed by the crowd at the frequency with which some of the big fellows were cutting out. Every time certain of the 7-9 h.p. twins went up the banking round the hill towards the members' bridge they cut out their engines repeatedly. Various explanations were offered by pseudo experts in the crowd—there were wet smears on the banking; the men thought they had been handicapped too severely; and so forth. The real explanation is that it requires considerable grit to hold a 1,000 c.c. machine at approximately 100 m.p.h. for a flying kilometre, and that the man does not live who can tackle the task for a whole lap of Brooklands in its present condition. If a man was funking or trying to hoodwink the handicappers, he would be more likely to close his throttle a trifle than to cut right out. The back markers were honestly trying to run through their field, and found they could not stand the strain of it.



A section of an outer cover used as a foot grip on a Motosacoche.

Single and Big Twin.

After the usual kaleidoscopic business for the first two laps, during which few of the public paid any attention to the racers, and even the observers with powerful glasses lost all touch with the race, Victor Horsman brought his Norton clean away, and won quite easily from Jack Woodhouse's Martin.

It was a fearsome sight to see the latter finish, for after passing the tape he seemed to be well off his saddle and riding on his wrists for most of the remainder of the straight. He says his machine sits the track well at speed, but bucks terribly when it is slowed. Le Vack had opened out enough to run right through the rest of the field into third place. Kaye Don and Harveyson roared past behind. Kaye Don had a great afternoon, and somehow manages to get a regular stud of different makes into top notch tune on the same day.

1. V. E. Horsman (Norton) .... 76½ m.p.h.
2. J. Woodhouse (Martin) .... —
3. H. Le Vack (Indian) .... —

The next event, as previously stated, saw a small entry of cycle cars compressed into the sidecar race, instead of being given a race to themselves, as had been planned. Sidecars were limited to 1,000 c.c. and cycle cars to 1,100 c.c.

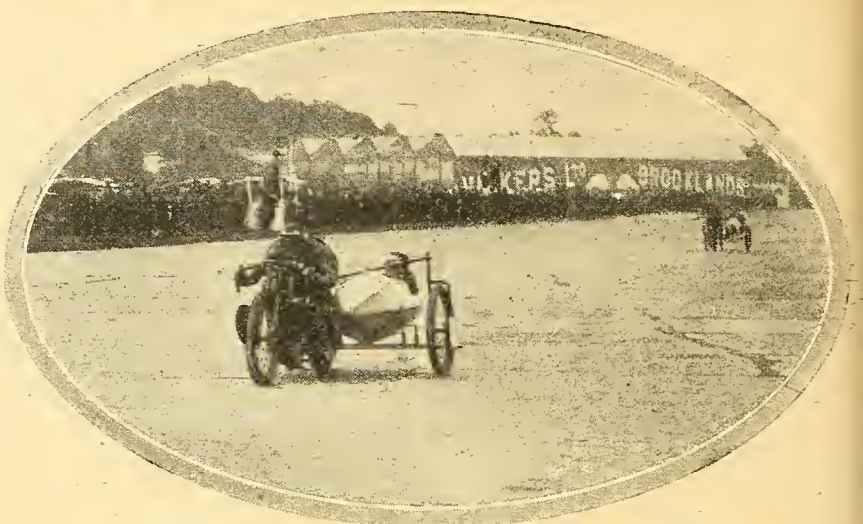
SIDECAR AND CYCLE CAR OPEN HANDICAP. 8½ Miles.

	Start. m. s.
E. B. Ware (Morgan-Jap, 1,088 c.c.)	—
H. Le Vack (Indian sc., 998 c.c.)	33
D. H. Davidson (Harley sc., 989 c.c.)	33
O. de Lissa (Motosacoche sc., 994 c.c.)	54
S. E. Longman (Harley sc., 989 c.c.)	54
J. A. Masters (Harley sc., 989 c.c.)	54
J. A. O'Sullivan (Harley sc., 989 c.c.)	54
H. Jephson (Zenith-Jap sc., 986 c.c.)	54
W. D. Marchant (Zenith-Jap sc., 986 c.c.)	54
A. E. Moss (G.N., 1,087 c.c.)	54
V. E. Horsman (Norton sc., 498 c.c.)	1 18
R. Dequin (Zenith sc., 994 c.c.)	1 18
E. Longden (Morgan-Jap, 986 c.c.)	1 18
H. G. Cookson (Norton sc., 498 c.c.)	1 39
E. A. Bridgman (Indian sc., 998 c.c.)	2 12
D. Crawford (Zenith-Jap sc., 654 c.c.)	2 39
F. A. Longman (Ariel sc., 498 c.c.)	3 45

There is an old saying among betting men that the bigger the race, the bigger the certainty; and as the handicapping had gone seriously astray, the race presented a remarkably good thing for those in the know. Tudor Thompson stood down with some reason, for his 2¾ b.p. Douglas was only given 63s. start of Bridgman's big Indian outfit. Many visitors looked at the card, and spotted Bridgman as a good thing, seeing that he had 2m. 12s. start of Ware's Morgan, which was scratch. But seeing that Le Vack's Indian was only allotted 33s., they decided that Bridgman was riding a slow touring 'bus, and that grave danger threatened from an imposing quartette of Harleys. In the event Bridgman ran right away, and was probably never extended. Quite a lot of machines encountered trouble early in the event. Result:

1. E. A. Bridgman (Indian sc.) . 58¾ m.p.h.
2. W. D. Marchant (Zenith sc.) . —
3. D. H. Davidson (Harley sc.) —

The last motor cycle event was a two-mile scratch sprint from the railway start to the short finishing line, and created more genuine interest among the public than all the others, for the simple reason that it was possible to tell what was happening. The official programme did its best to cloud these simple conditions by inserting a column for handicaps and leaving it blank, and also by appending to a certain number the wrong man and the wrong machine. The bookmakers took a decided view of this race as soon as the numbers went up by laying 6 to 4 on Horsman and fours against Kaye Don, who now appeared on a Norton.



D. H. Davidson (Harley-Davidson)—the first man to attain 100 m.p.h. in this country—finishing third in the Sidecar and Cycle Car Handicap of 8½ miles.

TWO MILE OPEN SPRINT, not exceeding 500 c.c.

	Start. m. s.
V. E. Horsman (Norton, 498 c.c.)	—
R. N. Stewart (Trump-Jap, 493 c.c.)	—
W. L. Gard (Norton, 490 c.c.)	—
P. G. Kennedy (Norton, 490 c.c.)	—
T. Thompson (Douglas, 500 c.c.)	—
O. M. Baldwin (Martin, 496 c.c.)	—
Kaye Don (Norton, 490 c.c.)	—

Close finishes can hardly be hoped for in long races, when the scratch machines are capable of travelling nearly fifty yards per second. The crowd hoped for a tight struggle in this two-mile event. But the riders were plainly stringing out at the standing start, and when Horsman roared round the fork and came thundering home, he was probably twelve seconds ahead of Kaye Don, who in turn had little to fear from Baldwin.

1. V. E. Horsman (Norton) .... 68¾ m.p.h.
2. Kaye Don (Norton) .... —
3. O. M. Baldwin (Martin) .... —

A FLEET STREET CENSUS.

EVERY year for the past fifteen years our sister journal *Motor Transport* has taken a census of traffic in Fleet Street. This year's figures were given in last week's issue of that journal, and reveal that motor cycles are not used so extensively as they might be. Their numbers were: 5.07%, 7.08%, .89%, .60%, and .33% respectively for one April day in 1921, 1920, 1914, 1912, and 1907. There has been a drop of 2% this year, but the figures for the two post-war years show that the utilitarian value of the motor cycle is being recognised. This year's figures show that motor vehicles were 62.92%.

MOTOR TAXATION AND PETROL PRICES.

The Minister of Transport approached by the Leading Motoring Organisations.

A DEPUTATION organised by the Motor Legislation Committee, and representing the Automobile Association and Motor Union, the Society of Motor Manufacturers and Traders (Agents' Section), Motor Trade Association, Scottish Motor Trade Association, Association of British Motor Manufacturers, British Cycle and Motor Cycle Manufacturers' and Traders' Union, and the Auto Cycle Union, waited upon Sir Eric Geddes (Minister of Transport) on Thursday last, on the subject of taxation and petrol prices.

The deputation urged a reversion to a system of petrol duties as the basis of motor taxation on the grounds that it would restore the principle of payment proportionate to road use and render the incidence of payment less irksome than the present system. Facts and figures were presented in order to show that the new system of taxation has at least contributed materially to the present difficulties of the motor industry. It was pointed out that, on the basis of the petrol import figures of this year, a duty of fourpence or fivepence per gallon would produce the greater part of the revenue required for road purposes.

Petrol Prices Too High.

In regard to the price of petrol it was claimed that the consumer was not getting the benefit of the abolition of the petrol duties. Prices were much higher than they should be. The deputation urged that the question of the price of petrol could not be disassociated from that of taxation, and that this aspect of the problem should be considered seriously by the Government.

The Minister's Reply.

In reply to the points raised by the deputation, Sir Eric Geddes said he thonght it was rather early to make a change in the system of taxation. The experience they had had up to the present had, at any rate, not been long enough to enable them to reach a really definite opinion. He was afraid that in regard to the main question of petrol duties versus the present system of taxation he was as far from the deputation as ever.

If it were found, however, that the present scale of taxation produced a larger revenue than that shown in the estimates he hoped it would be possible to make reductions; whether the scale could be brought down next year he did not know; however, he hoped something might be done if the tax brought in an excess over the estimates.

In regard to the price of petrol he would consider whether a conference could not be called with the Board of Trade with the object of discussing the whole subject.

CLUB NEWS.

Surrey M.C.C.

The annual reliability trial for the Heath and Wiltshire Cup was held on Saturday over a course of eighty miles embracing Dorking, Guildford, Petworth, Chichester, and Farnham. The hills included Coast Hill (Dorking), Merrow Down, Bright Street (Guildford), Charterhouse Hairpin, Duncton, and Pitfold. About twenty members started in unfavourable weather, and six completed the course without a stop. Subject to confirmation by the committee, the winner is F. P. Verney (4 Triumph) with a total time-error of 30s.

Edinburgh and District M.C.

At the Edinburgh and District M.C. open hill-climb on Bavelaw Hill on Saturday there was an entry of forty-three individual riders, which it is claimed is a record for a hill-climb in Scotland. There was a very large crowd of spectators, and the event passed off without a hitch. Results:

CLASS 1.—W. Dickman (2¼ Levis).
CLASS 2.—W. Dickman (2¼ Levis).
CLASS 3.—W. H. Hunter (2¾ A.J.S.).
CLASS 4.—J. R. Alexander (2¾ Douglas).
CLASS 5.—W. Graham Black (3½ Norton).
CLASS 6.—A. H. Alexander (3½ Douglas).
CLASS 7.—W. Graham Black (3½ Norton).
CLASS 8.—D. S. Alexander (8 Indian).

Neath and Ystalyfera M.C.C.

Speed trials held at Margam Park on Saturday resulted as follows:

250 c.c. CLASS (Novice).—1, J. Cheshire (2½ Massy-Arran).
350 c.c. CLASS (Novice).—1, J. Cheshire (2½ Massy-Arran).
750 c.c. CLASS (Novice).—1, O. Lewis (3½ Norton); 2, J. Brachi (3½ Norton).
250 c.c. CLASS (Expert).—1, Jack Thomas (2½ Massy-Arran).
350 c.c. CLASS (Expert).—1, C. Sgonina (2¾ Verus).
500 c.c. CLASS (Expert).—1, C. Sgonina (3½ Norton); 2, A. Lindsay (3½ Norton).
750 c.c. CLASS (Expert).—1, A. Lindsay (3½ Norton), 2, C. Sgonina (3½ Norton).
1,000 c.c. CLASS (Expert).—1, A. Lindsay (3½ Norton), 2, C. Sgonina (3½ Norton).
CHAMPIONSHIP CLASS (Unlimited).—1, A. Lindsay (3½ Norton); 2, C. Sgonina (3½ Norton).
Fastest time of the day: A. Lindsay, 26⅗s. for half a mile.

Oxford M.C.

On Saturday, the Oxford M.C. held a successful climb at Kop. In spite of rain that had fallen during the week, and also while two of the classes were being run off, the hill was in very good condition. Fastest motor cycle time of the day was made by E. J. Cross, on a 7-9 h.p. Indian, to whom credit is due for the way in which he rode his machine, which was almost new and was fitted with long touring bars. His time was 48⅘s. A. D. Cruickshank also did well on his sports Norton, but he was not eligible for the amateur medal presented by Mr. Tollady, as he had not owned his Norton for four weeks previous to the event. N. V. Young, who was second on his 4 h.p. Triumph sidecar in the unlimited sidecar class, has only one arm, but rode magnificently. Results:

CLASS 1 (any motor cycle up to 280 c.c.).—1, J. W. Tolladay (2¼ Velocette), 58⅗s.*
CLASS 2 (any motor cycle up to 350 c.c.).—1, J. W. Tolladay (2¼ Velocette), 55⅘s.*
CLASS 3 (any motor cycle up to 600 c.c.).—1, A. D. Cruickshank (3½ Norton), 53⅗s.*; 2, J. W. Tolladay (2¼ Velocette), 54⅘s.†; 3, M. Pearson (4 Triumph), 54⅗s.; 4, L. A. Welch (4¼ B.S.A.), 1m. 5⅗s.‡
CLASS 4 (any motor cycle up to 1,000 c.c.).—1, E. J. Cross (7-9 Indian), 48⅘s.*; 2, A. D. Cruickshank (3½ Norton), 50⅗s.†; 3, E. J. S. Potter (8 Zenith), 53s.
CLASS 5 (any sidecar up to 600 c.c.).—1, M. Pearson (4 Triumph sc.), 1m. 17s.*; 2, N. V. Young (4 Triumph sc.), 1m. 20⅘s.†; 3, L. A. Welch (4¼ B.S.A. sc.), 1m. 34⅘s.‡
CLASS 6 (sidecars, unlimited).—1, J. G. Avery (7-9 Harley-Davidson sc.), 1m. 1⅗s.*; 2, N. V. Young (4 Trimmph sc.), 1m. 7s.†; 3, L. Avery (7-9 Harley-Davidson), 1m. 9⅗s.‡
Awards: *Fastest in class, club silver medal; ‡fastest amateur, silver medal; †bronze medal.

North-west London M.C.C.

An "optional route" trial held on Saturday, was somewhat of a novelty in the fact that five checks were selected in very hilly country in Surrey, strange to the competitors whose haunts lie more north of London. No route was laid down, but the schedule of 20 m.p.h. was taken over the shortest road marked on the ordnance map. Out of a large entry comprising cars, cycle cars, and motor cycles only, eight finished the course within thirty minutes of schedule. The route was officially fifty-four miles, and as one competitor's speedometer registered ninety odd miles some idea of the difficulties may be imagined. Motor cyclists gained over the cars on account of speed, acceleration, and handiness. Results:

1, J. D. Sangway (6 Zenith), total error 5½m.; 2, T. E. Moon (2¾ Douglas), 14½m.; 5, W. E. Phillip (6 A.J.S. sc.), 40m.; 6, H. D. Cuddeford (6 A.J.S.), 43m. (Cars were 3rd and 4th).

Luton and South Beds A.C.

Over a distance of 800 yards with a maximum gradient of 1 in 7, a hill-climb was held on Saturday on a private track in Haynes Park, lent by Mr. Sanderson. Heavy storms on an asphalted surface caused some bad times through belt slip. J. Hill (3½ Rudge) broke his piston in a solo class, but after fitting a new one won two sidecar classes. The special prize for fastest time was won by B. Wood (3½ Norton) at a speed of 59.71 m.p.h. Provisional results:

275 c.c. CLASS.—1, G. S. Davison (2¼ Levis), 35⅗s.; 2, G. Dunham (2¼ Velocette), 38⅖s.; 3, F. Biggs (2¼ New Hudson), 47⅖s.
350 c.c. CLASS.—1, G. Dunham (2¼ Velocette), 38⅘s.; 2, G. Davison (2¼ Levis), 40⅖s.; 3, F. Waters (2¾ Douglas), 41⅗s.
550 c.c. CLASS.—1, B. Wood (3½ Norton), 27⅘s.; 2, C. Smith (3½ Norton), 29s.; 3, G. Davison (2¼ Levis), 35⅗s.
750 c.c. CLASS.—1, B. Wood (3½ Norton), 28⅘s.; 2, C. Smith (3½ Norton), 29⅗s.; 3, A. Saddington (5-6 James), 30s.
ANY CAPACITY (Formula).—1, G. Dunham (2¼ Velocette); 2, B. Wood (3½ Norton); 3, C. Smith (3½ Norton).
LADIES' CLASS.—Miss D. Burley (2¾ Douglas), w.o.
SIDECARS (550 c.c., on Time).—J. C. Hill (3½ Rudge sc.), 46s.
SIDECARS (Unlimited, on Formula).—1, J. Hill (3½ Rudge sc.); 2, A. Sims (7-9 Harley-Davidson sc.).
CYCLE CARS (1,100 c.c.).—1, Godfrey (G.N.), 29s.; 2, M. Finch (G.N.), 35s.; F. Child (Morgan) and E. Buxton (Morgan), 46s., tied for third place.

Hastings M.C.C.

At a recent speed-judging contest, the best three performances were made by D. H. Mastin (3½ Norton sc.), who lost 18 points out of 100; L. Gladish (7-9 Indian sc.), who lost 32; and M. Goldsmith (3½ Zenith), who lost 44½.

Club News.—

West Kent M.C.

In conjunction with the Maidstone M.C.C., the club held an inter-club hill-climb on the 1st inst., when the previous fastest time (26s.) was beaten by several competitors. Results :

350 c.c.—1, G. Williams (2¾ Douglas), 32⅘s.; A. Jessop (2¾ New Imperial) and T. Ling (2¾ Douglas) tied for second place, 32⅘s.

500 c.c.—1, G. Maund (3 A.B.C.), 21⅘s.; 2, A. G. Williams (3½ Norton), 24⅗s.

600 c.c.—1, G. Maund (3 A.B.C.), 22⅗s.; 2, L. A. Maund (3½ Scott Squirrel), 25⅘s.

UNLIMITED.—1, G. Maund (3 A.B.C.) 21⅘s.; 2, J. Tweedie (7-9 Harley-Davidson), 25s.

Redditch and District M.C.C.

Full results of the recent hill-climb at Beoley, which attracted over one hundred entries, have now been announced :

TIME CLASSES.

FASTEST TIME OF THE DAY.—W. E. Smith (3½ Norton).

350 c.c. SOLO CLASS.—1, D. Prentice (2¾ New Imperial; 2, B. Kershaw (2¾ Verus); 3, G. Povey (2¼ Velocette).

600 c.c. SOLO CLASS.—1, W. E. Smith (3½ Norton); 2, G. Baragwanath (3½ Sunbeam); 3, G. Smith (3½ Matchless).

UNLIMITED SOLO CLASS.—1, W. E. Smith (3½ Norton); 2, G. Baragwanath (3½ Sunbeam); 3, G. Smith (3½ Matchless).

750 c.c. PASSENGER CLASS.—1, W. E. Smith (3½ Norton); 2, G. Smith (3½ Matchless); 3, G. Baragwanath (3½ Sunbeam).

UNLIMITED PASSENGER CLASS.—1, W. E. Smith (3½ Norton); 2, G. Smith (3½ Matchless); 3, G. Baragwanath (3½ Sunbeam).

FORMULA CLASSES.

350 c.c. SOLO CLASS.—1, B. Kershaw (2¾ Verus), 2, C. Dyke (2¼ New Imperial); S. Horton (2¾ New Imperial) and D. Prentice (2¾ New Imperial) tied for third place.

600 c.c. SOLO CLASS.—1, W. E. Smith (3½ Norton); 2, H. Spencer (2¼ Enfield); 3, C. Dyke (2¼ New Imperial).

UNLIMITED SOLO CLASS.—1, W. E. Smith (3½ Norton); 2, B. Kershaw (2¾ Verus); G. Baragwanath (3½ Sunbeam) and D. Prentice (2¾ New Imperial) tied for third place.

750 c.c. PASSENGER CLASS.—1, W. E. Smith (3½ Norton); 2, E. Keay (3½ B.S.A.); 3, T. Weaver (5-6 Verus).

UNLIMITED PASSENGER CLASS.—1, W. E. Smith (3½ Norton); 2, G. Baragwanath (3½ Sunbeam); 3, W. J. Green (6-7 B.S.A.).

Warrington M.C.

A very successful hill-climb at Daresbury, near Warrington, resulted as follows :

CLASS 1A (350 c.c.). Expert.—1, H. B. Jackson (2¾ A.J.S.), 28s.; 2, S. Eastwood (2¾ Royal Ruby), 28⅘s.

CLASS 2A (500 c.c.). Expert.—1, T. Simister (3½ Norton), 21⅘s.; 2, V. Horsman (3½ Norton), 22⅕s.; 3, B. Caldwell (3½ Norton), 22⅘s.

CLASS 3A (600 c.c.). Expert.—1, T. Simister (3½ Norton), 22⅘s.; 2, B. Caldwell (3½ Norton), 23s.; 3, N. C. Sclater (3½ Norton), 24s.

CLASS 4A (Unlimited c.c.). Expert.—1, T. Simister (3½ Norton), 21⅘s.; 2, S. A. Marks (7-9 Indian), 22s.; B. Caldwell (3½ Norton), 22⅘s.

CLASS 5A (750 c.c. Sidecar). Expert.—1, T. Simister (3½ Norton sc.), 24⅕s.; 2, V. Horsman (3½ Norton sc.), 25⅘s.; 3, B. Caldwell (3½ Norton sc.), 28s.

CLASS 6A (Unlimited c.c. Sidecar). Expert.—1, T. Simister (3½ Norton sc.), 24⅗s.; 2, V. Horsman (3½ Norton sc.), 26s.; 3, J. B. Terras (6 Bradbury sc.), 28s.

FASTEST TIME OF THE DAY (Expert Classes).—T. Simister (3½ Norton) 21⅘s.

CLASS 1B (350 c.c.) Expert Barred.—1, A. C. Wallington (2¾ A.J.S.), 27⅕s.; 2, H. B. Jackson (2¾ A.J.S.), 28⅘s.; 3, S. Eastwood (2¾ Royal Ruby), 28⅘s.

CLASS 2B (500 c.c.). Expert Barred.—1, N. C. Sclater (3½ Norton), 22⅘s.; 2, J. Caldwell (3½ Norton), 24⅘s.; 3, A. C. Wallington (2¾ A.J.S.), 26s.

CLASS 3B (600 c.c.). Expert Barred.—1, N. C. Sclater (3½ Norton), 23⅘s.; J. Caldwell (3½ Norton), 25s.; 3, A. C. Wallington (2¾ A.J.S.), 26⅘s.

CLASS 4B (Unlimited c.c.). Expert Barred.—1, N. C. Sclater (3½ Norton), 22⅘s.; 2, W. S. Basinett (6 Royal Enfield), 24⅕s.; 3, J. Caldwell (3½ Norton), 24⅗s.

CLASS 5B (750 c.c. Sidecar). Expert Barred.—1, A. J. Bailey (4 Norton sc.), 28⅘s.; 2, J. B. Terras (6 Bradbury sc.), 29s.; 3, H. A. Bleckly (6 Bradbury sc.), 29⅗s.

CLASS 6B (Unlimited c.c. Sidecar). Expert Barred.—1, J. M. Bullough (8 Dot sc.), 27s.; 2, J. B. Terras (6 Bradbury sc.), 28⅘s.; 3, H. A. Bleckly (6 Bradbury sc.),; 29⅘s.

FASTEST TIME OF THE DAY (Expert Classes Barred).—N. C. Sclater (3½ Norton), 22⅘s.

Week-end Club Events.

May 13.—Luton and South Beds. A.C. Club Run to Biggleswade.
May 13.—Herts. M.C. and L.C.C. Club Run to Biggleswade.
May 13.—Central London M.C.C. Club Run to Highgate.
May 14.—Sheffield M.C.C. Club Run to Stratford-on-Avon.
May 14.—Exeter M.C. and L.C.C. Inter-club Trial.
May 14.—West Birmingham M.C.C. Club Run to Llanfyllin.
May 14.—Taunton and District M.C. and L.C.C. Inter-club Trial to Land's End.
May 14.—West Kent M.C. Hill-climb.
May 14.—Ivy M.C.C. (Wolverhampton). Club Run to Buildwas Abbey.
May 14.—Dewsbury and District M.C.C. Picnic.
May 14.—Kidderminster M.C.C. Speed Judging Trial.
May 14.—Berwick and District M.C. Club Run to observe L.E. Trial.
May 14-16.—North London M.C.C. Week-end at Sonning-on-Thames.
May 14-17.—Birmingham M.C.C. Trials for Lycett Trophy and Sangster Cup.
May 14-17.—Bristol M.C.C. Week-end Trial to Newquay.
May 14-17.—Middlesbrough and District M.C. Week-end Tour in Scotland.
May 15.—Rochester, Chatham, and District M.C. and L.C.C. Club Run to Margate.
May 15.—Bury and District M.C. Competition.
May 15.—Barton and District M.C.C. Club Run.
May 15.—Barrow and District M.C. Speed-judging Contest.
May 15.—Northern M.C. Club Run to view London-Edinburgh Run.
May 15.—Eastbourne and District M.C.C. Penalty Run.
May 15.—Holwood M.C.C. Club Run to Worthing.
May 15.—Portsmouth and District M.C. and L.C.C. Club Run to Bournemouth.
May 15.—Woolwich, Plumstead, and District M.C. Club Run to Doncaster.
May 15-16.—Liverpool M.C. Social Runs, etc.
May 16.—Doncaster and District M.C.C. Reliability Trial.
May 16.—North West London M.C.C. Club Run to Brooklands.
May 16.—Herts. M.C. and L.C.C. Paperchase.
May 16.—Carmarthen and District M.C.C. Welsh Speed Championship on Pendine Sands.
May 16.—Bournemouth and District M.C. and L.C.C. Hill-climb.
May 16.—N.E.A.A. One Day Trial.
May 16.—Brighton and Hove M.C.C. Club Run to Henfield and Gymkhana.
May 16.—Worcester and District M.C.C. Three Miles Solo Handicap Race.
May 17.—Blaina and District M.C.C. Reliability Trial.
May 17.—Oxford M.C. Gymkhana.
May 18.—Burton and District M.C.C. Club Run to Swarkestone.
May 18.—Reigate, Redhill, and District M.C.C. Hill-climb.
May 18.—York and District M.C. Social Run and "Old Crock" Hill-climb.
May 19.—Canterbury and District M.C.C. Hill-climb.
May 19.—North Wales M.C.C. Speed Guessing Competition.
May 21.—Dewsbury and District M.C.C. Picnic.

Bath and West of England M.C.

Awards in the hill-climb held on Kingsdown were as follows :

750 c.c. CLASS.—L. C. Bird (2¾ Douglas), 40s., silver medal.

500 c.c. CLASS.—H. Thorpe (3½ Douglas), 28.4s., gold medal; V. Anstice (3 A.B.C.), 35.4s., silver medal; G. H. Tucker (3½ Norton), 32.8s., bronze medal.

750 c.c. CLASS.—H. Thorpe (3½ Douglas), 28.8s., gold medal; I. Gunning (4 Norton), 36.6s., silver medal; G. H. Tucker (3½ Norton), 32s., bronze medal.

1,000 c.c. CLASS.—A. King Smith (7-9 Harley-Davidson), 31.4s., silver medal; F. Butcher (7-9 Harley-Davidson), 35.8s., bronze medal.

UNLIMITED PASSENGER MACHINES.—I. Gunning (4 Norton sc.), 46.8s., silver medal; C. Rankin (9 Morgan), 44.4s., bronze medal.

Fastest time of the day: H. Thorpe (3½ Douglas), 28.4s.

Bridgnorth and District M.C.C.

Held at Copthorne Hill, the recent admirably organised climb resulted as follows :

CLASS 1 (Solo up to 250 c.c.).—1, Miss G. Pickering (2¼ Velocette), 71½s.; 2, Mr. A. Williams (2½ Ixion), 78s.

CLASS 2 (Solo up to 350 c.c.).—1, N. Goodacre (2¾ A.J.S.), 52½s.; 2, T. Rochelle (2¾ Diamond), 57s.

CLASS 3. (Solo up to 500 c.c.).—1, F. Collard (3½ Rover), 35s.; 2. S. K. Ridley (3½ Norton), 41s.

CLASS 4 (Solo up to 750 c.c.).—1, F. Collard (3½ Rover), 36s.; 2, S. K. Ridley (3½ Norton), 40½s.

CLASS 5 (Solo up to 1,000 c.c.).—*1, A. Wood (8 Ivy), 33s.; 2, F. Collard (3½ Rover), 37s.

*Fastest time of the day.

CLASS 6 (Open Event, Unlimited).—1, A. Bennett (3½ Sunbeam), 34½s.; 2, F. Collard (3½ Rover), 35s.

Ipswich and District M.C.C.

Perfect weather and a large entry were enjoyed by the club on the occasion of the hill-climb on Battisford Hill. Results :

CLASS J (1,000 c.c. Sidecars).—1, D. Gornell (8 New Imperial sc.), 19⅗s.; 2, T. Wilkin (4 Norton sc.), 23s.; 3, E. T. Elliott (4 Indian Scout sc.), 24s.

CLASS H (750 c.c. Sidecars).—1, E. T. Elliott (4 Indian Scout sc.), 24⅕s.; 2, T. Wilkin (4 Norton sc.), 29⅘s.

CLASS B (350 c.c. Solo).—1, D. Potter (2¾ Douglas), 25s.; 2, H. Keer (2¾ Douglas), 26s.

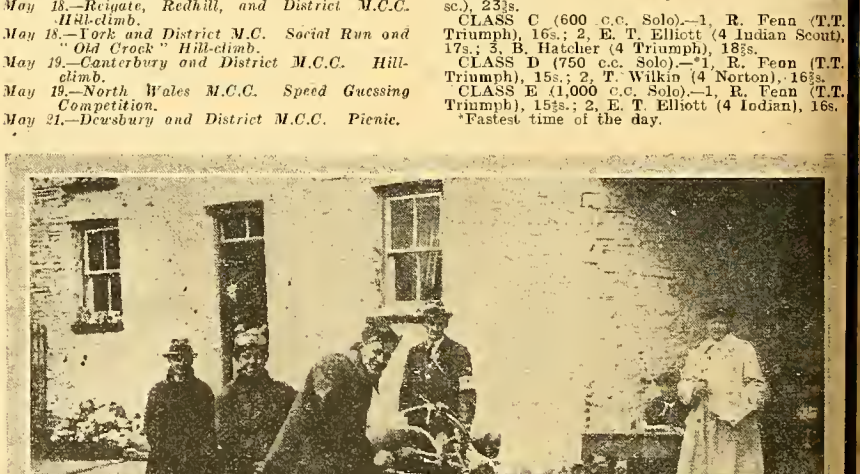
CLASS G (600 c.c. Sidecars).—1, R. Fenn (T.T. Triumph sc.), 23⅗s.; 2, E. T. Elliott (4 Indian sc.), 23⅘s.

CLASS C (600 c.c. Solo).—1, R. Fenn (T.T. Triumph), 16s.; 2, E. T. Elliott (4 Indian Scout), 17s.; 3, B. Hatcher (4 Triumph), 18⅘s.

CLASS D (750 c.c. Solo).—*1, R. Fenn (T.T. Triumph), 15s.; 2, T. Wilkin (4 Norton), 16⅘s.

CLASS E (1,000 c.c. Solo).—1, R. Fenn (T.T. Triumph), 15⅘s.; 2, E. T. Elliott (4 Indian), 16s.

*Fastest time of the day.

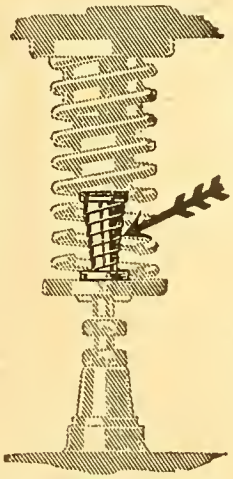


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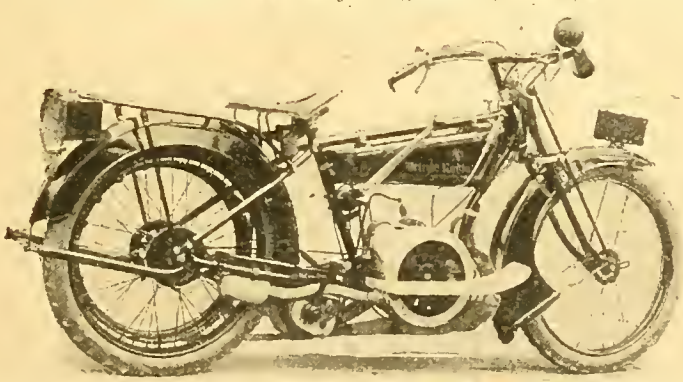
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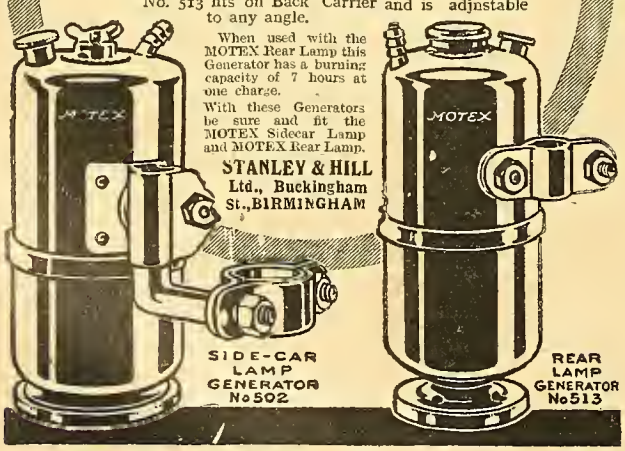
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The "right oils," rightly used, will practically eliminate the formation of carbon deposits—the cause of pre-ignition. The "right oils," judiciously used, prevent premature depreciation of the engine and other working parts. B.M.T. Oils are the "right oils"—right because they are the outcome of many years' experience and exhaustive study of lubricating problems.

Obtainable through all Motor Dealers, in five grades to cover the whole range of automobile lubrication.

Send for the B.M.T. Booklet and Price List, it will show you the right grade of oil to use for your motor cycle.

SHALER VULCANIZERS
Compare the price—the results are incomparable.

A. E. NEWTON, Ltd., 50, Pall Mall, London, S.W.1
ALBERT E. NEWTON, Managing Director (27 years with the Vacuum Oil Co.)
Telegrams: "Anewtoyle, London." Telephone: Gerrard 8809

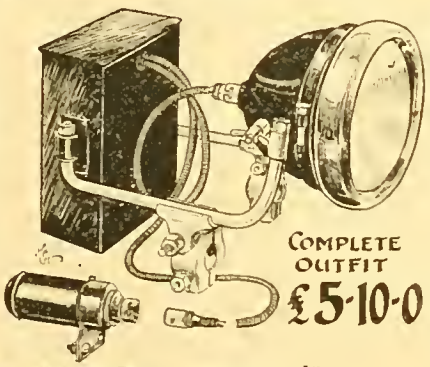
St. James's 3

Post Free Service

Important Announcement.

To offer equal facilities to country clients in the selection and purchase of Motor Cycle Accessories we have organised a special Mail Department for this purpose, and all orders received will be executed **Post Free.** Goods will only be despatched against remittance, but on the clear understanding that such remittance is returnable if our client does not approve of goods despatched. In this manner country orders will receive equal attention with cash purchases at our showrooms. **This service is at your disposal for Motor Cycle Accessories of every description, and remember that orders are mailed at once.**

Something Practicable in Electric Lighting for the Solo Machine. Costs no more than Acetylene. Perfectly Balanced.



COMPLETE OUTFIT £5-10-0

Supplied completely wired up, as illustrated, and guaranteed to fit any solo machine.

The "COMPACTA" ELECTRIC LIGHTING SET.

Sole Concessionnaires for England — **GODFREY'S LTD.**

The Accumulator carrying case and handlebar brackets are manufactured from the finest pressed steel, and the set is impervious to road shocks.

Write for Illustrated Folder of the Complete Godfrey Lighting Set.

SPECIAL OFFERS THIS WEEK.



Motor cycle electric horn complete with handlebar switch. Black finish.

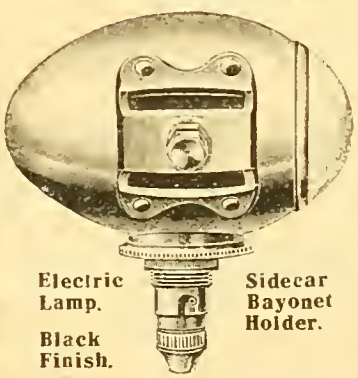
SPECIAL PRICE **25/-**

TYRES GOODYEAR All-weather Diamond Tread

28"×3" COVERS **50/-**

BUTT ENDED TUBES **10/-**

The above represent a special purchase, the tyres being indistinguishable from manufacturers' new stock. Unused and in their original wrappings.

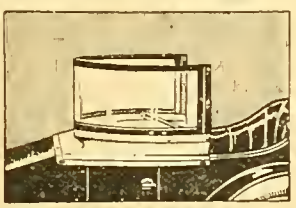


Electric Lamp. Black Finish.

Sidecar Bayonet Holder.

SPECIAL PRICE **15/-**

EASTING WINDSCREEN.



Standard Model, **90/-** Sporting Model, **70/-**

Speedometers.

Cowey Plain	115/-
Cowey Trip	130/-
Watford Plain	115/-
Watford Trip	125/-
Bonniksen Trip	125/-

Acetylene Lamps.

Lucas, Large set	97/6
Lucus, Medium set	67/6
Lucus, Small set	52/6
Lucas, Rear Light set	14/6
Miller, 31H	64/-
P. & H., L/W set	42/-

Horns.

Lucas Bulb	27/6 and 14/6
Clayrite Bulb	27/- and 17/6
Klaxon Mechanical	30/-

Sparking Plugs.

Lodge Standard	5/-
Lodge 2-stroke	5/-
Lodge Racing	8/6
K.L.G., G.2	6/-
Apollo	5/-
Master	3/-

King Dick Spanners.

Large, 6in.	9/10
Medium, 4in.	5/7
Baby, 3in.	4/4

Tan-Sad Pillion Seat	38/-
Tan-Sad Back Rest	9/-
Tan-Sad Foot Rest	6/-

A.K. Knee Grips	12/6
John Bull Grips	6/9
Chain Punch, ¼in.	5/-
Chain Punch, ⅜in.	6/-
Dumbell spanners	4/6 and 3/6
Patchquick and Chemico Outfits	3/-
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Bluemel Pumps, 18in. and 15in.	8/10 and 8/6
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INDIAN SPARE PARTS SERVICE DEPOT.

GODFREY'S LTD.,

208, Gt. Portland St., LONDON, W.1.

'Phone—1300 Langham

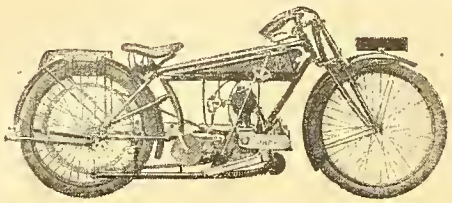
SCOTT SPARE PARTS SERVICE DEPOT.

A.C.U. ONE DAY TRIAL.

The P.V.

with its incomparable Spring Frame, obtained

A FIRST-CLASS CERTIFICATE.



THE ONLY DESIGN WITH OVER TEN YEARS' ROAD USE BEHIND IT.

Prices from:

Two-stroke, Two speed. £75 Lady's. £81 Four-stroke, Two-speed, £80

MOTOR CYCLES LIMITED · FORREST HILL · LONDON

SPEEDON MOTOR OILS

HIGH GRADE AND UNEXCELLED FOR CYCLES.

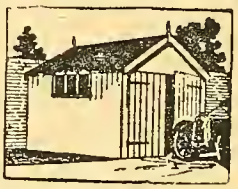


John S. Morris & Son (Oils), Ltd., Cross Lane Oil Works, Manchester

FINAL CLEARANCE SALE

We are determined to clear the whole of our stock, and are making Reductions of from 25 to 75% off usual list prices FOR FOUR WEEKS ONLY.

MOTOR CYCLE HOUSES FROM £7 15 0



MOTOR CAR HOUSES FROM £10 2 6

Every Article is New, Perfect, and Complete as list.

Send for F.S. Catalogue No. 85, Post Free.

T. BATH & CO., LTD., 18, SAVOY STREET, LONDON, W.C.2.

OUR NEW SHOWROOMS ARE NOW OPEN.

DROP A P.C. FOR PATTERNS AND ORDER YOUR SPORTS COAT DIRECT FROM MAKERS.



Style 601 8 pockets

The Stylish Ramont SPORTS COAT

Made to measure from 25/-

Tailored on smartest fashion lines, and sold with money back guarantee.

Send no money—Patterns FREE.

P.C. brings patterns for Ramont

Sports Coat Suit from 50/-
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(Ladies' or Gents')
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(Navy Blue or Cream Serge), from 26/-
Booklet and measurement form.

Ramont Ltd. (Dept. 14), Finsbury Pavement House, London. E.C.2.

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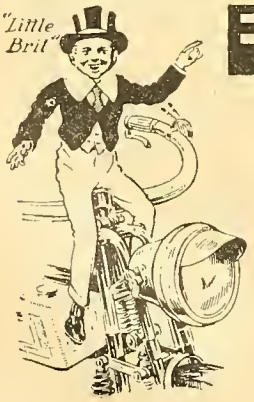
IN MOTOR CYCLES
NEW & SECOND-HAND MACHINES.

Sunbeam, Indian, Martinsyde, Rover, B.S.A., Rudge, Royal-Enfield, Royal Ruby, Levis, Connaught, Cedos, Sun, Villiers, Clyno, A.B.C

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BRITINOL

The Trouble Saver

Every motor cyclist should include a "Britinol" Soldering Outfit in his Tool Kit. It is the most efficient and practical soldering outfit on the market. There is no mess or bother with flux or resin, "Britinol" is solder and flux combined in paste form, ensuring a clean, workmanlike job in a few moments. Used in the leading engineering workshops, and acknowledged to be the only soldering medium for high grade work. All accessory dealers should write for Trade Terms of this quick seller.

Price 9/6, or sample set post paid in the United Kingdom for 10/-.

BI-METALS, LTD.,
57, LANT STREET, BORO', S.E.1

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for MOTOR CYCLES, SIDECARS, & SCOOTERS

Also **LINING** for above in various widths and colourings.

Registration Letters & Numbers in White, etc.

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MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every ad- ditional word. Paragraphs of under 8 words re charged double rate. Each paragraph is harged separately. Name and address must e counted. Series discounts, conditions, and pecial terms to regular trade advertisers will e quoted on application.

Postal Orders and Cheques sent in payment for dvertisements should be made payable ILIFFE & SONS Ltd., and crossed & Co. reasury Notes, being untraceable if lost in ansit, should not be sent as remittances.

All advertisements in this section should be ccompanied with remittance, and be addressed the offices of "The Motor Cycle," 20, Tudor treet, London, E.C.4, or 19, Hertford Street, oventry. To ensure insertion letters should e posted in time to reach the offices of "The lotor Cycle," by the first post on Friday orning previous to the day of issue.

All letters relating to advertisements should uote the number which is printed at the end of ach advertisement, and the date of the issue which it appeared.

The proprietors are not responsible for clerical printers' errors, although every care is taken avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be ddressed to numbers at "The Motor Cycle" Office. hen this is desired, the sum of 6d. to defray the cost of gistration and to cover postage on replies must be added the advertisement charge, which must include the ords Box 000, c/o "The Motor Cycle." Only the number ill appear in the advertisement. All replies should be ddressed No. 000, c/o "Motor Cycle," 20, Tudor Street, .C.4. *Replies to Box Number advertisements containing mittances should be sent by registered post, but in all such ses it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box umber, as it is unusual for these to be sold without first eing inspected by the intending purchaser, advertisers will cilitate business by embodying in their advertisements me mention of the district in which the machine fered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons ay deal in perfect safety by availing themselves of our eposit System. If the money be deposited with "The otor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the oods is three days, and if a sale is effected we remit the mount to the seller, but, if not, we return the amount the depositor, and each party to the transaction pays arriage one way. For all transactions up to £10, a eposit fee of 1/- is charged; on transactions over £10 nd under £50, the fee is 2/6; over £50 and under £75, 5/-; ver £75 and under £100, 7/6; and on all transactions ver £100, ½%. All deposit matters are dealt with at , Tudor Street, London, E.C.4, and cheques and money rders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisement is an dication that the advertiser is willing to avail himself of he Deposit System. Other advertisers may be equally esirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no nswer to their enquiries are requested to regard the lence as an indication that the goods advertised have ready been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to ach one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., new, recently from works, fully guaranteed, plenty of spares.—Frank Whitworth, 139, New t., Birmingham. [X2888

A.B.C., 1920, brand new; exchange for good second- hand, or sell best offer over £105.—Williams, Port- nd St., Cheltenham. [X2037

A.B.C., 700 miles, dynamo lighting, electric horn, speedometer, etc.; cash bargain, £115.—Collier's Motories, Horton St., Halifax. [7526

1921 A.B.C., brand new, makers' guarantee; £105, or with A.B.C. sidecar £137.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. [8415



IMPORTANT NOTICE.

Owing to the Whitsun Holidays, the issue of "The Motor Cycle" for May 19th must be closed for press earlier than usual. Insertion of Miscellaneous Advertisements in that issue can only be guaranteed if in our hands by first post, Thursday, May 12th.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920 (November), speedometer, horn, Lucas lamps, small mileage, very fast, perfect; bargain, 89 gns.—Bond, Sutton Benger, Chippenham. [8140

A.B.C., 1920 model, only run few miles, perfect condition throughout, complete with Lucas lamps, etc., tax paid; £95.—P. J. Evans, Birmingham. [7542

A.B.C. 3h.p. 1920 Model, in first-class order, small mileage; £90.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [7517

A.B.C., delivered July, 1920, as new, only done 1,300 miles, including accessories, tax and insurance policy; £100.—Dodson, 3, Akenside Rd., Hampstead, N.W.3. [0592

1920 A.B.C. Combination, lamps, horn, spare, T.T. bars, Henderson B1 sidecar, splendid condition, tax paid; £130, or best offer.—James, H.M.S. Warwick, Devonport. [7221

A.B.C., 3h.p., 1920 (Nov.), Lucas dynamo lighting, Cowey horn, insured £150 (11 months unexpired), mileage 700, condition perfect, licence paid; sell £125, or part exchange Morgan.—A.G., Hillside, Fitzroy Park, N.6. [7382

3h.p. A.B.C. Motor Cycle, late 1920 model, complete dynamo lighting, horn, etc., perfect condition, tyres as new, with spares and spare tyres, specially picked engine for competitions and reliability; real bargain, £110, or nearest offer; first cheque secures; any trial by appointment.—A. Fairley, 60, St. Alban's Rd., Edinburgh. [7575

A.C.E.

ACE Motor Cycles, official Midland agents.—Colmore Depot, 31, Colmore Row, Birmingham. [X2780

A.J.S.

JULIANS of Reading have 1921 A.J.S. in stock. 0532

DAN GUY, Weymouth.—1921 A.J.S. in stock; £215. [0549

1921 A.J.S. Outfit in stock, list price.—Cross, Agent, Rotherham. [X2853

PICKERING, Shrewsbury.—A.J.S., new and second- hand; exchanges. [8061

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [4557

FRANK WHITWORTH, Ltd., of Birmingham, have 1921 A.J.S. ready for immediate delivery. [X2089

DAN GUY, Weymouth.—A.J.S. agent for Dorset; earliest deliveries new 2¾h.p.; provisional price £100. [0557

A.J.S. Combination, 4h.p., 3-speed, splendid condition; 95 gns.; any trial.—4, The Square, Carshalton, Surrey. [8442

1920 A.J.S., Lucas lamps, horn, speedometer, Sterling shields; £178.—Mathews, 47, Maple Rd., Bournville. [8244

DAN GUY, Weymouth.—A.J.S. 6h.p. combination, 1917, recently re-enamelled, splendid condition throughout; £120. [0558

1914 A.J.S. 2¾h.p., 2-speed, H.C., horn, lamps, pillion seat, unlicensed; £50; bargain.—S. Johnson, Tile Hill, Coventry. [X2033

1920 A.J.S. 6h.p. Combination, new condition, spare wheel, lamps, horn, tools, Tan-Sad; £180.—W. E. Ashford, Draper, Newmarket. [X2752

A.J.S. 6h.p. Combination, Aug., 1920, all on, tax paid, good condition; trial; £165.—Harrison, 1, Park View, Broom, Rotherham. [X2879

1919 A.J.S. 6h.p. Combination, low mileage, splendid condition throughout, tax paid; £130.—A.C., Upsteps, Cornwall Gardens, Margate. [7105

2½h.p. A.J.S., C.A.V., B. and B., licensed, good running order, complete, licensed; £22, bargain. —Smith, 28, James St., Northampton. [8221

A.J.S. Combination (Nov., 1919), speedometer, all accessories, like new; best offer over £150.—Hagues, 80, Cromford Rd., East Putney. [8206

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. 2¾h.p., 3-speed, countershaft, clutch, chain drive, enclosed, pink of condition, very fast, reliable, all on; £56.—5, Howard Rd., Bromley, Kent. [7445

A.J.S. Combination, 1917, 6h.p., hood, speedometer, horn, electrically equipped, licensed, insured, faultless; £220.—Apply, 181, Church St., Edmonton. [7960

1915-16 A.J.S. Combination, screen, grid, tuned for speed, just had makers' £26 overhaul; £116; exchange solo.—Mellersh, Clarence Rd., St. Albans. [7950

1920 A.J.S. Combination, perfect condition, small mileage, electric lighting, accessories; £175; after 5 p.m.—119, Hamilton Rd., Golders Green. [8171

DAN GUY, Weymouth.—1920 6h.p. A.J.S. Combination, purchased November, as new, guaranteed condition, fitted Lucas Magdyno, small mileage, tax paid; £195. [0596

£90.—1916 6h.p. A.J.S. Combination, spare wheel, wind screen, mechanical condition good, just overhauled, appearance fair.—The Premier Motor Co., Aston Rd., Birmingham. [8411

1921 A.J.S. 7h.p. Combination, dynamo lighting, all extras, mileage 360, tax paid, cost £268 fortnight ago; £250.—Scott, 22, Richmond Rd., Handsworth, Birmingham. [X2255

A.J.S. Combination (Aug., 1920), mileage 2,000, electric lighting, Tan-Sad, foot and back rests, spare wheel, all on, condition perfect; bargain, £190.—Tyrrell and Clissold, Oxford. [7453

1920 A.J.S. Combination, mileage under 2,000, speedometer, Klaxoo, gas lamps, excelleot condition; £160, or with 6 volt dynamo lighting set £175.—Box 3,668, c/o *The Motor Cycle*. [5423

A.J.S. 2¾h.p., 1916, 3-speed countershaft, b.b.c., stood 3 years, completely overhauled last week, perfect, very fast and reliable; £65.—Argrave, 103, Fetter Lane, Fleet St. 'Phone: Mus. 7245. [7083

A.J.S. Combination, late Aug., 1920, ridden twice, Lucas, accessories, ill health cause sale, tax and insurance paid till Aug., 1921; reasonable offer accepted.—7, Hampton St., Walworth, S.E.17. [7300

1920 (late) A.J.S. Combination, electrically equipped, spare wheel, speedometer, done only 1,200 miles, magnificent outfit; £170.—James, over Bradmore's, 482, Harrow Rd., Paddington. Tel.: Willesden 1744. [8380

1920 A.J.S. 6h.p., delivered Sept., hood, spare wheel, Tan-Sad, Lucas lamps, storm apron, fully equipped, tax paid, fully insured, good condition; £180, no offers.—42, Broad Lane, South Tottenham. [7167

A.J.S. 7h.p., brand new 1921 combination, interchangeable wheels and spare, just arrived from works, in stock for immediate delivery; £215; no waiting.—Wilkins, Simpson, opposite Olympia, London. [7483

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootton, Ltd., High St., Oxford. 'Phone: 308. [3392

A.J.S. Combination, late 1920, 6h.p., 3-speed, Lucas dynamo lighting, hood, hood cover, screen, spare wheel, speedometer, Tan-Sad, petrol can carrier, spares, tools, etc.; £185.—A.B., 128, St. Leonard's Rd., Poplar. [7202

1920 A.J.S. Combination, Lucas Aero dynamo and equipment, spare wheel, screen, storm apron, spring seat-pillar, many spares, tax paid, any trial; £180; an exceptional bargain.—44, Manchester Rd., Oldham. [7146

A.J.S. 6h.p. Combination, 1919, engine No. 10932, hood, Triplex glass screeo, side screen, spare wheel, spring seat-pillar, lamps, speedometer, mechanical horn, spares, low mileage, tax paid; £160.—Harwood, 71, Burnt Ash Hill, Lee, S.E.12. [7141

1920 A.J.S. Combination, mileage about 1,700, Lucas acetylene head light, electric tail and side, Watford trip, Lucas horn, mirror, tyres unpunctured, spare wheel and tyre unused, condition and appearance as new, tax paid, insurance.—23, Palmer Park Av., Reading. [8167

1916 A.J.S., thoroughly overhauled, re-enamelled, new gears, clutch, 2 new chains, interchangeable wheels, spare wheel, tyres nearly new, wind screen, hood, side curtains, 3 lamps, 2 generators, Klaxon horn, mirror, perfect, any trial or examination, seen any time; £110, or offer; tax paid.—73, High St., Merton, S.W. Surrey. [7625

Alldays.

E. KICKHAM for Allon, sole agent for Bristol and district.—Stokes Croft, Bristol. [3356

ALLDAYS-ALLON, practically new conditioo, fully equipped; £50, no offers.—48, Portland Place, Leamington. [7765

ALLDAYS Matchless, horn, tools, reliable, good condition, taxed; £26/10.—Spring Cottage, Church Rd., Hanwell. W.7. [7494

ALLDAYS Allon, 2 speeds, kick start, clutch, accessories, as brand new; £65.—Rogers, 88, Farlington Rd., Portsmouth. [4909

ALLDAYS Allon de Luxe, 2¾h.p., 1920, brand new, 2 speeds, kick starter, clutch, legshields; £67/10. 275, High St., Acton, London. [7836



The Birmingham House for Motorists.

VALUE EXTRAORDINARY

P. J. EVANS

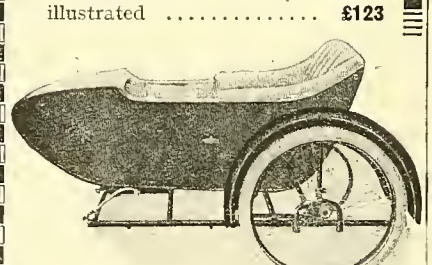
Can offer a limited number of New Motor Cycle Combinations at the following low prices.

TRIUMPH, 4 h.p., Type H, as per manufacturers' specification, complete with coach-built sidecar, as illustrated **£138**

ROVER, 3½ h.p., all-chain drive, complete with coach-built sidecar, as illustrated..... **£138**

B.S.A., 4¼ h.p., model H, all-chain drive, complete with coach-built sidecar, as illustrated **£126**

B.S.A., 4¼ h.p., model K, chain-cum-belt-drive, complete with coach-built sidecar, as illustrated **£123**



The above machines are brand new. Just delivered from works, and NOT SHOP SOILED.

DON'T DELAY SECURE YOURS NOW.

P. J. EVANS

81-91, John Bright Street, BIRMINGHAM.

'Phone: Mid. 2910. 'Grams: "Lytcar, B'ham."

MOTOR CYCLES FOR SALE.

Alldays.

ALLON, 2¾h.p., late 1920, under 500, almost faultless, fully equipped, tax paid; £65, or —131, Grove, Hammersmith, W.6.

1919 Alloo, 2¾h.p., clutch, 2-speed, with Cano accessories; any trial; tax paid and insured; —16, Wilmington Gardens, Barking.

ALLDAYS 3½h.p. Combination, 2-speed, lamps, s ometer, licence, insured, good running order; —11, Spurstowe Rd., Hackney, E.8.

ALLDAYS 1916 2¾h.p., 2-speed, lamps, pillion, perfect conditioo; 40 gns.—Allen, H bury School, Highbury Grove, London.

ALLDAYS Allon, late 1920, 2¾h.p. model, equipped, indistinguishable from new; £ Parker's, Bradshawgate, Bolton; also 245, Deans Manchester. [X2

ALLON 2¾h.p. 2-stroke, 2-speed, hand clutch, h kit tools, done about 200 miles only, and is tically new, second-hand lamps, £85 model; price —Exley, West Felton, Oswestry, Salop.

1918 Allon 2¾h.p., 2-speed, clutch, overhauled makers, lamps, horn, licence, Tan-Sad special astride back and foot rests, spare cover and tube, complete tools and spares, excellent co tion; £55.—Shelley, 32, Onslow Avenue Mansions, mond, Surrey.

American X.

1916-17 American X. Combination, 7-9h.p., 3-s K.S., clutch, tax paid; a bargain, 80 gns.— Royal Av., Chelsea.

AMERICAN X 7-9h.p., new 1917, small mile Cooper bulbous sidecar, mechanically perf magnificent turn-out, real bargain; £125.—Part lars, photo, 179, Osmaston Rd., Derby.

EXCEPTIONAL Bargain.—1920 American luxurious Montgomery, less 600 miles, spares fittings, guaranteed perfect and unscratched; £ only.—Box 3,982, c/o *The Motor Cycle*.

1920 American X., 7-9h.p., very comfortable side new Bosch mag., Lucas lamps, thoroughly o hauled, splendid running order, licensed to 1922: £1 owner purchasing car; view London by appointmen Apply, Capt. Watson, Hermongers, Rudgwick, Sus

CLEARANCE Bargain.—Brand new American X, 1 standard model, 7-9h.p., 3-speed, 27×3½in. ty fited with bulbous back Millford de luxe sidecar, fi royal blue throughout, list price £217; offered as slig shop-soiled at £175 cash.—The Premier Motor Co., A Rd., Birmingham.

ALMOST new 10h.p. American X Combioati 1920 model (19E), complete electrical equ ment, tandem Reanoo sidecar, hood, screen, side c tains, Tan-sad pillion, luggage grid, Cowey spe ometer, mileage under 1,500; £200, or near offe Warnock, 28, Addison Rd.

Ariel.

JULIANS of Reading have Ariels in Stock.

DAN GUY, Weymouth.—Ariel agent; early deliv dates.

1919 (late) 3½h.p. Ariel, hand and foot clutch, 2,0 miles; buying car; £75, or offer.—Witcher, ham Garage, Lewes.

1920 3½h.p. Ariel Combination, Lucas lighti guaranteed, perfect condition, mileage 800; £1 —Wooldridge, York Rd., Woking.

ARIEL 1920 5-6h.p. Combination, lamps, scre speedometer, horn, complete, tax paid; a splen outfit at the right price, £95.—Below.

ARIEL 1921 4½h.p. Combination, chain drive, lat model, in stock; £150; exchanges or extend terms arranged.—Elce and Co., 15-16, Bishopsg Av., Camomile St., E.C.3. 'Phone: Avenue 5548.

1919 Ariel 6h.p. Twin Combinatioo, just overhaul lamps, horn, ready to ride away; accept £125 A. Langstaff, Tadcaster Garage, Yorks.

ARIEL 3½h.p. Actually in Stock at New Reduc Price; also other good makes new and second-han —Autoveyors, Ltd., Service Depot, 12, Palmer St., S.W

ARIEL 3½h.p., 1919-20, Millford sidecar, lamps, surance, licence paid, perfect running orde £100, or offer, bargain.—Kelly, The Laurels, Camd Rd., Sutton.

1920 6h.p. Twin Ariel Combination, Ariel sidec all lamp sets, and tax paid; this is in very ni order; £100.—Walbro Motor Cycle Co., High St., Saffr Walden, Essex. 'Phone: 45. [X20

1921 4½h.p. Ariel, latest type, 3 speeds, mechanic lubrication, all-chain drive, the sidecar 'bus, a cheap at £110; brand new, in stock.—Walbro Mot Cycle Co., High St., Saffron Walden, Essex. 'Phon 45. [X20

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ALTHORPE-J.A.P. Lightweight, Enfield gear, splendid condition, tax paid; £35.—184, Green Forest Cate. [7288

ALTHORPE-J.A.P. 2¾h.p., 1920, good condition, done about 500; what offers?—Muir, 7, Collier Cambridge. [7849

20 2¾h.p. Calthorpe-Jap, 2 speeds, fully equipped, mileage 200, as new; £49.—Sinclair, Blencathra, ton-on-Thames. [7291

19 Calthorpe-Jap, 2¾h.p., Enfield 2-speed, as new, lamps, horn, accessories; £50.—Baldwin, Bridget St., Rugby. [X2297

ALTHORPE-J.A.P. 2¾h.p., 1915-16, 2-speed, with accessories, in good condition; £35.—Mann, 17, itman Rd., Mile End, E. [7041

ALTHORPE 1916 4-stroke, 2-speed, accessories, licence for year, excellent condition; £36.—ry, 2, Antiol Rd., W.14. [7775

ALTHORPE-J.A.P., 2-speed, good order; £29/10.—Newnham Motor Co., 223, Hammersmith Rd., 'Phone: Hammersmith 80. [7515

ALTHORPE-J.A.P., 2¾h.p., Enfield 2-speed, lamps, horn, semi-T.T., splendid condition, tax paid; —4, Hanover St., London, W.1. [7380

ALTHORPE, 2-speed, splendid condition; sell £33, or exchange with cash for higher power with speeds. 3, Purcel Crescent, Fulham, S.W. [7602

40. Bargain.—Calthorpe-Jap, believed 1917, Enfield gears, lamps and accessories, smart machine, tax d.—426, Liverpool Rd., Holloway. [8399

ALTHORPE-J.A.P. 2¾h.p., Enfield 2-speed, Dunlop tyres, lamps, perfect, tax paid, insurance; £35.—Florence Rd., Wimbledon, S.W.19. [7722

ALTHORPE-J.A.P. 2¾h.p., 1916, Enfield 2-speed, clutch, lamps, horn, excellent condition, tax paid. Trite Grant, 75, Cambridge St., S.W. [7093

ALTHORPE 1920, brand new showroom model, 2-speed, J.A.P. engine; £65; list price £78; rare portunity.—Colmore Depot, 31, Colmore Row, Birghani. [X2777

ALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon; all models in ck for immediate delivery.—The Carlton Motor Co., Torwood St., Torquay. [0201

ALTHORPE Lightweight, 2-speed, free engine, tax paid, recently overhauled, lamps, horn, tools; gain, £33; owner bought combination.—Hutchings, Harrow Rd., New Malden. [7764

ALTHORPE-J.A.P., 2¾h.p., Enfield 2-speed gear, excellent condition, £38, tax paid; also brand w 1920 2¾h.p. Calthorpe 2-stroke, Enfield gear, reced to £55.—Eagles and Co., 275, High St., Acton, ndon. [7837

ALTHORPE 1921 Combination, actually in stock for immediate delivery; cash or deferred terms; ce your orders with the Calthorpe specialists.—rlington Motors, Ltd., Clapham Common, S.W.4. one: Brixton 2417. [0509

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920 Campion-Jap 2¾h.p., Sturmey 2-speed, clutch, kick start, new condition, licensed; 55 gns.—89, st Hill, Wandsworth. [8130

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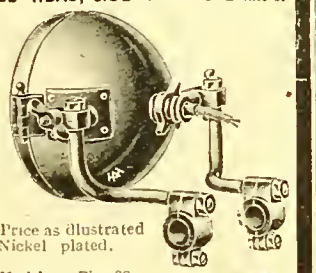
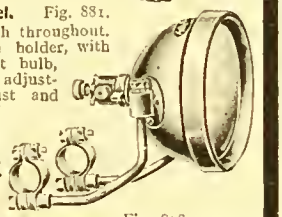


Fig. 895. Best quality finish throughout. Very massive and strong. Adjustable focus. Adjustable brackets. Special dust and weather-proof front. Price as illustrated 72/6 each. Nickel plated.



Medium Size Model. Fig. 881. Best quality finish throughout. Totally insulated holder, with switch and 4-volt bulb, adjustable focus, adjustable brackets, dust and weather-proof front. As illustrated. Nickel-plated, 43/- each. Black-plated, 47/- each.

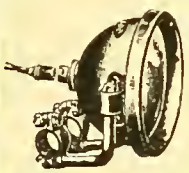


Fig. 560. Sidecar Lamp. As illustrated. Complete switch, bulb, wire, nuts, washers, etc. Price 8/6 each.



Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. Price as illustrated, 55/- each, black-plated.

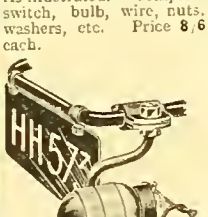


Fig. 573. Shows red danger signal lights No. plate. Complete with switch, bulb, wire, clip, etc. Price 9/6 each. "Force" Hellesen Battery, 9/11. 386. Special metal case for "Force," 10/6. Complete rear set, 29/6.



Fig. 428. Lighting switch, screw action. 1in. or 1¼in clip, 3/6 each.

Fig. 429 ditto, dash type 3/6 each.

Speedolite' H.A.H Patent Speedometer Lamp.

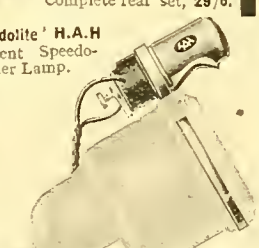


Fig. 347. Spring clip switch wire coloured bulb, etc. complete, 7/6 each.

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CHATER-LEA New Model No. 10 Sidecar Combination, 8h.p., 3-speed, the best value on the market; £160. Have you seen it? Write for leaflet.—Chater-Lea, Ltd., Banner St., London, E.C.1. [3142

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Chater-Lea-Jap

CHATER-LEA-J.A.P. 8h.p. Combination, Gloria sidecar; £110.—Gray, Theydon Bois, Epping. [7234

CHATER-LEA-J.A.P. Combination, 4h.p., with lamps, in good condition; £55; view after 6 p.m.—Charlbury, over Coldrey, London Rd., Norbury. [7610

T.T. 4h.p. Chater-Jap, o.h.v., new Brooks racing saddle, new belt, back tyre, Bink's carburetter, exceptionally fast; quick sale, £50.—Noel Hodgson, Hayling Island, Hants. [7379

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2½h.p. Clarendon, low, mag., new tyres, engine overhauled, liecuce paid, ride away; £15.—Bunce, Motor Works, Arthur Rd., Windsor. [7773

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CLYNO, 1915 model, £30, perfect; Ariel, 6h.p., perfect, £30.—Williams, Laundry, Tan-y-Bwich. [7372

5-6h.p. Clyno Combination, 1916, lamps, speedometer, spare wheel; £115.—28, Badminton Rd., Balham. [X2811

DAN GUY, Weymouth. 1921 8h.p. Clyno combination, small mileage, as new; cash offers wanted. [0551

CLYNO Combination, 1916, 3-speed, lamps, spare wheel; £100.—11, Baroness Rd., Hackney Rd., E.2. [7609

CLYNO Combination, 1918, interchangeable wheels, new condition; any trial; 80 gns.—280, Camberwell Rd., S.E.5. [7069

CLYNO, 5-6h.p., 1917-18, £50; combination, £75; W.D. models renovated; guaranteed.—272, Green St., Forest Gate. [8252

CLYNO Lightweight, 1920, 2 speeds, clutch, lamp, and speedometer, all in good order; £55.—King, Mouk's Alley, Binfield, Berks. [5787

CLYNO Combination, 3-speed, kick start, splendid turnout; sell cheaply; take lightweight part.—57, Kenbury St., Camberwell, London. [7955

CLYNO 5-6h.p. Combination, 1917, all on; any trial; a snip, £95; see Douglas advert.—DeCort and Flynn, 39, Essex Rd., London, N.1. [8228

1915 Clyno Combination, 5-6h.p., fully equipped, spare wheel, smart lot; any trial, tax paid; £85.—Perryment, 41, Shern Hall St., Walthamstow, Essex. [7824

CLYNO Lightweight, 1920, very little used, lamps, mechanical horn; 50 gns.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., New Bond St., W.1. [0511

1913 Clyno 6h.p., countershaft, kick, clutch, fine sidecar machine, condition as new, licence paid; 80 gns.; accept 2-stroke part.—Coleman, Sheldon Rd., Chippenham. [7890

CLYNO 6h.p. 1916 Combination, in good mechanical condition, new Amac carburetter, new drive chain; £85.—Colonial Motors, 104a, Finchley Rd., N.W. Hamp. 7822. [8353

2½h.p. Clyno 1920 2-stroke, 2-speed and clutch, lamps, horn, and tools, in good order and condition; £55; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [7687

CLYNO 1914 6h.p. Combination, coachbuilt, spare wheel, lamps, horn, re-enamelled and overhauled, perfect running order, tax paid; £90, or nearest.—Dyson, Ashford, N. Devon. [8007

8h.p. Clyno-Jap Combination, large sidecar, 3-speed, late model, almost new plating, enamelling, new lamps, horns, etc., tools; accept £123, offer.—Bran, 20, Farlton Rd., Earlsfield, S.W.; after 6 p.m. [7312

CLYNO 6h.p. Coachbuilt Combination, kick start, countershaft, speedometer, lamps, horn, licence paid, good condition and appearance, really cheap, owner must sell; £60, or offer.—9, Parsifal Rd., Hampstead. [7657

CLYNO 5-6h.p. Combination, late 1913, 3-speed countershaft, 4 detachable wheels, lamps, horn, tools, large comfortable sidecar, well sprung, a very substantial combination in good condition, licence paid; going cheap.—Cliff and Sons, Well Hall Garage, S.E.9. [7877

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Connaught.

PICKERING, Shrewsbury.—Connaught in stock; prices from £47/10. [8062

CONNAUGHT 1914 2¾h.p., guaranteed good condition; £27/10.—Rose's Garage, Uxbridge. [8137

1919 2½h.p. Connaught, Amac, E.I.C., variable ignition, Dunlops, Druids, lamps, accessories, licence, as new; £40; exchange 2¾h.p. Douglas.—63, Solon Rd., Brixton. [8110

Coulson.

PICKERING, Shrewsbury, West Shropshire agent for Coulson; exchanges. [8063

1920½ Coulson-B 2¾h.p., 2-speed, tax paid, small mileage; £72.—Shackleton, Nook, Addlestone. [7208

COULSON 1920, brand new, 4h.p. Blackburne, 2-speed; £95.—Bartletts, 93, Gt. Portland St., London. [8430

COULSON B 1921 Models in Stock.—Sole Wiltshire Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5007

F.O.C.H. for Coulson-B's; exchanges or easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). [7475

1921 4h.p. Coulson, 3-speed, clutch, lamps, horn, tax paid, just done about 200 miles; offers.—Haynes, Harcourt Villa, Workington. [7456

4h.p. Coulson, December 1920, 3-speed, K.S., clutch, spring frame, mileage about 600; £118, offers.—43, Coleraine Rd., Blackheath. [7766

1920 Coulson B., 2¾h.p. Blackburne, 2-speed, accessories, tax paid, mileage 300, as new; £72, or nearest.—Stirland, Higham, Alfreton. [7713

NEW 1921 2¾h.p. and 4h.p. Coulson B 3-speed, kick starter; list prices, £117/10 and £126; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [X0633

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COULSON B 4h.p.; 120 gns.; an ideal solo or side-car mount, as low and handy as a Levis; in stock.—Sole agents for Leeds and 15 miles radius, excluding Bradford, The Headingley Motor and Engineering Co. Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [0493

Coventry Eagle.

J. C. PICKERING, Shrewsbury.—Coventry Eagles in stock; exchanges. [8064

1920 Coventry Eagle Combination, as new, lamps, etc.—Brodie, West End, Dalry. [7458

1920 Coventry Eagle, 2½h.p. J.A.P., 2-speed gear, scarcely soiled, superior accessories, aluminium footboards; £60; take part down or consider an exchange, Bunting's, Wealdstone. [8257

COVENTRY EAGLE, new De Luxe model, Villiers, £38; also Reading-Standard combination, new electric model, £125, or very near offers. These are the smartest two machines on the road; no dealers.—144a, Portway, Plaistow, E.15. [7024

Coventry Victor.

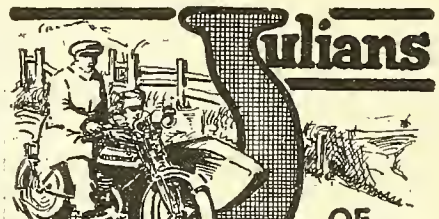
COVENTRY VICTOR, the perfect flat twin engine, 5-7h.p.; these famous engines, and all fittings for assembling the complete motor cycle, now available from stock; highest specification throughout; send for our special offer of complete demonstration machine.—Coventry Victor Motor Co., Ltd., Coventry. [0520

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CYGNUS-J.A.P., 3½h.p., 2-speed, spring frame; £28.—Heatoo Rd., Mitcham. [7935

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1921 TRIUMPH, 2-stroke... £70
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2¾h.p. De Dion, mag., low, fast, spring forks, go tyres, overhauled; tax paid; £22; offers; af 6.—97, Hamilton Rd., West Norwood. [79

De Luxe.

1920 2¾h.p. 2-speed De Luxe, Saxon forks, conditi as new, lamp set, spare belt, tyre and tube; £ —Palmer, Pean, Bucks. [73

WALL Auto-wheel, model de luxe, nearly new, p fect order, not ridden 200 miles; £16.—J. G more, 6, High St., Glastonbury, Som. [74

Diamond.

DIAMOND.—Brand new, guaranteed; £45.—Clar 7, Exhibition Rd., South Kensington. [83

E. KICKHAM for Diamond, sole agent for Brist and Bath district.—Stokes Croft, Bristol. [33

1920 Diamond-Jap 2¾h.p., 2-speed, condition as ne £66.—80, Church St., St. George's, near Welli ton, Salop. [X20

DIAMOND-J.A.P. 2¾h.p., Enfield 2-speed, di wheels, repainted, excellent order; £67/10. Newnham Motor Co., 225, Hammersmith Rd., W. 'Phone: Hammersmith 80. [75

IMMEDIATE Delivery of any Diamond Model; cas or deferred payments; book your order now, an avoid disappointment later.—Burlington Motors, Lt South Side, Clapham Common, S.W.4. 'Phone: Bri ton 2417. [05

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DOUGLAS Motors in Stock; £85; lamps, etc., free

GOURLAY, the great Douglas agent and expert Fallowfield, Manchester. [448

HERBERT ROBINSON, Ltd., 32-35, Green St. Cambridge.—Below.

DOUGLAS, 1921, new 2¾h.p., 2-speed, including P and H. lamps, horn, licence holder; £85; in stock; exchanges.—Herbert Robinson, Ltd., 32-35 Green St., Cambridge. Tel.: 995. T.A.: Bicycles.

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DOUGLAS 1919 2¾h.p., 2-speed, lamps, horn, licence and holder, very carefully used, excellent appearance and mechanical condition; £60.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [7559

DOUGLAS 4h.p. Solo, rebuilt, equal to new, all accessories; £80.—Below.

DOUGLAS 4h.p. Combination, cycle as above, new sidecar and chassis, Douglas colours, all accessories; £100; call and select.—Winstan-Hennoy Motor Co., 63, South End, South Croydon. Tel.: 2431. [4580

2¾h.p. Douglas, 1911, perfect, all on, £20.—17, Heatoo Rd., Mitcham. [7936

E. KICKHAM for Douglas and spares; trade supplied.—Stokes Croft, Bristol. [3351

DOUGLAS 2¾h.p., 2-speed, condition as new; £45.—4, The Square, Carshalton, Surrey. [8444

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DOUGLASES, 2¾h.p., in splendid condition, 2-speed, practically new machines, all late models, thoroughly overhauled by us. We have 50 machines to select from, and are open to give any trial and examination. If you are requiring a machine for Whitsun, give us a call; it will pay you. Real genuine bargains, £50 each.—The Douglas Specialists, Sulina Garage, 73, New Park Rd., Brixton Hill, London, S.W.2. 'Phone: Streatham 40 and 63. All Douglas spares in stock. [6773

Edmund.

1920 Edmund-Jap, speedometer, Klaxon, perfect; £65.—71, Saxon Rd., Southall, Middlesex. [7736

Elswick.

RELIEVED 1916, Elswick 2¾h.p. 2-stroke, splendid running order; £22.—16, York St., Dover. [7410

ELSWICK-PRECISION 2¾h.p., variable gear, Watford speedometer, lamps, horn, and generator, engine just been overhauled and licence paid for year; £50.—White and Watson, 80, Belvedere Rd., London. [7880

Enfield.

JULIANS of Reading have 1921 Enfields in stock. [047P

ENFIELDS, 1921 models, in stock.—Smith's, Main St., Mexborough. [5624

BRAND New Enfield Combination in Stock.—Welford, St. James' St., Brighton. [7595

ENFIELD 3h.p. 2-speed Twin, T.T. roadster, kick start.—Spencer, Alcester. [X2790

£20.—2¼h.p. Enfield twin, good running order.—323, St. Margaret's Rd., Twickenham. [8079

3h.p. Late 1916 Enfield Combination, good condition; £100.—Ives, Sunnyside, Wyke, Weymouth. [7391

SHEFFIELD Agent for Royal Enfields, all models in stock.—J. A. Stacey, 12, Ecclesall Rd. [0573

ENFIELD 2¾h.p., 2-speed, lamps, horns, and spares; £33.—Dalveen, 118, Munster Rd., Fulham. [7402

ENFIELD 1917 6h.p. Combination, Easting screen, etc.; £90.—Olpbert, 66, Church Rd., Barnes. [7305

ENFIELD 3h.p. Twin, Bosch, new Amac; first £30.—Marsden, 17, Walpole St., Burnley, Lancashire. [7375

ENFIELD 2-stroke, 1917, 2 speeds, perfect; £37/10.—10, St. Peter's Sq., Hammersmith, London. [8237

1920 Enfield 3h.p., fully equipped, new condition; bargain, £68.—97, Sylvan Av., High Rd., Wood Green, N.22. [7919

ENFIELD.—Sole agent for Wimbledon, Earlsfield, Southfields.—Prior, Southfields, S.W.18. 'Phone: Putney 1694. [7928

ENFIELD 2¼h.p. 2-stroke, 2-speed, 1921, in stock; £65; kick-starter £5 extra.—Rivett, 236, High St., Leytonstone. [5887

3h.p. Enfield, coach sidecar, perfect running order, lamps, speedometer, tax paid; £60.—20, Campbell Rd., Gravesend. [7042

ENFIELD Combination, 1916, lamps, horn, speedometer, splendid condition; £110; offer.—98, Westcombe Hill, Blackheath. [7622

ENFIELD 1920 8h.p. Combination, Magdyno, wind screen, horn, tax paid, mileage 2,000; £150.—23, Hamilton Rd., Reading. [8165

ENFIELD, 2¾h.p. M.A.G., 2-speed, Bosch, B. and B., perfect order; £25; after 6 p.m.—40, Whitworth Rd., South Norwood. [8246

ENFIELD Dynamo Combination, tax paid, speedometer, Easting, perfect; £112.—Clark, 7, Exhibition Rd., South Kensington. [8322

1921 Enfield Standard Combination, mileage 150, fortnight old; £149.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. [8414

NEW 1921 8h.p. Enfield Combination; list price £160; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [X0632

1918 Enfield Combination, 8h.p., perfect all lamps, tools, horn, etc., any trial; £120.—83, Dartmouth Park Rd., Tufnell Park, N.W.5. [7226

ROYAL ENFIELD Combination, 1918, 8h.p., privately owned, splendid condition; any trial; £126.—18, Darley Rd., Wandsworth Common. [7673

ENFIELD Combination, 6h.p., new tyres and chain, tax paid, lamps, spares, pillion, good condition; £85.—215, Twickenham Rd., Isleworth. [7873

ROYAL Enfield 2¾h.p. Twin, in perfect running order and condition, all accessories.—W. Jenkin, Esq., Tott Farm, Hurstpierpoint, Sussex. [7151

ENFIELD 1916 6h.p. Combination, wind screen and accessories, good running order, tax paid; price £90 gns.—Mills, Preston Lodge, Paignton. [6555

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1919 Royal Enfield Combination, re-enamelled, as new, hood, screen, lamps, 700×80 tyres; bought year; £120.—Crammond, 45, The Mall, Ealing. [7085

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1917 Enfield, 3h.p., fast, mechanical lubrication, licence paid; £46; exchange I.O.M. Rudge, etc., cash adjustment.—69, St. Peter's Rd., Croydon. [7703

ENFIELD Combination, late 1916, electric light, new inlet valves and guides, splendid condition; £115.—Elliott, 34, Hampton Place, Brighton. (Before 5.) [7055

BRAND New Enfield Lightweight in stock for immediate delivery; £65.—Broom and Whitehead, Ltd., Authorised Agents, 88, Gt. Portland St., W.1. [9241

ROYAL ENFIELD 1917 8h.p., Lucas dynamo lighting set, electric horn, etc., perfect running order; £125.—Chandler, Chelmsford Rd., Southgate, N.14. [7744

ENFIELD Combination, 1920, Lucas Magdyno, as new, Easting, tax paid; seen and tried any time; £145.—Hill, 60, Marchmont St., Russell Sq., London. [8005

ENFIELD 6h.p. Combination, new July, 1919, perfect throughout, hood, screen, Tan-Sad, electric and acetylene; £100.—Tucker, 44, Furness Rd., Harlesden. [7710

1920 8h.p. Enfield Combination, in new condition, lamps, tools, Klaxon, Easting screen, tax paid; any trial; £130.—Dining Rooms, 494, King's Rd., Chelsea. [7668

ROYAL ENFIELD 2¼h.p. 2-stroke, new December last, 2-speed gear, lamps, horn, tools, excellent condition; £50.—S. Hallworth, Midway, Poynton, nr. Stockport. [X2753

6h.p. Enfield, 1920, sidecar, hood, screen, and apron, lamps, speedometer, mirror, perfect condition, little used, decarbonised, tax paid; £120.—176, Forest Hill Rd., S.E.23 [7128

1919 6h.p. Enfield Combination and accessories, speedometer, Easting wind screen, tax paid, in good condition; £125.—Seen Bounds, 223, High Rd., Kilburn, N.W. [7586

6h.p. Enfield Combination, fully equipped, new tyre, tax paid; £75; apply 9 a.m. till 6 p.m.—Homewood and Thompson, 21, Sussex Place, Finsbury Park, N. [8099

1920 Enfield Combination, 8h.p., Magdyno, Cameo wind screen, Tan-Sad, spare cover and tube, chains, lamps, etc.; £170.—Smith, 254, Mount Pleasant, Redditch. [8170

ENFIELD Combination, 1914, in splendid condition, tank re-enamelled, engine just been overhauled, new chains, all lamps; £75.—12, The Quadrant, Winchmore Hill, N.21. [7533

ENFIELD Late 1920 8h.p. Combination, Lucas lamps, hood, screen, horn, mirror, perfect condition, tax paid; £145.—7, Church St., Enfield; or 31, Regent's Park Rd., N.W.1. [7173

ENFIELD 8h.p. (1917-18) Combination, tyres and machine in excellent condition, with accessories; £115; seen by appointment.—42, St. George's Rd., Southwark, S.E.1. [7232

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1921 Enfield Combination, dynamo lighting, with or without dynamo; in stock; immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

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ENFIELD 1921 Combination, Vickers 8h.p. engine, Lucas Magdyno, tax paid, very small mileage, cost with spares £190, now almost as new; best offer over £160.—Grover, Amberley, Stroud, Glos. [X2555

ROYAL ENFIELD 2¼h.p., 2-stroke, 2-speed, late 1920, low mileage, excellent accessories, new Dunlop; exchange good 1920 4-stroke, H.B. preferred, or sell 65 gns.—Edgeoden, Fleet, R.S.O., Hants. [7102

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ROYAL ENFIELD 3h.p., 1917, 2-speed, new Dunlops, battery lighting, enamel as new, splendid going order, £60; light C.B. sidecar to suit, £5/10.—Apply, W.K., 11, Aeroville, The Hyde, N.W.9. [7228

1917 Royal Enfield 6h.p. Combination, guaranteed good as new, Low generator, lamps, Klaxon, screen, hood, tax paid, trial; sacrifice £95; money wanted urgently.—Hargreaves, 4, Warwick Crescent, Paddington, W.2. [7643

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BRITISH Excelsior 4½h.p. Big Single, Bosch, top feed, lamps, horn, licence paid for sidecar, perfect condition, enamel and plating as new; accept £50 for quick sale.—Cable, Town Steps, Aldeburgh, Suffolk. [7755

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4-CYL. F.N., tax paid; £16.—5, St. Mary's Sq., South Ealing. (Side door.). [7499

1913 F.N. Combination, 4-cyl., 2-speed, clutch, lamps, licence, accessories, splendid order; £45.—67, Bishton St., Newport, Mon. [7460

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HADEN-PRECISION 2-stroke 3½h.p., kick start, 2-speed machines in stock; 75 gns.—T. Williams, 9, Lower Chatham St., Oxford Rd., Manchester. [2909

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J. C. PICKERING, Shrewsbury, Shropshire agent Harley-Davidson; exchanges. [8065

SHEFFIELD Agent for Harley-Davidsons; from £120.—Stacey, 12, Ecclesall Rd. [0577

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HARLEY, bulbous sidecar, late 1919, all lamps; clearance bargain, £125.—Warne's, 46, Churchfield Rd., Acton, W.3. [7304

1918 Harley Combination, electric model, in good condition; offers, or would exchange.—136, Lavenham Rd., Southfields. [8085

1915 Harley Combination, 2-seater sidecar, acetylene lamps; any trial; £95.—Vallins, 64, Meeting House Lane, Peckham. [7677

HARLEY Sports, fully equipped, speedometer, brand new, guaranteed; £135.—R. B. Clark and Co., 7, Exhibition Rd., S.W.7. [8316

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HARLEY 1915 Combination, Mills-Fulford sidecar, splendid touring machine; 85 gns.; bargain.—Belsey, 49 Sloane St., London. [7745

HARLEY 1916 Combination, 7-9h.p., newly painted and overhauled; must be sold, cash wanted, £140, or offer.—Whelan, Brenchley, Kent. [8056

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£80.—7-9h.p. Harley-Davidson, 1918, 3-speed, ne tyres, tax, speedometer, Tan-Sad, dissolved ligh ing, like new.—21, Windsor Rd., Denmark Hill, S.E [81

HARLEY-DAVIDSON Combination, 1920 sho room model, brand new; £210; list price £23 bargain.—Colmore Depot, 31, Colmore Row, Birmin ham. [X27

HARLEY-DAVIDSON 7-9h.p. Twin, 1919; £10 as new in every way; new Langford 45 gn picnic sidecar, £40.—1, Townley Rd., E. Dulwic S.E.22. [81

1920 Harley Combination, mag., recently overhaule guaranteed perfect condition, all accessorie £165; after 7 p.m.—Copley, St. John's College, Ca bridge. [79

HARLEY-DAVIDSON, 1920, 4h.p., mileage und 2,000, speedometer, lamp set, horn, tax pai condition as new; £115.—79, Military Rd., Colcheste Tel.: 111. [790

1919 Harley-Davidson Combination, electric ligh ing and all accessories, driven by same caref owner since new; £145.—A.N., 10, West Cromwe Rd., S.W.5. [821

1920 Harley Combination, electric model, 7-9h.p licence 1921 paid, mileage 1,100, as new; £16 no offers.—Barnett, c/o Boyce's, 329, Archway Rd Highgate, N. [65

1920 Harley Combination, electric model, disc spares, licensed, speedometer, perfect order; £16 —Edwards, 50, Harrington Rd., South Kensington 'Phone: 3709. [41

HARLEY-DAVIDSON 1920 4h.p. Model, Swan spor ing sidecar, electric lighting, good condition, new; £185.—Parker's, Bradshawgate, Bolton; also 24 Deansgate, Manchester. [X283

1918 Harley-Davidson Combination, Eastieg win screen, electric lights, recently overhauled an re-enamelled, tax paid; £125, or near offer.—21, Glou cester Rd., E. Croydon. [788

HARLEY-DAVIDSONS.—1918 combination, £115 1919 combination, £125, renovated; 1918 sold unrenovated, running order; £77/10.—Owen, 58 Scholefield Rd., Upper Holloway. [X288

4h.p. Flat Twin Harley Combination, 1920, practicall new, mileage 300, Harley accessories, speedomete tax, insurance; 140 gns.; exchange Triumph or Zenith —19, Streatley Rd., Brondesbury. [829

HARLEY 16J. (electric), lamps, horn, rev. counte petrol indicator, totally enclosed chains, pillion sea oversize pistons just fitted, C.B. sidecar, hood, screen guaranteed good order; £120, or offer.—Yarnold, Hun ingdon. [802

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HARLEY-DAVIDSON 7-9h.p. De Luxe Combina tion, 1918 model, electric horn and lamps, full equipped, hood and screen, tax paid, only wants see ing; must sell, £128.—A. Southorn, 12, Thrale Rd Streatham, S.W. [819

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,,	Hutchinson T.T.	30/-	56 6
,,	Wood-Milne Special ..	29 6	53/9
26×2½	Dunlop W.D. Heavy ..	42/6	56/9
,,	Bates Special Heavy ..	39/6	72/-
,,	Palmer Cord Heavy...	39/6	62/-
,,	Clincher de Luxe E.Hvy	39/-	68/6
,,	Beldam Extra Heavy..	37/6	66/3
,,	Kempshall Anti-skid..	37/6	52/6
,,	Wood-Milne Extra Hvy	37/-	63/9
,,	Wood-Milne Special ..	32 6	56/9
,,	Hutchinson TT R.Stud.	31/6	59/9
28×2½	Wood-Milne Extra Hvy	44/-	86/-
×2½	Palmer Sidecar Ribbed	35/-	—
,,	Hutchinson TT R.Stud.	32 6	67/-
26×2½	Wood-Milne Comb'tion	57/6	102/-
,,	Bates Special Heavy...	45/-	76/-
,,	Avon Tricar Rib. Stud.	45/-	73/-
,,	Wood-Milne Extra Hvy	44/-	87/6
,,	Palmer 2-ply Ribbed ..	35/-	40/-
,,	Hutchinson T T. Rib..	32/6	65/-
,,	Englehert W'd-on Rib.	30/-	70/-
26×3	Wood-Milne Comb'tion	65/-	105/-
,,	Wood-Milne Extra Hvy	52/6	86/-
28×2½	Goodyear A.W. Tread.	45/-	84/-
28×2¾ to fit 3in. rim	Goodyear A.W. Tread	45/-	84/-
28×3	Bates Special Heavy ..	55/-	92/-
,,	Dunlop W.D. Heavy ..	48/6	74/6
,,	Avon 3-rib	45/-	90/-
,,	Wood-Milne Extra Hvy	35/-	81/-
650×65	Wood-Milne Extra Hvy	48/6	83/-
,,	Bergougnan 3-rib Hvy.	35/-	83/3
,,	Soly Rubber Non-skid.	35/-	53/-
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MOTOR CYCLES FOR SALE.

Levis.

1921 Levis, licence paid, electric lighting, Cowey horn, long exhaust, mileage 200; price £55.—Welford, St. James' St., Brighton. [7597

1920 (early) Levis, fully equipped, T.T. bars, with gear £47/10, or without £40; nearest.—Burge, 65, High St., St. John's Wood. [8308

1919 Levis, 2¼h.p., 2-speed, new condition, complete with all accessories; 48 gns.—Miss Chapman, 69, High Rd., Kilburn, N.W.6. [7811

2¼h.p. New Levis, Popular Model; £60; in stock for immediate delivery; 2-speed model £68; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [7698

LEVIS 2¼h.p., 1916, very little used, owner away on active service, electric lighting, 2 speed, splendid condition, all accessories; £40.—Cottam, Gahill House, Letchworth. [7152

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IMMEDIATE Delivery of the new Model S Levis, with Sturmey-Archer 2-speed, handle-bar-controlled clutch; £68; the cheapest high-grade lightweight. Place your order now.—The Premier Motor Co., Aston Rd., Birmingham. [X2276

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4¼h.p. Lincoln-Elk Combination, 2-speed, clutch, kick start, good Dunlops, in excellent order; £42/10.—Miller, 151, Kingston Rd., Teddington. [7658

PRACTICALLY New Sporting Lincoln-Elk 3½h.p., Philipson pulley, Druids, Bosch, B. and B. lamps, accessories, footrests; £38; exchange 2¾h.p. Douglas.—63, Solon Rd., Brixton. [8114

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L.M.C. 1915 4½h.p. C.B. Combination, 2-speed, K.S., lamps, tools, spares, excellent running, tax paid; £60, or nearest; evenings.—87, St. John's Rd., Holloway, N.19. [7459

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1920 Martinsyde Combinations, 6h.p., 3-speed, kick start, clutch; £160 to clear; cannot repeat; open Sundays for supplies.—Wilshaw, Lythall's Lane Garages, Foleshill, Coventry. [X2254

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MARTINSYDE Combination in Stock, £175; other models in a few days; catalogue of this gold medal winner on request.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. 'Phone: Victoria 7164. [5837

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1921 Combinations, any model from stock or in few days. Gradual payments can now be arranged. Every outfit personally tested by the Matchless specialists. Spares of all dates in stock.—J. Tassell, Bloomfield Rd., Plumstead. [5374

£174.—Matchless Combinations.

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JULIANS of Reading have all Matchless models in stock. [0480

SHREWSBURY Agent for Matchless; delivery from stock.—J. C. Pickering. [8067

MATCHLESS 1921 Combination, M.A.G.; £205, from stock.—Gibb, Gloucester. [0443

LATE 1920 Matchless Combination, used twice; cash wanted; £150.—136, Lambeth Walk, S.E. [7962

YEOVIL.—Moffat, Town Hall Garage, Matchless agents; immediate delivery.—'Phone: 50. [3331

1921 Matchless Combination, new, but shop-soiled; £10 under list price.—Box 595, c/o *The Motor Cycle*. [X2856a

MATCHLESS, brand new, ex works this month; £165; cash wanted.—Boyd, 9, West Heath Av., N.W.11. [8324

MATCHLESS Combination, 6-8h.p., J.A.P., Fulford new coach; £50.—Taylor, 637, Seven Sisters Rd., Tottenham. [7489

MATCHLESS, 1921, new from works and guarantee (1920 specification); £174.—Clark, 7, Exhibition Rd., South Kensington. [8319

MATCHLESS Combinations, new, in stock, from £174; 1921 models, £205.—Sheffield Agent, J. A. Stacey, 12, Ecclesall Rd. [0574

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MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS Coachbuilt Combination, 2-speed, kick start, 8h.p., overhauled, enamelled, tax paid, all on; £75.—72, Whitwell Rd., Plaistow. [7413

MATCHLESS, 1917, M.A.G., electric lighting, Tan-Sad, hood, screen, splendid condition; £135.—39, Kyrle Rd., Clapham Common, S.W.11. [7648

MATCHLESS 1920 Magdyno Combination, speedometer, wind screen, etc., as new; £165.—Spurling, 8, Corinthope Rd., Hampstead, N.W.3. [7349

MATCHLESS 1918 Combination, 8h.p., spare wheel, dynamo lighting, speedometer, Easting, new condition; £140.—183, Bow Rd., E.3. East 881. [6127

1920 (late) Matchless Combination, M.A.G. engine, Lucas Magdyno lighting, lavishly equipped; £160.—60, Wallingford Av., N. Kensington. [8051

MATCHLESS Combination, 2-speed, K.S., chain drive; £95, or exchange with cash for Ford tourer.—Write, 151, Ramsden Rd., Balham. [7428

1921 Matchless Magdyno Combination, owner unable to ride, brand new, unused, unregistered; sacrifice, £198.—41, Madrid Rd., Barnes, S.W. [5450

MATCHLESS Model H. Combination, 1920, J.A.P., fully equipped, Easting, speedometer, tax paid; £150.—Wainwright, Millfields, Wolverhampton. [X2901

MATCHLESS Victory Model, electric lighting, new Avons, Palmer spare, excellent condition; £125, or near offer.—J. South, 94, Creek Rd., Deptford, S.E.8. [7192

MATCHLESS, 1920, Model H, tax paid, Lucas lamps and horn, speedometer, Triplex screen, spare wheel; £145.—Hunter, 87, High St., Clapham, S.W.4. [7702

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1920 Matchless, Magdyno, completely equipped, mileage 2,500, perfect condition; £180, or offer; seen any time.—151, Caledonian Rd., King's Cross, London. [8346

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MATCHLESS 8h.p., Victoria combination, hood, screen, Lucas lamps, horn, spare wheel, luggage grid, and licence; £126.—28, Admiral Seymour Rd., Well Hall. [7491

1920 Matchless Combination, M.A.G., electric lighting, £15 extras, policy, tax paid; £160.—Dr. Woodhouse, Windlestone, Bray, Berks. Tel.: Maidenhead 455. [7982

MATCHLESS Combination, 7-9h.p., 1915, M.A.G., new carburetter, fine order, owner bought car; £90; tax paid.—Baldwin, c/o May's Garage, Crown Rd., Twickenham. [7646

MATCHLESS, Victory model, all on, tax paid, insurance expiring next January; £150, or offer.—Welland, Hillside, Egerton Rd., South Norwood, London. [8122

MATCHLESS, Matchless, Matchless.—Latest 1921 model 8h.p. combination, for immediate delivery.—Vivian Hardie, and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0418

MATCHLESS Late 1920 Model H Combination, Lucas, accessories; spare wheel, lavishly equipped; £160.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2832

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FULLY Guaranteed Brand New 1920 Matchless Combinations; £174. May we bring one round to show you?—W. Whitby and Son, Matchless Agents, 7, The Vale, Acton, W.3. [8098

MATCHLESS.—All models from stock: 1921, £205; 1920, new from works, £180; liberal exchange allowances.—R. B. Clark and Co., 7, Exhibition Rd., S.W.7. Kensington 4096. [8313

VICTORY Model Matchless, electric lights, car tyres, Binks carburetter, specially built sporting torpedo sidecar, spare wheel; bargain, £125; owner buying cycle car.—Palmer, Wykin, Hinckley. [7099

MATCHLESS 1920-21 H. Model, M.A.G. engine, mileage under 1,000, fully equipped, spares, speedometer, etc.; £175, tax paid, fully insured.—Knight, 126, Upper Tooting Rd. Tel.: Streatham 2390. [7094

F.O.C.H. have a 1920 Matchless combination, Magdyno, small mileage, fully equipped, hood, screen, spare wheel, luggage carrier, tax paid; £175.—5, Heath St., Hampstead (near Hampstead Tube Station). [7476

MATCHLESS 1921 Combination, M.A.G., hood, screen, step, Magdyno, tax paid, cost £230, only done 200 miles, owner getting car; £205.—Church, Chestnut Av., Oulton Broad. Tel.: 44 Oulton. [7357

MATCHLESS Model H., April, 1921, M.A.G., 2-seater sidecar, acetylene lamps, horn, spare wheel, screens, tols, etc., mileage 100; any trial by appointment.—24, Sandby Green, Well Hall, Eltham, Kent. [7254

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MATCHLESS Combination, 1915, 8h.p., M. £13; engine overhauled February, 3 lamps, ing, Tan-sad, 700×80 tyres, one new spare, trial rifice 110 gns., or close offer.—96a, Queen's Rd., ford.

MATCHLESS 1921 Models, immediate delivery: Magdyno lighting £230, without Magdyno ing £205, no waiting; in stock ready to drive easy payments arranged.—Wilkins, Simpson, op Olympia, London.

MATCHLESS Combination, M.A.G., August, mileage 1,700, perfect condition, licence unpunctured, £25 extras, including Easting, ometer, lamps, horn; £175. — Bennett, West Terrace, Morecambe.

MATCHLESS, 1921 Family Model, 2-seater si combination, delivery from stock; £212/10; exchange or extended payment terms.—Auth agents, Elce and Co., 15-16, Bishopsgate Av., Cam St., E.C.3. 'Phone: Avenue 5548.

MOTOR Cycle, Matchless 5-6h.p., 1915, J.A.P gine, Bosch, 3-speed, recently mechanically hauled, tyres new, lamps, screen, tools, in almost feet condition, laid by during war, licence; £73. 730, Willings, Moorgate Arcade, E.C.2.

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MAXIM-DALM, Dec., 1920, 3h.p., 2-stroke, Intely new, Amac carburetter, E.I.C. mag., A 2-speed, Hutchinson tyres, accessories, £52; ditto clutch, kick start, £58/10.—224, Pentonville Rd., don, N.1.

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METRO-TYLER 1919, single-speed, 2-stroke; gain; £35.—Bond, Brasted, Kent.

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METRO-TYLER, brand new latest S Type offered at the special reduced price of £70; call and inspect.—Elce and Co., 15-16, Bishop Av., Camomile St., E.C.3. 'Phone: Avenue 554

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Minerva.

2¾h.p. Minerva; £28; belt, handle-bars, mag. 24 just been overhauled costing £10, tax p Twist, 12, Vale View Rd., Dover.

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Minerva.

1h.p. Minerva, in excellent condition; tax included, £30, with sidecar, £35.—Seen by appointment, Chartfield Av., Putney, S.W. 'Phone: Putney 1427. [7199

Monarch.

920 Monarch, 2¾h.p. Villiers, 2-speed, variable jet, licence, horn, tools, lamps, etc.; cost £80, perfect, 0.—F. W. Fairbank, Summerford, Willenhall, Staffordshire. [X2891

Moto-Reve.

OTO-REVE 2¾h.p., good tyres, condition, like new, tax paid; £18, or near offer.—110, Studley Rd., st Hartlepool. [7165

OTO-REVE Twin, 2¼h.p., B. and B., Druids, Brooks, new tyres, engine completely overhauled, paid; £27/10, real bargain.—Braanna, 14, King's , Cardiff. [X2042

Motosacoche.

OTOSACOCHE, lightweight, Senspray, perfect, tax paid; £16.—42, University Rd., Merton, Surrey. [7470

OTOSACOCHE 2h.p., Bosch, Senspray, excellent condition; £18.—37, Green St., Forest Gate. [7994

1h.p. Motosacoche, new P. and H. set, tyres and condition good, ride away; £18/10.—151, Kings- Rd., Teddington. [7810

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1h.p. New Comet, Peco engine, just rebored, re- bushed, overlooked by makers, new Amac, T.B. new Dunlops front and rear, belt and chain, done miles, complete lamps, horn, tools, fitted Tan-Sad; any time; £32; tex paid 30/-.—Wilde, Marlow Hadfield. [7455

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ULIANS of Reading have all New Hudson models in stock. [0534

EW HUDSON 2-stroke, shop-soiled; 60 gns.—Rogers, 42, Church Rd., Hendon. [8133

EW HUDSON 4¼h.p. Combination, K.S., 3 speeds, excellent order; £75.—3, Ferry Rd., Teddington. [8213

EW HUDSON Combination, 4h.p., 3-speed, tools, lamps, tax paid, any trial; £55.—34, Leghorn Rd., mstead. [7729

EW HUDSON Combination, 3-speed, clutch, tax paid, all on; nearest £55, bargain.—47, Windmill , Brentford. [7780

EW HUDSON 1916 2-stroke, perfect order, good condition, tax paid; first £25, bargain.—Box 581, c/o *Motor Cycle.* [X2807

1h.p. New Hudson 2-stroke, good condition, acces- series, tax paid; £33.—26, Norbury Crescent, rbury, S.W.16. [8162

EW HUDSON Lightweight, latest model, 2-speed, hardly soiled, fully equipped; £65, offers.—97, htiagale Rd., Wood Green. [5936

EW HUDSON, 4h.p., 2-speed, 1916, excellent order, bargain, £45; with smart sidecar, £65.—1, rwood Rd., Herne Hill, S.E.24. [7844

EW HUDSON Lightweight, 1915, overhauled, repainted and replated, as new; 32 gns.—124, gston Rd., New Malden, Surrey. [7139

EW HUDSON 4h.p., late 1919, countershaft, electric lighting, just overhauled, perfect condition; £70, near offer.—Stubbs, Laurels, Winsford, Cheshire. [7454

915 2¼h.p. New Hudson, 2-stroke, 2-speed, lamps, horn, discs, tax paid, overhauled and new tyres; 0, offers.—Fisher, 67, Ramsdon St., Barrow-in-Furness. [7216

NIP.—New Hudson, J.A.P. 2½h.p., 3-speed, clutch, stored during and since war, unworn throughout, ctically new, perfect tune, licence; £36.—84, Brenkare Rd., Brockley. [7667

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EW HUDSON 6h.p. Twin, 1917, engine No. 1404, 3-speed countershaft gear box, kick starter, 1920 tsonian sidecar, wind screen, and detachable coupe , large rear locker, aluminium dash, extra heavy olops, spare chain, tubes, valve, etc., wonderful l-climber; 95 gns.—Courlaader, Richmond, Surrey. lone: 1645 Richmond. [8183

New Imperial.

EW IMPERIAL Agents.—Lightweights and spare parts in stock.—Crow Bros., Guildford. [4709

EW IMPERIAL-J.A.P., 2-speed, 2¾h.p., all accessories, tax paid; £33.—49, Well St., Hackney. [8201

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that these machines are NOT old renovated or W.D. stock. Most of them were made in 1921, and, in many cases, they are still being made for us by the Manufacturers. Some of them cannot be distinguished from the latest 1921 Models.

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are the ordinary retail list prices.

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***HENDERSON** 1921 3-speed and reverse Sidecar Comb., electrically equipped, cost over £300, nearly new	£245 0
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***AMERICAN X** 7-9 h.p. Combination, complete	£160 0
***DIAMOND-JAP.,** 2-speed, kick-starter and clutch	£72 0
***DOUGLAS,** 2¾ h.p., 3-speed	£79 0
ARIEL 3-speed, 3½ h.p., and new Sidecar, fully equipped	£65 0
***TRIUMPH** Outfit, nearly new	£130 0
HARLEY-DAVIDSON, flat twin, nearly new	£120 0
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KINGSBURY Scooter, nearly new	£29 0
*1920 8 h.p. **ZENITH** and Sidecar	£145 0
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*Indicates Tax paid and all Accessories.

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MOTOR CYCLES FOR SALE.

New Imperial.

19 16 2¾h.p. Imperial-Jap, 2-speed, licence paid; £38.—1, Bellingham Terrace, Bromley Rd., Catford. [7760

NEW IMPERIAL-J.A.P., 2-speed, lamp, tax; £40, offers.—Blanshard, 45, Fenton St., St. Helen's, Lancs. [8249

NEW IMPERIAL-J.A.P., 2¾h.p., 2-speed, Dunlop tyres, tax paid, any trial.—185, Shernhall St., Walthamstow. [7750

8h.p. Imperial Combination, lamps and horn, all as new; bargain, £110.—Beecher, 472, Archway Rd., London, N.6. [7870

NEW IMPERIAL 2¾h.p., 2-speed, lamps, horn, Tan-Sad, good condition; £40.—44, Okeburn Rd., Tooting; after 6 p.m. [7135

2¾h.p. New Imperial-Jap, 2-speed, perfect order, all accessories; 39 gns. — 17, Manor Drive, Wembley, Middlesex. [8260

NEW IMPERIAL 2¾h.p., 2-speed, K.S., clutch, lamp, horn, licensed, thoroughly overhauled; £48. —60a, High St., Wimbledon. [7070

19 21 New Imperial Lightweight, countershaft gear, kick start, 250 miles only; £73/10.—Collier's Motories, Horton St., Halifax. [7525

2¾h.p. New Imperial-Jap, 2-speed, lamps, horn, new bars, a real goer, tax paid; £45.—125, Wilberforce Rd., Finsbury Park, N.4. [X2878

NEW IMPERIAL, 1919, 2¾h.p. J.A.P., all accessories, excellent condition, about 1,000, tax paid; 60 gns., near offer.—42, Lillian Rd., Barnes. [7874

19 20 New Imperial 8h.p., 43-gn. sidecar, electrically equipped, Klaxon, numerous spares, not done 1,500; any trial; £135.—Seen at Garage, Solomon's Passage, Peckham Rye. [7725

NEW IMPERIAL 1919 Combination, 8h.p., as new, electric lighting, Easting, speedometer, pillion, accessories, ready for road; £130.—32, Hambledon Rd., Southfields, S.W.18. [7989

NEW IMPERIAL 2¾h.p., 3-speed, kick start and clutch, in stock; £89/15; exchange for A.B.C.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [7511

19 21 New Imperial 8h.p. Combination, used few times for demonstration, absolutely as new, and unscratched, best value in England; 150 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7555

NEW IMPERIAL 6h.p. 1920 Combination, scuttle, and Auster screen, Degory carburetter, condition as new, electric lighting; no reasonable offer refused.—6, Erridge Rd., Bedford Park, W.4. [8203

NEW IMPERIAL 8h.p. J.A.P. Combination, 3-speed, K.S., powerful, reliable, excellent condition, all accessories, tax paid; any trial; evenings; £120.—205, South Croxted Rd., Dulwich. [8193

NEW IMPERIAL Motor Cycles.—Immediate delivery of these popular machines: 2¾h.p. 2-speed model, with clutch and kick-starter, £89/5; 8h.p. 3-speed combination, £187.—P. J. Evans, Birmingham. [7541

19 20 New Imperial-Jap 2¾h.p., 2-speed kick start, clutch, tax paid, tyres perfect, wide mudguards, small mileage, and in excellent condition; £68.—Pritchard, Penllwyn, Chester Rd., Wrexham. [7441

19 18 New Imperial-Jap 2¾h.p., 2-speed, clutch, kick starter, speedometer, lamps P. and H., complete accessories, splendid condition, tax paid; 50 gns.—Butler, 8, Westborough Rd., Westcliff-on-Sea. [7121

2¾h.p. New Imperial, 2-speed, £80/17; ditto with clutch and kick-starter, £89/5; 8h.p. combination, £186; in stock for immediate delivery; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [7694

NEW IMPERIAL 1920 8h.p., R.34 sidecar, as new, screen, all accessories and spares, tax paid, insured till March, 1922; £145, or near offer; a very sporty lot.—Surgery, 3, Mitcham Rd., Tooting Broadway, S.W. [7918

IMMEDIATE Delivery of any New Imperial Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0506

19 19 (November) 3h.p. New Imperial-Jap, with two purpose body, electric lamps, speedometer, Klaxon, pillion, just overhauled by makers, owner buying car; offers for quick sale; tax paid.—Taylor, Albert St., Syston, Leicester. [X2014

19 20 8h.p. New Imperial Combination, dynamo lighting, charge and discharge ammeter, electric horn, speedometer, Easting, Tan-Sad, spare tyre, tax paid, splendid condition throughout; trial; £150.—Stevens, 21, Howard Rd., Southville, Bristol. [8241

New Ryder.

19 21 New Ryder De Luxe, 2¾h.p., 2-stroke, kick starter, 2-speed clutch; cost 76 gns., accept £58. —121, Rotten Park Rd., Birmingham. [6646

New Scale.

PICKERING, Shrewsbury.—New Scale motor cycles; 4h.p. Blackburne model, £100. [8070

SCALE, 3½h.p. Precision, £80; 4h.p. Blackburne, £100; motor cycles you will hear more about. I have always a stock of each model; trade supplied.—Davies, 229, Deansgate, Manchester. 536 Central. [2440

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Norton.

PREMIER Motor Co. for 1921 Nortons.

ANY Model Norton delivered to your address, carriage paid, within twenty-four hours.—The Premier Motor Co., Aston Rd., Birmingham. [X2261

JULIANS of Reading have Norton 16H. in stock.

JULIANS of Reading have Norton Model 9 in stock. [0489

DAN GUY, Weymouth.—Norton official agent; early deliveries. [0595

YEOVIL.—Moffat, Town Hall Garage, Norton agents. —'Phone: 50. [3330

PICKERING, Shrewsbury.—All Norton models from stock; exchanges. [8068

NORTON 1921 Famous 3½h.p. from stock; £132.—Gibb, Gloucester. [0444

NORTONS, all models, delivery anywhere.—Smith's, Main St., Mexborough. [5626

NORTON Brand New Model 16H in Stock; also sports sidecar.—Moss, Wem. [X2859

WESTON-SUPER-MARE.—Jack Prnen, Oxford St., for Nortons.—'Phone: 440. [6250

NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublio. [6128

NORTON 1921 T.T., 200 miles only, lamp, licence, and spares; £90.—Putterill, Garage, Harpenden. [8046

DAN BRADBURY can supply Norton, all models, anywhere and any time.—224, London Rd., Sheffield. [8019

NORTON 3½h.p., countershaft, new condition, all accessories; £80.—Collins, Trinity College, Cambridge. [8081

NORTON Motor Cycles.—All models in stock; exchanges and deferred payments.—P. J. Evans, Birmiogham. [7539

NORTON 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5005

NORTON, 1920, 3½h.p., all chain, de luxe sidecar, accessories; £135.—Bartlett's, 93, Gt. Portland St., London. [8425

NORTON, May, 1921, Model 16H, 3-speed, all chain, mileage 20, accessories; £128.—Payne, 63, New Broad St., E.C. [8349

1915 Norton 4h.p. Combination, Sturmey-Archer hub gear; £65.—13, Acacia Grove, Croxted Rd., Dulwich, S.E.21. [8355

1921 Norton, Model 16H, brand new, only driven from works; £117/10; perfect, licensed.—Walter Madeley, Wem, Salop. [7213

NORTON 1920 Big 4 Combination, all accessories, ridden 600 miles only; £155.—Bartletts, 93, Gt. Portland St., London. [8424

FRANK WHITWORTH, Ltd., of Birmiogham, have Nortons ready for immediate delivery; also a fine second-hand 3½h.p. Norton. [X2863

NORTON 1921 Motor Cycles, brand new, all models in stock, immediate delivery.—Palin, Sole Agent, Bourne St. (nr. Spot), Osmaston Rd., Derby. [3181

NEW 1921 3½h.p. Norton, 3-speed, kick start, 16H model, in stock; list price £132; exchanges entertained.—Bambers', Easthank St., Southport. Tel.: 607. [X0631

DAVIES, of Manchester, can deliver 1921 Nortons from stock; the machine you will eventually buy; all spares stocked; prompt attention.—229, Deansgate. 'Phone: 536 Central. [2432

NORTON Agents.—Motor cyclists in or near Oldham call. Onr Mr. Mitchell will demonstrate to you the finest machine in the world.—Bullonghs Motors, Waterloo St., Oldham. [2050

NORTON Big 4 Combination, delivered Feb., 1921, complete outfit, not run 600 miles, splendid machine; £150.—Colonial Motors, 104a, Finchley Rd., N.W. Hampstead 7822. [8350

NORTON 1920 Big Four Model, Canoelet sidecar, fully equipped, low mileage, indistinguishable from new; £155.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2833

NORTON T.T. Model with Philipson pulley, very fast and in splendid condition, 1920 model; £80; exchange.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [7516

1920 4h.p. Norton Combination, tax paid, Low generator and electric lighting, knee grips, horn, engine just thoroughly overhauled; £125.—Bloss, Red House, Wimpole Rd., Colchester. [7902

NORTON 1921 Big Four, delivery from stock; the ideal two-purpose mount; £135; exchanges or extended terms.—Official agents, Elce and Co., 15-16, Bishopsgate Av. Camomile St., E.C.3. 'Phone: Avenue 5548. [0071

NORTON (July, 1920) Big Four, de luxe sidecar, electric and acetylene lighting, all accessories, 700×80 Dunlop tyres, only done 750 miles, as new; £165; seen by appointment London.—Box 3,970, c/o *The Motor Cycle*. [7632

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Norton.

NORTON 1921 Big Four Model, Henderson sidecar, Lucas Magdyno lighting Cameo wind screen, oversized tyres, tax paid, insured, indistinguishable from new; £195.—Parker's, Bradshawgate, Bolton; also 24 Deansgate, Manchester. [X283

NORTON, T.T., special engine, 1917, mileage 5,000 fast, reliable, 8 to over 60 m.p.h. guarantee T.T. bars, knee grips, good tyres and belts (2), lamp 1920 Cowey speedometer, horn, spares, tax paid; ho offer over £70 accepted.—Fairlie, Victoria Terrac Oakworth, Keighley, Yorks. [714

N.S.U.

N.S.U., 3½h.p., 17 gns., trial run, tax 30/-; Grad £3.—12, Cheshire St., Bethnal Green. [730

N.S.U., in thorough order, 2¾h.p., newly painted a overhauled; offers.—D. Savory, Poyntington, Fle Hants. [72

N.S.U., 3½h.p., E.I.C. mag., B. and B., excelle running order, fast; first £20 secures.—Operat Town Hall, Elgin. [81

4h.p. N.S.U., new frame, Burman gear, K.S., clut C.B. sidecar, new tyres, lamps, ready to ri away; £60.—Rowley, Orsett, Essex. [83

OLD Pattern N.S.U. Twin Wicker Combination, speeds, Bosch mag., Binks carburetter, in goi order, engine overhauled, small crack in front cy £24.—52, Mountcastle St., Newbold Moor, Chesterfie [80

N.U.T.

N.U.T. Sporting o.h.v. 3½h.p. Twin, discs, 2-spe very fast; 65 gns.—4, The Square, Carshalt Surrey. [84

N.U.T., 1920, 3-speed countershaft, Lucas Magdy fully equipped, splendid condition; £108.— Crystal Palace Park Rd., Sydenham. [80

N.U.T., 1920, Magdyno, electric horn, speedomet Claudel-Hobson single-lever carburetter, guarante perect, 58 m.p.h., economical, silent; £135.—79, Cas ton Mansions, Barnes. [77

N.U.T. 3½h.p., 1920, electric lighting model, enam ling and plating absolutely as new, only r abont 1,500 miles, perfect condition; any trial; £1 Apply, L. Bailey, 72, Mitcham Rd., Croydon. [5

1920 (Dec.) N.U.T. Combination, unscratched, p fect, Magdyno lighting, Canoelet sporting si car; cost £205 (receipts shown), licences, insuran nearest £125.—Turner, 8, Victoria St., Shrewsbury [73

1920 Twin N.U.T. Sporting Combination, Magdy lighting, electric horn, Bonniksen speedomet absolutely as new, any trial, tax paid; £140; lig weight part.—C.S., 14, Swaton Rd., Bow, E.3. Te E 3155. [83

N.U.T., special 500 c.c. twin racing overhead va engine, very fast and light, polished nickel open hausts, tank straps and fittings, geared from 3 to 5 1, lamps, horn, tax paid; £60.—88, Brook Gre Hammersmith. [80

O.K.

JULIANS of Reading have all O.K. models in sto [0

O.K.-UNION, 1920, brand new; clear £43.—B letts, 93, Gt. Portland St., London. [84

O.K. Union 2½h.p., 1920, new and unused; £ lowest.—Pantling, Wing, Bucks [81

£25.—O.K. 4-stroke, 2-speeds, handle starter, splen running order.—King, Egrove Farm, Oxford. [X28

O.K. 2¾h.p., 2-stroke, latest 1920, equal to new, on, tax paid; 38 gns.—619, Garratt Lane, Ea field. [63

DAVIES, of Manchester, can deliver 1921 O.K from stock. — 229, Deansgate. 'Phone: 5 Central. [24

O.K. 1920 2-stroke, 2-speed, practically brand n lamps and horn; £48.—Advertiser, 74, Welling Rd., Rhyl. [74

O.K.-VILLIERS, 1920, shop-soiled only; £42, or change for new Drummond lathe.—Stebbings, Al borough, Norfolk. [72

£39.—1920 O.K.-Union, absolutely as new, fi equipped, licensed, ride away anywhere; pho stamp.—Ewers, Newton Rd., Burton-on-Trent. [7

Omega.

ALL Models Omega from £15/15 down.—Bartle 93, Gt. Portland St., London. [84

OMEGA 1921 Models Now Ready.—Davies, 2 Deansgate, Manchester. 536 Central. [24

OMEGA 1921 Models, J.A.P. engines, £60, £66, £ easy payments, £20 down.—Bartletts, 93, Gt. P land St., London. [84

FOR Sale, 2¾h.p. Omega-Jap, Albion 2-speed, about 500 miles, lamp, horn, etc.; £40.—1 College Rd., Moseley. [X2

OMEGA 1921 Models, Villiers Mark IV., £50, £ £68; easy payments, £15/15 down.—Bartle 93, Gt. Portland St., London. [84

Overstone.

35 GNS.—Overstone-Villiers 2½h.p., 2-stroke, C 2-speed, knee-grips, aluminium discs, tyres un all on; tax paid.—291, Beverley Rd., Hull. [7

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P. and M.

IANS of Reading have 1921 P. and M. in stock. [0488

nd M., late type, excellent condition; £45.—53, Pelham St., South Kensington. [8366

CLON and Moore Combination, 1920 R.A.F. model; £85.—Apply, Pynnacles, Stanmore. [7493

nd M. Combination, late, in new condition; sacrifice 75 gns.—202, Munster Rd., Fulham. [7390

—P. and M., 1918, 2-speed, splendid condition; any trial.—24, Church Walk, Hampstead. [8338

nd M. Solo, £55, or combination, £70; any trial.—DeCort and Flynn, 39, Essex Rd., London, N.1. [8276

nd M., 1919, with P. and M. 1920 sidecar, engine No. 8435; £99.—Legge, Willenhall, Staffs. [8109

nd M. 1918 3½h.p., perfect condition, tax paid; £65, or near offer.—Hopkins, Lympne Aerodrome. [7320

nd M. Coachbuilt Combination, fine condition, speedometer; £55, bargain.—Edwards, Rose Gardens, gate. [7437

—P. and M., 2-speed, K.S., excellent condition, lamps, horn, etc.—Matthews, 55, Farnham Rd., ford. [7864

—1918 P. and M., tax paid, recently overhauled and enamelled.—33, Tunley Rd., Harles-N.W. [7788

nd M.'s, 1916-17-18, 2-speed, renovated; £40 and £45; combinations, £50 and £60.—272, Green Forest Gate. [8251

ad M., 1918, in perfect condition, overhauled and re-enamelled; £65.—Woodhams, 72, Glenthorne Hammersmith. [7407

and M. Combination, fully equipped; £75.—Speechley, 86, Churchfield Rd., Acton, W.3. e: Chiswick 1902. [7966

18 P. and M. Combination, just overhauled at works, ready to ride away; £105.—A. Langstaff, ister Garage, Yorks. [7579

20 P. and M. Combination, speedometer, mileage inside 500, as new; bargain, £130.—Sheppard, Rd., Bishop's Stortford. [8108

19 3½h.p. P. and M. Combination, licence paid, insured to June; £105.—Shepherd, Enfield High-Tel.: Waltham Cross 31. [0341

18 P. and M., complete with lamps, etc., just overhauled and renovated, with £10 spares; £70.—neen's Rd., Thames Ditton. [7303

and M. Combinations for Renovation, minus mags., carbs., and small parts; £25 each; only ft.—1, Othello St., Liverpool. [8138

and M. Combination, new 1920, never been on the road, bracket brake, 2-speed, etc.; £140.—128 St. Leonard's Rd., Poplar. [7201

and M. Combination, 1919, fully equipped, in new condition, tax paid; must sell, £78.—A. horn, 12, Thrale Rd., Streatham, S.W. [8200

and M. 1919 Combination, new sidecar, perfect condition, indistinguishable from new; £75.—35, lement's Mansions, Lillie Rd., Fulham. [8405

).—P. and M., 1919, not W.D., handsome Olympia sidecar (Millford), equipped, carefully used in r order; evenings.—Emswt, Meadow Rd., Sutton. [7198

and M. 1917 3½h.p., in splendid running order; £50.—Scotia Motor Works, 80, Upper Tooting London, S.W.17. 'Phone: Streatham 2707. [7944

and M. Torpedo Combination, equipped, 1918, beautiful, excellent, not a good Army fake; exge, reasonable, or sell.—70, Balfour Rd., Ilford. [7265

and M. Combination, 3½h.p., 2-speed gear, kick starter, mag. ignition, in working order; £50 for sale.—Idris and Co., 33, King's Rd., St. Pancras. 1. [4398

and M. Combination, R.A.F. model, guaranteed faultless, tax paid, all accessories; £80; would rate.—Palmer, 61, Commercial Rd., Lambeth, erloo. [7638

20½ P. and M. Combination, engine 9558, F.R.S. electric, Stewart, insurance, tax, £120; sidecar rately, stored during winter, £30.—Bates, Birken-, Bradford. [7266

20 P. and M. Combination, exhibition model, lamps, hood, speedometer, hand brake, excelcondition, good tyres, luggage grid; £110.—B., 7, rave Rd., S.W.1. [7141

and M. Combination, June, 1920, Lucas dynamo, lamps, sidecar apron, mudshields, Binks, spares, tiful condition, tax paid; £150.—Court House, tingham, nr. Lewes. [7310

21 3½h.p. P. and M., very latest type, with new type front brake, etc., slightly used only, good as l new; £100.—Walbro Motor Cycle Co., High St., on Walden, Essex. 'Phone: 45. [X2017

and M. Combination, minus small parts, mag. and carb.; £25; trade supplied. Still a large k of spares at low prices.—Inman and Bondman, nd M. Specialists, 1, Othello St., Liverpool. [8139

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P. & M., solo, 1919, fully equipped, all lamps, speedometer		£75	0
NEW HUDSON, solo, 1920, 2¾ h.p., T.T. bars, 2 months' guarantee, nearly new		£50	0
ACE Combination, 1921, dynamo lighting, horn, mirror, speedometer, C. & M. de Luxe Sidecar with disappearing hood, screen. Tax paid. Cost £320. 800 miles only		£250	0
EMBLEM, solo, 1921, 4-5 h.p. twin, shop-soiled		£70	0
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CLYNO, solo, 1920, 2½ h.p., new		£52	0
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1920 P. and M. Combination (June), excellent condition, Cowey horn, speedometer, grid, lamps, spares; total cost £170, tax paid, insured till July; nearest offer to £125 secures.—Elm Cottage, Downe, Kent. [7680

P. and M. 1918 R.A.F. Combination, fitted comfortable lightweight sidecar, electric lighting, Cameo wind screen, just overhauled; £85.—Colonial Motore, 104a, Finchley Rd., N.W. Hamp. 7822. [8352

£25.—1917-18 R.A.F. P. and M.'s, less magneto, and carburetter and small parts: magnetos, new, suit, 45/-; can be made runners for under £35.—Banister and Botten, 341, Upper St., London, N.1. 'Phone: 2480 North. [8304

1921 P. and M. Combination, used for demonstration purposes only, mileage under 500, complete with equipment; £135; without sidecar £105.—Phelon and Moore, Ltd., 4, Berners St., W.1. (Opposite Bourne and Hollingsworth.). [6070

1918 P. and M. Coachbuilt Combination, 4-point suspension, luggage carrier, 3 Lucas lamps, 1 large generator, horn, speedometer, nearly new tyres, overhauled, splendid condition, not W.D., tax paid; £90, near offer.—Wormald, Newmarket. [5902

65 GNS.—1917-18 P. and M. Combinations, have been replated, stove enamelled, and lined, new parts fitted, sidecars re-coach painted, reupholstered, scarcely distinguishable from new.—Branford, 16, Lyndhurst Av., Streatham Hill. [8147

1921 P. and M., Lucas Magdyno lighting and horn, Bonniksen trip speedometer, leg shields, spare valve, assorted nuts and bolts, chain links, mileage under 800, seen by appointment; £138.—Whitehouse, 89, Greenfield Rd., Harborne, Birmingham. [X2776

P. and S.

WAUCHOPE'S, 9, Shoe Lane, London.—P. and S. 1920 models, 2-stroke, 2-speed; £57/10; all brand new; easy terms, no extra charge. [8271

PEARSON and Sopwith, 2½h.p. Villiers 2-stroke, 2-speed, done about 30 miles; £50, with lamps, licence, etc.—G.2, "Gazette," Worthing. [7549

Premier.

PREMIER T.T. Model, first-class, smart, tax paid; £42.—Gibbons, 54, Holland Rd., Kensington. [7909

3½h.p. Premier, 1913, 3-speed, h. clutch, lamps, all accessories; £42.—47, Crabmill Lane, Coventry. [X2802

COMPETITION Premier, fully equipped; £50, or exchange for late Douglas; after 7, or week-end.—36, Albert Rd., Hendon. [7095

PREMIER 4½h.p. C.B. Combination, 3-speed, electric lighting, horn, speedometer; £55.—J.L.J., 191, St James's Rd., Croydon. [7787

FOR Sale, 3½h.p. Premier, 3-speed, clutch; also Montgomery sidecar.—T. L. Corbett, Grange Farm, Ryton-on-Dunsmore, Coventry. [X2788

PREMIER 3½h.p. Combination, 3-speed, perfect condition guaranteed, must sell; £60, or close offer.—Canham, 86, Downs Park Rd., Hackney, E.8. [8391

PREMIER 3½h.p. Coachbuilt Combination, 2-speed gear box, clutch, footboards, excellent condition, tax paid; £50.—Eagles and Co., 275, High St., Acton, London. [7835

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4h.p. Precision, 3-speed countershaft, tax paid; £40; exchanges.—76, London St., Chertsey. [7940

1914 Precision 4h.p., perfect, cheap, sidecar if desired.—Mitchell, 44, Wellington St., Camden Town. [7637

3½h.p. Precision-Armis, 1920, new Jan., 1921, electric lamps, horn, low mileage; £62/10.—Tyrrell and Clissold, Iffley Rd., Oxford. [7452

4¼h.p. Precision, Bosch, new B. and B., discs, good Dunlops, variable pulley, lamps, fine mechanical condition; £32, or exchange for 2-stroke.—154, London Rd., Kingston-on-Thames. [7415

P.V.

P.V., shop-soiled, spring frame, 2-speed, clutch, kick start; £10 under list. — 193, Broomwood Rd., Clapham, S.W. [7921

Quadrant.

1920 Quadrant Combination, all on; £95, tax paid; any trial.—Crowhurst, College Rd., Upper Norwood, S.E. Sydenham 786. [7505

1920 4½h.p. Quadrant Canoelet Combination, all accessories, speedometer, etc., as new, small mileage; £95; any trial, tax paid.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E 3155. [X8384

QUADRANT 1914 4½h.p., in exceptional condition throughout, all accessories, tax paid; £40, or near offer.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd., S.E.1. Tel.: Hop 210. [6744

QUADRANT.—Sole agents and wholesale distributors London, Southern and Eastern Counties. All spares stocked. Official repairers.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd., London, S.E.1. Tel.: Hop 210. [6736

QUADRANT 1921 4½h.p. Combination, the best value for money on the market; call and inspect this splendid outfit at the reduced price of £125; exchanges or extended terms arranged.—Else and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0074

MOTOR CYCLES FOR SALE.

Radco.

RADCO, single speed, perfect condition; £20.—131, Mantilla Rd., Tooting Common, S.W.17. [7670

RADCO, in perfect condition; must sell; nearest offer £32.—31, London Rd., Enfield, Middlesex. [7567

R. D. VARTY, Thundersley, Essex.—Agent for Radco motor cycles, all models; immediate delivery. [2488

RADCO 2½h.p., 2-stroke, 2-speed, lamps, etc., good condition; £32, bargain.—143, Ravensbury Rd., Earlsfield, S.W. [7114

RADCO, Oct., 1919, 2-speed, spares, including cover, 2 tubes, tax paid; bargain, £40.—Hills, Holly Tree House, Stelling, Canterbury. [7218

Raleigh.

THE Premier Motor Co. for 1921 Raleighs.

WE can deliver to your address within 24 hours the new Raleigh 5-6h.p. flat twin, spring frame, chain drive; solo 140 gns., sidecar 176 gns.—Sole Birmingham Agents, The Premier Motor Co., Aston Rd., Birmingham. [X2262

J. C. PICKERING, Shrewsbury.—Raleighs in stock; exchanges arranged. [8071

RALEIGH Flat Twin Combination in Stock.—Welford, St. James' St., Brighton. [7596

RALEIGH Combination or Solo in stock at reduced prices; exchange.—Rose's Garage, Uxbridge. [8136

RALEIGHS, solo and combinations in stock; ex changes entertained.—Hicking, Bromley Rd., Beckenham. [3277

ROGERS, 42, Church Rd., Hendon, can give delivery of Raleigh combinations and solo from stock at reduced prices; 176 and 140 gns. [8131

RALEIGH Solo and Combination for immediate delivery; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [7508

WE can give delivery of this famous make of machine from stock; there is no better quality or finish possible; a perfect machine in every point and detail; Raleigh 5-6h.p. flat twin solo, 140 gns.; combination, 176 gns.—G. and J. Dawson, 60 and 62, Regent St., Cambridge. [0600

Reading-Standard.

BARGAIN.—Reading-Standard combination, 7h.p., 3-speed, hand-foot clutch, Bosch mag., 2-cyl., Cameo screen, done 200 miles, just overhauled; enamelled black, lined gold; £95.—Tiley, 10, Duke's Mews, Duke St., Oxford St., London, W. [7705

Rex.

3h.p. Rex, mag., good running order; £11.—Perrier, St. John's Rd., Leatherhead. [7262

REX Coach Combination, 3 speeds, K.S., Easting; £45.—31, Cowper Av., Sutton. [7289

REX 6h.p. Combination, new sidecar; £50.—Quail, 27, Springfield, Upper Clapton. [7912

6h.p. Rex C.B. Combination, 2-speed, handle start, good condition, lamps; £42.—Ward, Red Bank, Chorley. [X2791

REX, sidecar, 7h.p., 2-speed, handle starting, perfect condition; any trial; £50.—1, Norwood Rd., Herne Hill, S.E.24. [7843

3½h.p. T.T. Rex, new cylinder and overhaul recently, do 55 m.p.h., all on, ride away; £28.—Young, Bedworth, Nuneaton. [X2028

REX 6-8h.p. Combination, coachbuilt, perfect condition; £70; exchange for good solo.—38, Chalsey Rd., Brockley, S.E.4. [7680

8h.p. Twin Rex, 3-speed, Sturmey countershaft, K.S., perfect mechanical condition and equal new; 65 gns.—11, Recreation Rd., Sydenham. [8368

5-6h.p. Rex C.B. Combination, about 1912, overhauled, new pistons, no reasonable offer refused.—4, Vickers New Estate, Byfleet, Surrey. [7851

£30.—3½h.p. Rex, B.B., Bosch-Simms, just overhauled, crank pins reground, rebushed, re-enamelled, nearly new tyres and tube, lamps, horn, easy starter, tax paid.—W. Isler, 22, King Edward St., Lambeth Rd., S.E.1. [7131

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JULIANS of Reading have 75 m.p.h. Rover model in stock. [0585

ROVER, 1919, 3½h.p., 3-speed, sidecar, accessories, tax paid; £90.—Bartletts, 93, Gt. Portland St., London. [8431

ROVER Motor Cycles (see index for P. J. Evans special display advt.); complete combinations for £138. [X2084

5-6h.p. Rover Combination, new July, 1920, splendid condition; £150, or near offer.—Witts, Woodville, Evesham, Worcs. [7056

5-6h.p. Rover-Jap Combination, 1919, unscratched, perfect; been stored; bargain, £120.—Oakhurst, Chigwell, London. [7280

1917 T.T. Rover, Philipson, fitted everything, as new, for 4h.p. Douglas or decent solo.—Cullum, 22, Bourne Av., Windsor. [7829

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ROVER 1919 and Torpedo Sidecar, speedon perfect; bargain, £98.—W. Peters, Devon House, Chestnut Grove, New Malden.

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LATE 3½h.p. T.T. Rover, long exhaust, T.T. F.R.S., very fast; £54, or exchange 2¾h.p. D similar, little cash.—9, Redhill, Bassett, Southan

5-6h.p. Rover Combination, has new Mills-Fu sidecar, lamps and horn, ready to ride away; gain, £92.—Beecher, 472, Archway Rd., London,

ROVER 5-6h.p. Twin, brand new, late 1920, built combination; list price £235, re £150.—Eagles and Co., 275, High St., Acton, Lo

5-6h.p. Rover Combination, perfect condition, model, mileage under 500, complete access £145.—D. Wallis, Broadmead, Hart St., Maidst

3½h.p. Rover and Sidecar, 3-speed, clutch, thoro overhauled by makers, complete with lamps, etc., tax paid; £60.—Stratton, Wymington, Rus Northants. [X

ROVER 5-6h.p. Combination, like new, 3-s countershaft, kick-starter, hand and foot c tyres unpunctured; £125, offer.—7 Hampton St., worth, S.E.17.

ROVER 3½h.p., 3-speed, clutch, new condi nearest to £50; also C.B. sidecar to s Williams, 9, Dyson Terrace, Blanmerle Rd., Eltham, S.E.9.

FRANK WHITWORTH, Ltd., of Birmingham commends the chain drive 3-speed 3½h.p. at £115 as one of the best value machines in the Delivery from stock. [X

ROVER Motor Cycles.—Place your order wit official agent, the man who rides a Rover mediate delivery; hire-purchase if desired.—Co Cook's Garage, Shifnal.

3½h.p. T.T. Rover, Phillipson pulley, hand-contr Klaxon horn, discs, enamel and plating a knee grips; £55.—Duncan and Shepherd, 33, Parade, Golders Green.

ROVER 3½h.p., late countershaft model, £65 with Millford sidecar, £82.—Light Car and Cycle Engineering Co., 26, Tulse Hill, S.W. (½ m from Brixton Skating Rink).

ROVER Combination, 5-6h.p., late model, en silent chains, Easting, hood, electric ligh speedometer, etc.; £120, or near offer; 100 miles —48, Boleyn Rd., East Ham.

ROVER 3½h.p., clutch, B.B. variable carbure Bosch, lamps, mechanical horn, new tyres, paid, perfect running condition; £60, or nearest —Catlin, Sawtry, Peterborough.

3½h.p. New Rover, 3-speed clutch and kick sta fitted with Royal Leicester sidecar, screen, apron, reduced to £145; easy payments.—Har Ltd., 118, Brompton Rd., London.

1920 6h.p. Rover Combination, Henderson de sidecar, Easting wind screen, speedometer, lighting, Lucas lamp and horn, spares, etc., tax £130.—1, Melrose Rd., Merton Park, S.W.

5-6h.p. Rover Combination, 1919, W.D. model, vated, makers' colours, as new, sidecar fi with scuttle dash and wind screen, all lamps, etc., tax paid; £120.—22, Leybourne Rd., Leytonst

ROVER, 1913, 3-speed gear just overhauled, en almost completely 1920, tyres worn, other exceptional condition, lamps, horn; seen by appo ment; £35, or near offer.—Vale Lodge, Tunbr Wells.

ROVER Combination, new 1919, 5-6h.p., alumin disc wheel, Sunbeam sidecar, wind screen hood complete, Tan-Sad saddle, had little use, pletely equipped, perfect condition; £140.—Warde Ashtead, Surrey.

1920 Rover Combination, 6h.p., June, excellent dition, just overhauled, tax, insurance hood, screen, electric and gas, Tan-sad, 3-seater side any trial; first £150.—Rundle, 20, Walham Gr Fulham, S.W.6.

ROVER Motor Cycles.—Revised prices now in f as follows: 3½h.p. T.T., £90; 3½h.p. 3-sp £115; 3½h.p. combination, £152/10; 5-6h.p. combi tion, £167/10; call and inspect these well-known chines; cash, exchanges, or deferred payments.—P. Evans, Birmingham.

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R. D. VARTY, Thundersley, Essex.—Agent Royal Ruby motor cycles; immediate delive

1919 8h.p. Royal Ruby Combination, perfect, paid; £92.—60, Wallingford Av., N. Kensi ton.

DAVIES, of Manchester, can deliver 1921 Ro Ruhys from stock.—229, Deansgate. 'Phone: Central.

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20 3h.p. Royal Ruby, spring frame, hardly used, laid up in Ireland; £75.—Hackett, 247, Green s, London, N. [X2810

YAL Ruby 2¾h.p. 1921 Sports Models, delivery from stock.—Fowler and Brigden, 130, Euston N.W.1. Museum 4827. [0542

. 1920 Spring Frame Royal Ruby, unused; £88; exchange A.B.C., Rudge, Triumph.—Harvey, hfields, Cheshunt, Herts. [7791

19 (November) 8h.p. J.A.P. Royal Ruby Combination, electric light, splendid condition; £140, or st.—Box 3,976, c/o *The Motor Cycle.* [8292

19 8h.p. Royal Ruby Combination, J.A.P. engine, condition and appearance as new; any trial or ination; £105.—2, Fortunegate Rd., Harlesden. [6423

20 8h.p. Royal Ruby Combination, electrically equipped, tax paid, original tyres; £145, or —Dawe, c/o Dental Surgery, 216, Portobello Rd., [7712

YAL RUBY 3h.p., full spring frame, new this year, tax paid, runs perfectly, mileage 300, cost ; sell £75; Midlands.—Box 585, c/o *The Motor* [X2892

19 Royal Ruby 2¾h.p. 2-stroke, tax paid, enamel and platng as new, insured till Feb., 1922, lamp horn; cost £70, sacrifice £36; very good order.— n, Ivy House, Thomas St., King's Lynn. [8196

p. Royal Ruby, spring frame, 2-speed, clutch and ick starter, complete with lamps, horn, and tools £130 when new, only run about 50 miles; reuced to £90; easy payments.—Harrods, Ltd., 118, pton Rd., London. [7689

Rudge.

W 1921 I.O.M. Rudge Multi, immediate delivery; £85.—365, King St., Hammersmith. [8186

h.p. Rudge Motor Cycle, 2-speed, fast, will take sidecar, guarantee; £30.—34, Park St., Islington. [7255

5.—3½h.p. Rudge Multi, good running order, fully equipped, licensed.—King, Egrove Farm, Oxford. [X2875

DGE Multi Combination, 3½h.p.; £60; good appearance and sound.—11, Hadley Gardens, Chis- [7079

DGE Multi, 1921, run 30 miles, tuned up, Lucas horn, tax paid; £84.—Griffiths, Chemist, Kidsgrove, [X2902

DGE 5-6h.p., 3-speed, good tyres and condition, tax paid; £47.—Cash Cycle Stores, Bury St. unds. [7044

h.p. Rudge, clutch, perfect condition, tyres good, bout 1913; £25; bargain.—216, Hackney Rd., on, E.2. [7797

DGE Multi 3½h.p., excellent condition, £55; Douglas sidecar, £10, offers.—Claremont, Perry Catford. [7429

DGE 3½h.p., 1914, N.S.U. 2 speeds, accessories, splendid engine; £45.—Wheeler, 467, London Rd., Wycombe. [7176

16 Rudge Multi and Sidecar, lamps, horn, capital outfit; £55; great bargain. — Bunting's Exge, Wealdstone. [8255

DGE 5h.p. 1920 Model and Sidecar, good condition, carefully used, fully equipped; £95.—Cuffe, Bedford Rd., N.8. [X2873

13 T.T. Rudge, very fast, recently overhauled at cost £7, very good order; £26.—Ogden, 11, nas St., King's Lynn. [8195

DGE Combination, 5-6h.p., 1919, perfect, low mileage; £98; taxed, privately owned.—At Booth's se, Frodsham, Cheshire. [7389

21 Rudge Multi at £85, the finest value to-day; cash or easy payments.—S. E. Clapham (Motors), xwell St., Greenwich, S.E.10. [5667

DGE 3½h.p., clutch, perfect order, lamps, horn, licence paid; trial; £25.—B.B. Motor Works, ourne Grove, East Dulwich, S.E. [8218

20 I.O.M. Rudge Multi, as new, complete accessories and pillion seat, tax paid; £80; Hitchin ict.—Box 3,952, c/o *The Motor Cycle.* [7332

DGE 3½h.p., 2-speed, free engine, disc wheels, nice appearance, and very reliable; apply even —141, Isledon Rd., Finsbury Park, N.7. [8104

16 Rudge Clutch Model, just overhauled, new forks, tank, starter, footrests, mudguards, tax paid, ed; £45.—261, Winchester Rd., Higham's Park. [7619

h.p. Rudge, clutch, 1913, re-enamelled, new tyres, belt, thorough overhaul, new sidecar, fast, con- o like new, lamps, tax paid; £57/10.—Gammond, s, Coventry. [X287

DGE Multi 3½h.p. T.T., pedal starter, brand new; immediate delivery from stock at makers'; £85; no waiting.—Wilkins, Simpson, opposite ipia, London. [7482

DGE Multi 3½h.p. Combination, coachbuilt, splendid condition and appearance, taxed, all ssories, ride away; £53.—Write, 59, Hampden Hornsey, N.8. [8036

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CLYNO 1920 2¾ h.p., 2-speeds, clutch, accessories, tax paid	£85 0
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INDIAN 1915 7 h.p. spring frame Combination, accessories, tax paid	£85 0
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RUDGE Multi Combination, 3½h.p., all spares, 1914 model, perfect condition, very little used, owner being abroad; car, the County; price £100.—Eaton, Ayres End, Harpenden. [7506

RUDGE Multi 3½h.p., late 1919, guaranteed not ridden more than 400 miles, been stored 18 months, as new, no offers; £65.—364, Lillie Rd., Fulham, S.W.6. 'Phone: Hammond 1553. [7125

1919 5-6h.p. Rudge Multi Combination, fully equipped, beautiful condition, small mileage; £85, bargain; only wants seeing.—Willetts, Rookery, Lanesfield, Ettingshall, Wolverhampton. [X2896

1913 Clutch Model Rudge, 1918 cylinder and piston, overhauled lately, good running order, spares, lamps, tools, tax paid; £30, or nearest.—Dodd, Trinity College, Cambridge. (D) [7366

TRACK Model Rudge, 3½h.p., 1914, stored during war, condition and appearance as new, very fast, carry 2 anywhere; any trial; nearest £40.—Bonfield, 80, Station Rd., Hampton, Middlesex. [7276

RUDGE, 3½h.p., hand clutch, splendid order, can warrant both engine and frame sound, good tyres, tax paid, ride 100 miles to buyer if required; £27.—42, Bierton Hill, Aylesbury, Bucks. [7378

1916 3½h.p. T.T. Rudge Multi, handle-bar clutch, kick starter, speedometer, C.A.V., Senspray, lamps, accessories, licence, new condition; £60, 2¾h.p. Douglas part.—63, Solon Rd., Brixton. [8115

£75 Will Fetch 1920 I.O.M. Rudge, condition good, equipped speedometer, Klaxon, lamps; sporting sidecar fit the above, £8; price low, no bartering.—Martin John, Glasfryn, Llanelly. Llanelly 99. [7137

1919 Rudge Multi, 3½h.p., beautiful condition, clutch, Splitdorf, Senspray, acetylene, horn, very good tyres and belt, tools, licensed, £70; or with brand new Grindlay sporting sidecar, £95.—Write, Carus-Wilson, 5, St. Petersburgh Place, London, W.2, or 'Phone: Victoria 9390, after 9.30. [8178

1920¼ T.T. Rudge Multi, pedal start, light C.B. sidecar to match, complete with double apron, lamps, horn, spare valves, Pedley grips, knee grips, leather belt, engine fitted with racing cam, outfit used a dozen times, health cause of sale; first £90 secures; would separate.—32, Leicester Causeway, Coventry. [X2075

Saltley.

SALTLEY-VILLIERS 1921 Combination, 2-speed, clutch and kick start, brand new; list price £89; accept £80.—Below.

SALTLEY-VILLERS, 1921 model, Sturmey 2-speed, clutch and kick start, latest Villiers engine, brand new; list price £72/10; accept £66.—Below.

SALTLEY, 1921 model, 2-speed, brand new; list price £63; accept £56. These machines are shop-soiled only, and have never been run. This offer cannot be repeated. Write at once.—Sole London agents, The Lancaster Motor Co., 158, Norwood Rd., West Norwood, S.E.27. 'Phone: Streatham 2541. [7272

Scott

SCOTT Squirrel, mileage 100 only; price £110.—Welford, James St., Brighton. [7592

SCOTT 1920 Sports, 900 miles, new condition; £95.—12, Aberlan Rd., Merthyr Vale. [8168

SCOTT 1920 Sports Model, excellent order; £90.—Deneholme, The Beeches, Carshalton. [7651

1921 Scott Combination, mileage 300 only; price £145.—Welford, James St., Brighton. [7593

SCOTT 3¼h.p., 1921, from stock, £130; or with Watsonian sidecar, £152/10.—Gibb, Gloucester. [0445

1920 Scott, standard, new condition, low mileage; £110, or near.—Stebbings, Attleborough, Norfolk. [7253

SCOTT, 1910, mechanically perfect, wants adjusting, tax and all on; offers.—Sowerby, Beelsby, Grimsby. [6340

1920 Scott Combination, fully equipped, mileage 500 only; price £120.—Welford, James St., Brighton. [7594

SCOTT Combination, 1920, Easting, all accessories, as new, licensed; nearest £150.—Rhodes, 7, High St., Kidderminster. [8150

1920 Scott, speedometer, lamps, horn, licensed, excellent condition; £88.—Edwards, 50, Harrington Rd., South Kensington. [6918

SCOTT T.T., 1920, sporting sidecar, speedometer, lamps, licence; £120.—Anderson, Waltham Abbey. Tel.: 299 Waltham Cross. [7436

SCOTT Combination, 1920, sound, speedy, fine engine; £130; trial by appointment.—Garbutt, 23, Belgrave Rd., Birmingham. [X2903

BRAND New 1921 Scott, unpacked, will exchange for Triumph or B.S.A., or sell for £115.—Box 3,795, c/o *The Motor Cycle.* [5873

SCOTT Combination, only done few miles, tax and accessories, 3in. tyres; what offers?—Grimes, 18, Bruton Place, Bond St., W.1. [8082

SCOTT Combination, believed 1915, lamps, horn, licensed, practically new engine and gears; £75.—W. J. Bladder, Sidbury, Worcester. [8238

SCOTT 3¾h.p., 1920, Binks, Lucas lamps, Cowey horn, Boniksen, condition excellent; price £90.—Christie and Price, 29, Howe St., Edinburgh. [7683

MOTOR CYCLES FOR SALE.

Scott.

SCOTT 3¾h.p. Motor Cycle, solo, in top-hole condition, new 1920, very little used; price £105, or near offer.—Apply, Pearce, 77, High St., Sandgate. [2308

SCOTT, standard model, May, 1920, all on, splendid condition, Pulmers, Binks, tax paid, under 1,000 miles; £105.—12, Leaside Av., Muswell Hill, N.10. [8169

1920 Scott Combination, purple sidecar, thoroughly overhauled, in top-hole condition, low mileage, fully equipped, licence; £125, near offer.—51, High St., Chatteris. [7274

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. Phone: Brixton 2417. [0510

SCOTT 1920½ Combination, Amac, lamps, horn, Bonniksen speedometer, spare tube, plugs, etc., licence paid, mileage 1,500, runs perfectly, good condition; £135.—6, Campbell Rd., W. Croydon. [7423

1914-15 Scott, reupholstered coach-sidecar, mechanically guaranteed, 1920 colours and improvements, all on, tax paid; 65 gns.; would separate.—Pearce, Bramley Cottage, Handsworth, Yorks. [8002

SCOTT 3¾h.p., 1920, perfect condition, plating, etc., as new, Amac, average 75 to 80 m.p.g., Cowey speedometer, Lucas horn, 2 lamps, quantity spares, including new Palmer tyre, tax paid, and insurance covering pillion riding; best offer over £100.—Scott, 16, Seymour Rd., Gloucester. [7040

1920 3½h.p. Scott, 2-speed, clutch, kick starter, lamps, horn, Watford speedometer, full kit of spares, Henderson Elite sidecar, disc wheel, screen, etc., luxurious outfit, property of naval officer now on service; bargain, £120.—Seen at Sam E. Clapham, 27, Stockwell St., Greenwich, S.E.10. [8413

Singer.

SINGER 1¾h.p., good condition, good running order; £16.—E. Grundy, Yarborough, Louth. [7448

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SINGER 2¼h.p., real good order, complete with lamps; £30 this week secures it.—168, Wandsworth Rd., S.W. [X2023

2½h.p. Singer Lightweight, clutch, lamps, tax paid, splendid condition; £28.—66, Church Rd., Barnes, S.W. [7885

SINGER 4h.p. C.B. Combination, 2-speed, gear box, clutch, all on, tax paid; £60.—W.S., 125, Kilmorie Rd., S.E.23. [7992

3½h.p. Singer, just overhauled, re-enamelled and plated, fixed engine, semi-T.T., licence paid; £29.—153, Terry Rd., Coventry. [X2774

1914 3½h.p. T.T. Singer, lamps, tax paid, new tyres, perfect; £25; 55 m.p.h. guaranteed.—Priest, 82, Station Rd., Barnes. 'Phone: Putney 2553. [7281

McINTOSHES Racing Singer, 250 c.c., capable of over 60 m.p.h., 2-speed gear; £50.—Smith's 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). Hampstead 2767. [0602

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SPARKBROOK 2¾h.p., 2-speed, new condition, 1921 model, tax paid; £70.—Thomas Heaton, Shafton, nr. Barnsley. [7035

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SUNBEAM Combination, as new; £175, quick Nicholas, Oakeley Mynd, Wilmslow, Manche

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1916 Sunbeam, 3½h.p., Smith speedometer, l lighting, licensed; £90. Hutchinson, Aln Leatherhead. [

WILTSHIRE.—3½h.p. Sunbeam combination, as 1920, licence paid; £155.—Stone, Motor Eng Bradford-on-Avon. [X

3½h.p. Sunbeam Combination, complete equip any trial; £135, or nearest offer.—Brown, 2, Hill, Wolverhampton. [

1921 (March) 3½h.p. Sunbeam, lamps, licensed tachables, special engine, new condition; gns.—Tucker, Highbridge. [

1920 8h.p. Sunbeam De Luxe Combination, lav equipped, unscratched; £175.—60, Wa ford Av., N. Kensington. [

SUNBEAM 6h.p. Combination, lamps, speedon spares, etc., perfect condition; nearest offer —Turner, Marsh Farm, Twickenham. [

SUNBEAM 1921 Combination, 200 miles, new set Lucas lamps, horn, legshields, etc.; £1 Engineer, Waterworks, Royston, Herts. [

1921 3½h.p. Sunbeam Combination in stock fo mediate delivery; makers' list price.—J. S and Co., 52-54, Hampstead Rd., N.W.1. [

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1920 Sunbeam 3½h.p., sidecar, Lucas lamps, sp meter, spares, splendid condition; trial; £1 Powell, 28, Stafford Terrace, Kensington. [

SUNBEAM Combination, 3½h.p. (July, 1920), age 1,000, lamps, Cowey trip, tax paid, like nearest £155.—15a, Dalton St., Wolverhampton. [

3½h.p. (Dec., 1919) Sunbeam Combination, l horn, etc., perfect condition; price £140 H. White, Market Place, Oldbury, Birmingham. [

SUNBEAM 3½h.p., unissued W.D., new June, accessories, new Dunlops, insurance, just hauled, perfect; £110.—Cope, Springfield, Hythe. [

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20 Sunbeam, mileage 1,300, unscratched, Lucas lamps, unused, horn, trip speedometer, all s, tax paid, full insurance policy, as new; £135. ale, Christchurch Rd., Northampton. [8223

20 (late) Sunbeam Combination, 3½h.p., screen, speedometer, Lucas lamps and horn, mileage 400. stinguishable from new; snip, £150.—48, Warlock , Paddington. Tel.: Willesden 1744. [8379

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17 Sunbeam Combination, 3½h.p., in splendid condition throughout, fully equipped, licensed; gain, £135; arrange convenient payments.—Bunt- s Motor Exchange, Wealdstone. Closed Sundays. [8258

UNBEAM 3½h.p. Combination, July, 1920, speedometer, tax, Easting screen, Lucas lamps, legelds, interchangeable wheels, spare tube, tyre, ined; £172.—Seen 9-6, Elliotts, Queen's Rd., Wat. [7856

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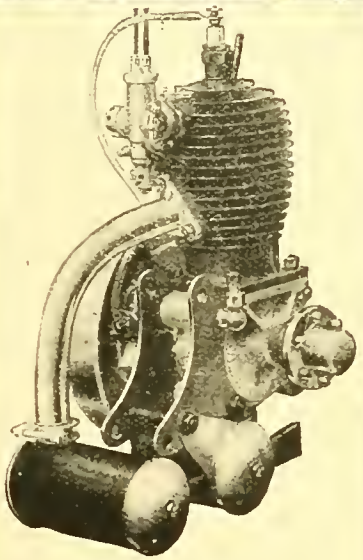
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BRAND New 1920 4h.p. Triumph; £107.—Write or call, 7, The Vale, Acton, W.3. [8096

4h.p. Triumph, 3-speed countershaft, 1918; ride away; £59.—50, Royal Av., Chelsea, S.W. [7866

£20.—3½h.p. Triumph, fixed engine, splendid running order.—King, Egrove Farm, Oxford. [X2876

1920 Triumph, 3-speed, perfect condition, equipped; £95.—144, Ladbroke Grove, W.10. [8121

1914 Triumph 4h.p., decompressor, tax paid; £50.—A., 147, Kingston Rd., Wimbledon. [7868

1920 Triumph Combination, 3-speed, well equipped; £120.—144, Ladbroke Grove, W.10. [6817

1920 Baby Triumph, perfect condition, tax, horn, tools; £55.—Z., 8, Grafton St., Brighton. [7910

DAN GUY, Weymouth.—1921 Triumph combination, £182/10; Triumph 2-stroke, £75; in stock. [0555

TRIUMPH 3½h.p., Philipsons pulley, overhauled, fully equipped, spares; £33, offers.—64, Ash Rd., Luton. [7169

TRIUMPH 1914 (late), 3-speed, little used, 1918 improvements; £52/10.—25, Graham St., S.W.1. [7630

JUNIOR Triumph, 1919, complete; £40, or nearest. —Rosebank, Nantwich Rd., Middlewich, Cheshire. [7180

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COUNTERSHAFT Triumph Combinations from £80. —Owen, 59, Scholefield Rd., Upper Holloway. [X2887

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QUICK Sale, Triumph 4h.p. combination, 1917, 45541, accessories, tax paid; £75.—39, Dollis Park, Finchley. [7915

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TRIUMPH 3½h.p., 2-speed, faultless, £30; wicker sidecar, £4/4.—Saunders, 49, Riverside, Kingston-on-Thames. [7177

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TRIUMPH 3½h.p., clutch, lamps and horn, fast machine; £29, no offers.—Powell, 62, Marefair, Northampton. [7388

1912 Sporting Model Triumph Combination, very last, tax paid; £35.—64, Church St., Edgware Rd., London. [8357

1919 4h.p. Triumph Combination, tax paid, trial; £90.—French, 6, Park Terrace, Grange Rd., South Norwood. [7123

1913 Triumph, clutch, lamps, tools, horns, 2 belts, excellent condition; bargain, £28.—Beattie, Blaenavon, Mon. [7124

TRIUMPH 3½h.p. Grade gear, M.L., accessories, licensed good order; bargain.—Lingley, Ringlestone, Harrietsham, Kent. [7746

TRIUMPH Countershaft, as new, fully equipped, tax paid; 70 gns.—Young, 78, Edgell Rd., Staines, Middlesex. [7806

BRAND New 1921 Triumph-Gloria Combination, tax paid, unridden; £155.—190, Balvernie Grove, Southfields, S.W.18. [8222

TRIUMPH, 1913, clutch, new tyres, engine as new; £45, or exchange lightweight.—22, Little Park Gardens, Enfield [8266

£70.—1918 Triumph combination, countershaft, good tyres, lamps, tools; any trial.—21, Windsor Rd., Denmark Hill, S.E. [8191

3½h.p. Triumph, splendid condition, tax paid, 2-speed; £40, or nearest offer.—Land, Primrose Hill, Huddersfield. [8243

1916 Triumph 4h.p., countershaft; £70; view after 6.30.—Bull, Bracken Glen, Fornborough, Hants., or 'Phone City 6200. [7400

TRIUMPH 3½h.p., Bosch mag., in good condition; £25; view after 6 p.m.—Charlbury, over Coldrey, London Rd., Norbury. [7611

TRIUMPH Combination, late 1914, 3-speed and clutch, in perfect mechanical order; £65.—280, Camberwell Rd., S.E.5. [7068

1918 Triumph C.B. Combination, splendid condition and appearance, tax paid; £88.—2, Fortune Gate Rd., Harlesden, N.W.10. [7608

TRIUMPH, C.S., No. 40111, excellent condition, all accessories; £78, or offer.—276, Goldhawk Rd., Shepherd's Bush, W.12. [8004

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TRIUMPH, 1920, countershaft, Tan-Sad, speedometer, spring footboards, etc., perfect; 79 gns.—40, Aynhoe Rd., W.14. [8438

TRIUMPH Countershaft 1917 Model, 1920 sidecar, electric lamps and horn; £75.—120, St. Ann's Rd., Stamford Hill, N.15. [7783

TRIUMPH 3½h.p., disc wheels, perfect condition, accessories, licence paid; £37/10.—13, Rona Rd., Hampstead, London. [8106

BABY Triumph, May, 1920, all accessories, tax paid, fully insured, unscratched; £65; any evening.—29, Gap Rd., Wimbledon. [7051

TRIUMPH 1914 4h.p. Combination, 3-speed, all accessories, insurance transferable; bargain, £65.—76, Boyne Rd., Lewisham. [8093

TRIUMPH 4h.p. Model H, brand new, unridden, 3-speed; bargain, 95 gns.—Pike, 102a, Church St., Chelsea. Tel.: Ken. 137. [8396

TRIUMPH, Sept., 1918, 4h.p., countershaft, as new, fast, fully equipped, tax paid; £78.—30, Crystal Palace Park Rd., Sydenham. [8086

1919 Triumph Combination, 3 speeds, equipped, tax paid, like new; £89.—Blencathra, Highfield Rd., Walton-on-Thames. [7290

1914 Triumph 3½h.p., Gloria sidecar, Easting screen, good condition; £65, or nearest offer.—15, Cheshire St., Market Drayton. [7090

£58; Triumph combination, 3½h.p., C.B. sidecar, clutch model, good running order, tax paid.—Giles, West Wycombe, Bucks. [7981

TRIUMPH 3½h.p., clutch, engine recently overhauled, lamps, horn, tax, spares; £35, or offer.—White, 11, Bickley Rd., Bickley, Kent. [7397

TRIUMPH 3½h.p. 3-speed Combination, wind screen, lamps, spares, etc., recently overhauled; £50.—Richardson, Pattiswick, Braintree. [7190

TRIUMPH 4h.p. Combination, 1914, 3-speed Sturmey hub, spares, running order; what offers?—Grimaldi, 21, Baronet Rd., Tottenham. [7037

1918 Triumph, perfect running order, easy starter; £68 cash; consider 2-stroke part exchange.—62, New St., Woodbridge, Suffolk. [8233

£45, or Offer.—4h.p. Triumph, late 1914, 3-speed, clutch, stored during war, mechanically perfect.—31, Halford Rd., Fulham, S.W.6. [8123

1919 4h.p. Triumph Countershaft Combination, little used, appearance new; 105 gns., all on; after 6 p.m.—31, Burdett Rd., Bow, E.3. [7604

TRIUMPH 3½h.p., Colbro variable gear, free engine, perfect mechanical condition, tax paid; 30 gns.—Wallis, 45, Dingwall Rd., Croydon. [X2850

3½h.p. Triumph, good condition, ride away, £34; also coachbuilt sidecar and fittings, £10.—Maby, Royal Hospital School, Greenwich. [7376

A 1921 Triumph, brand new, latest Model H; accept first offer of £99; great bargain; list £115.—Motor Coaches, Park Lane, Cardiff. [7774

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TRIUMPH 4h.p., brand new, not ridden, owner bought car; best offer over £100.—Dean Lynd-hurst, Ledborough Lane, Beaconsfield. [7271

1919 4h.p. Triumph, condition and appearance as new, exceptional bargain; first cash secures; £76.—4, Elm Gardens, Hammersmith. [7821

1920 Triumph Gloria Combination, new condition, lamps, Easting, Bonniksen.—85, Pershore Rd Sonth, King's Norton, Birmingham. [X2895

TRIUMPH Gloria Combination, 1919, new condition, tax, horn, lamps, screen and scoop; £122.—Jeffreys, 39, Warren Rd., Wanstead. [7968

45 Gns. (nearest).—4h.p. T.T. 1914 Triumph, Philipson, fast climber, mechanically perfect.—Righton, Allsop St., Baker St., N.W.1. [7645

TRIUMPH 4h.p., 1914, 3-speed, reconditioned by Triumph Co., Mills-Fulford sidecar; £65, or sell separately.—Dr. Gervis, Seaford, Sussex. [7504

TRIUMPH 1921 Models in stock at reduced prices; 3½h.p. second-hand Triumph, guaranteed good condition, £29.—Rose's Garage, Uxbridge. [8135

1914 Triumph, 4h.p., Sturmey gears, coachbuilt sidecar, good accessories; £60; take half down.—Bunting Motor Exchange, Wealdstone. [8254

1911 Triumph, just overhauled, new bushes and guides, tyres good, complete with lamps; £35.—9, Holyoake Terrace, Sevenoaks, Kent. [7263

1918 Triumph, renovated as new, 1920 Montgomery sidecar, equipped, spares, insurance, licensed; £100.—305, Brockley Rd., Brockley, S.E. [7385

TRIUMPH (Dec., 1919), and 1920 sidecar, fully equipped, exceptional condition; any examination; tax paid.—240, Fleeming Rd., Walthamstow. [7321

TRIUMPH 4h.p. Countershaft Combination, mechanically perfect, all on, Bosch mag., as new; 100 gns.—H., 190, High St., Stoke Newington. [7279

£58.—1914 Triumph and sidecar, 3-speed, clutch, Bosch, Lucas lamp, horn, accessories, perfect condition.—56, Upper Park Rd., Hampstead. [7666

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TRIUMPH 1914 4h.p., Sturmey-Archer 3-speed cessories, in splendid condition; £58.—W 330, Balham High Rd., S.W.17. Tel.: Latch 4368. [7

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1920 Verus-Blackburne, disc wheels, lamps, etc., ridden 250; bargain, £82.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0340

VERUS-BLACKBURNE, 2¾h.p., 2-speed, kick start, brand new, tax paid; selling through illness; £79.—Turner, 95, Richmond Rd., Twickenham, London. [8202

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ZENITH 8h.p. Sports; £88.—Grimes, 18, Bruton Place, Bond St., W.1. [8083

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ZENITH 5h.p., 1920 (late), splendid condition, accessories; £100, or near offer.—Smith, 70, Pa Rd., Southport. [736

DAN BRADBURY can supply Zenith, all mode from stock. Big 90 bore twin £146, in stock. 224, London Rd., Sheffield. [802

SPECIAL 8-10h.p. o.h.v. Zenith-Gradua, lamps, etc tax paid, everything perfect; £95.—Dewhirs Great Baddow, Chelmsford. [770

1920½ 5h.p. Sporting Zenith, licence, insuranc speedometer, Klaxon, etc., fine condition; £95, 1, Grosvenor Rd., Muswell Hill. [729

BARGAIN.—New 5h.p. Zenith, mileage 50, license accept £105, or near offer.—Oakleigh, Edgwar Middlesex. 'Phone: 8 Edgware. [785

ZENITH 3½h.p. Single, late 1919, perfect conditio lamps, horn, licence paid; £78, or nearest. H. Wade, Jun., Marden, Kent. [816

ZENITH 5h.p. Combination, 1920, screen, electri light, speedometer, tax, low mileage; near £140. 12, High Lane, Chorlton-cum-Hardy. [57

ZENITH Combination, 6h.p., Gradua gear, splend order, tax paid; 68 gns.; take lower power pa —57, Kenbury St., Camberwell, London. [793

ZENITH 8h.p. Sporting Model, 1920, lamps, hor speedometer, D.A. set, splendid condition; wh offers?—Rudge, Baskerville, Bexhill-on-Sea. [723

ZENITH Coachbuilt Combination, 8h.p., kick-sta clutch, Bosch, Binks, equipped; £65.—Burt Burton Mews, South Eaton Place, S.W.1. [77

1919-20 6h.p. Zenith, sports model, Cowey spee ometer, F.R.S. lamps, Klaxon, Tan-Sad, t paid; 80 gns.—24, Cottage Grove, Surbiton. [77

1920 Zenith 8h.p. Clutch Model Combination, lam horn, Cameo, excellent condition; £140; t paid.—121, North Side, Clapham Common. [77

ZENITH 5-6h.p. C.B. Combination, countersh Gradua, K.S., registered, and equipped; trial; b gain, £80.—A. J. Daniels, Station Rd., Harrow. [71

1921 5h.p. Sports Model Zenith, perfect conditio and guaranteed not done 50 miles, licen paid; £115, or nearest.—Tippen, Marden, Kent. [81

1919 (Dec.) 8h.p. Countershaft Zenith and Millo sidecar, completely equipped, mileage und 3,000; 138 gns.—Clark, Trinity Hall, Cambridge. [79

1914 6h.p. Zenith Combination, perfect conditio complete with acetylene and electric lightin £70.—Cooper, 115, Kingswood Rd., Goodmayes, Ess [78

ZENITH Combination, 3½h.p., K.S., lamps, hor speedometer, etc., overhauled by makers and new; £90, or near offer.—44, Star Rd., West Kensi ton. [76

ZENITH-GRADUA 4h.p. Twin Countershaft, k start, semi-T.T. bars, disc wheels, a sporti mount; £60.—2a, Delafield Rd., Charlton, Lond S.E. [80

F.O.C.H. for Zeniths. New and second-hand machi in stock. Exchanges or easy payments arrang —5, Heath St., Hampstead (near Hampstead T Station). [74

5-6h.p. Zenith 1915 Combination, fully equipped, splendid condition; £85.—Rogers, 42, Church R Hendon. [81

ZENITH 6h.p. Sports Model, run few miles only, r condition; £92/10; exchange.—Newnham Mo Co., 223, Hammersmith Rd., W.6. 'Phone: Ha mersmith 80. [75

T.T. 5h.p. Zenith, stored part war, just overhaul beautiful condition, 58 m.p.h., new Kempsha plated exhausts, lamps, tax paid; £68.—Darby, Ea Colne, Essex. [78

8h.p. 1920 Zenith Sports Model, Henderson E sidecar, tyres and belt good, Ace discs, tax pa £170, or nearest offer; must sell.—Garnett, Dorches House, Harrogate. [77

8h.p. Zenith Combination, countershaft, kick star screen, lamps, speedometer, Klaxon, accesso as new, beautiful condition, tax paid; 96 gns.—89, P Hill, Wandsworth. [77

ZENITH C.B. Combination, 8h.p. o.h.v. J.A. hood, wind screen, and accessories; £80, or n offer; will sell separate.—Parrin, 14, Erlam Rd., Sou Bermondsey, S.E.16. [76

8h.p. Zenith Sporting (late 1919), perfect conditi excellent appearance, little used fully equipp spares, licence; price £110.—D.A.H., Crofton, Storg Rd., Oxton, Birkenhead. [7

ZENITH 8h.p. 1919 (Nov.), Super-sporting Combi tion (Canoelet), guaranteed perfect throughout enamel, ideal competition 'bus; solo £90, combina £115.—2, Cranes Park, Surbiton. [8

ZENITH 1917 4-5h.p. Twin, countershaft, clu K.S., new type brake, Bosch, lamps, to £67/10; sidecar, C.B., for same, £10, bargain.— Wood Lane, Shepherd's Bush, London. [7

THE MOTOR CYCLE

ESTABLISHED IN 1903

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Repressive Legislation.

FEW motor cyclists who blame the motoring organisations for being inactive realise that the work of these bodies is none too easy. To blame them for not suggesting amendments to the new repressive legislation would be as unfair as it is untrue. They are always urging the powers that be to amend matters, but to induce the Government to act is a very different proposition.

Quite recently the secretary of the Auto Cycle Union met Sir Eric Geddes, and strongly took up the most recent anomaly in motor cycle legislation, namely, the fact that for taxation purposes a new and sensible weight limit had been imposed, while for purposes of registration the ridiculous old weight limit of 3 cwt., which many sidecar outfits exceed, has been retained.

Another point brought before the Ministry of Transport was the desirability of instituting quarterly licences for motor cycles, and it was suggested that these quarterly licences, if taken out, say, towards the end of the quarter, might be proportionately reduced.

In view of the fact that all the money necessary has been collected from motorists, and in view of the present trade depression, it was further put to the Minister that motor cycle taxes might well be reduced by 25%.

Petrol Prices.

The question of petrol prices was also brought to his notice, and since there had been a reduction in the prices of fuel oil and paraffin, to say nothing of the fall in the cost of freights, petrol, instead of going down, had been advanced by 20% since the removal of the tax.

As we stated last week, Sir Eric Geddes gave sympathetic consideration to most of the points brought to his notice, but he pointed out that the weight anomaly was retained to meet the desires of the police authorities. Whether or not the efforts of the Auto Cycle Union, which is represented on the Legislation Committee, and looks after the interests of motor cyclists on that body, will have any effect it is indeed hard to say; but if its efforts are not attended by success it will not be for want of lack of initiative.

The 250 c.c. Lightweights.

THE proposal of the Auto-Cycle Union to use the term "flyweight" to designate the 250 c.c. lightweights in the Tourist Trophy Race will not, we fancy, meet with the approval of the majority of motor cyclists. Such a word is neither dignified nor apt. The term "lightweight" is sufficiently expressive, and to coin another term for machines which are lighter than those recognised by the A.C.U. as lightweights is an admittance that the latter are no longer light.

Since the machines it is proposed to term "flyweights" weigh approximately as much as the Senior mounts of a decade ago, it is to be hoped that future developments will produce motor cycles of a much reduced weight.

The terms "bantamweight," "ultra-lightweight," and even "motorcyclette" have all been tried, but not universally adopted. The plain fact is that "lightweight" is expressive of the lightest form of motor cycle, and immediately it is used to designate a type heavier than the lighter classes it becomes a misnomer.

We offer the suggestion that the 250 c.c. motor cycles in the Tourist Trophy Races be known as "lightweights," the 350 c.c. types as the "junior" class, and the 500 c.c. mounts as "senior" machines.

We trust that the A.C.U. will not persist in its proposal to utilise the term "flyweight," which at once suggests a lack of durability and of suitability for touring purposes, whereas the modern lightweight of the types encouraged by the 250 c.c. class in the T.T. has proved itself capable of withstanding hard usage.

An index to the advertisements in this issue will be found on the page facing the back cover.

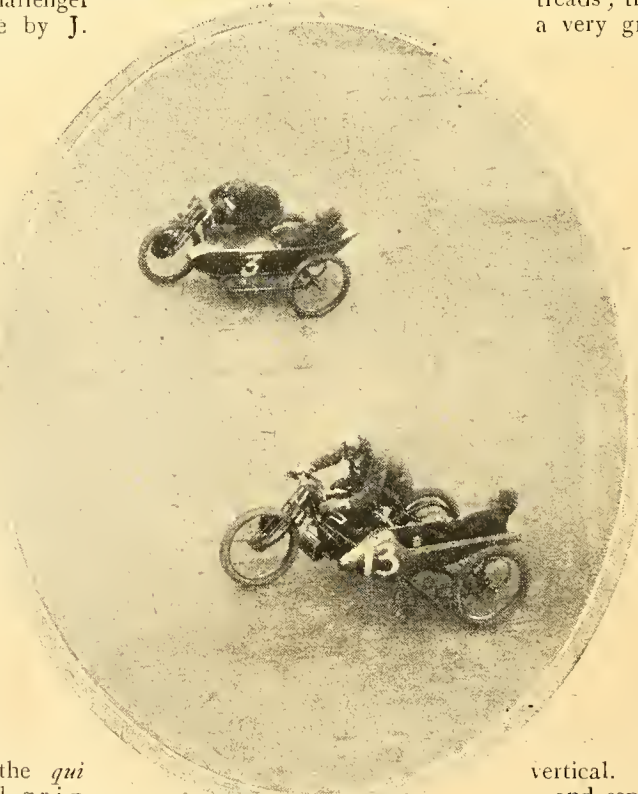


Another Puncture Proof Tube.

TYRES still remain the Achilles heel of the motor cycle. If there were no such things as punctures, a moderately skilled rider on a machine of average quality could undertake any daylight journey without plotting any safety margin in time allowances. For this reason I am always ready to lend a hand to any anti-puncture novelty, though I have seen so many bloom and wither without solving our problems. The latest suggestion is the Challenger puncture sealing tube, made by J. P. Cochrane and Co., of Albert Street, Edinburgh. It is a red rubber tube with a thickness of approximately half an inch on the tread side. This thickened arc consists of a wad of spongy black mastic rubber, enclosed between inner and outer layers of red rubber. The wad expands to seal punctures. The tube is not appreciably more expensive than the ordinary type, and can be patched in the usual way in the event of a more than usually serious gash.

The "Compromise Cover."

IN the old days when a motor cycle had its centre of gravity as high as that of a camel conveying a load of coal, we were all on the *qui vive* for a tyre which would grip the road like a vice. Presently machines lowered their centre of gravity to a more reasonable level, but ere long the chain drive appeared; early examples were devoid of a shock absorber or cushioning device, and again we discussed tyre treads feverishly. When high, ill-balanced machines with snatchy drives made sideslip a frequent source of failure in competitions, I adopted one of three policies. Steel armoured treads made the job easier and safer than anything else. I have ridden through many a trial on the Michelin Semelle or Rom combination treads; the drawback was the risk of a very grievous dry skid in sudden brakework on a hard road. Second to the armoured treads in anti-skidding efficiency came such heavy scolloped all-rubber treads as the Kempshall, which had the further virtue of being all but unpuncturable, in the days when the average cover was far too thin and light for its job; such heavy tyres, blown up hard, seldom skidded, but they were apt to bump from sheer want of resilience. Later on, as machines grew steadier, most tyre manufacturers produced a compromise cover—thick enough to show a fair resistance to puncture, light enough to retain tolerable resilience, and sufficiently excavated on the tread to assist the rider in maintaining the vertical. The freak hill competition—and especially the clamorous needs of sidecars in such events—are creating a demand for a super-tyre calculated to grip grease on a



ON THE BANKING AT BROOKLANDS.
A tussle between Le Vack (No. 3), the 106 m.p.h. Indian exponent, and Dequin, the Zenith rider.

Occasional Comments.—

grade of 1 in 2. I do not personally believe that special tyres can be of much service under such conditions; and if some maker evolves a tyre which shall be the equivalent of a Parsons chain, it will be the worst tyre in the world for the ordinary user. The "compromise cover" cannot be beaten for every-day use.

Where Do You Carry Your Bulbs?

NO reference to horticulture is intended. Electric bulbs are the most indispensable of all spares, for if every garage carries a largish stock, the trade flourishes by refusing to standardise, and it is long odds against your finding the bulb which you want in stock. Since bulbs are perhaps the most fragile articles in creation (barring incandescent mantles and ladies' complexions), they are thoughtfully marketed in loosely rolled tubes of corrugated cardboard, twisted up in the flimsiest tissue paper. Two problems consequently confront the electrically-equipped motor cyclist, viz.:

(1.) What shall I pack my spare bulbs in?

(2.) Where shall I carry them, when packed?

My own crude practice takes some such form as a shaving soap tin, well stuffed with wadding; but it makes a nasty lump in a pocket; and I appeal to readers in the hope that somebody can show me a more excellent way.

The Clean Cedos.

A BICYCLE which keeps clean always inspires its owner with incredulous joy. If one invests in a small two-stroke, and gradually learns that it does not leak lubricant at every pore, one is forced to admit that the age of miracles is not yet past. This spring a good deal of my pottering has been performed on a Cedos. I knew it would keep fairly clean so far as road dirt is concerned, for it possesses legshields and an undershield. Oil slinging is usually another matter. But after unlimited hard work it has yet to produce a solitary oil-stain on its person, barring one small disfigurement for which I am solely responsible. The only oil leakage of which this machine is ever guilty occurs when the needle valve of the drip feed is shut when there is oil under pressure in the spring-loaded pump. It is an excellent little bus in other respects, but in respect of cleanliness it is almost unique—the best made, best-designed four-strokes, irrespective of price, are no cleaner. No wonder the Cedos is a favourite with the ladies.

The Spare Tube.

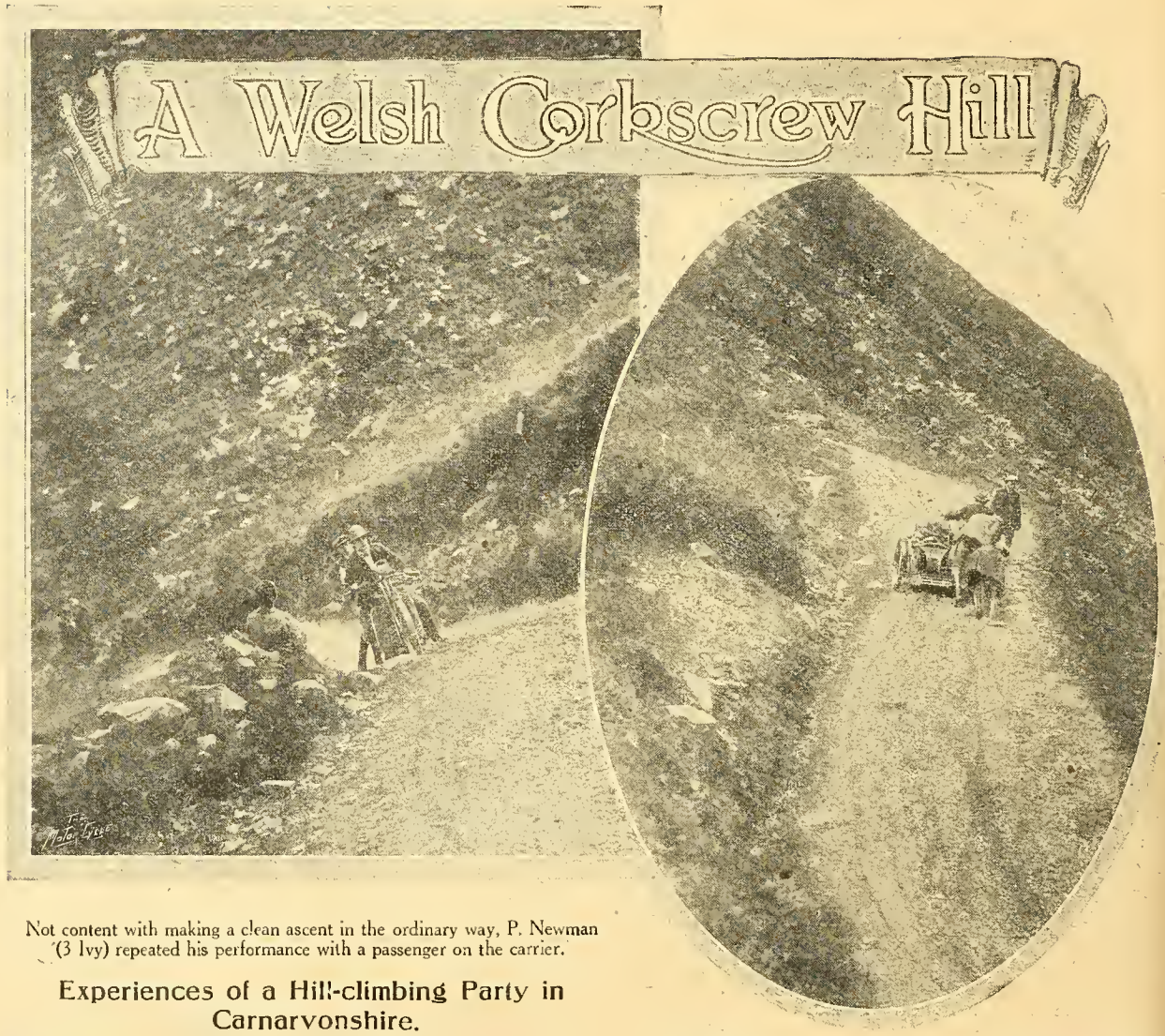
WITH tardy gratitude I beg to report that for the past year my last ditch in the way of tyre repair has consisted of a John Bull tube in a Cearns tube case. The latter consists of two aluminium cups, threaded on a central pillar bolted to the handle-bar or other convenient location. The tube has often been requisitioned, and has never been found frayed or damaged in any way. You can whip it out in a minute, and the best testimonial is that both tube and case are being retained in service for the 1921 competition season. My definition of a methodical man is one who packs up again neatly after he has changed a tube by the roadside. Honesty compels me to admit that the damaged tube has not infrequently reached home doing temporary service as a belt or a muffler; but that is just my impatience—it is quite a brief business to get a tube back into the Cearns case.



LITTON SLACK AGAIN!

This famous Derbyshire hill, which was included in the 1914 Six Days Trial, but ruled out in consequence of the many failures that occurred, has again been included in a big trial. Here are scenes in the North-western Centre Trial, which took place last week.

A Welsh Corkscrew Hill



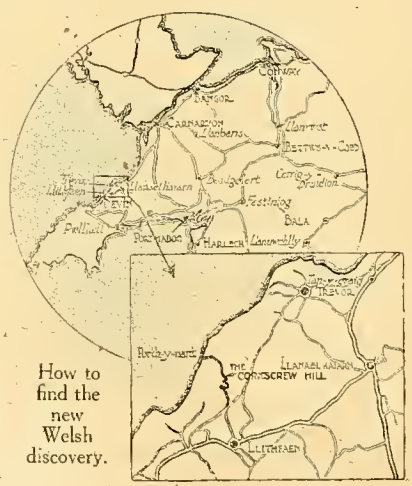
Not content with making a clean ascent in the ordinary way, P. Newman (3 Ivy) repeated his performance with a passenger on the carrier.

The second hairpin, showing G. S. Arter (5-6 James sidecar) receiving assistance, and no wonder! Observe the gradient.

Experiences of a Hill-climbing Party in Carnarvonshire.

JUST before the war, a member of *The Motor Cycle* staff discovered a "new" hill in North Wales. A mental resolve that "some day" the hill-climbing enthusiasts should be introduced to its intricacies led to a party wending its way from the Midlands towards Carnarvon on Saturday, 7th instant. Its mission was to conquer a gradient which, report says, has never before been attempted by a motor cyclist.

The hill appears to rejoice in several names. The English-speaking Welsh postman calls it "the Screw Road," an Englishman resident in the district converts this to "the cork-screw," but the natives who have to trudge its gradients from the village below, in order to obtain the necessities of life, gave us another name in Welsh. How this is pronounced we will leave our Welsh readers to explain to those uninitiated in the ancient tongue of Wales. It is spelt Nant Gwyth Eyrn.



How to find the new Welsh discovery.

We are content to accept the postman's version and to name it "the Screw Road," for nothing in roads more like a screw has ever been graded.

It lies on the north coast of Carnarvonshire, fifteen miles westward of the ancient town of Carnarvon, and creeps up from the sea hamlet of Porth-y-Nant (or Portnant as it is abbreviated for the convenience of the English tongue), through a deep valley on the westward flank of The Rivals, those two lofty peaks that rear their heads as outposts of the Snowdon range.

To reach it from Carnarvon one takes the coast road to Clynog—an





J. L. Norton was handicapped by too high a gear, but made a sporting attempt with his Norton sidecar. Here he is seen on the 1 in 7 gradient immediately preceding the last bad bend.

On the left is an impression of F. W. Giles, to whom fell the honour of being the only sidecarist to make a clean ascent with his passenger seated in the sidecar. His outfit was a 7 h.p. A.J.S.

ncidentally is treated to some very fine scenery *en route*, or on the one hand are the rolling mountains, and n the other a wide expanse of sea. At Llanaelhaiarn he right-hand road is taken to Llithfaen, in which llage it is necessary to turn sharp right up a some-hat steep gradient, at the top of which a road to the ght conducts one to the summit of one of The Rivals. o drivers of vehicles ever proceed straight on, for a tle beyond is the descent of the screw road.

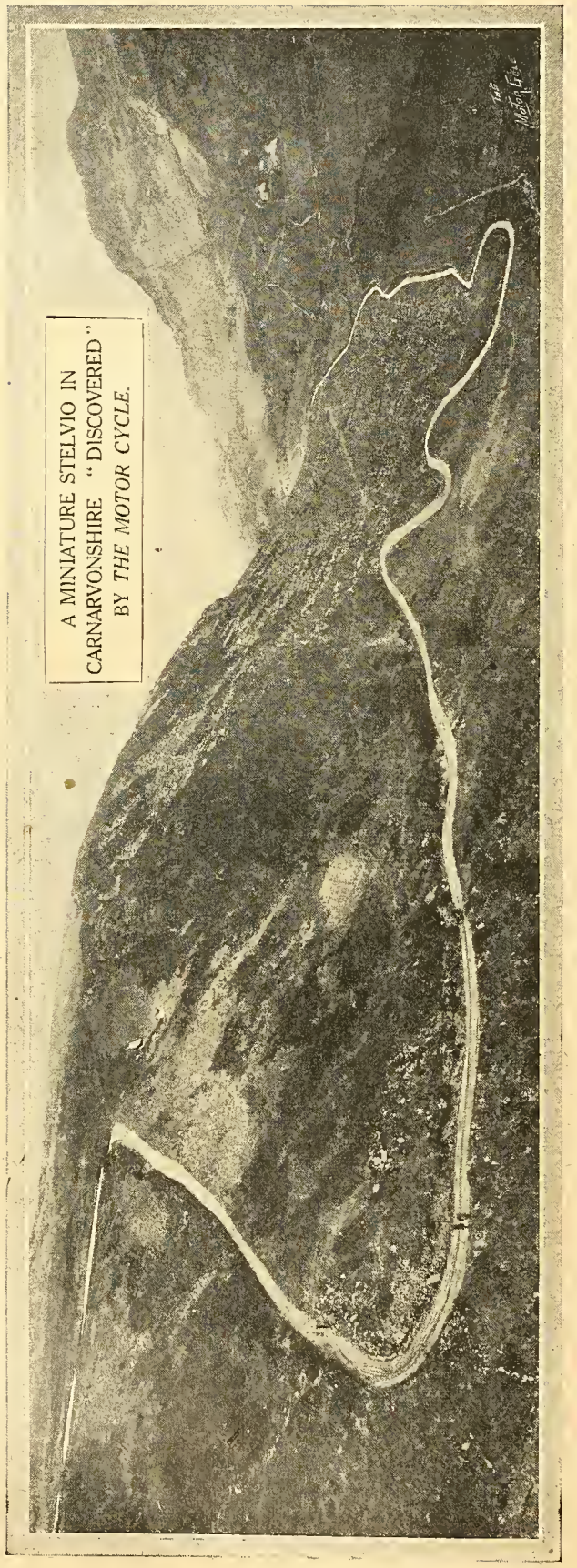
A Word of Warning.

It will be noted that in order to climb this new hill he first has to descend it. There is not one of *The Motor Cycle* party but who agrees that the hill is easier climb than to descend.

We find it necessary to give a word of warning to any thusiast who desires to see "the Screw Road" for mself. Owing to the natural difficulties and dangers of the hill, on no account should the descent or ascent be attempted alone—in fact, a goodly party of assistants on several of the corners is absolutely necessary; they were provided on the occasion of the test we describe, and proved the necessity for such precautions.



One of the new sporting Beardmore-Precisions—A. G. Cocks up—on one of the last bends. He made a clean ascent, as did H. Greaves on a sister machine.



A MINIATURE STELVIO IN CARNARVONSHIRE "DISCOVERED" BY *THE MOTOR CYCLE*.

The Screw Road in Carnarvonshire, climbed by a motor cyclist for the first time on the 7th inst. It is not often that so fine a panorama of a hill is secured, which, at the same time, conveys a true impression of its difficulties.

The surface is mostly soft earth covered with a layer of shale, and the gradient in places is slightly worse than 1 in 3, easing off between the bends to about 1 in 8. There are five hairpins, and one side of most of them is a precipitous bank which, if there were no assistance available, would cause a nasty accident in the event of anyone sliding over or, on failing, running backwards. It is a veritable Stelvio in miniature. From the bottom to the top, the hill is nearly a mile in length, but interest is concentrated on the half mile which includes the hairpins.

Composition of the Hill-climbing Party.

Starting from the foot a right hand hairpin soon causes the lowest gear to be engaged, a minor turn to the left follows, and then two nasty corners, right and left, with a gradient of about 1 in 3 between them; there follows a comparatively straight stretch with a gradient of perhaps 1 in 8, steepening up to a narrow right hand hairpin which is immediately succeeded by the steepest pitch.

Fine weather favoured our attack on the hill, and at 9 a.m. a party of sixteen foregathered in Carnarvon Square. Excluding the two members of *The Motor Cycle* staff, the party consisted of the following riders:

G. S. Arter (5-6 James sc.).
F. H. Brown (2¾ Hobart-Jap).
W. Brandish, jun. (3½ Rover).
W. H. Carson (8 Excelsior sc.).
A. G. Cocks (Beardmore-Precision).
L. Crisp (4½ Humber).
G. Dance (3½ Sunbeam).
G. Denley (2¼ Velocette).
F. W. Giles (7 A.J.S. sc.).
H. Greaves (Beardmore-Precision).
P. Newman (3 Ivy).
J. L. Norton (4 Norton sc.).
M. F. Powney (4 Triumph).
A. E. Wood (4¼ B.S.A. sc.).

On arriving at the hill, the riders descended singly with several of their *confrères* hanging on to the rear carrier—a practice which must ultimately benefit several boot repairers. A party was stationed at the worst point, armed with ropes to render assistance, if needed, to those making the ascent, while another party was placed between the lower corners to save the vanquished from running backwards. Subsequent events proved the wisdom of these precautions. Scarcely was the organisation complete than two solo riders were off to contest the honour of being the first to climb the new hill. They had not, however, taken sufficient note of the condition on the corners, and their efforts were in vain. Unfamiliar hairpins of 1 in 3, visions of steep banks of rock and gorse, first on their right and then on their left, are sufficient to undermine the greatest skill—so they failed.

Lightweights for Mountaineering.

Not so, George Denley; with a healthy purr that echoed among the mountains, his little Velocette attacked the hill in splendid style. First one bend, then another was taken at a steady unbroken speed. Denley's legs were trailing ready in case the game little mount should make a dive for the edge. Twirling and twisting



IS THE WELSH SCREW ROAD THE MOST DIFFICULT HILL?

Apropos of our recent article on the most difficult hills in this country, the Screw Road, recently discovered by *The Motor Cycle*, easily takes first place. In a consensus of opinion, Alt-y-Bady was given as the most difficult. Those who have ascended both hills affirm that the Screw Road is the more severe test under dry conditions.

(Top) A typical stretch of the Screw Road. G. Denley (2¾ Velocette), the first motor cyclist to make a clean ascent. This new hill is seen in the foreground.

(Bottom) H. F. S. Morgan (8 Morgan) nearing the summit. He climbed well, but the surface on the last hairpin was too soft, and his rear wheel literally dug itself in.

A Welsh Corkscrew Hill.—

up that crooked pack-horse road he proved once again that the mechanical mount could go wherever its rider willed.

On passing the two less lucky ones, he had to take the outside of the third bend, but his engine never wavered, and he reached the summit—the first motor cyclist to climb the Screw Road.

A cheer burst out from the opposite side of the valley. The quarrymen had shown their appreciation of the spectacle which, to them at least, must be historic.

The clean ascent of the smallest machine in the party made the hill appear easy. Later on Denley made several more admirable ascents, but did not noticeably improve on his first effort.

It would appear that no machine is more suitable for climbing tricky hills than a light two-stroke geared suitably low, and the subsequent performances of the two Beardmore-Precision riders and P. Newman on the little Ivy fully confirmed this impression.

Testing a New Model.

H. Greaves and A. G. Cocks were mounted on the new Beardmore-Precision sporting mount, which has the 350 c.c. Precision engine, a Sturmey-Archer gear box, and the well-known Beardmore frame minus the rear springing. This new model is considerably lighter than the fully sprung type and comes into the light-weight category for taxation.

The attack on the Screw Road was a *début*, and very well the machine acquitted itself. Both Greaves and Cocks made faultless climbs, in fact the former ascended more than once, and no doubt Cocks would have repeated his success had he not taken off his coat and laid himself out to help the less fortunate. He specially deserves our thanks for the work he put in with such hearty goodwill, for help was wanted badly later on. In fact, everyone helped one another—and, we think, enjoyed the process.

Percy Newman and his Ivy once more demonstrated what a good two-stroke can do in the matter of overcoming difficulties of gradients, and those quarrymen were made to realise that their pet Screw Road had been conquered not only by the pluck and skill of British motor cyclists, but by representative productions from British motor cycle factories.

Incidentally, we may mention that opportunity was accorded to riders of American machines to join the party, but they were unable to do so. We wished to ascertain whether, after all, the types which are supposed to have been developed for the roughest countries could make a better performance than the various types of British machines.

That a large reserve of power was not entirely necessary to climb this hill was proved by the fact that the larger solo machines did not materially improve upon the ascents of the two-strokes. In fact, it seemed that the extra weight was a greater disadvantage than the power was an advantage, although it should be mentioned that George Dance's Sunbeam had sufficient in hand to allow him actually to change up between two of the bends. He made a beautiful climb, as was to be expected from one of England's finest riders of to-day. It is of interest to know that Dance rode up from Wolverhampton that morning and after the event returned the same day. He also found time to visit the local hostelry some miles away, and to return with liquid refreshment for overheated helpers.

W. Brandish was on a machine different from those we are accustomed to see him ride in competitions. His mount was a 3½ h.p. single-cylinder Rover. Usually, it is a mistake for a rider used to higher powers to ride a machine with a smaller engine for an event of this nature, but at his second attempt Brandish easily piloted his single to the summit.

A Spring Frame Mount Does Well.

Pseudo experts have been known to opine that a sprung frame motor cycle is far from ideal for rough riding on hills, but F. H. Brown proved that his spring frame Hobart was as steady as any of them. This machine, by the way, had one of the new 350 c.c. J.A.P. engines and on the fast ride up to Wales the larger solo mounts were not able to drop him far in the rear. His climb up the Screw Road was excellent.

Probably the heaviest solo machine present was L. Crisp's 4½ h.p. Humber, and it demonstrated that, if a machine is heavier than a lightweight, the even torque and balance of a flat twin have their advantages. His ascent was noticeably good.

M. F. Powney is a new member of the Triumph competition staff and promises well. His *début* in competitions was the Midland Centre A.C.U. Trial, a few weeks ago, and he came through with honours. He is also to ride in the T.T., and if his riding on the Screw Road is any criterion, more will be heard of him. He handled his Triumph as only those can who sit the same mount for the best part of each week. The healthy engine of his trusty Triumph carried him to the top without protest.

The last of the solo riders to be mentioned is *The Motor Cycle* representative, mounted on a Norton, who gave a demonstration of what may happen at any time while carburetter controls are not standardised. A change of carburetters a few days previously resulted in the controls working in the opposite way to that to which he was most accustomed; consequently, when driving became a matter of instinct he opened out when he should have closed his throttle. The error was only a momentary one, but sufficient to cause the driving wheel to spin, the good Norton to skid and the rider to "bite the dust." He restarted, however, and climbed the rest of the hill so comfortably that he was suspected of gathering material for leading articles on the standardisation of controls.

Only One Sidecar Succeeds.

Of the passenger machines, only F. W. Giles (7 A.J.S. sc.) made a clean ascent. His was the star performance of the day. He handled his machine dexterously, and was ably assisted by his Stepney Road Grip tyre. To take a sidecar up those gradients and round those acute hairpins was indeed something of which to be proud.

A. E. Wood (4¼ B.S.A. sc.) received considerable assistance. It was too much to expect a single with a sidecar to take those bends. H. F. S. Morgan (Morgan), with his wife as passenger, made a splendid ascent right up to the last corner, where his rear wheel became buried in the loose shale almost to the hub. More weight on the rear wheel would probably have saved the situation, since he had plenty of power in hand.

A Welsh Corkscrew Hill.—

G. S. Arter (5-6 James sc.) also failed with wheel slip, though his engine was emitting signals of distress. W. H. Carson (8 Excelsior sc.) also was unable to make a clean climb—surely this must be the first failure of this renowned hill-climber—and J. L. Norton (4 Norton sc.) made a sporting attempt with a heavy sidecar. The attempt failed, but since his machine was one of the few fitted with standard ratios, little surprise will be evinced.

Mr. Norton had the bad luck to break a magneto chain at his first attempt, and when restarting the front of the machine suddenly lifted and swung over the edge of the bank, the outfit resting on the crank case, and being held by three stalwart assistants. The rider was not in the least perturbed by this exciting incident, and after refitting the front cover, which was wrenched off the rim, he returned to the foot of the hill and had another try, though he failed low down on the hill.

Bwlch-y-Groes at 18 m.p.h.

This sporting rider then went straight off to Bwlch-y-Groes without touching the machine, and not only made a clean climb at about 18 m.p.h., but also made a clutch start on the worst pitch. (This serves as a comparison between the celebrated Bwlch-y-Groes and the Welsh Screw Road.)

Some further attempts were made. Newman, now familiar with the difficulties of the hill, actually succeeded in bringing up a passenger seated on the carrier of his Ivy, though there was a bit of a scramble at one hairpin in which it was not clear if the passenger gave assistance or merely got in the way. By all present the hill was considered to be the worst rideable road yet discovered, and not a few have vowed to return in order to wash out past defeats.

After the event, a few rode to the summit of The Rivals, to enjoy the magnificent panorama unfolded, and then the party broke up to return to their homes.

Alt-y-Bady takes Second Place.

Five Coventry riders, all mounted on solo machines, returned *via* Llangollen, and there sampled the famous Alt-y-Bady, which, being dry on that occasion, presented no very great difficulty to soloists, though it is no mean hill under any conditions.

Thus the Screw Road is proved to be much worse than Alt-y-Bady, and we hope that over ambitious trials organisers will not on any account take the plunge and include it in a trial, because of its dangers.



The smallest engined machine among the attacking party on the Screw Road was G. Denley's 2¼ h.p. Velocette, which was also the first to make a clean ascent.

ADVICE TO INTENDING PATENTEES.

THE young engineer who is tempted to sink his small savings in patenting a brainwave should earnestly weigh Mr. Punch's counsel to persons intending to marry. The inventor of the kinema camera died the other day, a comparatively poor man. Three of the most popular items in up-to-date automobile practice are the vacuum fuel feed tank, the chassis spring gaiter, and the roller bearing conrod. At a modest estimate there are fifty valid patents on each of these three gadgets, and the original inventors cannot have reaped a rich harvest. Money occasionally rewards somebody who invents a simple gadget which is in general request; but in most cases the harvest is only reaped if he has a Machiavelli to draft his specifications, and a Rockefeller to frighten off rivals. I see in a contemporary that somebody is already infringing my patent golf ball, which squeaks until it is found; if I owned a master patent on that ball, I would sell it for £100 in preference to manufacturing it in competition. IXION.

The Performance of a Stock Machine



A SPORTING ONE DAY TRIAL.

AN invitation to act as passenger to H. R. Davies in an open trial dated back to the Olympia Motor Cycle Show. After many failures to find an event in which both rider and passenger were free to combine, arrangements were made to meet at Weybridge for the recent A.C.U. stock machine trial.

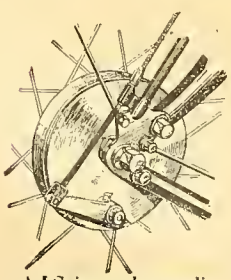
This proved to be a happy expedient, for the writer was able to combine his first experience as a trials passenger (in spite of many years as a trials reporter) with an opportunity of observing the performance of an absolutely standard A.J.S., as supplied to the agent.

Seven o'clock on a cold misty morning is not the most cheering moment at which to make one's first acquaintance with a brand new machine, nevertheless the authorities decreed that this should be the case, and after inspection and some formalities the machine was filled up in the paddock at Brooklands and solemnly pushed to the fork.

Getting into Running Trim.

One hour was allowed in which to complete six laps of the track and do any tuning up, and after fitting the contact breaker—previously removed by the A.C.U. to prevent running in—the engine was started. This operation took but a moment, and we set out to see what sort of a mount we had drawn.

As is the case with nearly all high-class cars and motor cycles, the A.J.S. is sent out with very close fitting pistons, and owners are warned to drive easily for the first hundred miles or so; consequently it may be imagined that our preliminary laps were accomplished at a very moderate speed and with copious lubrication.



A.J.S. internal expanding brake.

A slight miss, probably due to condensation in the inlet pipe, was noticeable, but with the exception of a stop to check the action of the contact breaker, the six laps were accomplished uneventfully.

There remained some twenty-four minutes for tuning up, and if new owners would only observe the few simple operations which ensued they would save themselves much trouble later on. First of all the carburetter was dismantled and cleaned, next the plugs were examined and points adjusted a fraction wider. Contact breaker points were again examined. Tyres were pumped to the correct pressure, and chains examined to ascertain that the spring links were correctly fitted. With these simple precautions we took the road with the utmost confidence.

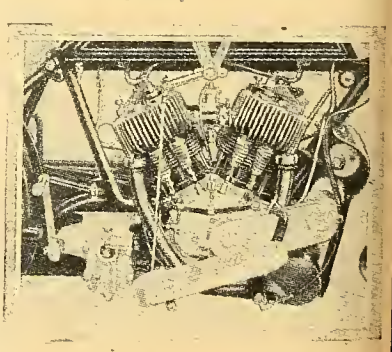
A PASSENGER'S IMPRESSIONS.

On Succombs Hill.

Since there was no serious hill within twenty miles of the start, and the average speed to be maintained was between 16 and 20 m.p.h., the engine had a chance of running in before the work of the day began.

Succombs was the first hill of note, and a momentary splutter when the throttle was opened caused low gear to be engaged for a few yards, but the crest of the hill was taken at speed on second gear. Thereafter the engine improved steadily, and the whole outfit behaved perfectly throughout the day. Second gear was sufficient for such hills as Polsteeple and Cudham, and the lunch stop was reached in schedule time.

Surrey lanes under a bright sun are always enjoyable, and in the comfortable A.J.S. sidecar we had leisure to enjoy the country and to listen to the even purr of the engine, which ran without a falter throughout. There were many cross-roads, and some steep hills to descend; but early in the day our driver had given us a convincing demonstration of the efficiency of A.J.S.

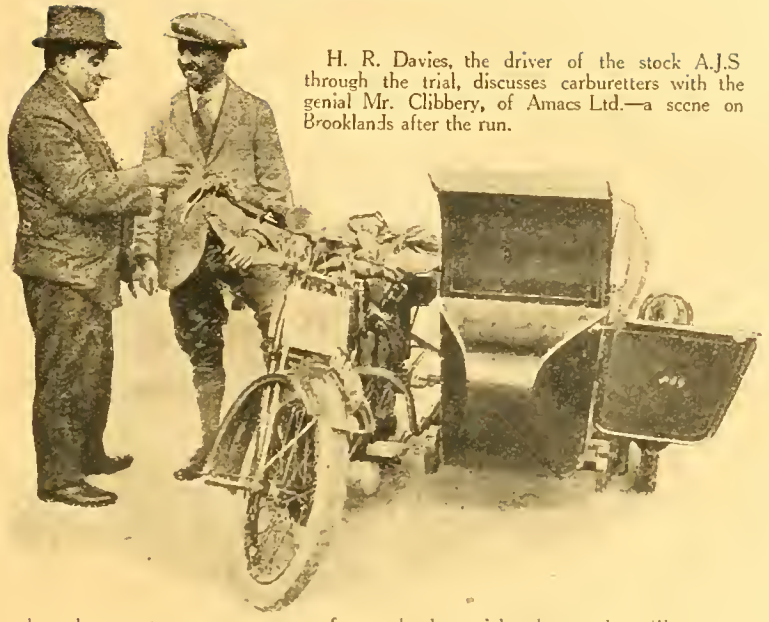


The 7 h.p. A.J.S. engine. This year the cubical capacity of this well tried engine was increased by 50 c.c.

internal expanding brakes, either of which was sufficient to pull up the machine in a few yards, while if both were employed at once the outfit could be brought up all standing without unpleasant shock and in an extraordinarily short distance.

Chalk Pit Hill and Pebblecombe were mere incidents, and the latter was easily surmounted on middle gear, but on approaching Brooklands we began to wonder if the fuel supply would hold out for twelve laps at an average of 35 m.p.h. in addition to the afternoon's run.

The uninitiated may consider such a thought unworthy, seeing that the tank held just over two gallons, and the total distance was but ninety miles; but to average 35 m.p.h. for thirty-six miles with a fully loaded and fully equipped sidecar requires a lot of fuel, and the consumption is bound to be greater than under road conditions.



H. R. Davies, the driver of the stock A.J.S through the trial, discusses carburetters with the genial Mr. Clibbery, of Amacs Ltd.—a scene on Brooklands after the run.

Once on the track, our driver opened up, and completed lap after lap at about 37 m.p.h. without any effort. The concluding lap was accomplished at a speed of 42 m.p.h., though there was still a little throttle in hand.

On reaching the Paddock, after qualifying for a first-class award, our first care was to look inside the tank. True to expectations, there was not much fuel in hand, but still we had finished, and the machine was undoubtedly running better at the end of the test than at the beginning. The only criticisms we have to make are that the seating accommodation of the sidecar is a trifle too vertical, and the screen seems a little too near the passenger's face.

THE PUNCTURE FIEND AT BAY.

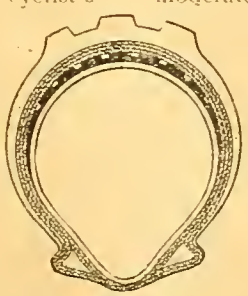
The Bugbear of Tyre Trouble discussed by the Institution of Automobile Engineers.

THE first of a series of informal meetings of the Institution of Automobile Engineers at the Chamber of Commerce, New Street, Birmingham, at which were demonstrated many labour-saving devices in connection with pneumatic tyres, was upon the whole more interesting to car owners than to the motor cyclist.

Certainly the bugbear of tyre trouble is present to all users of that very excellent invention—the pneumatic tyre, but it is the heavier tyre as used on the larger type of vehicle that is most in need of special tools to aid in its detachment and replacement, or of special rims which shall enable a tyre to be fitted or removed without any undue straining of the fabric.

A Puncture-preventing Band.

A most interesting exhibit from a motor cyclist's point of view was the Hermetic puncture-proof band. This consists of an endless band shaped to the tyre, thickest in the centre, and tapering towards the edges, which is designed to be fitted between the tube and the outer cover. The band is entirely of rubber, and therefore very pliable; on its outer surface are round rubber studs, which under the force of inflation are compressed, and made to approach one another very nearly, leaving small air spaces between. The effect of this band is to turn aside any puncturing instrument that may find its way through the outer cover, thus protecting the inner tube. The bands are not subject to wear, and may be transferred from one cover to another. We saw one that had somewhere about a thousand miles service in the tyre of an Enfield sidecar outfit to its credit. It looked like new, but when it was removed for inspection two nails were found in the cover, each of which would have been quite sufficient to cause a puncture under ordinary conditions, with their points turned aside, so that no harm had been done.



The Hermetic band in its place between cover and tube.

Other Novelties.

A further claim made for this band is that it will prevent the cracking of the walls or tread of the cover when subject to much knocking about on bad roads. The weight of a band is 24 oz., and the price is moderate in view of the advantages gained.

Another item which we hope to try when occasion arises is a stick of rubber which becomes plastic with the heat of a match, and can then be kneaded into a cut in the outer cover and so prevent water from making its way into the tyre.

Some of the labour-saving inflators, worked by hand or foot, also might well find a place in the garage of the motor cyclist. There was one very neat pump, the D.A., which would be suitable for road use as well. This has the flexible connection contained in the barrel of the pump, and the first stroke shoots it into position.

A HILL-CLIMB ON BORE HILL.

Surbiton and District M.C.C.'s Twice Postponed Event Successful.

TWICE postponed owing to bad weather, the Surbiton and District M.C.C. hill-climb took place on the 11th inst., and, though rain fell before the start and after the finish, the actual competition was run off in fine if dull weather.

It is as well that the event did not take place on a Saturday, as Bore Hill, though not actually a main road, is one which is frequented at week-ends, as it leads on to Leith Hill, and is situated amongst the finest scenery in Surrey.

The road at the foot is narrow, and consequently its approach was somewhat congested with cars and motor cycles belonging to spectators and others. The course was a fairly long one, but the hill, the surface of which was good, was not steep (not more than 1 in 8), and had several bends awkward to take at speed.

Superb Riding.

The entry had been very good, but, owing to the double postponement, the number of starters was not numerous. The start took place half an hour behind schedule, chiefly owing to the failure of the field telephone. Fortunately, the timekeeper, Mr. A. G. Reynolds, brought with him an able colleague, Col. Edwards, who took the times at the start, the last man in each class bringing up the starting times of his fellow competitors. These were handed to Mr. Reynolds, who then passed them on to Mr. H. B. Uhde, who swiftly worked out the formula, so that results were available immediately after the event.

Kaye Don, with his stud of three mounts—an overhead valve Diamond, an 8 h.p. Zenith, and a Norton with Binks carburetter—made numerous sensational ascents. He rode superbly, barely cutting out on the corners. G. A. Vandervell (3½ Norton) was even slightly better. His cornering was magnificent, and he rode as if he and his mount were one. He never cut out for a single bend of the course. To him is due the honour of making the fastest time of the day: 35⅕s.

W. Julian's Levis did good work in the lightweight class; while Green (Norton), Dequin (Zenith-M.A.G.), and Le Vack (Indian) created great interest.

The different styles of riding displayed by the various riders were distinctly amusing. Julian's habit was to be pushed off on his single-geared Levis, and to ride on the off side footrest until he found the correct mixture. He then threw his leg across the saddle, and settled down to the rest of the climb.

Green's Norton accelerated in wonderful style, and the angle at which he carried his near side foot rendered him recognisable long before his number was legible.

Guy's Coulson-B did well, but seemed somewhat highly geared for the course.

The following are the results:

CLASS A (General 350 c.c.).

TIME.—1, W. Julian (2¼ Levis), 51⅕s.; 2, H. Guy (2¾ Coulson B), 1m. 2⅘s.; 3, J. Callebaut (2¾ Douglas), 1m. 4s. Formula results give the same places.

CLASS B (Expert, 350 c.c.).

TIME.—Kaye Don (2½ Diamond), 41⅗s.



René Dequin making a good ascent on his 8 h.p. Zenith and sidecar.

CLASS C (500 c.c.).

TIME.—1, R. A. Green (3½ Norton), 44⅘s.; 2, C. M. Bowen (3½ Norton), 51s.; 3, W. Julian (2¼ Levis), 52⅗s.

FORMULA.—1, W. Julian (2¼ Levis), 54.41; 2, H. Guy (2¾ Coulson B), 57.58; 3, R. A. Green (3½ Norton), 57.76.

CLASS D (Expert, 500 c.c.).

TIME.—1, G. A. Vandervell (3½ Norton), 36⅗s.; 2, Kaye Don (3½ Norton), 39⅗s.; 3, R. A. Green (3½ Norton), 44⅗s.

CLASS E (General, 750 c.c.).

TIME.—1, R. A. Green (3½ Norton), 44⅗s.; 2, W. Julian (2¼ Levis), 50s.; 3, W. J. Kelly (3½ Norton), 51⅕s.

FORMULA.—1, W. Julian (2¼ Levis), 51.92; 2, H. Guy (2¾ Coulson B), 56.80; 3, R. A. Green (3½ Norton), 57.24.

CLASS F (Expert, 750 c.c.).

TIME.—1, G. A. Vandervell (3½ Norton), 36⅗s.; 2, R. A. Green (3½ Norton), 47s.; 3, Kaye Don (3½ Norton), 48⅗s.

CLASS G (General, 1,000 c.c.).

TIME.—1, A. O. Grenzelier (8 Zenith), 42s.; 2, R. A. Green (3½ Norton), 43⅗s.; 3, F. C. Townshend (8 Zenith), 45s.

FORMULA.—1, W. Julian (5 Zenith), 53.37; 2, W. J. Kelly (3½ Norton), 55.34; 3, R. A. Green (3½ Norton), 56.

CLASS H (Expert, 1,000 c.c.).

TIME.—1, G. A. Vandervell (3½ Norton), 36⅕s. (fastest time of the day); 2, Kaye Don (3½ Norton), 37s.; 3, A. O. Grenzelier (8 Zenith), 41⅗s.

CLASS L (General, Sidecars, 1,000 c.c.).

TIME.—1, R. Dequin (7-9 Zenith-M.A.G.), 1m. 2⅗s.; 2, W. B. Reeve (8 Zenith), 1m. 6⅗s.; 3, O. Clarke (6 Zenith), 1m. 27⅗s.

FORMULA.—1, W. B. Reeve (8 Zenith), 77.20; 2, O. Clarke (6 Zenith), 92.76; 3, R. Dequin (7-9 Zenith), 96.45.

CLASS M (General, Expert Sidecars, 1,000 c.c.).

TIME.—1, O. De Lissa (7-9 M.A.G.), 49⅗s.; 2, D. H. Davidson (7-9 Harley-Davidson), 50s.; 3, F. W. Barnes (8 Zenith), 50s.

CLASS N (General, Cycle Cars, 1,100 c.c.).

TIME.—1, C. Finch (8 G.N.), 60⅘s.; 2, C. G. Pullin (8 De Marcay), 67s.; 3, C. Pressland (8-10 Crouch), 1m. 30⅗s. Formula results give the same positions.

CLASS O (Expert, Cycle Cars, 1,100 c.c.).

TIME.—1, A. Frazer Nash (G.N.), 39s.; 2, H. R. Godfrey (G.N.), 40⅗s.; 3, C. Finch (G.N.), 55⅗s.

WESTERN CENTRE TWO-DAY TRIAL.

PROVISIONAL results of the two-day trial in Wales, held on the 8th and 9th of last month, were issued promptly at the close of the trial, but one or two amendments have now been made; except where mentioned below, the list published in our issue of April 14th remains unaltered. S. M. Greening (3½ Sunbeam-Jap) receives a first-class award instead of second. E. Colmer (2¾ Levis) and W. Lord (3½ Sunbeam) get third-class awards. C. Dickens (3½ Dene) does not qualify for an award, although previously credited with a third. First-class awards are gold medals, silver cigarette cases, or gold cuff links at option.

LADIES IN COMPETITION.

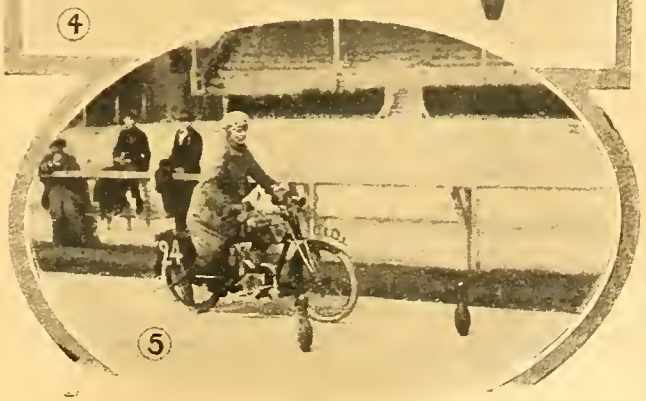
French Event includes Gymkhana Features.











MADEMOISELLE A. BLAZER, on an A.B.C. machine, proved herself the champion motor cyclist of France in the recent women's competition held on the Parc des Princes cycle track at Paris. The young Frenchwoman defeated her two English rivals, Mrs. Gale and Miss Goodman, on Velocettes, and was heartily congratulated by them.

The first part of the competition was one of skill, the competitors having to run down a marked course, twisting around a series of skittles.

Mrs. Gale got the cheers of the spectators when she went through the obstacles in fine style, only knocking down a single skittle. Miss Goodman was not so fortunate, for, although she only bowled over a single obstacle, she got two penalisations for missing the course. Finally, Mlle. Blazer, with the use of her clutch, made her winning display.

In the afternoon of the same day a regularity competition was held over a sixty-mile course to the west of Paris. A minimum speed of 18 m.p.h. was fixed, but each competitor was free to select any average speed, the winner being the one adhering most closely to this. For about half the distance the road surface was very rough, being among the worst to be found round Paris; for the remainder of the distance considerable traffic prevailed, for the day was a holiday. This placed the English competitors at a slight disadvantage, for not being acquainted with these local conditions they could not select an average with the same certainty as on roads known to them. The winner was Mlle. Blazer on her A.B.C., with Miss Goodman second and Mrs. Gale third.

The sidecar outfits did not finish, with one exception, this being a lady who refused to adhere to the rule of "ladies only," and was disqualified for having a male passenger in her sidecar.

(1) Mlle. Blazer, who won the contest on an A.B.C., and had the advantage of a hand-controlled clutch.
(2) Mme. Gaillard dodging the skittles on a Bleriot sidecar.
(3) Another sidecar entrant, Mlle. Janet, who made a good attempt on an Indian outfit.
(4) A Velocette ridden by Miss Goodman, sister of its designer.
(5) Another British competitor on a Velocette, Mrs. Gale.



North Lindsay A.C.

Weather conditions were so severe at the recent reliability trial that no one recorded a clean sheet run, and only three survived the trial within the time limit. These were :

1, J. Ebbutson (2¾ Douglas), 51½ marks lost; 2, H. Brampton (4¼ B.S.A.), 58½ marks lost; 3, W. Beaman (8 Rex sc.).

Falkirk and District M.C.C.

Only one of nineteen competitors qualified for a gold medal in the week-end trial to Oban. Several well-known Scottish test hills were included. Results :

GOLD MEDAL.—Allanwood Neilson (7 A.J.S.).
SPECIAL SOLO PRIZE.—W. Sinclair (3½ Norton).
SPECIAL LIGHTWEIGHT PRIZE.—W. Fleming (2¾ Wolf).

Northern M.C.

There were twenty-five entries for the week-end trial to Scarborough. A sporting course, however, reduced those to qualify for awards to eight, as under :

LEITH CUP.—J. F. Coltman (3½ N.U.T.).
GOLD MEDALS.—H. D. Woodcock (3½ Rudge Multi), A. Morgan (G.N.), and L. V. McNabb (3½ P. and M.).
SILVER MEDALS.—K. F. Dixon (3½ Sunbeam), M. J. MacKendrick (4 Norton), W. Sellers (2¾ Coventry Eagle), and Sawyer (4 Triumph).

Berwick and District M.C.

Held in conjunction with the Newcastle and District M.C., a consistency hill-climb on Corby Bank, Alnwick, resulted as follows :

FASTEST TIME OF THE DAY.—1, W. Murray (3½ Sports Sunbeam), 33⅘s.; 2, J. Lee, jun. (3½ Sports Sunbeam), 34s.
CONSISTENCY CLIMBS.—1, J. W. Forsythe (4¼ B.S.A.), ⅕s. error; 2, D. Hall (2¾ Douglas), ⅘s. error.

Barrow and District M.C.

Complete formula and time results of the hill-climb held on May 1st are now available, and are as under :

CLASS 1 (350 c.c., on Formula).—1, L. S. Parker (2½ Velocette); 2, Mrs. Roberts (2½ Monarch); 3, A. H. Tomkins (2¼ New Hudson).

CLASS 2 (350 c.c., on Time).—1, L. S. Parker (2½ Velocette), 49s.; 2, W. Dall (2¾ Omega), 52s.; 3, C. W. James (2¾ Francis-Barnet), 53⅘s.

CLASS 3 (500 c.c., on Time).—1, H. Jackson (3½ Sunbeam), 36s.; 2, G. Jefferys (3½ Norton), 36⅘s.; 3, P. Hoggarth (3½ Norton), 37⅘s.

CLASS 4 (550 c.c., on Time).—1, H. Jackson (3½ Sunbeam), 36⅘s.; 2, G. Jefferys (3½ Norton), 37⅘s.; 3, M. Sedgwick (3½ Sunbeam), 39⅘s.

CLASS 5 (750 c.c., on Time).—1, H. Jackson (3½ Sunbeam), 36⅘s.; 2, P. Hoggarth (3½ Norton), 37⅘s.; 3, M. Sedgwick (3½ Sunbeam), 38s.

CLASS 6 (Any Machine, on Time).—1, P. Baron (7-9 Indian), 35⅘s.; 2, G. Jefferys (3½ Norton), 36⅘s.; 3, P. Hoggarth (3½ Norton), 37s.

CLASS 7 (Any Machine, on Formula).—1, J. Jefferys (3½ Norton); 2, P. Hoggarth (3½ Norton); 3, M. Sedgwick (3½ Sunbeam).

CLASS 8 (Sidecars, on Formula).—1, H. Jackson (3½ Sunbeam); 2, B. Jefferys (4 Norton); 3, C. Oliverson (4 Norton).

In Class 7 (on formula) the fastest time of the day was made by P. Baron (7-9 Indian); time, 35⅘s.

Week-end Club Events.

May 21.—Coventry and Warwickshire M.C. Hill-climb.
May 21.—Glasgow Western M.C.C. Scottish Inter-club Team Trial.
May 21.—North London M.C.C. Acceleration Test.
May 21.—Luton and South Beds. A.C. Reliability Trial.
May 21.—Leeds and District M.C. Hill-climb.
May 21.—Wolverhampton Auto Nomads. Club Run to Hampton Lodge.
May 21.—Saltcoats and District M.C.C. Club Run to Inverkip.
May 21.—Bishop Auckland and District M.C. Hill-climb.
May 21.—Dewsbury and District M.C.C. Picnic.
May 21.—Holwood M.C.C. Competition.
May 21.—Wallington and District M.C.C. Club Run to Brooklands.
May 21.—Essex M.C. Old Crocks' Hill-climb.
May 21.—Stourbridge M.C.C. Paperchase.
May 21.—B.M.C.R.C. Second Members' Meeting at Brooklands.
May 21.—Middlesbrough and District M.C. Hill-climb.
May 21.—Coventry Triangle M.C. Club Run to Meriden.
May 21-22.—North West London M.C.C. Camping Week-end.
May 21-22.—Newcastle and District M.C. All-night Trial to Edinburgh.
May 22.—Manchester M.C. Speed Trials or Hill-climb.
May 22.—Stafford and District M.C.C. Club Run to Dovedale.
May 22.—Stamford and District M.C.C. Reliability Trial.
May 22.—Taunton and District M.C. and L.C.C. Club Run to Porlock.
May 22.—Halifax and District M.C.C. Club Run to Sutton Bank.
May 22.—West Birmingham M.C.C. Social Run to the Hundred House.
May 22.—Ilkley M.C. and L.C.C. Speed Trials.
May 22.—Leeds M.U. Club Run to Castle Howard.
May 22.—Bridgwater and District M.C. and L.C.C. Club Run to Porlock Weir.
May 22.—Sheffield M.C.C. Club Run to Bolsover.
May 22.—Harrogate and District M.C.C. Club Run to Lake Garmire.
May 22.—Wolverhampton M.C.C. Social Run to the Hundred House.
May 22.—West Kent M.C. Picnic at Mereworth Woods.
May 22.—Central London M.C.C. Club Run to Dunmow.
May 22.—Ivy M.C.C. (Wolverhampton). Club Run to Stratford-on-Avon.
May 22.—Rochester, Chatham, and District M.C.C. Captain's Surprise Run.
May 22.—Liverpool M.C. Half Day Sporting Trial.
May 22.—Basingstoke and District M.C. and L.C.C. Club Run to Hindhead.
May 22.—Portsmouth and District M.C. and L.C.C. Club Run to Goodwood Park.
May 23.—Woolwich, Plumstead, and District M.C. Members' Team Trial.
May 24.—Edinburgh and District M.C. One Day Open Reliability Trial.
May 25.—Burton and District M.C.C. Club Run to Dovedale.
May 25.—Exeter M.C. and J.C.C. Evening Run to Exmouth.
May 25.—Reigate, Redhill, and District M.C.C. Captain's Surprise Run.

A Section devoted to Club Announcements will be found on Supp. xxxv.

Sheffield M.C.C.

There were thirty-five competitors in the recent reliability trial over a route which included Agden, Strines, Mam Nich, and Monsal Head. W. Johnson (7-9 Indian sc.) won the S.M.C.C. Trophy with a total loss of three points only. Second and third respectively were H. Reeves (4 Douglas sc.) and J. Oscroft (8 Enfield sc.).

North London M.C.C.

Owing to the rain the last class of the day—for unlimited sidecars—at the hill-climb on Aston Hill on the 7th inst. had to be postponed. Results of the remaining classes follow :

350 c.c. AND UNDER.—1, G. Richardson (2¾ Velocette), 40⅘s.; 2, Miss D. Busby (2¾ Douglas), 44⅘s.

500 c.c. AND UNDER.—1, E. A. Marshall (3 A.B.C.), 31⅘s.; 2, E. F. Harveyson (4 Indian Scout), 32⅘s. (This last position is under consideration.)

750 c.c. AND UNDER.—1, E. A. Marshall (3 A.B.C.), 31s.; 2, R. R. T. Bowen (4 Triumph), 32⅘s.

UNLIMITED.—1, E. A. Marshall (3 A.B.C.), 30⅘s.; 2, R. R. T. Bowen (4 Triumph) and G. Read (6 Enfield), 32⅘s.

This tie was then run off, the result falling to G. Read (6 Enfield), 29⅘s.*

*Fastest time of the day.

Norfolk M.C. and L.C.C.

Below are results of a fifty-mile petrol consumption test held over a hilly course from Norwich to Cromer *via* Holt, and back *via* Aylsham, at a speed of 20 m.p.h. :

CLASS 1.—1, A. Blake (2½ Levis), 176 m.p.g.; 2, J. L. Brooks (2¼ Levis), 163 m.p.g.; 3, E. M. Wood (2¼ Levis), 145 m.p.g.

CLASS 2.—M. G. Bagshaw (2¾ Coventry Eagle), 139 m.p.g.; 2, E. J. H. King (2¾ New Imperial), 89 m.p.g.

CLASS 3.—1, R. A. Daniels (3½ Norton), 141 m.p.g.; 2, R. King (3½ Rover), 118 m.p.g.; 3, H. J. Hannent (4 Indian Scout), 113 m.p.g.

CLASS 4.—1, E. H. Gowing (5 N.U.T.), 90½ m.p.g.

CLASS 5.—1, A. Adcock (3½ P. and M. sc.), 90 m.p.g.

CLASS 6.—1, H. D. Wheeler (8 New Imperial sc.), 85 m.p.g.; 2, H. F. Mase (7 Harley-Davidson sc.), 60 m.p.g.; 3, A. H. Walker (6 Peugeot car), 59.8 m.p.g.; 4, W. Lincolne Sutton (8 Rover car), 40½ m.p.g.

The cup presented by the Lord Mayor of Norwich for the best result on formula (Classes 1 to 6) was won by H. D. Wheeler (8 New Imperial sc.).

The Mann Cup for the lowest petrol consumption in Class 3 was won by R. A. Daniels (3½ Norton).

Cambridge University M.C.C.

On the 7th inst. the club held a hill-climb on Gamblingay Hill. Electrical timing was used. There was a large number of entries in all the solo classes. Competitors' times counted in their own class and the unlimited class. H. W. Purdey (3 A.B.C.) made fastest time of the day, putting up an exceptionally good performance. Results :

UNLIMITED CLASS.—1, H. W. Purdey (3 A.B.C.), 14⅘s.; 2, O. Saunders-Davies (7-9 Indian), 14⅘s.; 3, R. Avery (3½ Norton), 14⅘s.

600 c.c. CLASS.—1, C. Moser (4 Triumph), 15⅘s.; 2, L. Martineau (4 Indian Scout), 17⅘s.; 3, E. Paxman (4 Douglas), 18⅘s.

500 c.c. CLASS.—1, H. W. Purdey (3 A.B.C.), 14⅘s.; 2, R. Avery (3½ Norton), 14⅘s.; 3, E. Reed (3½ Sunbeam), 15s.

350 c.c. CLASS.—1, J. L. Giles (2¼ Omega), 18⅘s.; 2, F. K. Sefton-Jones (2½ New Imperial), 26⅘s.; 3, C. Bates (2¼ Triumph), 27⅘s.



T.T. Notes + News.

Latest Gossip concerning Men and Machines in Next Month's Manx Races.

J. A. WATSON BOURNE, who last year was second in the Junior race on a Blackburne, will this year ride a Triumph in the Senior event.

* * * * * *

C. Sgonina, of Cardiff, and S. Gill, of Bath, will also ride Triumphs.

* * * * * *

Seven Triumph riders will be available in the Isle of Man, but only six will race—the seventh being a reserve. F. C. Townshend, who is well known as a successful Sunbeam rider, is one of the Triumph jockeys, while F. G. Edmond, G. J. Shemans, and M. F. Powney, who are also named, are members of the Coventry staff.

* * *

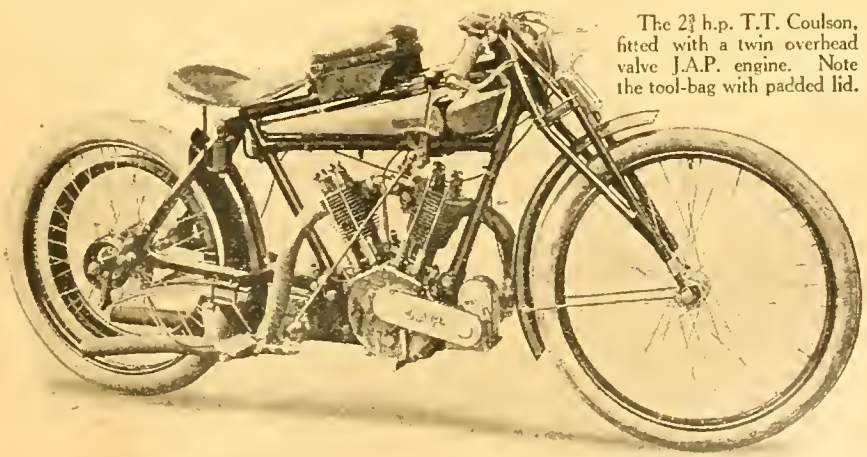
Our Island correspondent writes that at the moment it is impossible to forecast the steamer sailings owing to the disturbed state of the country. Everything depends upon the unfortunate dispute in the coal industry. At the present moment there are only three steamers a week to and from the Island. This service will probably not be further curtailed, as the Isle of Man Steam Packet Co. have in stock sufficient coal to last for over a month longer, but those who desire to visit the Island before the official practices would do well to enquire of Messrs. Orford, Ltd., 21, Water Street, Liverpool, the agents for the Isle of Man Steam Packet Co. in England.

* * * * * *

The marshalling for the early morning practices and also for the races is being undertaken by the members of the Manx Motor Cycle Club.

* * * * * *

With such a large number of competitors this organisation must be very perfect to ensure efficiency. There will be telephones at the official start opposite the Douglas playing fields, at Ballacraine, Kirk Michael, Sulby, Ramsey, Snaefell Mountain, Cregnaa-Baa, and the Governor's Bridge, and with such a system the practices should prove almost as interesting as the race days.



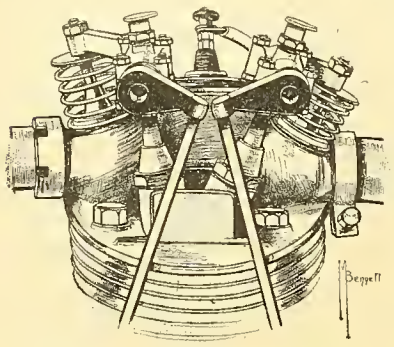
The 2¾ h.p. T.T. Coulson, fitted with a twin overhead valve J.A.P. engine. Note the tool-bag with padded lid.

T.T. Notes and News.—

The work of erecting the grand stand and the official enclosure has been started. This year the public will not be allowed on the road during the practices for obvious reasons.

* * * * * *

The Manx Motor Cycle Club will hold on the morning of Friday, June 17th, a hill-climbing competition up the mountain from Hillberry Corner and finishing two miles further up, just past the Keppel Gate. The following are the classes: Open, 350 c.c.; 500 c.c., unlimited; sidecar machines, 500 c.c.; sidecar machines, unlimited; cycle cars up to 1,100 c.c. The following classes are confined to T.T. riders, and the machines they used in the races: 250 c.c., 350 c.c., and 500 c.c. *The Motor Cycle* has offered the club a valuable silver trophy as last year.



Details of the new overhead valve Blackburne engine for the T.T.

* * * * * *

The manufacturers of the Sphinx sparking plug have also offered a silver trophy, and the British Oil and Turpentine Corporation, Ltd., the makers of the well-known Speedwell oil, which will be used extensively this year in the T.T. races, have given £10 worth of oil. The Committee are still open to receive other prizes, and those desiring to contribute should communicate with the hon. secretary, Mr. H. Rogers, Eastfield, Douglas, Isle of Man, and from him also entry forms can be obtained.

* * * * * *

Doctor C. H. Hopwood, who is riding a 2¼ h.p. Levis in the Junior T.T., is offering a cup for the best team in the 250 c.c. class. Dr. Hopwood, in addition to running a 20 h.p. Austin car, keeps quite a large stud of motor cycles, including a 7-9 h.p. Indian sidecar, a Scott, two A.B.C.'s, a 2¼ h.p. Enfield, and a T.T. Levis.

* * * * * *

Capt. Geoffrey Clapham, who has been entered in the Senior event by the Ilkley Club, will ride a Scott.

* * * * * *

We understand that the Ilkley Club may nominate another member to ride in the name of the club, but at the moment there is a difficulty in securing a machine.

* * * * * *

The Jap twin engine fitted in Eric Longden's 2¾ h.p. twin Coulson for the Senior race is the same as was used by this rider in last year's event, but in a Dot-Jap mount. He finished fifth last year.

* * * * * *

The riders of Coulson machines in the Junior T.T. races will be Eric Longden, H. Petty, and L. Nicholson. The two last-named will be riding Blackburne-engined Coulsons.

This year there will be special team prizes for clubs in addition to those for makers.

* * * * * *

The new 3½ h.p. Blackburne engine for the Senior race will have overhead valves.

* * * * * *

W. Brandish, who has been a consistent winner of awards in trials will ride a Rover.

* * * * * *

The prices for seats in the grand stand vary from 20s. to 7s. 6d. Seats in the paddock cost 5s. each, and in the unreserved enclosures 3s. 6d. and 2s. Applications for reserved seats should be made to the secretary, The Auto-Cycle Union, 83, Pall Mall, London, S.W.1, with as little delay as possible.

* * * * * *

The Auto-Cycle Union desires that each competitor should wear a sleeved jacket of a distinctive colour, and somewhat after the style of jackets worn by jockeys. A competitor may select any colour or a combination of colours, but to avoid confusion it must be registered with, and be approved by, the Auto-Cycle Union before acceptance.

* * * * * *

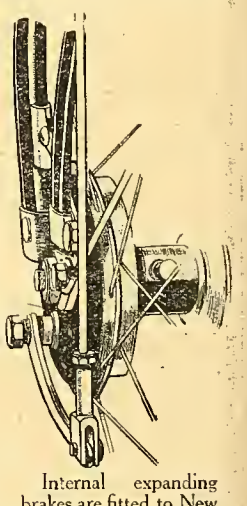
This year there will be team prizes for the Senior, Junior, and Flyweight classes. It will be noticed that the Auto-Cycle Union has decided to call the smaller machines competing for the trophy presented by *The Motor Cycle* by the official term of "Flyweights." We cannot congratulate the A.C.U. on this decision, for the term is neither dignified nor apt. The title of lightweight is sufficiently expressive.

* * * * * *

Competitors in the Senior race will wear white numbers on a red ground; competitors in the Junior race white numbers on a blue ground. Riders of reserve machines in the Senior race, red numbers on a white ground; riders of reserve machines in the Junior race, blue numbers on a white ground.

* * * * * *

It is sincerely to be hoped that the coal strike will not interfere with the Tourist Trophy races. Mr. Loughborough was to have visited the Island this week.



Internal expanding brakes are fitted to New Imperials for the 250 c.c. class.

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We learn that J. L. Emerson has now joined Messrs Douglas Bros., tLd., and will be astride Douglas mounts in the I.O.M. races this year.

* * * * * *

Major Dixon Spain will be in the Isle of Man, representing the A.C.U. from the date practising commences, viz., the 31st inst.

* * * * * *

Two private owners have entered Rudge-Multi's for the Senior Race. It would appear that Messrs. Rudge-Whitworth, Ltd., the winners of the 1914 event, will not be officially represented this year. This is rather a pity, for the Multi gear proved very suitable for the Island course.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

PRICE REDUCTIONS AND SPARE PARTS.

Sir,—Looking though *The Motor Cycle*, we find a great number of manufacturers reducing the prices of their machines, but not in one instance do we find that there has been any reduction in the prices of spare parts. I think it is only fair to state that if they can produce machines cheaper they can also do so with spare parts. HUDSON.

Hyde.

WANTED, STANDARDISED CHAINS.

Sir,—Perhaps through the medium of your paper one or other of the chain manufacturers can tell us when we are to expect standardisation of chains. One well-known chain manufacturer sells chain links marked ⅝×½in. which will not fit chains of the same make and size. And as for using one firm's spring link on another firm's chain—well, it is impossible. I find the best way is to buy a chain a little longer than required, and then the spare links can be riveted in when a breakage occurs. HENRY EVANS.

100 M.P.H. BRITISH TWINS WANTED.

Sir,—It is gratifying to see that 100 m.p.h. on a 1,000 c.c. motor cycle has at last been exceeded in this country, but the ginger-bread is robbed of much of its gilt when one finds that the machines on which the speeds were accomplished were of American manufacture.

However, the great credit undoubtedly due to the pilots of these machines is in no way dimmed by this fact.

When, oh when, are we going to see a real British big twin "track scrapper," which will really do things worth talking about? At present we are completely out of it, the best figures put up by a British made big twin being miles behind the Americans.

These high speed records are carefully noted in most parts of the world (such is my experience), even by those who are not "grit lifters," simply because people are beginning to realise that where high speed is, there also must be power.

Some British manufacturers could do worse than think this point over. DISAPPOINTED.

Derby.

JOURNAL BEARINGS FOR HUBS.

Sir,—In the middle of more trouble with the usual type of motor cycle hub bearings, it has occurred to me that it might be possible to fit ordinary journal ball bearings that we find fitted to our gear boxes and engines.

I am aware, of course, that one machine at least is (or was) fitted with bearings of the Timken type, but I do not recollect any maker standardising ball bearings of the journal pattern. Perhaps your readers will correct in this.

I have had quite a fair experience of ball and roller bearings applied to all classes of general machinery, and I feel sure that any ball bearing manufacturer would be able to put forward a sound proposition if approached on the subject.

On a sidecar machine there would be a considerable amount of side thrust due to the pull of the sidecar, but surely this is not a matter that prevents the adoption of this type of bearing for motor cycle wheel hubs.

It would be of great interest to have other readers' opinions on this subject, as there cannot be any riders of experience who will champion the cause of the cup and cone type of wheel bearing that is, unfortunately, almost universal at the present time. A. J. HOBDELL.

ECONOMICAL SERVICE.

Sir,—It is usually considered that one disadvantage of the two-stroke engine is the unduly high petrol consumption. My present mount is a 1920 2¼ h.p. Velocette fitted with a 25 jet in the B. and B. carburetter. With this, once the engine is warm, I can give full air at the throttle openings above 10 m.p.h. I could fit a smaller jet with a corresponding increase in my m.p.g. Though I always over-lubricate, and though the engine had not been decarbonised for at least 2,000 miles, I recently, on a sixty mile run, averaged 32 m.p.h. and 148 m.p.g. A well known motor cycle expert writes me that on a similar mount he regularly obtained 180 m.p.g., and I can well believe it!

I cannot say too much for the reliability of the Velocette. My work means constant and heavy use day and night, and in all weathers, and over bad roads, cart tracks and fields. The only involuntary stop in four months was due to a broken Bowden cable—and the machine was second-hand when I bought it. The usual disclaimer. M.B.

Nottingham.

ELIMINATING LUCK AND SPLIT SECONDS IN TRIALS.

Sir,—Motor cycle trials are being run all over the country, both for the sport of it and to "improve the breed" of the machines. Unfortunately there does not seem to be much progress in the way of improving the breed of the trials.

If you would permit the space in your valuable paper, it would be both interesting and instructive to read the views of motor cyclists in general, as to how trials might be improved and made more valuable.

I would like to submit the following suggestions, if I may, for improving the conditions of the average open trial:

(1.) CHECKS.—No secret check. All official checks to be not more than fifteen miles apart, and less where possible. This should "find" machines that have had the least trouble, as it leaves little time to make up any loss. It also prevents the penalising of a machine that is going "too well" and making up a little time.

(2.) HILLS.—Each hill to have a "value." Loss of marks on hills might be:

(a) Engine stops. 100% of hill "value."

(b) Running, "footslogging," or shedding passenger. 90% of hill "value."

(c) Machine standing still with driving wheel revolving, but clean ascent without any assistance when the wheel again grips. 50% of hill "value."

(d) Solo rider falls through genuine skid, but clean ascent upon remounting. 50% of hill "value" (or possibly 25%).

(e) Baulk. Rider to make fresh climb, otherwise no allowance made.

(3.) WATERSPLASH.—Engine failure the only cause of penalty. Where a solo rider falls, he is not penalised if he starts his engine immediately he emerges from the water.

(4.) Penalty for carrying any tools beyond a repair outfit (tyre)—disqualification. A car might follow the trial carrying tool-kits handed over by the competitors before the start. The whole course should then be "non-stop."

Perhaps, with a few more suggestions, clubs might gain fresh ideas which would enable them to find the best machine without bothering about "split seconds" or unlucky spills on greasy hills. L.

Coventry.

TOO MANY LEVERS?

Sir,—Regarding "Too many levers" (by "Ixion"), I can only say that every article he mentions is absolutely necessary to the intelligent rider. The only article which can be attacked, in my humble opinion, is the air control. I think laziness and ignorance may be the cause of the growing demands for the single lever carburetter. If I can get a two-lever one to suit my machine I would prefer it to any single lever, bar one, and that is the White and Poppe car carburetter, which I have now fitted to my machine, and which gives 70 m.p.g. at speed.

I like foot and hand clutch control, and most certainly one foot and one hand brake, and am going to try a foot accelerator. A four-cylinder machine may dispense with a magneto control, but I have not yet found the single four-stroke which can do without humouring on a hill, both for air and spark. The machine without a kick start does not appeal to me.

The novice who desires to take up motor cycling must make up his mind to understand his machine thoroughly, and should start doing so when he is being taught. I even think that the man who is continually prowling about the intestines of his machine, if even out of mere curiosity, is gaining valuable experience. I am always ready to stop and help anyone—a rider of car or motor cycle—on the road; but the man whom have felt like kicking is the specimen who cannot clean a dirty carburetter or jet, or cannot get the grease out of his magwipes, or see that the magneto rocker is sticking, or any similar trivial trouble, and who at the same time admits having had the machine some months. I once met a man who could not remove a broken exhaust valve although he had the necessary tools. Of course, if it is a nice girl one does not mind at all! LONE TRAIL.

Birmingham.

ANOTHER ECCENTRIC MAGNETO.

Sir,—Under the heading "An Eccentric Magneto" your correspondent "T.C.D." asks for an explanation of the erratic conduct of his war-time American magneto. Possibly an experience of mine last year with a similar magneto, almost as eccentric as his own, may be of interest.

The instrument in question was fitted to a Douglas, and the fun began during a run from the Lakes to Darlington. On the outskirts of Barnard Castle I came upon a motor lorry in trouble with its differential, and paused to admire the language of the two mechanics whose feet were visible beneath the rear number plate. About five minutes later (when they began to repeat themselves) I attempted to restart, but to no purpose, and the usual investigations showed that the spark had faded away. (It is strange how these things invariably happen whilst standing. I verily believe that one could shed a cylinder without ill-effect provided the bicycle did not stop.) So a "big push" into "Barney," and the midnight mail to Darlington.

Those who know the hill will realise just how "big" the "push" was!

Next morning I dismantled the cause of all the trouble, looked wisely at the connections, put it together again, and—the spark was as good as ever. So back on the bicycle went the magneto, and the old 'bus excelled itself for a few days.

A week later I started a journey to London, and had done fifteen miles when again no spark; and this time there was no lorry and no mechanics, so they cannot have been the cause. So to bits came the magneto by the roadside. (I am a bit of a magneto merchant in a mild kind of way, and once repaired an electric bell.) Another wise look at the connections, then together it went, then back on the bicycle, then a short, sharp push. Result, nil!

Results were still nil four hours later, and that after enlisting the aid of the village blacksmith, who suggested a hammer. Once again the North-Eastern Railway Company solved the difficulty.

Eventually, after a thorough test, I discovered that the high-tension brush holder was neatly perforated, and that the spark was passing from the carbon brush to the metal plate upon which the holder was mounted. Probably the insulation had originally broken down through the high-tension wire coming away from the plug at speed: the designer had apparently included no safety gap in his scheme of things. A waxed paper washer made a temporary and a new brushholder (courteously supplied free by the magneto company) a permanent repair. So that's that.

By the way, referring to "T.C.D.'s" letter, I have never seen even an American magneto with the lead from the high-tension coil going to the breaker points, and should hardly expect serious insulation trouble on the low-tension side. D.I.K.

Sutton.



ON A SOUTH COUNTRY TEST HILL.

Even mid-week trials and straightforward hills attract a goodly number of spectators. Two lightweights being closely watched on Chalk Pit Hill in the A.C.U. One-day Trial.

FOOTBALL ON THE HIGHWAYS.

Sir,—The enthusiasm for football in this country seems to have no bounds, and is now apparently extending itself on to the highways. The offenders in this respect seem to be mostly of the ruffian type, although respectable schoolboys are often to be seen endangering their lives and those of others at this game on the roads. On two occasions recently whilst riding in Bromley, Kent, I had to stop dead to avoid danger from this cause, and in going through Swanley, Kent, on Easter Sunday, whilst slowly passing one of these ruffian gangs, the football was seemingly kicked towards me, and only missed hitting my face by inches. Had it done so, the result would have been disastrous, possibly fatal. In their mad rushes after the ball these fellows are often absolutely oblivious to the danger they create to themselves and to passing traffic.

Although it may appear to be a drastic remedy, I feel strongly that this offence should be treated as a misdemeanour and punishable accordingly, and I sincerely trust that the police will take steps in the matter.

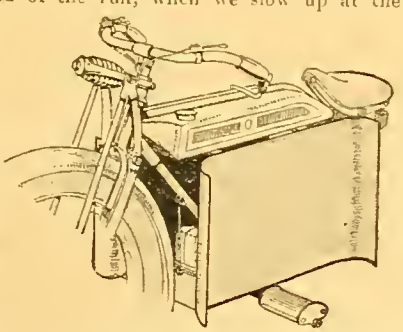
London, E.C.2. ENTENTE.

WIND RESISTANCE OF MUDSHIELDS.

Sir,—In spite of having left the fingers of my right hand (not to mention half of the palm) on the Somme, I became, early last year, an enthusiastic motor cyclist, taking delivery of a new 4 h.p. Triumph solo. Naturally, I also ordered *The Motor Cycle*, and every week look forward to Thursday.

My friend also rides a 1919 4 h.p. Triumph, and on the way home each day—a distance of five and a half miles—we do not stop to watch the grass grow (especially on Fridays!). My engine is a very good average, his is the limit—the most flexible and "revvy" Triumph engine it has been my pleasure to see during my short experience of motor cycles.

He could leave me standing any time he liked. That was the case last August. He now has a leather mudshield fitted, and I find I can keep up with him comfortably, and, in acceleration, beat him to a frazzle, especially on a hill. Moreover, at the end of the run, when we slow up at the corner where he turns for home, his engine knocks like a blacksmith's anvil.



Mr. G. Sharp's idea of mudshields, for a Triumph, that would not appreciably increase wind resistance.

To my mind, it is a mystery why the mudshields are not made to incline outwards and forwards in the form of a V, as, it seems obvious, this would give a greater cooling current on the engine. On metal mudshields any mud might be stopped from washing through by the adoption of a mud channel, as in the 1921 Triumph front mudguards.

To carry the idea further, it appears to me that shields, as in the accompanying sketch, might possibly be fitted. The front curves would concentrate the air while the rear curves would tend to draw it through. A strong current also would be drawn past the head of the cylinder and valves. If necessary, the plug could be made accessible by a slot in the right-hand shield, while another might be cut for the Sturmey-Archer gear lever. The kick-starter would be immediately to the rear, and as the kick is made with the pedal almost horizontal, the shield would not render starting up impossible, though maybe awkward.

The advantages seem to me great.

(1.) Cleanliness for the rider. (Shield for mud and oil.)

(2.) Coolness for the engine (especially valves and head).

The only disadvantages (if we except cost) are:

(1.) Weight (negligible, as shields may be made of aluminium).

(2.) Side wind pull.

(3.) Possible warming of engine with side wind.

I should like to have other ideas on these two methods, as I consider discussion amongst riders is one of the surest means of progress. G. SHARP.

ELECTRICAL PHENOMENON.

Sir,—With reference to the ignition effect that Mr. N. H. Bailey experienced by coiling his high-tension cable round a bearing, and Mr. F. E. Schofield's somewhat slighting reply in the issue of May 5th, we suggest that Mr. Bailey's own explanation is nearer the mark.

We assume that Mr. Bailey used regular high-tension cable, whereas Mr. Schofield has apparently taken the word "flexible" to refer to ordinary electric light flexible.

Coiling the high-tension cable in the way described would increase the self-induction as well as the capacity of the circuit, both of which would reduce the voltage available at the sparking plug points. LODGE PLUGS, LTD.

MATERIALS USED IN REPAIRS.

Sir,—I am very desirous of reopening the topic of "Repairs" from another standpoint.

As a repairer, I have frequently seen jobs which were beyond criticism, from the point of view of workmanship, prove completely inefficient in durability when compared to the life of the original part as produced by the manufacturer; failure through fracture of replacement parts, of the original size, is not uncommon; and, lastly, failure of original parts, either in the process of, or after, reclaiming by hammering, bending, etc., is by no means unknown.

I think that there are several obvious reasons for the cases cited, and that the causes are by no means ineradicable.

First, increasing efficiency of designs and of materials used in manufacture means that the average part is continually loaded to a higher limit for its size than heretofore for longer continuous periods, and at higher rates of periodicity, so that its replacement by a material of either inferior or unsuitable quality may easily lessen its margin of safety to nil, although the fine quality of material to the hand of the manufacturer almost precluded the possibility of failure.

Secondly, the mishandling in heat treatment of steels of suitable quality, together with the absence, in many cases, of suitable means of case hardening.

Thirdly, the prevalent use of steels from parts which have been scrapped during repairs (axle-shafts, etc.). Parts of fractured shafts often reveal minute but dangerous flaws produced during the fracture, at points a considerable distance away from the actual break. Again, it is very questionable whether it is safe to use a piece of steel, part of which may have failed as the result of fatigue; and it is impossible to tell, unless information of a specific nature is obtainable, how its strength will be affected by heat (in hardening).

One is quite aware that high quality steel alloys are obtainable by anyone, but the fact remains that they are not in general use.

If the public would start a campaign for a high quality steel alloy, with definite rule of thumb methods of heat treatment, obtainable in small quantities, and if private owners would ask for it in their repairs, it would very soon come into general use. K. KIRTON.

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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects. ROUTES.—By special arrangement with the Automobile Association and Motor Union, readers of "The Motor Cycle" desiring routes may enjoy the benefit of the Road Service Department of that organisation. Queries should be addressed to the Editor in the ordinary way (enclosing a 2d. stamp), and will be dealt with by the A.A. and M.U., who are regularly in receipt of reports from their representatives all over the country as to the existing state of the roads in any particular locality.

RAISING GEAR FOR SOLO RIDING.

I would like your advice on the subject of gear reduction. I have a 3¾ h.p. Precision, with countershaft Bowden two-speed gear. (1.) The reduction is now 13 teeth on engine, 28 teeth on gear box, and the pulley turns two and a half times to one turn of the wheel. Am I right in surmising the gear to be $4\frac{9}{13}$ to 1? (2.) If so, is that high enough, and would any advantage be gained by fitting a 16-teeth sprocket on the engine-shaft ($4\frac{1}{4}$ to 1)? Why I ask this is because I think I am getting more power than speed, and my engine seems to make light work of solo riding with the present gearing.—C.T.G.

(1.) According to your figures, the present gear ratio is 5.3 to 1, and if the machine is used solo it is quite likely that the engine would pull a higher gear. (2.) A 16-teeth sprocket on the engine-shaft would give you a ratio of 4.4 to 1, which is rather high unless the machine is used normally on comparatively level roads.

MINIMISING HANDLE-BAR VIBRATION.

Most of my riding (pleasure only) is done in North Wales, and I usually average 20 m.p.h., excluding stops, but seldom exceed 25 m.p.h. at any time. Doing sixty to one hundred miles per day at Easter, I was rather troubled by wrist-ache, due to pot-holes and the general bad state of the roads. (1.) Would Terry's spring links obviate or alleviate this wrist-ache? Can they be fitted to B.S.A. spring forks? (2.) Are they in any way detrimental to the steering, or weakening to the head of the frame? (3.) Would rubber grips help matters, and, if so, can they be satisfactorily fitted where inverted Bowden levers are in use?—A.H.A.

(1.) The spring links would no doubt reduce the effect of vibration considerably. We believe that they can be fitted to your machine without difficulty, but it would be best to write to the makers for information on this point. (2.) They are used quite successfully on several sidecar outfits. (3.) Rubber grips are quite satisfactory, and eliminate a considerable amount of handle-bar vibration. They are exceedingly comfortable, and can be fitted on handle-bars with inverted levers, but it is necessary with some patterns to remove the levers first.

ELIMINATING THE PETROIL SYSTEM.

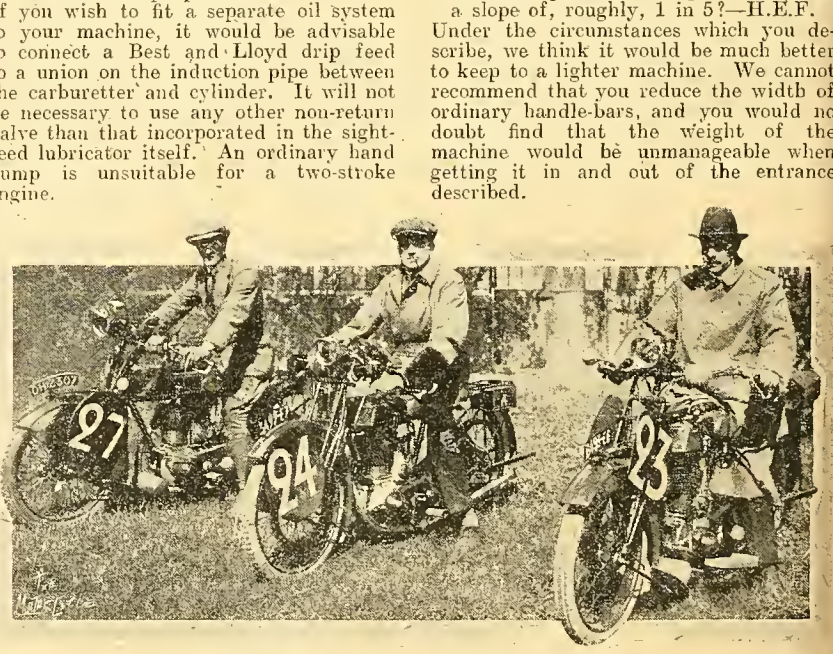
I have a 2¾ h.p. two-speed two-stroke machine which is at present lubricated by the petroil system. This is quite satisfactory as regards lubrication pure and simple, but the machine is always in a beastly mess, and I should be greatly obliged for your advice with regard to fitting an independent lubrication system. There is a separate oil compartment fitted in the tank, and a drain plug at the bottom of the crank case. If I fitted a Best and Lloyd drip-feed lubricator, and connected it to a ball check valve interposed between the oil pump and bottom of crank case, would this give sufficient oil to the cylinder through splashing from the balance weights? or would the amount of oil in the crank case to enable the balance weights to splash it on the cylinder walls interfere with the mixture? Is a check ball valve between oil pump and crank case necessary? Would the ordinary oil pump fitted (which contains a ball valve) serve for the purpose?—F.C.

If you wish to fit a separate oil system to your machine, it would be advisable to connect a Best and Lloyd drip feed to a union on the induction pipe between the carburetter and cylinder. It will not be necessary to use any other non-return valve than that incorporated in the sight-feed lubricator itself. An ordinary hand pump is unsuitable for a two-stroke engine.

AN AWKWARD ENTRANCE WAY.

Intending to dispose of my present 2¾ h.p. motor cycle, so as to obtain one of higher power, I had in mind the purchase of a new 4 h.p. single-cylinder machine. Unfortunately, I have to negotiate a step 9in. high each time I take my machine out, and to do this have made a 4ft. ramp up which I push my cycle. Then I have to go down a passage at the side of the house which is no wider than 30in., and has a permanent doorway midway, which, when fully open, does not permit handle-bars wider than those on my present lightweight passing through. (1.) Would the slight narrowing of standard upturned handle-bars, in order to pass through above doorway, seriously affect the steering? (N.B.—I do not wish ever to do any speed work, and shall probably never exceed 30 m.p.h. at most.) (2.) Whether I, being a "lightweight" (eight stone, in fact), should find it practically impossible to wheel a 250 lb. machine up the 4ft. ramp, which makes a slope of, roughly, 1 in 5?—H.E.F.

Under the circumstances which you describe, we think it would be much better to keep to a lighter machine. We cannot recommend that you reduce the width of ordinary handle-bars, and you would no doubt find that the weight of the machine would be unmanageable when getting it in and out of the entrance described.



FRENCH RIDERS ON BRITISH MOUNTS.
A Sunbeam team that rode in the recent French trial from Paris to the Pyrenees and back

TOO MUCH ADVANCE.

My Villiers-engined two-stroke runs well as a rule, but just lately, on restarting after a short run, the engine goes almost as well in reverse direction as normally. At anything but full retard, the engine, when well warmed up, runs backward. This does not appear to move the wheels, owing, I suppose, to belt slip. The engine was decarbonised only 100 miles ago. Surely this is a bad fault somewhere. The spark is timed as follows: Points about to open with the piston almost at top of stroke. —O.K.J.

If the engine runs in the reverse direction, it is obvious that the spark is much too far advanced, and you should retime it so that the contact breaker points have just separated when the piston is on top dead centre, the magneto control being fully retarded.

TWO-STROKE RATTLE.

I have a 1915 two-stroke single-speed machine, which will not take a very large air lever opening without considerable popping back, but which I have not troubled about, as the m.p.g. has been very economical—over 100 m.p.g. on a run. During the last week, however, when going downhill or running slowly with small throttle opening and air lever wide open, a most peculiar sound has developed in the engine, exactly like the back stand dropping down and bumping along the road. This ceases when the throttle opening is again increased.—TUNBRIDGE WELLS.

You have evidently encountered the mysterious "two-stroke rattle" for which no reasonable explanation has yet been evolved. In your case we should imagine that it is brought about by a partial restriction of the petrol supply, possibly a minute fragment of grit in the jet or by a choking of the petrol pipe, so reducing the supply of fuel. Make quite sure, however, that the noise is not due to some straightforward mechanical cause, such as a loose magneto or driving chain striking its case.

USING A CYCLE DYNAMO.

I have a Voltalite generator which I used on a push cycle. Its usual ontput was, I believe, 6 volts, at what revolutions I could not say. (1.) Can I use this on my machine (a 2¾ h.p. Douglas) to charge accumulators for lighting? (2.) It is made to work with a rubber wheel running inside the road wheel rim. Rubber wheel, 1in. diameter; road wheel, 28in. Can you tell me what sized pulleys to fit on the flywheel, and on the Voltalite, to give the same revolutions (approximately) as on the push cycle? I understand there is no increase in output above the normal revs. (3.) How can I find the positive and negative terminals?—R.A.P.

(1.) You cannot charge accumulators with the Voltalite generator. (2.) You will probably have to experiment with various gear ratios, but we would suggest that you fit a 3in. pulley on the flywheel and a 1in. pulley on the generator spindle. This should give you a satisfactory gear ratio for normal speeds. (3.) There is no answer to this question, as the current is alternating.

Important Dates.

Sat., May 21st—Western Centre A.C.U. Open Hill Climb.

Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.

Tues., June 14th—Junior T.T. Race.

Thurs. June 16th—Senior T.T. Race.

Sat., June 18th—North-Western Centre A.C.U. Open Speed Trials.

Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup

Fri., July 1st, and Sat., July 2nd—Arbuthnot Trophy Trial.

Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.

Sat. July 2nd—500 Mile Race at Brooklands for the Miller Gold Cup.

Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials.

Sat., July 9th—St. Andrews Speed Trials

Sat., July 9th—Cardiff M.C.C. and associated clubs Open Hill Climb.

Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.

Sat., July 16th—Ilkley M.C. and L.C.C. Open Reliability Trial.

Sat., July 23rd—East Midland Centre A.C.U. Open Speed Trials

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Sat., July 30th—Newcastle and District M.C. Open Speed Trials.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.

Sat. Aug. 6th—North Wales M.C.C. Open Reliability Trial.

Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

EXPERIENCES WANTED.

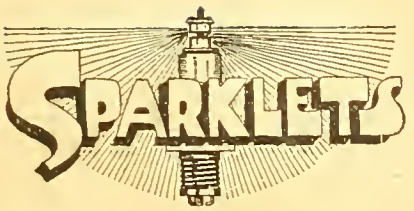
"PASSENGER" (Chelmsford).—Fitting of footrests for pillion passenger on 4 h.p. Triumph, make used, best position, comfort, etc.

"S.H.D." (Warwick).—Valve stem air leak preventers on inlet valve of single-cylinder B.S.A.; effectiveness after prolonged use.



AN ITALIAN AGGREGATE TROPHY.

For the consistent performance of an individual make of machine: the King of Italy's Trophy presented to the Societá Sportiva la Torino. This graceful cup is awarded annually to the maker of the motor cycle which achieves the best aggregate performance in competitions throughout the year, and also scores in one special race. Last year the Indian qualified for the cup.



Scotts in Switzerland.

In the Circuit Romand Trial (350 kilometres in length), held in Switzerland on April 24th, the Scott was the only team to finish without losing marks. The riders were M. Alfter (Scott and sidecar), Mm. Bischoff, Lavanchy, Meir and Dupont, riding Scott motor bicycles.

Two-stroke Engine Repairs.

Riders who have machines fitted with Union engines will be glad to learn that Alfred Wiseman, Ltd., Glover Street, Birmingham, are specialising in the repairs and the supply of replacements.

Useful Driving Instructions.

Under the heading of "Some Helpful Hints" two little books devoted to the care and management of B.S.A. motor cycles have just been published by B.S.A. Cycles, Ltd., Birmingham. The books refer respectively to the single and twin cylinder models, and are filled with most practical advice. Every B.S.A. rider should make a point of obtaining the one dealing with his own particular model; a postcard request will bring it.

Cox-Atmos Carburetters in London.

When special carburetters are being added to a machine, they should preferably be fitted by experts, as individual engines even of the same make may require a slightly different setting. Cox-Atmos Carburetters, Ltd., have, therefore, appointed the Cromwell Engineering Co., 127, Fulham Road, Kensington, London, S.W.3, as their fitting agents for the benefit of south-country motor cyclists. This firm is prepared to supply this carburetter on a sixty days' trial.

An Address Wanted.

Will Mr. A. H Swinford, the inventor of a spring pillion seat, kindly send the Editor his address, when his communication will receive attention?

Catalogues Received.

A. H. Hunt, Ltd., H.A.H. Works, Tunstall Road, East Croydon, Surrey: Supplementary list No. 45, giving wiring diagrams for motor cycles and sidecar lighting outfits, prices of various lighting sets, electric lamps, and numerous electrical accessories.

George Brough, Haydn Road, Nottingham: Large half-tone reproductions of the 8 h.p. Brough Superior machines are the feature of George Brough's four-page catalogue, which, though brief, is decidedly to the point. Each machine is guaranteed to do from 8 to 80 m.p.h. on top gear. A new model with 8 h.p. M.A.G. engine is listed as an alternative to the o.h.v. J.A.P.-engined machine.

Burney and Blackburne, Ltd., 38, Conduit Street, London, W.1: A leaflet referring to the six models of Blackburne engines, giving their chief points and interesting features.

CURRENT CHAT

Times to Light Lamps.

May 19th	... ...	9.17 p.m.
,, 21st	... ...	9.20 ,,
,, 23rd	... ...	9.23 ,,
,, 25th	... ...	9.26 ,,

Hill-climb on Stile Cop.

Over 150 entries have been received for the Coventry and Warwickshire A.C. hill-climb on Stile Cop next Saturday.

A Motor Cyclist King.

His Majesty the King of the Belgians has recently taken delivery of a New Scale motor cycle for his personal use.

New Index Letters.

The County Council of Surrey, in addition to the letter P as its index mark, has now PA and PB.

Motor Cycling in the Argentine.

A tourist trophy race was recently held in the Argentine, which followed the lines of the English classic event. It was won by Ernesto Blanco (Harley-Davidson) in 8h. 1m. 2s., with Raul Riganti, similarly mounted, second. The sidecar class was also won by a Harley-Davidson, with another Harley-Davidson second.

Liverpool-London Trial Proposed.

The Liverpool M.C. is endeavouring to organise a twenty-four hours trial from Liverpool to London and back in conjunction with three other clubs affiliated to the A.C.U. in London or Birmingham, all travelling over the same route and starting and finishing at their own headquarters.

Imports and Exports.

British motor cycle exports continue to increase, and, despite the industrial crisis, the figure for April is £22,098 higher than that for March, representing an increase of 343 exported machines. On the other hand, although considerably more complete machines were imported last month as compared with March, the total value of motor cycles and parts has slightly decreased over the same period. Extracts from the Board of Trade returns for April with comparative figures for March are appended :

IMPORTS.

	Mar., 1921.	April, 1921.
Number of motor cycles	25	71
Value of machines and parts	£19,889	£18,440

BRITISH EXPORTS.

	Mar., 1921.	April, 1921.
Number of motor cycles	817	1,160
Value of motor cycles only	£68,618	£92,823
Value of parts	£28,992	£26,785
Total value	£97,610	£119,708

An Amended Award.

F. W. Giles (7 A.J.S. sc.), who was awarded a silver medal in the Midland Centre A.C.U. open trial, has now been awarded a chief award.

Price Reductions.

Calthorpe prices have been reduced. The 3 h.p. sidecar outfit is now 105 guineas; without sidecar, 60 guineas. A new 2½ h.p. model is also being marketed at 43 guineas.

The Sport in South Africa.

The annual road race from Durban to Ladysmith and back was recently run off by the Natal M.C.C. over a distance of 310 miles. Not long before the race it had rained, and the roads were in bad condition.

In the sidecar class : 1, C. C. Smith (Harley-Davidson); 2, R. J. Blackburn (Harley-Davidson); 3, H. P. Harper (Indian). In the motor bicycle class : 1, C. Young (Triumph); 2, P. Flook (Douglas); but Flook was declared the winner of the solo class on handicap. Young was riding during part of the journey with broken handle-bars.

Special Features.

A WELSH CORKSCREW HILL.
HOLIDAY EVENTS.

A Royal President.

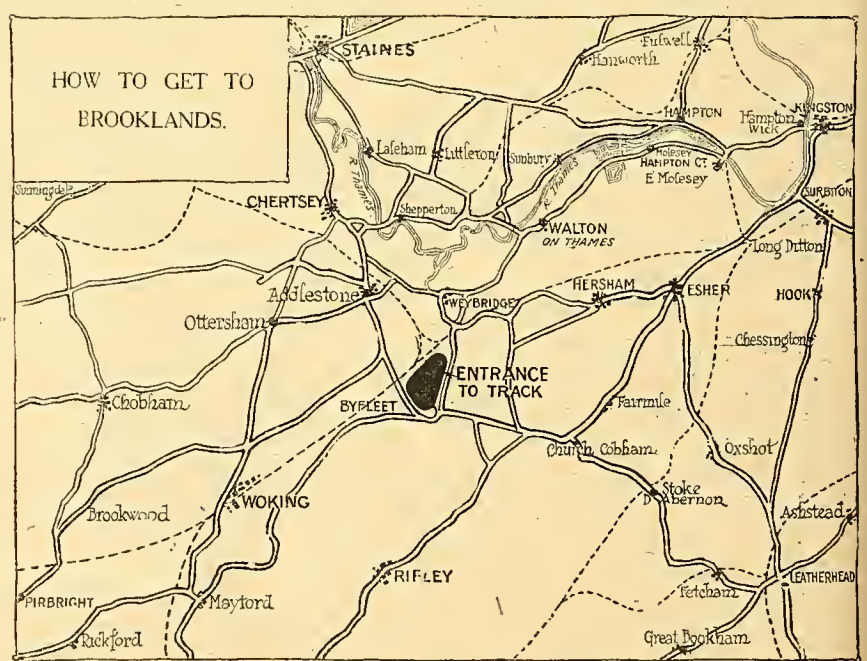
H.R.H. Prince Arthur of Connaught, K.G., G.C.V.O., has again been elected president of the Roads Improvement Association.

Route Queries.

Readers who ask for routes to be worked out are requested to confine their letters to this subject. Should they require other information, a separate letter and envelope should be enclosed. This will avoid considerable delay and confusion.

A Remarkable Speed.

At Beverley Hills Speedway, California, on April 24th, a remarkable performance was made by Albert Barnes, riding a standard Powerplus Indian. In the fifteen-mile race he is said to have covered this distance in 8m. 46⅘s.—an average speed of 102.54 m.p.h.



Motor cyclists strange to South-West London, visiting Brooklands for the first time, may have difficulty in finding the track without frequent stoppages to ask the direction, but the accompanying map (prepared by the A.A.) showing its relative position should enable anyone to reach it without delay. The next meeting for motor cyclists is on Saturday next.

Motor Cycles still being Stolen.

A reward of £20 is being offered by Mr. C. G. Smith, of Norton Motors, Ltd., for information that will lead to the recovery of his Norton sidecar outfit (engine No. 19851), which was stolen from Sparkhill two weeks ago.

The Willing Sidecar Outfit.

Heavily loaded sidecar outfits again predominated over all other road vehicles last week-end. On a main Midland highway five sidecars in Indian file were seen, each carrying what must have been entire families, for none of the machines conveyed less than four persons—and the engines were quite happy about it, too.

Speed-judging Competition in the Highlands.

At the speed-judging competition held by the Helensburgh M.C.C. on the 11th inst., competitors went from Helensburgh at balloted speeds in the direction of Tarbert until turned by an official. They then proceeded homewards, having been warned that the finish was not at the same place as the start. Time was taken at the "turn" and at the finish. Results: 19 m.p.h., 1, W. N. Payne (3½ Norton), total error 53s.; 18 m.p.h., 2, A. McCulloch (7 A.J.S. sc.), 1m. 4s. The greatest error was 13m. 20s.

Real Economy.

There is no arguing the question of the cheapest motoring, for the sidecar easily leads. A reader sent a snapshot as we went to press of his outfit just before starting off for a joy ride last week-end. In the sidecar are four small boys from four to eight years old and also Montmorency, the dog. On the carrier is the mother. Contrast this journeying in last Monday's glorious sunshine with train travelling!

The Club Championship.

Which club will win the club championship this year? Now that the 1921 London-Edinburgh is an event of the past, the M.C.C. team trial for *The Motor Cycle* Cup is the next big road trial of national interest. This year the competition, which takes place on June 25th, promises to be keenly fought, and club captains are watching the performances of their best riders to assist them in making up their teams. Last year the South Birmingham Club provided the champion team. The 1921 trial will be the fourteenth, and, it is anticipated, will attract upwards of fifty teams. Both the M.C.C. and the Coventry and Warwickshire M.C. own two shares of the trophy, which has to be won three times to secure possession.

Paris-Pyrenees Results.

Only ten riders completed the Paris-Pyrenees-Paris Trial without loss of marks. These were Chappex (3½ Sunbeam), Pinney (4 Triumph), Delabarre (7-9 Harley-Davidson), Breese (4½ B.S.A. sc.), Renard (6 B.S.A. sc.), Vuilliamy (7-9 Harley-Davidson sc.), Verlet (7-9 Harley-Davidson sc.), Walbron (7-9 Harley-Davidson sc.), Horrel (G.N. cycle car), and Breno (G.N. cycle car). Of the forty starters, twenty-seven finished the course. Breese and Renard on B.S.A.'s won the Pyrenees Cup, while the Cote d'Argent Cup has been awarded to J. Psalty and Delabarre (Harley-Davidsons).

When are Petrol Prices Coming Down?

There is a pretty general opinion that at present petroleum production is beginning to exceed consumption. That is likely enough. Beyond question the present high prices to which the ring have raised motor spirit are doing little good to the petroleum interests, says *Motor Transport*. Indeed, the maintenance of petrol prices under existing conditions is beginning to attract attention. Petrol and petroleum have, in fact, become as much a national question as is coal, which is to the good in that it may enable public interests to be focussed in State action.



The enthusiasm in Edinburgh at the finish of the London-Edinburgh run may be judged by the big crowd that gathered to watch the competitors as they arrived.

THE LONDON-EDINBURGH RUN.

170 Motor Cyclist Survivors in the Fourteenth M.C.C. Whitsuntide Event.

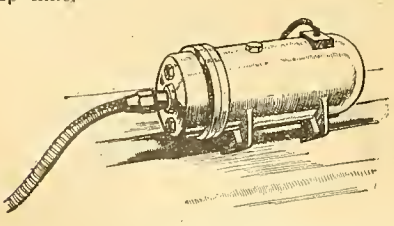


P. W. White (8 Sunbeam sidecar) approaching the steepest section of Buttertubs Pass, where the banks formed a natural grandstand for the spectators. Notwithstanding, dozens chose to stand in the roadway and to some extent impeded the competitors.

ALTHOUGH called by the M.C.C. a club run, this year's event between the two capitals was as strenuous a competition as it was last year, for the Yorkshire section was difficult and needed not only a good mount, but skilful driving.

The scene at the start was much the same as on previous occasions. There was the same keen and enthusiastic crowd, the excellent police arrangements—perhaps even better than usual this time as the crowd was kept well back and the men were able to start off in comfort instead of through a narrow lane of people. The first man, E. Pond (Triumph), was sent off half a minute after 7 p.m., earlier than on previous occasions, so that forty miles were covered before lighting-up time.

Hot, sultry, and cloudy weather prevailed, but weather is always kind to the M.C.C. on the Edinburgh run, and a glorious evening and night were enjoyed. A mile past Barnet, Taylor (8 Blackburne sc.) was seen attending to his front wheel, and a little further on Guy (2¾ Coulson) was seen helping Nicholson, who was similarly mounted and was at this early stage mending a puncture. Both were going well at Digswell and making up time.

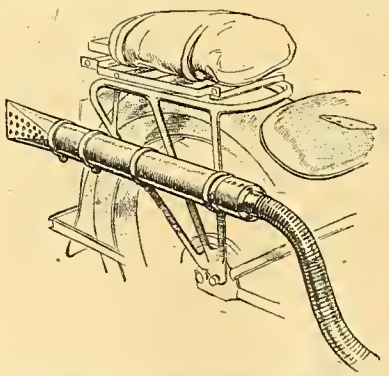


The new "Wattalite" dynamo mounted on the top tube of Holroyd's New Scale. The dynamo is driven by enclosed flexible drive from the rear wheel.

Coffee and fuel for man and machine were ready at Biggleswade, and were as efficiently served as usual by the kind people at the Swan Hotel.

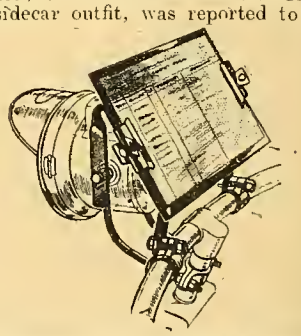
The presence of the Biggleswade check made itself known some yards away, owing to the smell of carbide wafted gently on the night air, but not much lamp trouble was experienced, and we heard no complaints of electric lighting installations.

Harveyson (Indian Scout) reported a broken petrol pipe at Digswell, which the repairer mended, refusing any other payment than a glass of beer, which he imbibed the meantime. The night run was warm and pleasant, there was little mist, and the miles fled quickly by to Grantham. Here there was little news, except a report of a somewhat serious accident to a lame driver, J. Joynson (5-7 Coventry Victor sc.), who left the road some thirty miles back, turned over, tore the sidecar from the motor bicycle, and was badly hurt.



The very large exhaust pipe bolted on the side of the carrier frame on C. D. Michaelis's Harley-Davidson. The exhaust pipe is connected to the engine by flexible metallic tubing.

At length day broke with the usual early morning chill. In Retford, F. Clay (2½ Campion) was suffering from the effects of lamp trouble. Near Doncaster, the next check, E. J. L. Strong (Harley-Davidson sc.) was in straits with his sidecar, which had apparently become detached. Stone (2½ Olympic), behind time, passed at speed *en route* for the check. After Doncaster, Harveyson (Indian) was observed travelling fast, which must have been uncomfortable, since the road surface up to the Ilkley turning off the Wetherby road was in a terrible state owing to heavy vehicle traffic. R. T. Lloyd (2¾ Wolf) had a rope trailing from his mount. McBirnie (7-9 Indian) was seen by the roadside at Harewood, but soon got going again. At Ilkley, the second breakfast stop, Taylor (8 Blackburne sc.) was noticed to have a broken speedometer cable, while Pantard, the driver of the old Chater-Lea sidecar outfit, was reported to have



Route card board held by four stays on the handle-bar on E. E. Barrett's Zenith. This is a neat, and popular, method of carrying these cards.



Ellison Hawkes (2¾ Blackburne-Excelsior) leaving Ilkley after breakfast.



H. V. Bateman (2¾ Diamond) passing under the picturesque archway at Bolton Abbey.

retired with a broken frame, so heavy a toll did the bad roads exact. Bateman (2¾ Diamond) was among the several who were delayed by punctures in the first half of the run. About ten minutes' run from Ilkley, J. Bradbury (Triumph) was seen outside a village garage, while one of the early starters, L. Pulham (Ariel), stopped near Kettlewell.

From Ilkley the roads were winding but fairly good, and the scenery near Kilnsey was glorious. After Kettlewell came the most interesting part of the journey, which was over lovely country. First Cray Ghyll had to be negotiated, which was steep but not too difficult, though numerous gulleys across the road put heavy stresses on frames. The descent, however, on the other side, known as Kidstones, was really severe, the surface was appalling, the gradient considerable, and the frame-smashing gulleys numerous. Here Stone (Olympic) damaged his front wheel, and a little further on Simpson (Indian sc.) was seen with his back wheel out. Clay (Campion) was noted wrestling with his belt near Aysgarth. Into and out of Thoralby just before reaching Aysgarth there were hills and corners of no mean severity; indeed, this part of the course, which was of a thoroughly sporting nature, was full of surprises and pitfalls, culminating in the three-mile climb of Buttertubs Pass. After the time check at the summit, there followed a steep and dangerous descent to Thwaite; then a nasty climb, commencing at Keld, led over a steep, narrow, and rough moorland road. A secret check was taken before Nateby, and its incidence confirmed the impression that a 20 m.p.h. average was very difficult over the section which commenced at Buckden. Fortunately, the checker was a doctor, as he was able to attend G. Milner (8 Sunbeam sc.), who skidded, overturned, and broke his leg at this point. Once this section was over, there were no other difficulties. After Carlisle, the luncheon stop, rain fell as far as Moffat, where tea was served, and thereafter an excellent run over good roads was made to Edinburgh. Ninety-three motor bicycles, sixty-one sidecar outfits, and sixteen three-wheelers finished the course—a total of 170 out of 204 starters.



H. F. Fellowes (4 Coulson-B.), A. C. Rhodes (3½ N.U.T.), C. N. Green (5-6 Rover), and H. S. Moorhouse (4 Triumph) enjoy a cigarette whilst waiting outside Kettlewell.



A blind right-angled corner at Thoralby caused some trouble to the competitors approaching Buttertubs. In the foreground is W. E. Grange, of Harrogate, on a 6 h.p. Bradbury sidecar.



G. C. Newman (Morgan-M.A.G. runabout) ascending Buttertubs in company with a "hay motor."

OBSERVATIONS ON BUTTERTUBS PASS—THE ONE TEST HILL.

THIS year a successful ascent of the one test hill—Buttertubs Pass—meant a great deal to the competitors, for it served as an eliminating test for the gold medal winners. From the bend at the foot of the pass to a point three miles up was a non-stop section, and Ilkley Club officials were prominent among the marshals.

Quite early, spectators on bicycles, motor cycles, and cars commenced to foregather from all parts on the steepest section of the pass, which led the competitors from Wensleydale into Swaledale—the reverse of the route traversed by the A.C.U. Six Days Trials' competitors last August.

From the specially prepared contour section of the approaches to Buttertubs, which appeared in our last issue, those unacquainted with the West Riding of Yorkshire had an opportunity of judging the severity of the twenty-mile section leading to the foot of the pass. (Incidentally, the "Blue Cover" was, as usual, largely in evidence among the spectators.) Cray Ghyll, for instance—not mentioned in the regulations because it was not officially observed—claimed its quota of spectators and it is no mean climb, as some competitors will now agree.

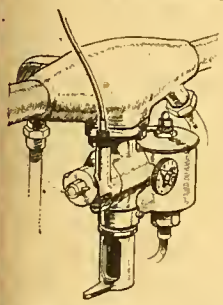
The succeeding descent of Kidstones, with its deep cross gulleys, also demanded skill and caution, and therefore the sinuous and narrow roads kept the riders at all times on the alert. With so many competitors it was only to be expected that some would experience trouble, and there were rumours of two sidecars having overturned at the foot of the precipitous Kidstones. Another single figure gradient after Aysgarth troubled a few riders. Approaching Buttertubs in brilliant sunshine one observed that the hill summit was shrouded in mist, and sure enough, during the ascent, slight rain was encountered which cleared later.



The spectators' view of the competitors approaching the steepest stretch of Buttertubs. The competitor is J. Haworth (2½ Connaught).

The London-Edinburgh Run.—

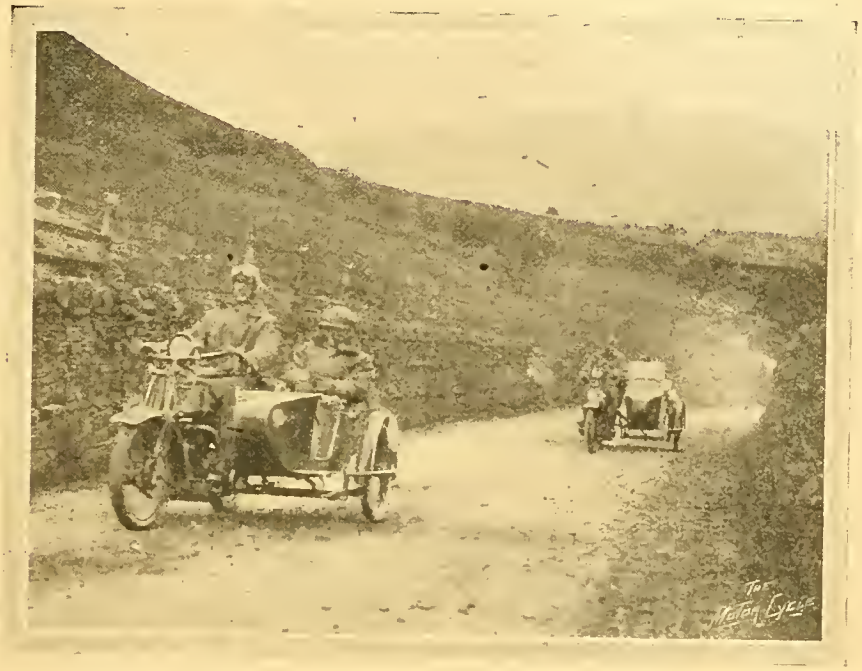
Following the official cars at 9.33 a.m., L. A. Baddeley (P. and M.) led the 117 solo riders, making an easy climb up the steepest section, No. 1, E. Pond (Triumph), repeating the performance. Brough and Karslake were the next arrivals, climbing fast and almost abreast on their big twin Brough Superiors. Hoult (Scott), as well as Gibson and Eastwood, on 2¾ h.p. Royal Rubys, were noticeable for clean and impressive climbs. Longman (Ariel) changed up immediately after the steepest section. Sharratt (Indian Scout) got up well despite misfiring, Plowman (Sunbeam) travelled well, Dawson (Rudge Multi) had power to spare, Cuffe (Metro-Tyler) did well, whilst Bell's F.N. buzzed up as impressively as only a well tuned four-cylinder can.



Douglas experimental single lever carburetter on G. Fletcher's 4 h.p. Douglas.

Thus early it was recognised that the competitors would experience no real difficulty on Buttertubs, which is not so severe a test as Kirkstone Pass, included last year. The surface of the hill, though perfectly dry, was rough, loose stones abounding on the steepest pitch, estimated as 1 in 5½ or 1 in 6. But for the length of the pass, the ascent formed a comparatively easy test for a modern variably geared machine. Leyland (P. and M.) and O'Reilly (N.U.T.) went up well, but Watkins (Royal Enfield) dangled his legs each side, quite unnecessarily one thought. Hawkes (Excelsior-Blackburne) emitted a healthy crackle as he opened the throttle for the steepest stretch in contradistinction to J. C. Watson (Harley-Davidson) and McLachlan (Reading Standard), who swept silently up the gradient. Stacey (Verus) and Atkinson (Triumph), in close company, went up excellently.

The first stop was due to a collision, Battley (Triumph) swinging over the road in front of Dunford (Verus). Both came to a standstill, restarted, and made clean ascents. Hall (2¾ Verus) carried a fire extinguisher on his carrier, evidently preferring it to luggage. Ellison (Zenith) made a very neat climb, while Bourlet showed again that Buttertubs is no test for an Ariel. Wall (Cedos) just got up comfortably, Bennett (Metro-Tyler) following very late and with a noticeably flabby rear tyre. Robbins (Wooler) travelled well, also Stevenson (Brough), who left behind a strong odour of Castrol. Moorhouse (Triumph) and Green (twin Rover) were among the fastest, Ball on a Scott, having a stove-pipe for the exhaust outlet, climbing well to the accompaniment of a low booming note. Three together—Conville (Lea-Francis) and Morgan and Francis on Triumphs—to a man ascended easily. Haworth (Connaught) was prominent for a neat lightweight climb, Shepherd (Beanmont) did well, while Reyre (twin James) was quite unconcerned.



A. R. Penney and R. Rayner on 7 h.p. A.J.S. sidecars on the lower portion of Buttertubs Pass.

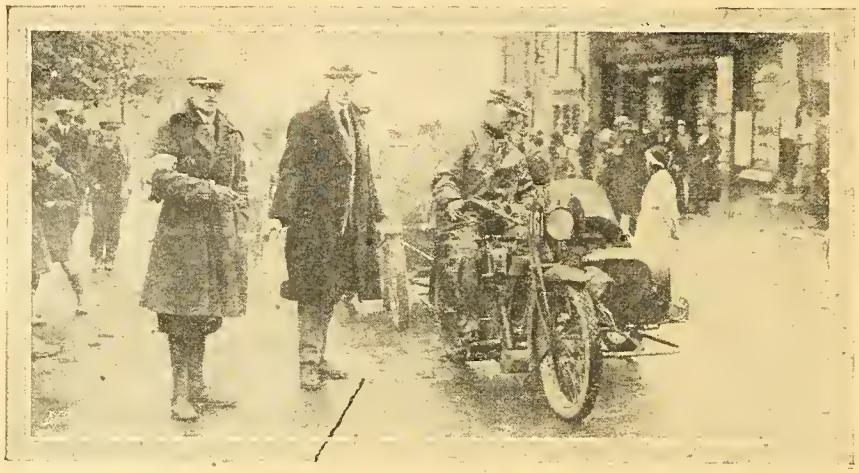


R. M. Veale (6 B.S.A. sidecar) passing a car on the steepest section of Buttertubs Pass. Observe the loose state of the surface



Number plates bolted to the side of the head lamp on J.G.Bluhm's B.S.A. This method was adopted on several machines

After several Triumphs and a Harley had passed cleanly, Hancock (Lea-Francis) applied foot assistance on the top of the steep stretch, whilst Bridgeman (2½ Gamage) stopped altogether. Restarting, he travelled forty yards, stopped again, and fell headlong over his machine in a cloud of blue smoke. "Another gold medal gone" was the way one inconsiderate spectator put it!

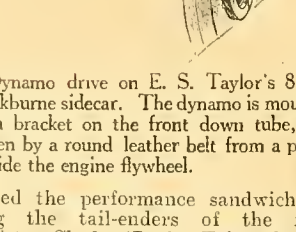


T. J. Ross (8 Matchless sidecar) and G. Nott, on a similar mount, checking at Moffat.

O'Sullivan (Harley-Davidson) had his gear jump out momentarily, but he recovered himself with amazing speed, and completed a clean climb. Mocatta (Harley-Davidson) was fast, and then followed a bunch of riders in close succession all to make clean ascents, viz., Edwards (Coulson-B.), Baddeley (N.U.T.), Bluhm (B.S.A.), Scale (New Scale), Boome and Hardwick (Triumphs), Ingham and Labin (Indian Scouts), and Hilger (Rover). A spectator's Ford now arrived, only to konk out and create a hubbub of excitement as it blocked half the roadway. Pa Appleby (2½ Levis) got his usual cheer, and deserved it, for a neat ascent. Barrett (2¾ Zenith) just got up, Rothwell (Triumph) and Hanwell (Cedos) were good, as were Guthrie (Raleigh) and Holroyd (Scale).

The Sidecars on the Test Hill.

Sidecars now loomed in sight, Bridgman (Indian), according to programme, leading the way and proving quite as fast as the solo mounts. Brown (Indian)

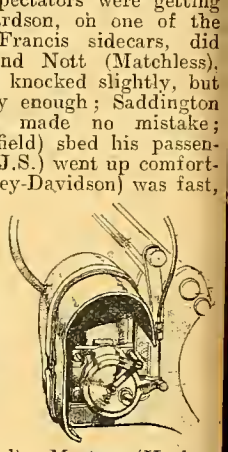


Dynamo drive on E. S. Taylor's 8 h.p. Blackburne sidecar. The dynamo is mounted on a bracket on the front down tube, and driven by a round leather belt from a pulley outside the engine flywheel.

repeated the performance sandwiched in among the tail-enders of the motor bicyclists. Clarke (Junior Triumph), very late, stopped on the steep pitch, also Harrington (2¾ Douglas), the latter carrying an enormous horseshoe on the forks for luck! Coes (Indian), Wilson (Quadrant), Wallis (Reading Standard) stood out prominently for good climbs, Marvin (Brough Superior) went up well (but was subsequently seen to descend the hill, evidently having retired), Glendinning (Rex) was good, also Tessier (Bat) and Brandon (Triumph). Cross (A.J.S.) bumped in the saddle, but got up well, also Michaelis (Harley-Davidson) and Selby (Harley-Davidson), the latter on a fine sporting turnout with disc wheels.

Dust—as a Disguise.

The state of the competitors, due to the dusty roads, was a sight to behold. Owing to the thick layer of dust, spectators had difficulty in recognising their acquaintances. Pryor (Omega-Villiers) seemed content to let his machine konk out—he was very late—and Milner (8 Sunbeam sc.) was another to stop due to all appearances to mishandling of the air lever. J. Chater-Lea (8 Chater-Lea sc.) made an excellent ascent. Guiver (Matchless) and Grange (Bradbury) likewise made no mistake; Ellis (whose Matchless was misfiring) looked worried, but got up all right: Mackenzie (Humber) did well; while Julian (Harley-Davidson) must surely have been the fastest of the sidecarists. A little diversion was provided by a non-competing Enfield sc. ascending with a passenger seated in a bucket seat on the carrier carrying a kettle. Four hours of hill-climbing—no wonder some spectators were getting thirsty! J. Richardson, on one of the new 5 h.p. Lea-Francis sidecars, did well, also Ross and Nott (Matchless). Kay (Royal Ruby) knocked slightly, but got up comfortably enough; Saddington (James) as usual made no mistake; Bryson (Royal Enfield) shed his passenger; Penney (7 A.J.S.) went up comfortably; Jensen (Harley-Davidson) was fast,



A magneto shield on H. Gibson's Royal Ruby, made from a piece of old inner tube opened out and held in position by an elastic band.

also Watson (6 Ariel). Masters (Harley-Davidson) was hindered at first through overhauling too rapidly another competitor, and finally stopped momentarily on the very crest, apparently due to a choked jet. D. Wright (Norton sc.), by dint of skilled driving to avoid a non-competitor, made a fine climb. Goodfellow (6 Bradbury sc.) also just managed to avoid the obstruction. Freeman (8 Sunbeam sc.) stopped; Attwood (Norton) did well; Taylor (8 Blackburne) stopped and yet restarted without difficulty; Bell (A.J.S.) climbed comfortably; Pehrson, on the big two-stroke Dunelt, was slow but sure; Bosworth (flat twin Brough) did well; also White (8 Sunbeam).

W. H. Bashall (on the Martinsyde) swept up with ease, emitting a fine crackle. Hemy (A.J.S.) made no mistake, followed by the first of the three-wheeled runabouts. S. Hall (on a 10 Morgan), who was quite fast, only just avoided a "fallen" sidecarist, Reeves (Triumph sc.). When another



R. Croucher (7-9 Coventry Premier) arrived at Moffat with an extra passenger aboard. Observe the twin side lamps known as the Screenlight.

The London-Edinburgh Run.—

bunch appeared round the corner, with two sidecars blocking their path, the excitement was intense, many small boys, anxious for all to have a fair chance, yelling their hardest in the fond hope of clearing the course. In a way, it was unfortunate, and yet fortunate, that the little 2¼ h.p. Levis sidecar was among the bunch; but, driven by G. S. Davison, the little two-stroke successfully accounted for the gradient—surely the most remarkable performance of the day. Pugh (Triumph) and Bradbury (Norton) were good, Robbins (8 Matchless) stopped, Townsend (P. and M. sc.) did well, but Bullus (on a sister machine) his time came to a standstill. Hinde (A.J.S.) and Jacobs (Rex) followed in excellent style, also Le Grand (Rex), though the latter was passed by Spouse (T.B.), two other T.B. runabouts following with splendid ascents. The engine of James's Morgan spluttered, but kept going. Hallitt (L.S.D.) made no mistake, and Mr. and Mrs. Morgan (on a smart primrose-finished Morgan) went up with ease. Tait (Harley-Davidson) stopped, but Goodwin (Castle Three) made a splendid climb. When Opperman (Corona sc.) stopped, he baulked Biggs (A.J.S. sc.), the latter in turn baulking Douglas (T.B.). When Core (Morgan) conked out, the crowd of small boys sent up the usual yell to clear the road for Line (New Hudson), who actually ascended nearly all the steep section on middle gear. Fletcher (4 Douglas sc.) stopped, Newman (Morgan) did well, and Henry (Castle Three) had to shed his passenger. Richards (Morgan) stopped at an awkward moment, for two cars and a runabout were following; but Croucher (Coventry Premier) managed to get by.



J. A. Hilger (5 Rover) and H. F. Edwards (Coulson-B) arriving at Moffat

Then followed the cars, the individual performances of which will be found detailed in *The Autocar* on sale to-morrow (Friday).

Including cars, 287 were officially noted to have reached Buttertubs Pass.

INCIDENTALLY—

During the night the silence of the N.U.T.'s was particularly noticeable. One of them was ridden by D. S. Baddeley, whose brother rode a P. and M. These two are the only motor cycle riding members of the M.C.C. who have competed in thirteen consecutive London-Edinburgh runs, gaining gold medals on each occasion. Van Hooydonk has competed in all fourteen, but in later years has driven a car.

Much of the country traversed was particularly beautiful, and the views on the moors after Buttertubs were very fine. Here a strong side wind was found to be very trying by the solo men, and one rider, E. Foster (Raleigh), had a narrow escape from being blown over. The journey over the Devil's Beef Tub Pass after Moffat was very fine, as the weather was just clearing after the rain.

G. Nott (Matchless sc.) broke an inlet valve spring shortly before reaching Grantham, and lost an hour.

Several people remarked that this has been the most interesting of all Edinburgh runs, and Mr. Wells, the trials hon. secretary, is deserving of hearty congratulations on having found so sporting a course.

Motor cyclist spectators on the route were particularly numerous at all hours of the day and night. We have seldom seen more on the road than rode out from Edinburgh to watch the competitors coming in.

B. F. C. Fellowes (2¾ De Dion) again finished his second Edinburgh run to time. His engine is just a few months older than he is. Is there an older motor bicycle which can successfully compete with modern mounts?

When the results are published next week we fear a heavy toll will be exacted by the secret checks.

Complete List of the 170 Survivors out of 204 Starters.

MOTOR BICYCLES.

No.	Driver and Machine.
1	Ed. Pond (4 Triumph)
*2	L. A. Baddeley (3½ P. & M.)
4	H. Karslake (8 Brough Superior)
5	Geo. Brough (8 Brough Superior)
7	T. S. Shorrott (4 Indian Scout)
8	Jas. A. Hoult (3¾ Scott)
9	C. F. Plowman (3½ Sunbeam)
10	F. A. Longman (3½ Ariel)
12	G. W. Dawson (3½ Rudge Multi)
14	H. Gibson (2¾ Royal Ruby)
15	S. Eastwood (2¾ Royal Ruby)
16	R. C. Staunton (4 Triumph)
17	M. O'Reilly (5 N.U.T.)
18	J. R. Watkins (3 Royal Enfield)
*20	H. G. Bell (7 F.N.)
22	G. E. Cuffe (2½ Metro-Tyler)
24	A. Ellison (6 Zenith)
25	E. Hawks (2¾ Excelsior-Blackburne)
27	W. Atkinson (4 Triumph)
30	C. Bourlet (3½ Ariel)
31	B. F. C. Fellowes (2¾ De Dion)
32	J. A. Leyland (3½ P. & M.)
33	J. A. Peacock (3 A.B.C.)
35	J. Haworth (2½ Connaught-Miniature)
36	J. C. Watson (7-9 Harley-Davidson)
37	H. V. Bateman (2¾ Diamond)
38	A. M. O. McLachlan (10 Reading-Standard)
39	G. E. Stacey (2¾ Verus)
*40	A. C. Robbins (2¾ Wooler)
41	S. Dunford (2¾ Verus)
42	P. Street (3½ Sunbeam)
43	A. Milward (3 A.B.C.)
44	F. W. Stevenson (3½ Brough)
45	A. S. Pinchbeck (3 A.B.C.)
46	A. G. Battley (4 Triumph)
49	G. W. Shepherd (2¾ Beaumont)
50	J. W. Morton (3½ James)
52	J. J. Lister (3½ Norton)
53	H. Reyre (5-6 James)
54	J. Harrison (4 Corona Junior)
55	A. G. Wall (2¼ Cedos)
57	C. N. Green (5-6 Rover)
58	F. C. Benest (2¾ Wooler)
59	B. P. Bridgeman (2½ Garage)
60	A. C. Rhodes (3½ N.U.T.)
61	H. S. Moorhouse (4 Triumph)
62	H. F. Fellowes (4 Coulson-B)
65	R. T. Ball (3¾ Scott)
67	A. Conville (3½ Lea-Francis)
68	T. Morgan (4 Triumph)
69	T. Francis (4 Triumph)
-70	R. B. Roberts (4½ Humber)
71	F. Begley (4 Dalton)
72	H. R. Hancock (3½ Lea-Francis)
73	N. Hall (2½ O.K., Junior)
74	Geo. Wray (4 Triumph)
75	C. S. Boome (4 Triumph)
76	E. J. Hardwick (4 Triumph)
77	J. A. O'Sullivan (4 Harley-Davidson)
79	P. R. Dowson (2¾ Hawker)
*80	D. S. Baddeley (3½ N.U.T.)
81	H. J. Seale (4 New Scale)
82	J. G. Bluhm (4½ B.S.A.)
83	R. B. Clark (2¾ Coulson-B)
84	H. F. Edwards (2¾ Coulson-B)
85	J. A. Hilger (5-6 Rover)
87	F. E. Jones (3¼ Ariel)
88	J. F. Hull (2¾ Wooler)
89	R. H. Baxter (2½ Radco)
90	C. C. Lobin (4 Indian Scout)
91	P. H. Ingham (4 Indian Scout)
92	J. McBirnie (7-9 Indian)
93	W. W. E. Clarke (2¼ Triumph Junior)
94	J. A. Watson-Bourne (4 Powell)
95	H. W. Harrington (2¾ Douglas)
96	S. J. Marks (4 Triumph)
98	A. F. Pryor (2¾ Omega-Villiers)
*100	E. Kickham (3½ Douglas)
101	J. S. Holroyd (4 New Scale)
103	E. M. Barrett (2¾ Zenith)
104	R. R. Rothwell (4 Triumph)
106	C. H. Hanwell (2¼ Cedos)
108	C. Guthrie (5 Raleigh)
109	E. Foster (5 Raleigh)
110	E. L. Chidley (3½ P. and M.)
112	W. R. Preston (3½ Sunbeam)
113	H. Guy (2¾ Coulson-B)
114	L. Nicholson (2¾ Coulson-B)
116	H. R. Harreyson (4 Indian Scout)
117	E. R. Johnson (4½ Humber)
*118	E. A. Bridgman (7 Indian)

SIDECARS.

No.	Driver and Machine.
120	R. R. Coes (7 Indian)
121	N. H. Browo (7 Indian)
122	S. T. Tessier (8 Bat)
123	C. Wilson (4½ Quadrant)
124	W. Pattison (5 Quadrant)
125	J. Wallis (8 Reading-Standard)
126	C. H. Michaelis (7-9 Harley-Davidson)
129	H. W. Glendinning (8 Rex)
131	E. Cross (6 A.J.S.)
134	W. P. Brandon (4 Triumph)
135	Jas. Mackenzie (6 Humber)
*140	J. Chater-Lea (8 Chater-Lea)
141	W. E. Leather (7 A.J.S.)
142	E. S. Taylor (8 Blackburne)
143	H. M. Selby (7-9 Harley-Davidson)
144	W. H. Julian (7-9 Harley-Davidson)
146	H. B. Shutes (7 Matchless)
147	J. L. R. Jeosen (7 Harley-Davidson)
149	W. A. Kay (8 Royal Ruby)
152	C. D. Hardee (7 Matchless)
153	F. J. Ellis (7 Matchless)
154	G. Packman (8 Matchless)
155	W. F. Goiver (8 Matchless)
156	L. V. Freeman (8 Sunbeam)
157	W. E. Grange (6 Bradbury)
159	O. Wade (7 A.J.S.)
*160	Geo. Nott (7 Matchless)
161	T. J. Ross (7 Matchless)
162	D. S. Parsons (7 Matchless)
164	R. S. Davidson (2¼ Levis)
165	E. G. Opperman (4 Corona Junior)
167	R. H. Attwood (4 Norton)
168	D. Wright, jun. (4 Norton)
169	R. E. B. Reeves (4 Triumph)
170	J. R. Bell (7 A.J.S.)
173	H. H. Saddington (5-6 James)
174	A. P. H. Pehrson (4½ Duneli)
175	T. G. Bullus (3½ P. & M.)
179	J. Richardson (5 Lea-Francis)
*180	W. C. Hemy (7 A.J.S.)
181	B. Jefferys (4 Norton)
182	A. R. Peneey (7 A.J.S.)
184	W. H. Bashall (6 Martinsyde)
185	R. Newitt (7-9 Harley-Davidson)
186	S. Goodfellow (6 Bradbury)
187	G. M. Towosend (3½ P. and M.)
188	P. Cunningham (3½ P. & M.)
189	R. Charlesworth (8 Zeoith)
191	B. G. Robbins (8 Matchless)
192	R. Carey (8 Blackburne)
193	R. Pugh (4 Triumph)
194	G. Fletcher (4 Douglas)
195	A. J. Bosworth (5 Brough)
196	P. W. White (8 Sunbeam)
197	D. Bradbury (4 Norton)
198	J. P. Le Grand (6-8 Rex)
199	W. A. Jacobs (8 Rex)
*200	J. A. Masters (7-9 Harley-Davidson)
205	S. C. Tait (7-9 Harley-Davidson)
207	R. M. Veale (6-7 B.S.A.)

THREE-WHEELED CYCLE CARS.

No.	Driver and Machine.
209	S. A. McCarthy (8 Morgan)
210	A. B. Care (10 Morgan)
211	H. E. S. Morgan (8 Morgan)
212	S. Hall (10 Morgan)
213	F. S. Spouse (10 T.B.)
214	J. W. Meredith (10 T.B.)
215	J. Wainwright (10 T.B.)
216	F. W. James (10 Morgan)
219	D. Henry (10 Castle Three)
220	H. E. K. Sawtell (10 Morgan)
223	W. Hallitt (8 L.S.D.)
224	S. Goodwin (10 Castle Three)
225	R. Croucher (7-9 Coventry Premier)
226	G. G. Newman (10 Morgan)
227	F. H. Douglass (10 T.B.)
228	W. E. Line (10 New Hudson)
229	H. Richards (10 Morgan)
230	A. P. McGowran (4 Triumph sc).

*Travelling marshals.

The blanks in the numbers indicate non-starters and retirements.

FROM THE MIDLANDS TO LAND'S END.

The Birmingham M.C.C. Trial for the Lycett Trophy.

STARTING from the Austin Works, near Birmingham, there were in all forty-eight entrants for the Birmingham M.C.C.'s annual event for the Lycett Trophy. Ideal weather conditions prevailed, and the usually dreaded Porlock Hill was, under these circumstances, regarded by most with pleasurable anticipation.

Major R. V. C. Brook and Mr. L. Clarke officiated as starters, and Mr. Browne, of the Para Rubber Co., attended to the numbering of machines and sealing of competitors' watches.

There were six non-starters—Messrs. H. R. Guest and G. Gold, of Hoskison Motors, J. F. Gardner (8 Brough Superior), E. S. Stinchcombe (2¾ Wooler), and J. Featherstone, of whom no particulars were received, and No. 13—a myth. T. Stevens (7 James sc.) arrived late, but immediately checked out and had his watch sealed, etc., afterwards.

At the time check, seven miles before Porlock, W. A. Carr failed to check in, but arrived at Porlock last on the list. T. F. Watson (3½ Norton), E. J. Neal (2½ Metro-Tyler), J. N. Roberts (3 A.B.C.), and H. B. Denley (10 Rhode) did not put in an appearance at all, thus leaving thirty-eight competitors to "carry on."

The surface of Porlock Hill was all that could be wished for, being well rolled and far better than many of the main road surfaces. The weather being exceptionally fine, and the hill in such good condition, some fine performances were witnessed.

R. W. Duke, the captain, arrived first with his all-chain drive Triumph, and confidently purred up, taking the corners well. C. S. Lane (A.J.S. sc.) followed on and seemed very intent on cutting part of the first hairpin away, but completed the climb successfully. Four James machines—three sidecars, and one solo—steered good courses and toured up without any signs of trouble.

Good and Bad Climbs.

J. Bacon, on a 3½ h.p. Sunbeam sidecar, incidentally fitted with a "double toned" exhaust pipe, failed to make a clean climb, whilst Messrs. J. R. Fellows and Rowland Fellows, on 3½ h.p. Sunbeams (solo), made exceptionally fine climbs—undoubtedly the fastest times of the day. Kershaw's luck was out in this run. Previous to arriving at Porlock he had burst his back tyre, and when he arrived at the first bend with his 8 h.p. Verus-Blackburne he was brought to a standstill on account of his driving chain breaking.

A. T. Cooper, on a Matchless outfit, charged into the bank on the first bend and came to a standstill. He attempted to get away again but was handicapped by the foot-controlled clutch on the near side. R. T. Cooke (4 Triumph) went up very gingerly. R. E. Pugh, on a 2½ h.p. Levis, had the misfortune to break his belt on the top portion of the hill. F. Whitworth, on his Coventry Premier, made a very quiet ascent.

Some exciting incidents were witnessed. For instance, L. Paynter on a 3½ h.p. Norton came along juggling with his generator, which had come adrift, and was hanging down the side of the machine. He was grabbing and dropping it by turns, until at the last bend it fell on his pump, loosened it, and caused it to foul his wheel, thus bringing him down. W. A. Carr caused the most excitement. He arrived late, and came round the first bend at such a speed that he could not keep all three wheels on the road. He went on two wheels for a distance of about twenty yards; unfortunately, his Morgan came to a standstill fifty yards from the last check.

Many competitors changed down too late, and waited until they were on top of the hairpin, when they were in need of both hands for careful steering. Porlock was the scene of the speed test for deciding the winners, but the figures are not yet available.

The local motor cyclists rendered yeoman service.

HILL-CLIMB AT ORTON SCAR.

Westmorland Club unfortunate. Postponed at Easter, curtailed at Whitsuntide.

GLORIOUS weather attended the Westmorland's Motor Cycle Club's open reliability trial, which, postponed from Easter, took place at Orton Scar on Monday last. Despite counter attractions, the event was well attended, the spectators totalling nearly 4,000.

Orton Scar is situated in one of the loveliest places in North Westmorland, and the celebrated hill is one of the stiffest propositions motorists in that part of the country have to tackle. The course was about 1,200 yards in length, and the steepest gradient is at the bottom, where for close upon 300 yards, an incline of 1 in 8 had to be negotiated. Then, at an angle of about 55°, there was a blind corner, and for the remainder the course was about 1 in 30.

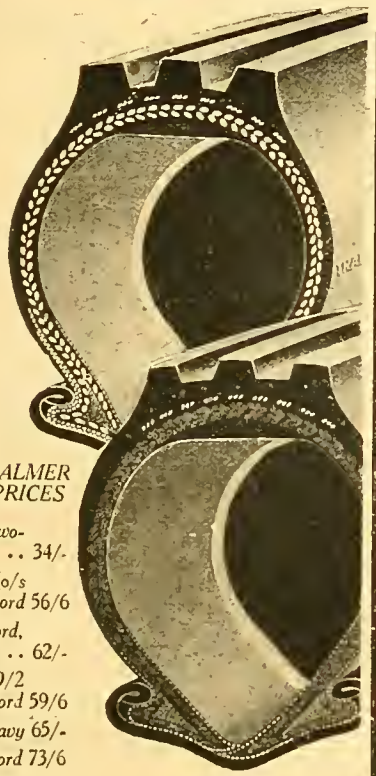
To those not knowing the bend, it was rather difficult to negotiate, but there was no real danger to be encountered. Many of the well-known manufacturers were represented, chief amongst them being de la Hay, the Sunbeam exponent. Splendid racing was witnessed until the fifth event was reached, when Guy Jefferys, the secretary of the trials, and one of the most popular members of the club, met with an accident on taking the bend. He climbed the bank, and his machine ran between an H telegraph post, when he was hurled through the truss rods. Jefferys was immediately conveyed to Westmorland County Hospital, and the rest of the programme was abandoned. Results:

275 c.c. SOLO.—1, G. Davison (2¼ Levis), 57s. 500 c.c. SIDECARS.—1, T. C. de la Hay (3½ Sunbeam sc.); 2, H. Hassell (3½ Norton sc.).

1,000 c.c. SIDECARS.—1, F. Dixon (7-9 Harley-Davidson sc.), 48s.; 2, T. C. de la Hay (3½ Sunbeam), 48⅘s.; 3, H. Hassell (3½ Norton), 48⅘s.



A Norton exponent, H. Petty, and his wife, at the Leicester and District M.C.C. hill-climb last Saturday.



A FEW PALMER COVER PRICES

24 x 2, Two-ply 34/-
26 x 2½ (o/s Rim), Cord 56/6
Do. Cord, Heavy .. 62/-
26 x 2½ (D/2 Rim), Cord 59/6
Do. Heavy 65/-
28 x 3, Cord 73/6
700 x 80 Cord, Heavy .. 78/-

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5 FIRSTS — AND — 3 SECONDS ON PALMERS

Six other makes of Tyres represented shared the other Five Firsts.

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Three-Lap Scratch :
500 c.c. Solo **FIRST**
750 c.c. Solo **FIRST**
600 c.c. Sidecar **FIRST**

Flying Five-Mile Sidecar Class Record Broken.

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4 GOLD MEDALS

4 SILVER MEDALS

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Cycle and Motor Cycle Tyre Depot—
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Why?

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Because—

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Use Corrosine 'W.W.' Glaze for the nickel and bright parts, and cut out the frequent cleanings.

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SMETHWICK, STAFFS.

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fit your machine, whether an L.M.C. or not, with the

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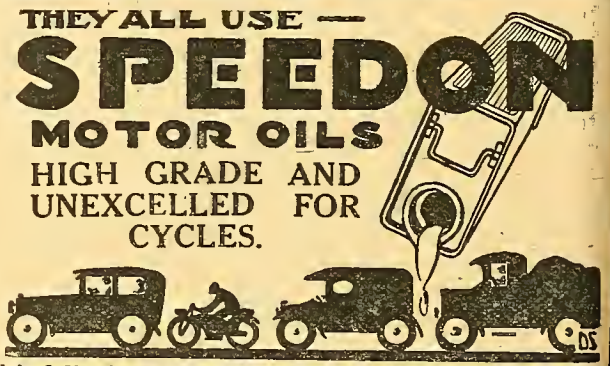
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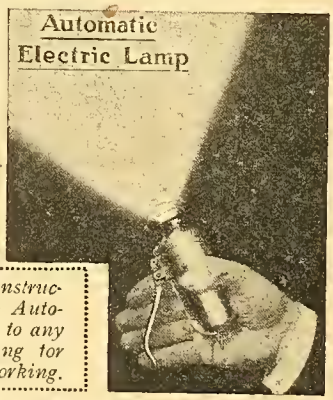


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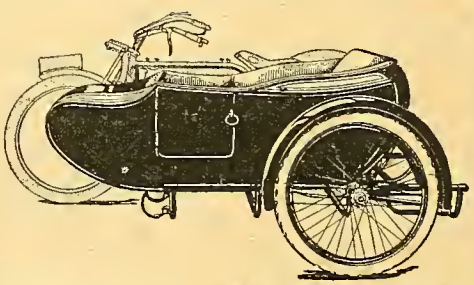
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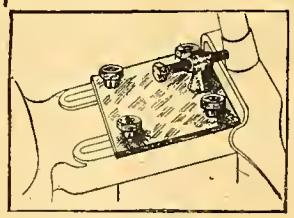
THEO & CO. (Dept. 28)
6, Hatton Garden, LIVERPOOL.



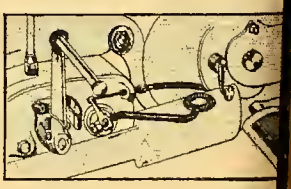
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CHAIN ADJUSTER.
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CLUTCH CONTROL PEDAL.
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For use with Sturmey-Archer Gear Boxes.

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Reliability!

The L.M. awarded Gold Medal.

On the 23rd ult. a L.M., which had completed 400 miles the night before, and which wasn't specially tuned up, won a Gold Medal in the Junior Car Club's London-Manchester Reliability Run. 208 miles without a stop except for lunch and tea (official). On time at every point. Car was never touched, and arrived in first-class order. Water used, 1 gill. Petrol consumption, 50 p.m.g. Write for specification, and ask to have a trial run

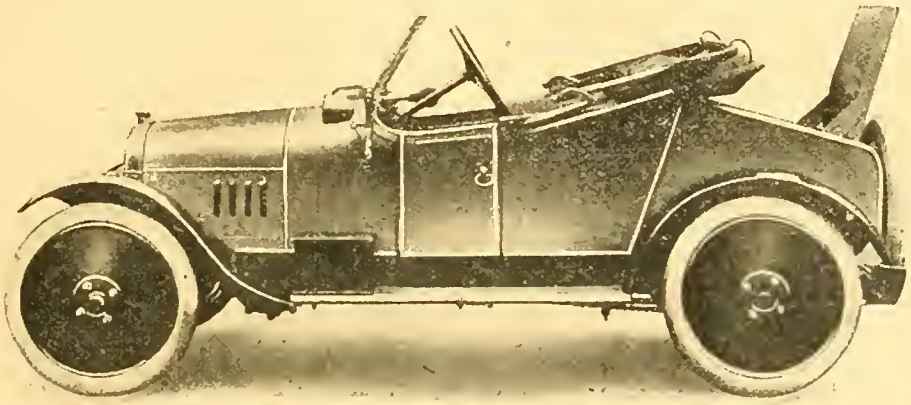
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250 Gns.
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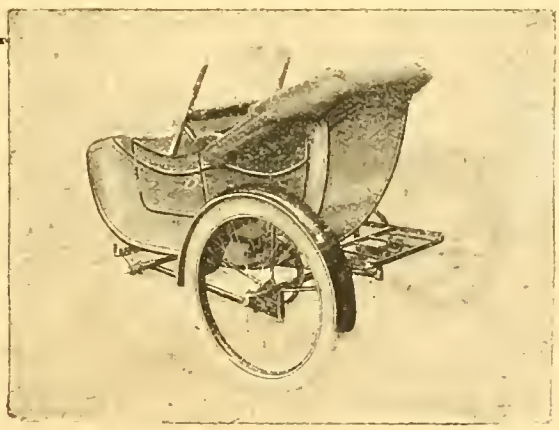
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Usual price, £36-5-0



Clearance Price - - - £31-10-0

A limited number only available. *Orders taken in strict rotation.*

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Father of the Sidecars

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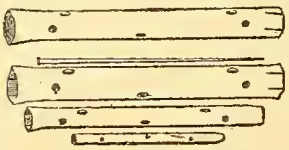
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Giving six useful sizes, complete with tommy bar.
Price, per set **1/9**
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Waterproof Motor Cycle Covers.

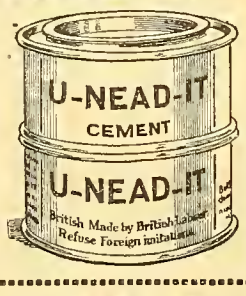
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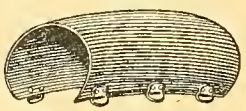
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Eyeletted at end corners.
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The finest tyre cement sold. Repairs tyres cut in a few minutes, and tyre can be used immediately after.

Motor Cycle Outfit Solution and Cement in special combination tins). Price Post free **3/-**





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Special Purchase of 5,000 assorted outside Gaiters, by best makers, quite fresh, complete with Metal Clips. Sizes—2¼ in., 2⅜ in., and 2½in. Rim. Price List price 3/6 an **1/6** Post Free. Indispensable addition to the Tool Bag.

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24 × 2	**Wood Milne** Key Grip	**25/9**	42/9
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A SPECIAL LINE IN MOTOR CYCLING SUITS.

We have no hesitation in claiming that this "Draperstyle" Motor Cycling Suit has no rival at its price. Made from a special stout dark fawn material, absolutely dust proof, and specially proofed to give adequate protection against showers. Satisfaction guaranteed or money refunded in full.



Description of Model O50:
Special line in Motor Cycling Suits, made from stout dark fawn material, which is absolutely dust proof, and which has been specially proofed, so that if you get caught in a shower it will give adequate protection. The Jacket is double breasted, and the sleeves are made with storm straps at wrist. Slash pockets. The Leggings are made with special gusseted sides and leather straps to go under the boot,

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the Suit Complete.

STOCKED IN SIZES:—Breast over Jacket, 34, 36, 38, 40, 42, 44 in.
Carriage paid to your door.
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Our booklet of weatherproofs and waterproofs should be in the hands of every motor cyclist. Contains complete range of garments at direct-to-wearer prices. Send post-card for a free copy.

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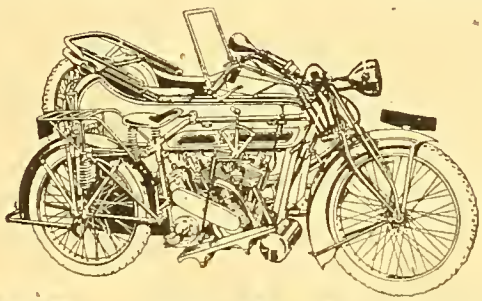
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GUARANTEED OVERHAULED SECOND-HAND MACHINES.

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1920 **HARLEY-DAVIDSON,** 5 h.p. flat twin, 3-speed countershaft, clutch, and kick-starter, and Swan sports Sidecar, completely equipped with all lamps, horn, speedometer, unscratched, and indistinguishable from new; cost £205 ..... £155 0
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1914-15 Grand Prix, specially constructed body, fitted with 90 mm. bore o.h.v. J.A.P. engine, 4-speed gear box, long exhaust, guaranteed 70 m.p.h., 2 Degory carburators, electric horn, extra large steering wheel £175 0
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Phone: Croydon 2450. **9-10-11, ROYAL PARADE, WEST CROYDON.** 'Grams: "Track Croydo

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PRICE REDUCTION from MAY 1st.

2¾ h.p. 4-stroke, two-speed, kick start, Solo - - £99 15 0
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.S.A., 1921, Model H2, 4¼h.p., chain drive, £110; No. 3, 1921, sidecar, £42; No. 2, 1920 type, ecar, £35; in stock.—A. Rivett, 236, High Rd., rtonstone. [5885

ARGAIN.—B.S.A. Combination, Oct., 1919, 4¼h.p., 3-speed, complete; £105. — 48, Oldbury Rd., ethwick. [8544

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CLYNO Combination, 3-speed, kick start, chain drive, fine turnout; any trial; £110; take lower power part.—57, Keabury St., Camberwell, London. [8784

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COULSON B 1921 Models in Stock.—Sole Wiltshire Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5007

F.O.C.H. for Coulson-B's; exchanges or easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). [8811

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3½h.p. De Dion, re-enamelled, Bosch mag., Senspray, good condition; £22/10.—153, Upper Richmond Rd., Putney. [8492

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2¾h.p. Diamond, 2-stroke, 1919; £45; perfect.—81, Gillespie Rd., N.5. [8481

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1920 7-9h.p. Indian Combination, fitted with special dynamo lighting, speedometer, electric horn, watch, mirror, and inspection lamp, condition new, licence paid; price £195.—The Chester Engineering Co. (1918), Ltd., City Rd., Chester. [8520

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IVY 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. Phone: 72. [5006

IVY 2-stroke, 1920, Sturmey-Archer 2-speed and clutch, complete with fittings, licence, excellent condition; £50, or offer.—Dr. Jerwood, Oakham. [8761

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JAN GUY, Weymouth.—James agent, early delivery dates given. [0552

C. PICKERING, Shrewsbury, agent for James; exchanges arranged. [8066

JAMES Combination (big single), 3-speed, K.S.; £80, nearest offer. — Hayes, 37, Sheldon Rd., Chippenham. [8665

1920 5-6h.p. James Combination, electric light, horn, speedometer, excellent condition, tax paid; £130. Tel.: 390.—The Old House, Esher. [7344

JAMES Combination, 5-6h.p., late 1919 model, perfect condition, tax, insurance, all accessories; £110.—Pellett, 20, Pickets St., Balham, S.W.12. [8643

4h.p. James Combination, 2-speed, clutch, all chain, kick start, just overhauled, new rear wheel tyres, trial; 65 gns., offers.—Priestley, Heights, Ripponden, Halifax. [8823

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4½h.p. o.h.v. J.A.P., fine condition; £30.—Write for appointment, Smith, Iona, Mayfield Av., Woodford. [8867

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J.E.S., 1920, as new, not ridden 100 miles; £35, or near offer.—Tabor, Victoria Av., Droitwich. [8587

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KERRY, about 1914, 2-speed countershaft, wants tuning; £24, gift.—Captain Collins, Vickerage Rd., Thames Ditton. [8598

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LEA-FRANCIS 3½h.p. Twin, 3-speed, clutch, kick start, original enamel, in excellent condition; 75 gns.—Hopwood, Jun., 3, Spring Gardens, Hanley. Tel.: 4495 City. [8495

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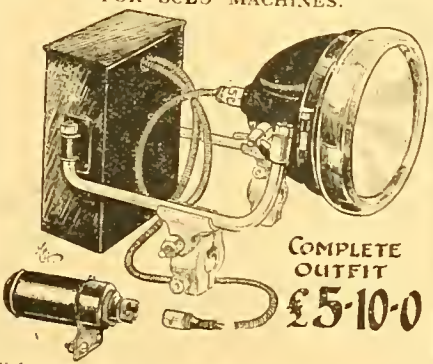
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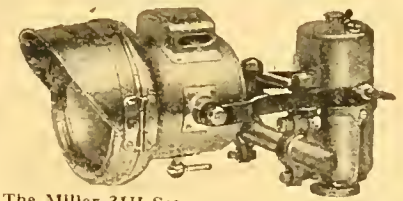
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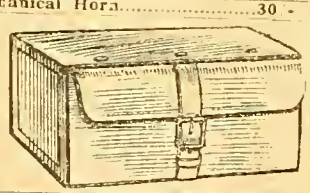


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IN Stock, 1921 Levis, £60. Good wine needs no bush. Naff sel.—Solo agents, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [0494

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MARTINS.—Immediate delivery from stock.—Gilard Motor Agency, 209, Rutherglen Rd., Glasgow. [8541

Martinsyde.

MARTINSYDE Combination in Stock, £160; other models in a few days; catalogue of this gold medal winner on request.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. 'Phone: Victoria 7164. [5837

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1920 Matchless Model H J.A.P., small mileage, complete, perfect condition; £150.—Humphries, 89, High St., Egham. [8870

MATCHLESS 1914 M.A.G. Combination, lamps, etc., tax paid, perfect order; £85.—322, Whitehorse Rd., Croydon. [8675

MATCHLESS, 1921, new from works and guarantee (1920 specification); £174.—Clark, 7, Exhibition Rd., South Kensington. [8319

1921 Matchless, Magdyno lighting, brand new, unused, unregistered; owner must sell; £198.—41, Madrid Rd., Barnes, S.W. [8928

1920 Matchless Combination, Magdyno, speedometer, fully equipped, as new; £165.—Rackham, Charlton House, Old Charlton, S.E.7. [5176

MATCHLESS Combinations, new, in stock, from £174; 1921 models, £205.—Sheffield Agent, J. A. Stacey, 12, Ecclesall Rd. [0574

MATCHLESS, Magdyno lighting, spare wheel, screen, brand new, unused; £185.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. [8926

LATE 1920 Matchless Combination, M.A.G. engine, Lucas Magdyno lighting, equipped regardless; £160.—60, Wallingford Av., N. Kensington. [8820

MATCHLESS-J.A.P. 3½h.p. Combination, 2-speed, free engine; £49; apply after 6, Saturday 12, Sunday morning.—18, Heath Grove, Penge, S.E.20. [6964

MATCHLESS Combination, 7-9h.p., 1915, M.A.G., new carburetter, fine order, owner bought car; £90; tax paid.—Baldwin, c/o May's Garage, Crown Rd., Twickenham. [7646

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MATCHLESS Late 1920 Model H Combination, Lucas accessories, spare wheel, lavishly equipped; £160.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2407

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MATCHLESS Combination. 8h.p. J.A.P., 2-speed, kick starter, new tyres, completely overhauled recently, all lamps, horn, etc.; £85, or offers.—Kingcott, Muxelwell, Pembury, Kent. [8462

£174 buys Popular model Matchless combination, finest value in the motor trade, detachable wheels, spring frame, 7-9h.p., a de luxe outfit.—Colmore Depot, 31, Colmore Row, Birmingham. [X2196

MATCHLESS Combination, Victory model, 8h.p. J.A.P., spare wheel, Lucas accessories, tax paid, exceptional bargain; £130; owner unable to ride; seen any time.—Last, 25, Broadway, Bromley, Kent. [8796

F.O.C.H. have a 1920 Matchless combination, Magdyno, small mileage, fully equipped, hood, screen, spare wheel, luggage grid, tax paid; £175.—5, Heath St., Hampstead (near Hampstead Tube Station). [8812

MATCHLESS Model H Combination, 1920, M.A.G., speedometer, gas and electric lamps, fully equipped, spare wheel unused, mileage 1,200; £175, or nearest.—53, Caddington Rd., Cricklewood, N.W. [8767

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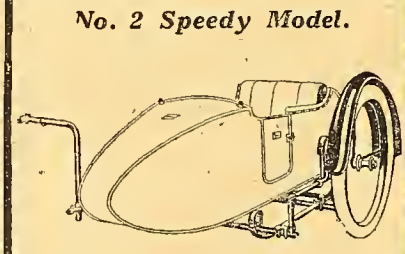
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BRAND New 1920 New Hudson, 2-stroke, 2-speed countershaft, 2¼h.p. tourer, lamps, licence; £60.—Bostock, Byron St., Ilkeston. [X2333

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NEW IMPERIAL Agents.—Lightweights and spare parts in stock.—Crow Bros., Guildford. [470

1917 New Imperial-Jap, 2¾h.p., 2-speed, semi-T.T. tax paid, good condition; £45.—13, Laurie Park Rd., Sydenham. [879

8h.p. W.D. New Imperial Combination, mileage 800, condition guaranteed; nearest offer £100.—Noel, Queen's Rd., Exeter. [844

1920 New Imperial Combination, condition as new, fully equipped, mileage 1,700; £145.—34, Heathfield Rd., Bromley, Kent. [851

1921 New Imperial Lightweight, countershaft gear, kick start, 250 miles only; £73/10.—Collier Motories, Horton St., Halifax. [893

7-9h.p. 1920 New Imperial, all chain drive, new Dunlop extra heavy tyre, tax paid; bargain, £9.—J. Argyle, 19, Gt. Clarendon St., Oxford. [866

1920 New Imperial Combination, electric light, Tan Sad, hood, screen, speedometer, carrier, tax paid, almost new; bargain.—212, Cavendish Rd., Balham. [893

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1918 New Imperial-Jap 2¾h.p., 2-speed, clutch, kick starter, speedometer, lamps P. and H., complete accessories, splendid condition, tax paid; 5 gns.—Butler, 8, Westborough Rd., Westcliff-on-Sea. [713

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AN GUY, Weymouth.—Norton official agent; early deliveries. [0595

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ORTON 1921 Famous 3½h.p. from stock; £132.— Gibb, Gloucester. [0444

WESTON-SUPER-MARE.—Jack Pruen, Oxford St., for Nortons.—'Phone: 440. [5250

ORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [6128

ORTON 1921 16h.p., just new, only used twice, too fast; £115.—Walter Madeley, Wem, Salop. [8711

AN BRADBURY can supply Norton, all models, anywhere and any time.—224, London Rd., Sheffield. [8019

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ORTON, 3½h.p., 1921, 3-speed, 16 H, fully equipped, as new, too fast for owner; £125; exge dynamo A.B.C.—Werren, 175, Enfield High- [8991

AVIES, of Manchester, can deliver 1921 Nortons from stock; the machine you will eventually buy; pares stocked; prompt attention.—229, Deansgate ne: 536 Central. [2432

ORTON Agents.—Motor cyclists in or near Oldham cell. Our Mr. Mitchell will demonstrate to you finest machine in the world.—Bullough's Motors, erloo St., Oldham [2050

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O.K.-VILLIERS, 1920½, little used, good as new, all on, tax paid; 38 gns.—Below.

DISTRICT Agent for O.K. Juniors, call and try demonstration models, from 48 gns.—Alresford Motor Works, Alresford, Hants. [8830

1921 2¾h.p. O.K. Junior, in stock; £50/8.—Morriss and Co., Ltd., 139, Finchley Rd., N.W.3. [8628

O.K. 2¼h.p. 4-stroke, 2-speed, countershaft, good condition; £30.—Write, 15, Maitland Park Villas, N.W.3. [8727

DAVIES, of Manchester, can deliver 1921 O.K.'s from stock — 229, Deansgate. 'Phone: 536 Central. [2435

Omega.

OMEGA 1921 Models Now Ready.—Davies, 229, Deansgate, Manchester. 536 Central. [2438

OMEGA-J.A.P., 1920, scarcely used, 2-speed, kick start; £55.—Clark, 7, Exhibition Rd., South Kensington. [9029

P. and M.

JULIANS of Reading have 1921 P. and M. in stock. [0488

P. and M., late type, excellent condition; £45.—20, Sydney Mews, South Kensington. [9021

P. and M. Combination, 1918, condition almost new, equipped; 75 gns.—202, Munster Rd., Fulham. [8873

P. and M.'s, 1915-17-18, 2-speed, renovated; £40 and £45; combinations, £50 and £60.—272, Green St., Forest Gate. [8251

P. and M. 3½h.p., 1918, not W.D., perfect condition, Dunlop tyres, tax paid; £65.—24, Burlington Rd., Bayswater, W.2. [8762

1918 P. and M. (blue), lamps, horn, tax paid, excellent condition; £60; exchange.—37, Treadgold St., Notting Hill. [8493

1919 3½h.p. P. and M. Combination, licence paid, insured to June; £105.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0341

P. and M. Combinations for Renovation, minus mags., carbs., and small parts; £25 each; only six left.—1, Othello St., Liverpool. [8138

P. and M. Combination, 1920, equipped, licensed, insured, perfect condition; £100; appointment only.—Watkin, 1, Gillingham St., Victoria. [8732

P. and M. Combination, not W.D., excellent condition, all accessories, speedometer; trial, £100.—Coote, Saw Mills, Nightingale Lane, Wanstead, Essex. [8482

1919 P. and M., in most beautiful condition, £60; another, renovated by P. and M., £50; both a-brand new.—60, Wallingford Av., N. Kensington. [8825

1918 P. and M. Combination, lamps, tools, wind screen, new tyres, condition as new; £85; bargain.—Feyerson, Church Rd., Crowborough. [8619

1917 P. and M. 3½h.p. Motor Cycle, in splendid running order; £50.—Scotia Motor Works, 80, Upper Tooting Rd., London, S.W.17. 'Phone: Streatham 2707. [8839

1920 (June) P. and M. Combination, P.M. sidecar, smart, screen, Cowey speedometer, Cowey horn, lamps, tax paid 1921; £109.—Harry Kamiya, Osborne Rd., Blackpool. [X2387

1919 3½h.p. P. and M. Combination, in very good condition, complete with lamps, horn, tools, speedometer; £85.—W. H. Johnson and Sons, Ltd., King's Lynn. [8579

P. and M. Combination, minus small parts, mag. and carb.; £25; trade supplied. Still a large stock of spares at low prices.—Inmon and Bondman, P. and M. Specialists, 1, Othello St., Liverpool. [8139

£80. P. and M. Combination, late 1919, very good condition, full equipment, spares, privately owned; seen by appointment after 6.30, or week-ends. —H. Eagleton, Oak Lodge, Court Rd., Eltham. [8770

P. and M. Combination, 1919, not W.D., makers just overhauled, tax, insurance paid, Stewart Meehorn, Cowey, side, rear lamps electric, tyres, condition, and value excellent; 90 gns.—84, Shaftesbury Rd., London, N.19. [8804

1920 P. and M. 3½h.p., 2-speed, K.S., Cowey, trip, P. and M. windshields, Lucas lamps, Clayrite horn, all tools, licence paid, insurance, done 550 miles, as new; £110, or nearest offer; owner bought car.—Marchant, West St., Boston. [8653

P. and S.

WAUCHOPE'S, 9, Shoe Lane, London.—P. and S. 1920 models, 2-stroke, 2-speed; £57/10; all brand new; easy terms, no extra charge. [8271

Precision.

PRECISION 3¾h.p., believed 1913, single gear, T.T., will do over 50, good condition; £38, or nearest.—Spicer, 20, Glebe Rd., Stanmore. [8772

PRECISION Combination, 4½h.p., new condition, new tyres, lamps, etc., coachbuilt sidecar, tax paid; any trial; £65, or offer.—Box 4,091, c/o *The Motor Cycle*. [8757

MOTOR CYCLES FOR SALE.

Premier.

PREMIER, 3½h.p., clutch, new tyres and belt, condition as new; £45.—Baker, 16, Spring Rd., Southampton. [8554

PREMIER 1916 4h.p. Combination, countershaft 3-speed, clutch, Easting screen, thoroughly overhauled, tax and insurance paid; £70.—M., 23, Cranwell St., Lincoln. [X2386

PREMIER 1917 Coachbuilt Combination, 3½h.p., 3 speeds, and clutch, splendid condition, owned privately; £70; tax paid.—Bond, Maybank Rd., South Woodford, E.18. [8610

PREMIER 7-9h.p. Combination, late 1914, in perfect condition, recently overhauled, lamps, speedometer, luggage carrier; £110; seen any time.—14, Balham Hill, S.W. [8522

4h.p. Premier, Sturmey 3-speed, clutch, Bosch, B. and B., speedometer, tyres new, belt new, lamps, horn, tools, any trial, 50 miles to purchaser, tax paid; £50.—231, Block Lane, Oldham. [8720

£58.—4h.p. Premier Combination, 2-speed, countershaft gear box, clutch, starter, Dunhill undershung touring sidecar, Bosch (enclosed), B. and B., heavy Dunlops, Druids, footboards, licence, excellent condition; 2¾h.p. Douglas part.—63, Solon Rd., Brixton. [8842

Quadrant.

QUADRANT Combination, 1920, 4½h.p., run 400 miles, Easting, Tan-Sad, etc.; £120.—Everett, 43, Bathurst Mews, W.2. [8717

1916 4½h.p. Quadrant Combination, B.S.A. 3-speed, countershaft, speedometer, Klaxon, lamps, etc., tax paid; £75.—12, High St., Fulham. [8849

QUADRANT 1914 4½h.p., in exceptional condition throughout, all accessories, tax paid; £40, or near offer.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd., S.E.1. Tel.: Hop 210. [6744

QUADRANT.—Sole agents and wholesale distributors London, Southern and Eastern Counties. All spares stocked. Official repairers.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd., London, S.E.1. Tel.: Hop 210. [6736

QUADRANT 1921 4½h.p. Combination, the best value for money on the market; call and inspect this splendid outfit at the reduced price of £125; exchanges or extended terms arranged.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0074

Radco.

RADCO, 2¼h.p., good condition, just overhauled, all on, tax paid; approval; 25 gns.—Hankin, West St., Alresford, Hants. [8827

Raleigh.

J. C. PICKERING, Shrewsbury.—Raleighs in stock; exchanges arranged. [8071

1921 Raleigh, 5-6h.p., 3-speed, in stock; £147.—Morriss and Co., Ltd., 139, Finchley Rd., N.W.3. [8626

RALEIGHS, solo and combinations in stock; exchanges entertained.—Hicking, Bromley Rd., Beckenham. [3277

ROGERS, 42, Church Rd., Hendon, can give delivery of Raleigh combinations and solo from stock at reduced prices; 176 and 140 gns. [8131

RALEIGH 5-6h.p. Flat Twin, immediate delivery, solo or combination; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8886

WE can give delivery of this famous make of machine from stock; there is no better quality or finish possible; a perfect machine in every point and detail: Raleigh 5-6h.p. flat twin solo, 140 gns.: combination, 176 gns.—G. and J. Dawson, 60 and 62, Regent St., Cambridge. [0600

Rex.

5-6h.p. Rex, just overhauled, cylinders reground, new pistons and rings, Grado gear, K.S. rear tyres and belt new, tax paid; £28.—'Phone Hornsey 2373. [8485

REX 6-8h.p. Twin Coachbuilt Combination, fully equipped, licensed, very fine lot; £60, great bargain.—Bunting's Motors, Wealdstone. (Closed Sundays.) [8933

Rex-Jap.

6h.p. Rex-Jap, splendid condition, perfect running, running order, must sell; £75, or nearest.—Massey, 6, Harcourt St., Market Harborough. [8635

Rover.

JULIANS of Reading have 75 m.p.h. Rover model in stock. [0585

ROVER 3½h.p., T.T. model, Philipson pulley, very fast; £65; exchange.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8896

ROVER, 3½h.p., 1920 touring model, 3 speeds, clutch, kick starter, shop-soiled only, as makers' specifications; at bargain price of £100 for cash only. —See below.

ROVER, T.T., Philipson pulley, shop-soiled only, as per makers' specifications; at bargain price of £85 for cash only; 1920 model.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [8746

CRABTREE
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Special Bargains

O.K. UNION ridden about 100 miles, as new **£35**

O.K. UNION, new, slightly shop-soiled - - **£40**

SPARKBROOK, new, 2-speed gear, shop-soiled - - - **£60**

DOUGLAS, 1920, 3-speed, kick-start and clutch, perfect and little used **£75**

ZENITH, 6h.p., 1916, Combination, complete with lamps, windscreen, etc. overhauled - - **£85**

SUNBEAM, 3½ h.p., 1920, Combination, as new, fully equipped including windscreen - **£135**

SPECIAL OFFER OF NEW TYRES
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CLINCHER de LUXE
26×2½ for old size rim.
each **22/6** each
Carriage Paid.

Please mark envelopes "Tyres."

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MOTOR CYCLES FOR SALE.

FRANK WHITWORTH, Ltd., of Birmingham, recommends the chain drive 3-speed 3½h.p. Rover at £115 as one of the best value machines in the trade. Delivery from stock. [X2865

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery; hire-purchase if desired.—Collard, Cook's Garage, Shifnal. [2684

ROVER 3½h.p. Combination, May, 1920, as new, mileage 2,500, original tyres, lamps, tools, tax paid; £135, or part exchange lightweight.—Sale, Langley House, Kenilworth. [X2741

ROVER 3½h.p. Late Countershaft Model, £65; or with Millford sidecar £82.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, S.W. (½ min. from Brixton Skating Rink). [8746

1920 Rover 3½h.p., chain drive, 3-speed, etc., C.B. sidecar, Cowey, lamps, Low generator, insurance tax paid, etc., small mileage excellent condition; £145, or offers.—Isard Camano, Tonbridge. [8561

ROVER Combination, 3½h.p., 1914, 3-speed hub and engine thoroughly overhauled, new valves, springs, piston rings, extra heavy Dunlops, Easting, lamps, tools, horn, registration; £70.—MacLeod, 70b, Ladbroke Grove, W.11. [8540

ROVER Motor Cycles.—The new 3½h.p. 3-speed all-chain drive model is only £115, or 5-6h.p. twin £130; sidecars to suit either, £37/10; exchanges and deferred payments.—P. J. Evans, 81-91, John Bright St., Birmingham. [8958

Royal Ruby.

DAVIES, of Manchester, can deliver 1921 Royal Rubys from stock.—229, Deansgate. 'Phone: 536 Central. [2433

2¾h.p. Royal Ruby-Jap, 2 speeds, lamps, etc., good machine.—The Merstham Garage, Merstham, Surrey. [8613

1919 8h.p. Royal Ruby Combination, fully equipped, tax paid; £92.—60, Wallingford Av., N. Kensington. [8822

1920 3h.p. Royal Ruby, spring frame, hardly used, laid up in Ireland; £75.—Hackett, 247, Green Lanes, London, N. [X2816

ROYAL Ruby 2¾h.p. 1921 Sports Models, delivery from stock.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0542

1920 3h.p. Spring Frame Royal Ruby, tax paid, equipped, condition as new; genuine sacrifice 69 gns.—Ramsdens, Maybell Av., Blackpool. [9006

ROYAL RUBY 8h.p. Combination, fully equipped, perfect condition; any trial; inspection invited £110; owner buying car.—107, Headstone Rd., Harrow. [8560

1920 Royal Ruby 8h.p. Combination with a Dunhill sidecar, just done under 4,000 miles, owner must sell; £130, or near offer.—G.M., The Grange, Hendon Av., London N.3. [8555

Rudge.

1921 3½h.p. Rudge Multi; £85.—Morriss and Co., Ltd., 139, Finchley Rd., N.W.3. [8626

RUDGE, 3½h.p., 3 speed, good condition; £30.—Robinson, Lipton, Ltd., St. Albans. [8501

1920 Rudge, 3½h.p., all on; £75.—Gilard Motor agency, 209, Rutherglen Rd., Glasgow. [8547

1920 Rudge 5-6h.p. Combination, tax paid; and trial; 99 gns.—37, Craitbie Rd., Doncaster. [8455

3½h.p. Rudge Multi, absolutely new; a bargain.—The Merstham Garage, Merstham, Surrey. [8613

1921 Rudge Multi at £85, the finest value to-day cash or easy payments.—S. E. Clapham (Motors), Stockwell St., Greenwich, S.E.10. [5662

1920 1.O.M. Rudge Multi and Sidecar, in splendid condition, lamps, horn, tools, etc.; £87/10.—153, Upper Richmond Rd., Putney. [8495

RUDGE 3½h.p., with coachbuilt sidecar, specially fitted Burman 2-speed gear, clutch, kick start, tax paid; 50 gns.—11, Garden Walk, Cambridge. [8455

RUDGE Multi, 3½h.p., sloping tank roadster, with pedal starter, in stock; £85. — Peacock, 21, High Rd., Balham. 'Phone: Streatham 170. [8532

1917 Rudge Multi 3½h.p., just overhauled, £60; also practically new coachbuilt sidecar, £18.—Apply, Warde, 184, Beanwood Hill, Burton-on-Trent. [8695

1920 (Late) 1.O.M. Rudge Multi, T.T. racing and touring cams, Bonniksen, lamps, tools, many spares, perfect; £75.—Mitchell, Lindens, Farnham. [8595

1920 Rudge Multi 5-6h.p. and Sidecar, suit trade man or passenger, everything in perfection, all accessories, small mileage, licence paid.—128, London Rd., King's Lynn. [8445

RUDGE Multi, 1914, thoroughly overhauled, Se spray, variable jet, 110 m.p.g., belt and tyres good, spare valves, tubes, etc.; £48.—Clarendon Lodge, Clarendon Rd., South Woodford. [8495

3½h.p. Rudge Multi, late model, overhauled, clutch, kick start, back tyre unpunctured, long copper exhaust, splendid order, spares, belt, horn, tax paid, £55; before 7 p.m.—48a, Hawley Rd., Keatish Town, N.W.1. [8495

MOTOR CYCLES FOR SALE.

Rudge.

1921 Broad New Rudge Multi, T.T. model, 3½h.p., latest pedal starter, just being delivered, most exceptional bargain, all tools, accessories, 2 lamps and screecher, all brand new, for £83/10.—Box 4,106, c/o *The Motor Cycle.* [8977

Scott.

SCOTT 3¾h.p., 1921, from stock, £130; or with Watsonian sidecar, £152/10.—Gibb, Gloucester. [0445

SCOTT 1910, mechanically perfect, tax, and all on, ride away; offers.—Sowerby, Beelsby, Grimsby. [6340

1920 Scott 3¾h.p., speedometer and E.U.K. starter, only ridden 800 miles; £100, or near offer.—U. Hills, 9, Erskine Hill, N.W.11. [8778

1920 Scott Combination, only done few miles, electric light, tax paid, many spares; £125; trial.—Bodey, 11, Beaufort Mansions, Chelsea, S.W. [8461

SCOTT Combination, 1920, complete lamps, horn, etc., very little used, stored 9 months; owner abroad; 110 gns.—Hankin, West St., Alresford, Hants. [8828

SCOTT 3¾h.p. Motor Cycle, solo, in top-hole condition, new 1920, very little used; price £105, or near offer.—Apply, Pearce, 77, High St., Sandgate. [2308

SCOTT 1913, complete lamps, horn, tax paid, in splendid running order and condition; £38, or exchange lightweight and cash.—Dawson, 34, Ampthill Rd., Bedford. [8795

1920 (late) Scott, Lucas biggest lamps, speedometer, horn, discs, licensed, indistinguishable from new; £89.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. [8925

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4 Phone: Brixton 2417. [0510

SCOTT, 1920, 3¾h.p., excellent condition, complete, tool kit, Lucas separate generator lamps, Ace discs, T.T. bars, 3in. Palmer cords, horn, etc., licence paid, very little used; bargain at 90 gns.—87, Wallgate, Wigan. [8676

1920 3¾h.p. Scott, 2-speed, clutch, kick starter, lamps, horn, Watford speedometer, full kit of spares, Henderson Elite sidecar, disc wheel, screen, etc., luxurious outfit, property of naval officer now on service; bargain, £120.—Seen at Sam E. Clapham, 3, Stockwell St., Greenwich, S.E.10. [8413

Singer.

SINGER, 3½h.p.; £23; lamps, etc.; bargain.—Ranford, Garage, Malvern. [8817

SINGER 4h.p. Combination, 1916, countershaft; £53, registered, bargain for quick sale.—Ranford, Malvern. [8816

McINTOSHES Racing Singer, 250 c.c., capable of over 60 m.p.h., 2-speed gear; £50.—Smith's 86, Milk Farm Rd. (opposite Chalk Farm Tube Station), Hampstead 2767. [0602

SINGER, 3½h.p., 3-speed, clutch, little used, lamps, horn, etc., appearance as new; any trial given; paid, insurance policy included; for quick sale, £30, or near offer; after 6.30.—56, Ruskin Walk, Dane Hill, S.E. [8831

4h.p. T.T. Singer, H.B.C. Bosch, variable jet B. & B., long exhaust, fast, electric lighting, beautifully ridden, any trial upon deposit, tax paid, recently overhauled and re-enamelled; £42, or offers.—Campbell, Britwell Rectory, Wallingford, Oxon. [8550

Sparkbrook

SPARKBROOK 1920 2¼h.p., 2 speeds, as makers' specification, shop soiled only; three of these at bargain price of £50 each for cash only.—Mebes, 3, St. Portland St., W.1. 'Phone: Langham 2230. [8754

Sun

1916 Sun-Villiers, lamps, horn, tax paid, just thoroughly overhauled by makers, nearly new tyres belt, guaranteed fast and powerful; £27/10.—Iverson, 34, Ampthill Rd., Bedford. [8879

1920 2¼h.p. Sun-Vitesse, 2-speed Sturmey-Archer gears, kick start, hand clutch, Chyrite horn, Lucas's lamps, kit, mileage about 500 miles; for £50, nearest offer.—Bryntag, Joyford Hill, near Coleford. [8901

SUN-VITESSE, 1916, single-speed, engine No. H487, recently overhauled, perfect running order, full accessories, tax paid, fully insured; £34/10, or reasonable offer.—R. H. Parker, Mill House, Mildenhall, Suffolk. [8863

Sunbeam.

KICKHAM for Sunbeam, sole agent for Bristol and district.—Stokes Croft, Bristol. [3352

SUNBEAM 1921 3½h.p., immediate delivery; list price.—Wiggins and Sons, Romsey, Hants. [6063

SUNBEAM 3½h.p. 1920 and Sidecar, condition perfect; £139.—Warren, 193, Ponders End, N. En. 560. [8781

1920 8h.p. Sunbeam De Luxe Combination, lavishly equipped, original tyres; £170.—60, Wallingford N. Kensington. [8821

SUNBEAM.—We are agents, and can supply either model promptly; exchanges invited.—Bunting, Ivors, Wealdstone. [8937

CRABTREE
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FOR
Rebuilt Machines

Rebuilt as new from Ex Government machines and new parts.

Fully equipped with new accessories, including Head Lamp, Generator, Tail Lamp, Horn, Licence Holder, Two Tool Bags, Pump and Tool Kit, and carrying a Three Months' Guarantee.

DOUGLAS

2¾ h.p. two-speed, fully equipped . £65
4 h.p. three-speed, kick-start and clutch, fully equipped - - - £85
4 h.p. ditto and Sidecar, with new sidecar finished in "DOUGLAS" Saxe Blue, and fully equipped - £105

TRIUMPH

3-speed, kick-start and clutch - £95

P. & M.

2-speed, kick-start - - £70

Each of the above machines is rebuilt in our own extensive up-to-date works with a great proportion of new parts. In appearance they are almost indistinguishable from new and we are prepared to give a signed guarantee with each machine.
They are all newly stove enamelled, replated tanks in makers' colours, and are fitted with *new* tyres.

SPECIAL LINE OF
2¾ H.P. 2-SPEED
DOUGLAS
Fully renovated and overhauled machines
at **£55** each,
or fully equipped with Lamps and Horn, £58 each.

The whole finish is good, and each machine is tuned up and tested before delivery and is guaranteed to be in sound serviceable condition. Each machine is equipped with new tool bag, tool kit and pump.

Carriage extra. Deferred payment arranged.

TRADE SUPPLIED.

CRABTREE & SON
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Motor Engineers, WISBECH

MOTOR CYCLES FOR SALE.

Sunbeam

SUNBEAM 2¾h.p., 2 speeds, late 1914, splendid condition, new lamp, new tyre; only £45.—11, Queen's Rd., Leytonstone. [9011

SUNBEAM, 1920, 3-speed, kick start, Lucas lamps, horn, tools, etc., good condition; £130.—Taylor, 155, Kirkstall Lane, Headingley, Leeds. [8489

SUNBEAM 1919 3½h.p. Model, complete with lamps and horn, excellent machine; what offers? Sussex.—Box 4,100, c/o *The Motor Cycle.* [8971

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

1914 2¾h.p. Sunbeam, excellent running order, Lucas lamps, horn, tools, tax paid; £50, or nearest; after 5.30 p.m. any day.—Gorton, South View, Didcot. [8609

1920 (July) 3½h.p. Sunbeam, complete lamps, Cowey horn, speedometer, and knee grips, fine condition; £125.—F. Blagg, Hednesford, Staffs. [8555

1919 Sunbeam 3½h.p. Combination, black and gold, all lamps, Klaxon, first-class condition, licence paid; £120, or near offer.—Gibbs, Fawcett St., York. [8288

1914 6h.p. Sunbeam Combination, equipped, tax paid, excellent condition; absolute gift, £83 for quick sale.—Ramsdens, Maybell Av., Blackpool. [9003

SUNBEAM, 3½h.p., 1921, only ridden 200 miles, Magdyno lighting set, speedometer, etc.; cost with fittings £200; price £185.—Willis, Garage, Eton, Windsor. [8534

SUNBEAM, 1920, 3½h.p., Sunbeam sidecar, lamps, tools, pumps, etc., carefully used; £145; exchange dynamo A.B.C.—Warren, 175, Enfield Highway. [8990

1921 Sunbeam, new March, mileage 700, tyres and condition perfect, Lucas lamps, fully insured to February, 1922, Klaxon; £145, offers.—81, Manor Lane, Lee, S.E. [8504

SUNBEAM 1915 3½h.p. Model, with sidecar, complete with all accessories, excellent condition; £110.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2410

1920 Sunbeam Combination, 8h.p., electric lighting and horn, all lamps, tools, spare wheel, hood, screen, discs, luggage carrier, original tyres, lovely condition throughout, like new; £165.—71a, King Henry's Rd., Hampstead, London. 'Phone 6552. [8963

SUNBEAM 1916 3½h.p. and Skiff Sidecar, good lamp set, horn, mirror, speedometer, screen to sidecar, licence paid, guaranteed mechanically sound and good appearance; £105.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [8913

SUNBEAM 1914 6h.p. Combination, stored during war, Super Gloria sidecar, recently overhauled, tyres nearly new and 1 spare, luggage grid, Cowey speedometer, Klaxon, lamps, everything complete, insured and tax paid, magnificent turnout; any trial; £130, or nearest.—Churchill, 83, Iverson Rd., Brondesbury, N.W.6. [9025

Torpedo.

TORPEDO-PRECISION 2¾h.p., perfect condition; £28.—34, Chesfield Rd., Tooting, London, S.W.

Triumph.

BABY Triumph, 1920, unused, shop-soiled; what offers?—Willey, Hatfield, Herts. [8722

1920 Triumph, 3-speed perfect condition, equipped; £95.—144, Ladbroke Grove, W.10. [8121

1920 Triumph Combination, 3-speed, well equipped; £120.—144, Ladbroke Grove, W.10. [6317

DAN GUY, Weymouth.—1921 Triumph combination, £182/10; Triumph 2-stroke, £75; in stock. [0555

TRIUMPH, late 1918 4h.p., countershaft, lamp and horn, tax paid; £65.—36, Ferry Rd., Barnes, S.W. [8476

3½h.p. Triumph, good running order; £27/10; after 6.30 p.m.—11, Thurlow Park Rd., Dulwich. [9017

£33.—1912 3½h.p. Triumph, excellent condition, lamps and tools.—11, Hilton Terrace, Whitehaven. [8899

£59.—1918 Triumph, in excellent condition and guaranteed perfect.—135, Edgware Rd., W.2. [9033

TRIUMPH 1913 4½h.p., T.T., clutch, all on, splendid order; £45.—Owen 24, The Common, Woolwich. [8710

3½h.p. Triumph, S.G., excellent condition, Bosch, tax paid; £35 or exchange 2-stroke.—323, Springbank W., Hull. [8862

1921 4h.p. Triumph, Model H, 3-speed, in stock; £115.—Morriss and Co., Ltd., 139, Finchley Rd., N.W.3. [8625

TRIUMPH, 3-speed, countershaft, and sports sidecar, splendid condition; price £110.—Glayshe, Middle St., Horsham. [8466

TRIUMPH 4h.p., Canoelet sidecar, Sept., 1919, lamps, horn; £100; appointment.—18, Gleabuck Rd., Surbiton. [8759

TRIUMPH 1918, overhauled W.D., all late models, selected; £62.—Clark, 7, Exhibition Rd. South Kensington. [8321

TRIUMPH Combination, late 1914, 3-speed and clutch, in perfect mechanical order; £65.—280, Camberwell Rd., S.E.5. [706

MOTOR CYCLES FOR SALE.

Triumph

TRIUMPH, late 1920, speedometer, lamps, horn, Tan-Sad, licence paid; £95, or nearest offer.—Tholander, Filey, Yorks. [8726

TRIUMPH, 1914, 3-speed, clutch, lamps, sidecar, rebushed, good tyres, excellent condition; £70.—Figg, Castle St., Farnham. [8452

TRIUMPH 1918 4h.p. Countershaft, enamel, plating, and mechanically as new; £75.—30, Crystal Palace Park Rd., Sydenham. [8793

1921 Lightweight Triumph 2-stroke, 2-speed, perfect condition throughout; £65.—153, Upper Richmond Rd., Putney. [8493

TRIUMPH Combination, 4h.p., 3-speed countershaft, clutch, bulbous sidecar; £108.—Quantock House, Upper High St., Taunton. [8709

4h.p. Triumph C.B. Combination, Sturmey 3-speed hub, clutch, thorough running order; £60.—Goodchild, Waterworks, Shoeburyness. [8518

TRIUMPH 3½h.p. 3-speed Combination, wind screen, lamps, spares, etc., recently overhauled; £50.—Richardson, Pattiswick, Braintree. [7190

3½h.p. Triumph Combination; £55, or offer, or sell separate: splendid condition.—Wilson, 90, Grayshott Rd., Lavender Hill, S.W.11. [8644

3½h.p. Triumph Motor Cycle, Bosch mag., good running order; £25, or offers.—51, Ravenscar Rd., Surbiton. Evenings after 7 p.m. [8519

1918 Countershaft Triumphs, in beautiful order, good tyres, equipped; from £58; combination from £75.—60, Wallingford Av., N. Kensington. [8824

SEPT., 1920, Baby Triumph, good order and condition, mechanically perfect; first cheque £57 secures.—Williams, Caerffynnon, Penrhyndeudraeth. [8623

TRIUMPH 4h.p., 3-speed, with lightweight sidecar; £82.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8892

TRIUMPH, 4h.p., 3 speeds, kick starter, as new, not run 60 miles, lamp, horn, etc.; £110, or nearest offer.—Grills, Newcastle St., Kilkeel. [X2400

TRIUMPH, all models for immediate delivery; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8888

F.O.C.H. are Triumph Agents.—Combinations and solos, new and second-hand, in stock.—5, Heath St., Hampstead (near Hampstead Tube Station). [8809

TRIUMPH 4h.p., 3-speed, late model, good order; £65; another at £69.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8889

1918 Triumph, 4h.p., W.D. model, like new, has not been used since rebuilt with new parts; £80.—Seen at 4, Yeoman's Row, Brompton Rd., S.W. [8994

TRIUMPH, countershaft, 3-speed, guaranteed, uncrated March, 1921, mileage 500, ridden only by expert, no dealers; £100.—53, Christchurch Rd., Reading. [8575

£30.—Triumph 3½h.p., absolutely complete, tools, etc., good condition throughout, fast and very reliable; write or call any time; licensed.—Peerless, Old Windsor, Berks. [8691

1921 Triumphs at revised prices; cash or easy payments to secure; immediate delivery. Try Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [5666

TRIUMPH, renovated 1920, 3-speed countershaft, like new, tax paid, seen and tried any time; £80, or near offer.—A. Jones, Alford Rd., Mablethorpe, Lincs. [8585

1921 4h.p. All-chain Triumph, with Montgomery sporting sidecar, fully equipped, little used; £155.—Write or 'phone, 135, Ladbroke Rd., W.11. Park 3393. [8846

3½h.p. Triumph, 1912, clutch, Philipson, thorough order, tyres excellent, all accesories and tools, many spares, tax paid; £40.—9, Arundel Gardens, Winchmore Hill, N.21. [8483

JUNE, 1919, Triumph, with 1920 Montgomery sidecar, excellent condition; any trial; £110, or nearest offer.—Britton, Surveyor, Bexton Rd., Knutsford, Cheshire. [8564

TRIUMPH 4h.p., 3-speed countershaft, lamps, horn, tax paid, splendid condition; £67, or near offer; not Sundays.—Richmond House, Crescent Rd., Shepperton-on-Thames. [7325

TRIUMPH, 4h.p., 1919, Sunbeam sidecar, Tan-Sad, lamps, horn, licence, little ridden, splendid condition; £140.—Simpson, 14, Mersey View, Blundellsands, Liverpool. [8667

1914 4h.p. Triumph Combination, 3-speed hub, Coronet sidecar, as new, electric lamps, perfect condition.—White, D'Albini, West Wycombe Rd., High Wycombe. (D) [X2474

TRIUMPH 4h.p., late 1917, engine 50991, 3-speed, countershaft, clutch, and kick-starter, perfect; any trial, £65.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). [0600

COMBINATION, Triumph, 3-speed, kick starter, countershaft, electric light, recently overhauled; owner wants car; £80, or nearest offer.—Baker, Weston Favell, Northampton. [8617

1918 Triumph, 4h.p., countershaft, W.D. model, rebuilt, and new parts, indistinguishable from brand new; what offers over £70.—21, Rodborough Rd., Golders Green. [8993

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Triumph.

CROYDON Agents for Triumph motor cycles. A models in stock, ready for immediate delivery.—Moore's Presto Motor Works, Ltd., 145, North End Croydon. 'Phone: 2624. [134

2½h.p. 1920 Baby Triumph, lamps, horn, speedo meter, and footboards, tax paid, in perfec condition, suitable for lady; 50 gns.—J. Argyle, 19 Gt. Clarendon St., Oxford. [866

TRIUMPH 4h.p., late 1917, 3-speed, countershaf clutch, and kick-starter, with new cancelet sidecar £90.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Far Tube Station). Hampstead 2767. [060

1920 Model H Triumph, F.R.S., electric lamps Bonnikseo, mileage 700; £125; or exchang with cash for 1920-21 A.J.S. combination.—Cox, 40 Longroyd View, Dewsbury Rd., Leeds. [855

1918 Triumph, fitted lamps, horn, reconditioned and in perfect mechanical condition; £60, o fitted new Sandum 18 gn. sidecar £78.—Edwards, 50 Harrington Rd., South Kensington, S.W.7. [892

TRIUMPHS.—We are the North London agents, and can give immediate delivery; chain drive, chain cum-belt, and renovated models.—Jones Garage, Mus well Hill, N.10; and at Woodside Parade, North Finchley. [038

IMMEDIATE Delivery of any Triumph Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd. South Side, Clapham Common, S.W.4. 'Phone: Brix ton 2417. [050

NEW Chain-driven Triumph, just delivered from works, latest springs, etc., new mediumweigh coachbuilt sidecar cost £28, accessories, etc.; £12 licence paid; owner bought car: £140, bargain.— 190, Divinity Rd., Oxford. [896

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.— Triumphs, all models in stock, new chain drives new chain-cum-belts, solos and combinations; also 4h.p renovated models, £90 and £95; immediate delivery supplied on easiest of easy terms; trade supplied. [827

COMBINATION, 1921 4h.p. Triumph, chain-cum-be (600 miles), with Headerson medium coachbuil sidecar (rear locker, run only 300 miles), tyres, etc never punctured, cycle like new: accept offer neare £150.—Alston, Seaview, Port William, Wigtownshire. [868

TRIUMPH and Henderson Sidecar, engioe, gear and all bearings, etc., renewed, lamps, horn mirror, Easting screen for sidecar, licence paid, ne appearance, and guaranteed; £80.—Herbert Robinson Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A. Bicycles. [892

THE Biggest Bargain ever offered in combinations. 4h.p. Triumph, 3-speed, kick starter, coachbui sidecar, wind screen, speedometer, new Palmer tyre very powerful, will take two anywhere, fully equipped price £80, cost £135 month ago.—Apply, M. Tonbridge 44, Manor Rd., Enfield. [850

1919 3-speed Countershaft Triumph, bulbous ba sidecar, locker at rear, Tan-Sad, Watford tr speedometer, Miller lamps, mirror, horn, accessories spares, used week-ends only since new, whole indistinguishable from new; honest bargain, £125; any trial after 6 p.m.—Preston, Stanwell House, Stanwell, ne Staines, Middlesex. [71

4h.p. (June, 1919) Triumph Combination, 3-speed countershaft, speedometer, horn, lamps, light c generator, interchangeable tyres, new spare, Grindl double sprung de luxe sidecar, hood, screen, petrol, carbide, and luggage carrier attached to body, first-class order, expert examination and trial invite mileage 4,000; £120. — Riley, 58, Holyhead R Coventry. [X24

Velocette.

JULIANS of Reading have 1921 Velocette in sto [04

VELOCETTE, new, 2-speed, £69; list £75; unridde unregistered.—Box 601, c/o *The Motor Cycle.* [X22

1920 Velocette, 2-speed, all-chain drive, under 20 in perfect order, any trial; £60.—E. F. Dalt Welwyn. [71

DAN BRADBURY can give instant delivery of famous Velocette lightweights.—224, London R Sheffield. [80

IMMEDIATE Delivery can be given of the fam Velocette, 1921 model, 2¾h.p., 2-speed, all-ch drive; £75. — Agents, W. Sparrow, Ltd., Osbo Garage, Yeovil. [1

Verus.

1920 Verus-Blackburne, disc wheels, lamps, ridden 250; bargain, £82.—Shepherd, Enf Highway. Tel.: Waltham Cross 31. [0

IMMEDIATE Delivery of any Verus Model; cash deferred payments; book your order now, avoid disappointment later.—Burlington Motors, L South Side, Clapham Common, S.W.4. 'Phone: B ton 2417. [0

LATE 1920 2¾h.p. Verus-Blackburne, 2-speed, start, hand clutch, lamps, horn, tools, spa condition and appearance excellent, small mile tyres unpunctured, fast, climb anything; £75.— 4,052, c/o *The Motor Cycle.* [8

Wilkin.

1921 4h.p. Wilkin, brand new, unused, £96, £130; 2¾h.p. Wilkin, ditto, £85, listed £ —Edwards, 50, Harrington Rd., South Kensing S.W.7. [8

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WILLIAMSON, 8-10h.p. Douglas engine, coachbuilt sidecar, electric lighting, perfect order; £100, paid.—58, Peckham Rye, S.E.15. [8401

WILLIAMSON Combination, water-cooled 8h.p. Douglas engine, beautiful turnout; £120; take 8r power part.—57, Keabury St., Camberwell, don. [8783

WILLIAMSON, 8h.p. water-cooled Douglas engine in splendid condition, guaranteed, with 2 sidecars, ocket and box for commercial use, all accessories, es, licensed; £95.—R.S., The Nook, Craven Arms, p. [8566

Wolf.

20 Wolf-Jap 2¾h.p., S.A. 2-speed, K.S., clutch, splendid condition, low mileage, all accessories; —Winkworth, Melva, Sidcup Hill, Kent. [9026

WOLF.—Sole agents for London, South of Thames, and district. We are now fixing sub-agencies, ivite enquiries.—Burlington Motors, Ltd., South Clapham Common, S.W.4 'Phone: Brixton 7. [0508

Wooler

20 2¾h.p. Wooler, 500 mileage tools, lamps, horn, aluminium footboards, licence; bargain, 70 gns.— or, 155, Kirkstall Lane, Headingley, Leeds. [8488

20 Wooler, 2¾h.p. flat twin, not done 500 miles, complete with lamps, horn, tools, etc., owner ht combination; £65.—Rev. J. Robertson, Capel ory, Ipswich. [8986

OOLER 2¾h.p. Tourist Model, 1920, shop-soiled only, lamps, Cowey horn, at the bargain price 87/10 for cash only.—Mebes, 156, Gt. Portland W.1. Phone: Langham 2230. [8751

Zenith.

LIANS of Reading have Zenith 1921 5h.p. in stock. [0482

N GUY, Weymouth.—Zenith agent, early delivery all models. [0556

C. PICKERING, Shrewsbury.—Zeniths from stock; exchanges arranged. [8069

NITH, 4h.p., fast and sporty, condition as new; £58.—85, Walton Rd., E. Molesey. [8801

20 New Zenith, 8h.p., Model H, and sidecar; £180.—Meldrum, Esplanade, Dundee. [8730

Zenith Combination, counter-shaft, kick start; £85.—112, New King's Rd., Fulham, S.W.6. [8484

21 8h.p. Zenith, clutch and kick starter model, in stock; £152.—Morriss and Co., Ltd., 139, ley Rd., N.W.3. [8624

.C.H. for Zenith.—New and second-hand machines in stock.—5, Heath St., Hampstead (near Hamp- Tube Station). [8810

N BRADBURY can supply Zenith, all models from stock. Big 90 bore twin £146, in stock.— London Rd., Sheffield. [8020

4 3½h.p. Twin Zenith, lamps, new rear tyre, ex- cellent condition; £60, or near offer.—Tremayne, wood, Leatherhead, Surrey. [8902

6 Zenith, 5h.p., Gradua gears, perfect; £65; exchange recent I.O.M. Rudge or similar.— ard, Atworth, Melksham. [8671

ITH-GRADUA 1914 6h.p., stored during war, since renovated, J.A.P. engine, mechanically per- £68.—Roberts, Butcher, Wel-hpool. [8562

ITH 1920 5h.p. Sports Model, excellent condi- rion, genuine machine; would exchange combina- appointment only.—Pennare, Victoria Av., Surbi- [8703

1 5h.p. Clutch Model D Zenith Motor Cycle, fitted complete with full accessories, lamps, tools; £140.—W. H. Johnson and Sons, Ltd., Lynn. [8577

ITH 3½h.p. Single, late 1919, very little used, and in excellent condition, complete with lamps orn; £75, or nearest; licence paid.—H. Wade, Marden, Kent. [8844

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E 1919 8h.p. Zenith, counter-shaft Swan sporting idecar, special drip to front cylinder, electric and ne lighting, discs, all accessories, in beautiful ion; £136, or offer.—Overbury, Greenlands, Ash- Middlesex. [8689

ITH 1920 6h.p. Sporting Combination, Lucas ead, rear, and sidecar lamps, Cowey speedometer, ps, Ace disc wheels, luggage grid, equal to new; Parker's, Bradshawgate, Bolton; also 245, Deans- Manchester. [X2411

0 (Sept.) 8h.p. Zenith Sporting Combination, Zenith boat-shaped sidecar, new Easter, lamps, speedometer, tools, tax paid, tyres nopnc- perfect condition throughout, any trial; £155.— 20, The Mall, Ealing. [8548

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HARLEY-DAVIDSON, 1920, M.A.G. model, P. & H. acetylene equipment, Harley de Luxe Sidecar, speedometer; only shop-soiled	£225	0	
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P. & M., solo, 1919, fully equipped, all lamps, speedometer	£75	0	
NEW HUDSON, solo, 1920, 2½ h.p., T.T. bars, 2 months' guarantee, nearly new	£50	0	
ACE Combination, 1921, dynamo lighting, horn, mirror, speedometer, C. & M. de Luxe Sidecar with disappearing hood, screen. Tax paid. Cost £320. 800 miles only	£250	0	
EMBLEM, solo, 1921, 4-5 h.p. twin, shop-soiled	£70	0	
LEA-FRANCIS, solo, 1920, 3½ h.p., new	£105	0	
CLYNO, solo, 1920, 2½ h.p., new	£52	0	
READING STANDARD 1921 Combination, dyna mo lighting, horn, with M.P. Sidecar	£146	0	
A.B.C., 1920, as new, tax paid	£89	0	
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1915-16 7-9h.p. Zenith, sporting model, lamps, etc., long nickel plated exhaust, in excellent condition, licence paid; price £90.—The Chester Engineering Co. (1918), Ltd., City Rd., Chester. [8521

8h.p. 1919 Sports Zenith, and Swan sporting sidecar, a really fast machine in beautiful condition, electric lighting, Ace discs, Bonniksen, cup and medal winner, owner buying car; £135, or offer.—Jarvis and Sons, Ltd., Victoria Crescent, Wimbledon. [7763

ZENITH 6h.p., 1919-20, Lucas lighting, Best mechanical lubrication, 2 3in. nickel exhaust pipes with butterflies, tyres, belt quite new, discs, pateat horn, outfit in beautiful condition and machine quite indistinguishable from new; cost £165; accept £105 quick sale; near offer.—48, Grenville Rd., Hornsey Rise. [8794

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Ladies' Motor Cycles.

NEW High-grade £85 Lightweight; £60 cash, piano, or shares.—159, Lansdown Rd., Tottenham. [8789

LADY'S Douglas, 2-speed, good condition; £50.—Robinson, Chinhurst, Selby Av., St. Albans. [8499

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3h.p. Lady's Minerva, Bosch, Amac, lamp set, overhauled, good running order; 22 gns.—76, Western Rd., Southall, Middlesex. [8697

LADY'S Model 2¼h.p. 2-speed Singer, B.B., Bosch, new cylinder, piston valves; genuine, £45.—Lee, East Hill, Houghton Regis, Dunstable. [X2105

Miscellaneous.

EWEN'S Garage, King's Lynn ('phone: 122), for Morgans, Richardsons, Triumphs, Douglas, James, etc. [1440

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BARGAINS.—New 1921 Rudge Multi, £85; 1915 Douglases, £42/10; 4h.p. Douglas, £69/10; 4h.p. Douglas, with new sidecar, £95/10; 1913 Royal Ruby combination, £110/10.—Booths' Motories, Halifax.

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ALLBER.—Douglas 1916 2¾h.p., 2 speeds, aluminium disc wheels, undershield, good tyres, toolbags, Cowey horn, expensive lighting set, absolutely posh, tax paid; £55.

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ALLBER.—Zenith 1916 8h.p., sports model, new tyres, Gradua gear, in splendid condition, tax paid; £60.

ALLBER.—Metro-Tyler 1920 2-stroke, 2 speeds, disc wheels, long exhaust, lighting set, good order, tax paid; £45.

ALLBER.—F.N. 2½h.p., 2 speeds, shaft drive, lamps, good order, tax paid; £23.

ALLBER.—Triumph 1913 3½h.p., T.T., good tyres, 1918 improvements; £32.

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Miscellaneous.

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SEVERAL Second-hand Motor Cycles and Combinations, tax paid, and ready to ride away.—Sam E. Clapham, 27, Stockwell St., Greenwich, S.E.10. [8412

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WALL Auto-wheel, brand new, must sell; what offers? —Cowards, Mere, Wilts. [8984

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AUTO-WHEEL, less magneto, faultless, £6/10; Armstrong 3-speed wheel, £8/10.—Saunders, 49, Riverside, Kingston-on-Thames. [8599

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INVALIDS' Tricycles and Motor Tricycles; catalogue free.—Rayner, 10-12, George St., Blackpool. [X7038

ARGSON Hand and Motor-propelled Tricycles, for invalid and disabled.—Particulars, Argson Eng. Co., Ltd., 3, Kendalls Mews, George St., W.1. [2647

MOTOR SCOOTERS.

MOTOR Scooter, 2½h.p., free engine, starting handle; £18.—1, Julian Av., Acton. [8693

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SKOOTAMOTA, A.B.C., brand new, in crate, latest model, complete; 35 gns.—Bradshaw's Motor House, Preston. [8551

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8h.p. J.A.P. Engine, mag., carburetter, complete unit; £20.—Towler, 22, Thorn St., Burnley. [8467

3h.p. Omega 2-stroke Engine, perfect condition, as new; £9.—Tudor Cottage, Pitsmoor Rd., Sheffield. [8875

KELECOM 1914 4h.p., new Senspray, Blic; £14; packed on rail Reading.—Beetlestone, Sidmouth House, Reading. [X2178

1¾h.p. Minerva Engine, new mag., new carburetter and adjustable pulley; £6; carriage paid.—Ives, Meadle, Princes Risborough, Bucks. [D [8604

LATE 1920 Villiers 2½h.p. 2-stroke, flywheel magneto engine, complete, controls, sprocket, plates; only run 500 miles, almost new condition; £12.—Grant, Glyncornel, Ogmore Vale, Glamorgan. [6580

3½h.p. Humber, m.o.v., adjustable tappets, cyl. re ground, new piston and ball races, rebushed new E.I.C. mag., B.B. carburetter, exhaust pipe and silencer; £10, offers.—477, Earlham Rise, Norwich. [898

A.B.C. Flat Twin Engines, with magnetos, o stands, complete with tank and cooling fan, suitable for power motor cycle or cycle car use, practicall new; £20 each.—Holliday Bros., 20, Queen St., Ham mersmith, W.6. 'Phone: Hammersmith 1944. [809

4h.p. New J.A.P. Stationary Engines, complete wit Amac carburetter, controls, Splitdorf mag silencer, fan, and tank, 2in. flat pulley and jockey suit all purposes or motor cycles.—Harley and Son Fontenoy St., Liverpool. [872

HEPPELTHWAITE.—5-5h.p. J.A.P., complete wit mag. and carburetter, £18; 2¾h.p. Douglas an mag., £10; 3½h.p. Star, m.o.v., £5/15; 3½h.p. Minerva m.o.v., £5/10; 2h.p. Minerva, £3/10; twin Rex, 5h a.i.v., £4/10; De Dion 6h.p. w.c., £10; another, £11/10 magnetos and carburetters at knock-out prices.—1 Wilcox Rd., Wandsworth Rd., London, S.W.8. [883

IGNITION APPLIANCES.

WEST London Magneto Co. for repairs to every ty of magneto.

SATISFACTION, combined with first-class workman ship, is the standard of the above company, hea our great reputation.

FAULTY Magnetos sent to the West London Magne Co. for repairs are fully guaranteed by us fo 12 months on leaving our works; therefore do not tru your magneto to doubtful repairers.

WEST London Magneto Co. invite you to send yo enquiries concerning magnetos and spares.

RING Hammersmith 2757, and we will colle repairs and deliver your magneto within 2 hours if you are in the London area.

NOTE Address: West London Magneto Co., 16 Shepherd's Bush Rd., London, W.6. [52

IGNITION APPLIANCES.

MAGNETOS 60% Below Usual Cost.

C.A.V., suitable for any 2 or 1-cyl. engine of less than 4½h.p. They are most efficient, and yet have the advantage of being the smallest magneto that can be relied upon for the purpose recommended; 2-cyl. fires at 180°; provisional price 63/-.—Below.

THOMSON-BENNETT 8-cyl. Magneto, adapted for 4-cyl., variable ignition, clock or anti clock; £6/6.—Below.

THOMSON-BENNETT and M-L's, of Coventry, A.D.S. or P.L.R. type, clock or anti clock, 35/-; variable ignition 10/- extra. A.D.S. are particularly suitable for stationary engines.—Below.

THOMSON-BENETT AM2, firing at 180°, fitted with variable ignition and short-circuiting terminal, clock or anti clock, 50/-; also Thomson-Bennett, type AML, as above, but for single-cylinder engines, 45/-.—Below.

ALL our single-cylinders are guaranteed 1 spark per revolution; trade discount on application. N.B.—Special net price will be made for contract orders to deliver so many per week or month. Satisfaction or payment refunded if goods returned within 14 days in condition as despatched. All magnetos are examined by experts before despatch.—Vale Engineering Synd., 9/11, Browns Buildings, St. Mary Axe, E.C.3. [0590

RELIANCE Magneto Repairing Co., specialists in magneto repairs.

RELIANCE guarantee to return your magneto within 3 days, and, if necessary, 24 hours.

RELIANCE work under estimate, and guarantee every job 12 months. Armature winding a speciality. Trade enquiries solicited.

RELIANCE work for, and are recommended by, some of the largest concerns in London and country, and can supply every want.

RELIANCE stock spare parts for Bosch, U.H., Eisemann, E.I.C., Thomson-Bennett, C.A.V., Dixie, Splitdorf, etc. Special line: Genuine platinum screws for every make, 12/- per pair.

RELIANCE specialise in the repair of U.H. and Dixie magnetos, and having the original parts, can guarantee a sound and reliable job.

RELIANCE have just taken over larger premises, and are now in a particularly strong position to deal with repairs quickly, thoroughly, and cheaply.

RELIANCE will be pleased to receive your enquiries concerning your ignition troubles, and old and new customers may be certain of getting both promptness and courtesy.—Note new address: 283, St. John St., London, E.C.1.

MAGNETOS.—New Thomson-Bennetts, waterproof and sent out with written guarantee; single cyl., any machine, £2/5; 180°, for Douglas, etc., £2/10; 42°, 45°, 50°, 55°, suit Indian, Harley, Clyno, J.A.P., etc., £2/15; postage 1/6. It will pay you to buy from reputable firm.—Reliance Magneto Repairing Co., 283, St. John St., London, E.C.1. [6041

BOSCH Magneto, suit 4h.p., anti-clock, good order; £2/5.—56, Sutton St., Aston, Birmingham. [X2416

TEA Magneto, 4-cyl., maximum spark, advance or retard; £7.—McAllister, 69, High St., Rutherglen, Glasgow. [8533

SPARKING Plugs, K.L.G., aero type, must clear 4 for 5/-, post free.—Thompson, 59, Queen St., Wolverhampton. [8215

PLUGS.—K.L.G., unboxed, 1/- each; reconditioned Lodge Aero, 1/- each; postage extra.—34, Oxford St., Waterloo, Liverpool. [8558

BRAND New British Magnetos, not W.D., for Triumph, B.S.A., and Douglas; £4/19/6, carriage paid.—Collier's Motorics, Horton St., Halifax. [8946

MAGNETOS, Thomson-Bennett, 42°, 45°, 50°, 55°, clock or anti, with fixing bolts, ready to drop on Indian, Harley, J.A.P., Clyno, etc.; 50/-.—Below.

DOUGLAS Magnetos, T.B., 180°, for 2¾h.p. or 4h.p. engines; 45/-.—Below.

P. and M. Magnetos, T.B., with fixing bolts; 45/-.—Below, will fit any single.—Below.

TRIUMPH Magnetos, T.B., with fixing bolts, base-plate, and special spindle for sprocket; 50/-.—Below.

4-STROKE Magnetos, T.B.; 40/-. All above are new, waterproof, and guaranteed. Write for illustration and further particulars.—Super Power Co., 81, Forth Side, Clapham, S.W.4. [6326

SPLITDORF Magdyno, 45°, clockwise, new condition, accumulator and box horn, head, side, tail lamps, single switches; £9, offer.—76, Western Rd., Southall, Middlesex. [8696

CONTINENTAL Ignition Repair Co.—We repair Continental magnetos only. By specialising on Bosch, U.H., Eisemann, Mea, Splitdorf, Dixie, and Berling magnetos, we can naturally give you better service.

PRICE: Rewinding 18/-, condensers 10/-, platinum screws (Bosch standard) 6/-, remagnetising 2/6, rings 6/6, H.T. terminals 4/6. Our price for overhauling a motor cycle magneto ranges between 20/- and 35/-, and never exceeds the latter price. Guaranteed for 12 months, and redespatched to you in 2 days. We hold a large stock of V twin and single magnetos at favourable prices.

CONTINENTAL Ignition Repair Co., 13, Hardwick Rd., Chiswick, London. [6702

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RUBBER Co. LTD

Tyre Specialists

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Size.	Make.	Our Price.	List Price.
24×2	Wood-Milne Special ..	29 6	47/6
26×2	Wood-Milne Extra Hvy	37 6	60 -
,,	Clincher de Luxe Heavy	35/-	43/6
,,	Wood-Milne Special ..	29 6	48/-
,,	Englebert W'd-on Rib.	25 -	55/-
,,	Avon Lightweight Rib.	25/-	—
,,	Palmer Ribbed	25/-	—
26×2¼	Avon Combinatlea ...	48 6	91/-
,,	Avon Sunsleae	40/-	52/3
,,	Palmer Cord	39 6	53/6
,,	Wood-Milne or Spencer Moulton Extra Heavy	39 6	68/-
,,	Dunlop W.D. Heavy ..	39 6	53/6
,,	Beldam Extra Heavy..	37 6	64/-
,,	Bates Special Heavy ..	37 6	60/-
,,	Clincher de Luxe E.H'vy	37 6	62/6
,,	Hutchinson Passenger.	35/-	70/3
,,	Beldam Heavy	32 6	55 3
,,	Englebert W'd-on Rib.	30/-	60/-
,,	Hutchinson T.T.	30/-	56/6
,,	Wood-Milne Special ..	29 6	53/9
26×2½	Dunlop W.D. Heavy ..	42 6	56/9
,,	Bates Special Heavy ..	39 6	72/-
,,	Palmer Cord Heavy...	39 6	62/-
,,	Clincher de Luxe E.Hvy	39/-	68/6
,,	Beldam Extra Heavy..	37 6	66/3
,,	Kempshall Anti-skid..	37 6	52/6
,,	Wood-Milne Extra Hvy	37/-	63/9
,,	Wood-Milne Special ..	32 6	56/9
,,	Hutchinson TT R.Stud.	31 6	59/9
26×2½	Wood-Milne Extra Hvy	44 -	86/-
×2¼	Palmer Sidecar Ribbed	35/-	—
,,	Hutchinson TT R.Stud.	32 6	67/-
26×2½	Wood-Milne Comb'tion	57 6	102/-
,,	Avon Tricar Rub. Stud.	45 -	78/-
,,	Bates Special Heavy...	45/-	76/-
,,	Wood-Milne Extra Hvy	44 -	87/6
,,	Palmer 2-ply Ribbed ..	35/-	40/-
,,	Hutchinson T.T. Rib..	32 6	65/-
,,	Englebert W'd-on Rib.	30/-	70/-
26×3	Wood-Milne Comb'tion	65/-	105/-
,,	Wood-Milne Extra Hvy	52 6	86/-
28×2½	Goodyear A.W. Tread.	45/-	84/-
28×2¾	Goodyear A.W. Tread to fit 3in. rim	45/-	84/-
28×3	Bates Special Heavy ..	55/-	92/-
,,	Dunlop W.D. Heavy ..	48/6	74/6
,,	Avon 3-rib	45/-	90/-
,,	Wood-Milne Extra Hvy	35/-	81/-
650×65	Wood-Milne Extra Hvy	48/6	83/-
,,	Bergeugnan 3-rib Hvy.	35/-	83/3
,,	Sely Rubber Non-skid.	35/-	53/-
700×80	Wood-Milne Steel Stud.	97 6	114/9
,,	Partridge R. Non-skid.	85/-	—
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These special clearance lines are sent Carriage Paid, and on approval, seven days against remittance.

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JEBRON, registered 291,298, greatly superior to platinum, unequalled for blades, screws, etc., cures misfiring, 5/3 each rivet; Jebron screws, fit Bosch magnetos, 10/6 pair; old screws, Jebronised, 4/9 each.

JEBRON Contacts, used by Messrs. Collier Bros., Colver, Martin, making world's records.—Jebron, 58, Herbert Rd., Woolwich, London, S.E.18. [0002

WE Have a Special Department for Magneto Repairs; special attention to country orders; quick delivery; reliable work; charges low.—Montague's Motor Mart, 85-87-87a, London Rd., Manchester. 'Phone: 7745 Central. [8634

MAGNETO Repairs.—Send your magneto to Palmer's Garage, Tooting. Reply paid, quotation telegraphed on receipt; quick, efficient repair guaranteed in from 2 to 6 days, usually within 24 hours.—Palmer's Garage, Tooting. [8857

UNSATISFACTORY Magnetos should be replaced by a Boulton, £5/10 each; immediate dispatch; special discount to the trade. A few shop-soiled to clear at lower prices.—Boulton Magnetos, Ltd., Oldhall St., Wolverhampton. [6458

GOVERNMENT Surplus (New) Magnetos.—Having purchased the entire stock of the following makes, we can offer them at huge discounts: Thomson-Bennett, single and twin, 45°, 50°, 55°, and 180°, clock and anti, £2/15; M-L single, clock, or anti, £2/15; C.A.V. single or twin, £2/15; postage 1/9.—Below.

ALL the Above are the enclosed waterproof type, fitted with variable ignition and leads, and are suitable for all makes of motor cycles.—Below.

NEW Plugs, guaranteed, not rejects: A.C. (Titan), 1/9; K.L.G., types F7 and F8 detachable, in makers' boxes, 2/6; Lodge, in boxes, 2/6.—Below.

HIGH Tension Wire (new), 9 mm., 5d. per yard; 25 yard coil, 8/6; 7 mm., 4d. per yard; 25 yard coil, 6/-; 5 mm., 3d. per yard; 25 yard coil, 4/-; 3 mm., 2d. per yard; 25 yard coil, 2/-; postage on coils 9d.; all goods per return post; on approval on receipt of cash; money refunded if not satisfied.—County of London Engineering Works, Ltd., 51a, New Park Rd., Brixton Hill, S.W. [4647

LOVELAND Magneto Repair Service.—Repairs to all makes quickly and efficiently executed. Spare parts for all types. Bosch pattern contact breakers, 12/6 each; Bosch pattern contact screws, 10/6 per pair; remagnetising by special process, 5/- per pair.—Phone: Streatham 1390.—Loveland Bros., Crescent Magneto Works, Norbury, S.W. [6602

RUNBAKEN Repair Services.—Dynamos, magnetos, and starters. Huge stocks of spare parts and a modern plant enable us to make a thorough and efficient repair to every make and type. Pack in a strong box, enclose instructions, and address to The Runbaken Magneto Co., Ltd., 115, Gt. Portland St., London, W. 'Phone: Mayfair 3586). North of England: Derby St., Cheetham Manchester 'Phone: City 8266). [0257

MAGNETO and Engineering Co., special lines: Thomson-Bennett magnetos, single and twins, 42°, 45°, 48°, 50°, 55°, and 180°, £2/15 each; postage 1/6 extra; ready to fit on Douglas, P. and M., Clyno, Triumph, J.A.P., Harley-Davidson, or any 2-stroke, variable ignition. The Magneto and Engineering Co. guarantee these magnetos to be thoroughly efficient for the above mentioned machines. Terms, cash with order. Satisfaction, or money refunded.—Below.

C.A.V. Magnetos, ready to fit on 2¾h.p. Douglas, or any lightweight, single, with variable ignition, £3/3; ideal magnetos for lightweight.—Below.

THE Magneto and Engineering Co.'s Lodge and K.L.G. W.D. plugs, new, at 2/6 each; finest value on the market; trade export inquiries solicited.—Magneto and Engineering Co., Cromwell House, High Holborn, W.C.1. Tel.: 2054. [9019

THE Magneto Repairing and Winding Co. (established 1912), contractors to H.M. Government, and officially appointed by the R.A.C. Magneto repairs of every description; all repairs at lowest possible prices, and strictly guaranteed. We can mostly return them within 24 hours. We have several new and second-hand single and 2-cyl. magnetos in stock, all guaranteed.—The Magneto Repairing and Winding Co., 78, Hampstead Rd., Euston, London, N.W.1. 'Phone: Museum 1158. T.A.: Kumagnelec, Euston, London. [6015

NEW Arrivnl of Thomson-Bennett Magnetos, any degree, and ready to bolt on, Douglas, P. and M., Triumph, J.A.P., Clyno, A.J.S., Harley, etc., etc., £2/15 each, plus carriage 1/6, guarantee satisfaction, cash with order, variable ignition; C.A.V. single or twins, perfect machine for a lightweight; we guarantee satisfaction or cash refunded without delay; trade fitting thousands; £3/3 each, plus carriage 1/6. Plugs, Lodge and K.L.G., new, not reconditioned, 2/6 each. Trade and exporters, please write for special terms.—Dept. B, Coventry Ignition Supply, 97, Gorton St., Coventry. [9018

EUSTON Ignition Co.'s 24-hour repair service. Guaranteed repairs to all types of magnetos; Splitdorf and Dixie specialists; official Indian electrical service station; Thomson-Bennett repairs and spares. All repairs are tested on an approved A.I.D. test bench before despatch, and therefore carry our guarantee for 12 months. We hold the largest stock of guaranteed magnetos in London, twins all degrees; spare parts for all makes in stock; charged accumulators, all voltages, always ready in stock; plugs, cables, ½-watt and vacuum bulbs, all voltages. We give you real live service atlways.—Enston Ignition Co., 329, Euston Rd., London, N.W.1. 'Phone: Museum 5034. T.A.: Magdyno, Enstoad, London. [0263

TYRES.

BASTONE'S for new clearance covers and tubes (no better or cheaper house).

BASTONE'S.—26×2¼ Gaulois ribbed, 28/-; Hutchinson T.T. 27/-, Passenger 29/-, Goodrich Safety tread, 39/-; Englebert (wired edge only), ribbed, 26×2½, 25/-; rubber-studded, 30/-.

BASTONE'S.—26×2⅝ Hutchinson T.T., 35/-; ditto Passenger, 40/-.

BASTONE'S.—26×2½ Michelin, 21/-; Wood-Milne, 30/-; Hutchinson Passenger, 32/-; Avon Sunstone, 39/-.

BASTONE'S.—650×65 Hutchinson ribbed, 45/-; Hutchinson ribbed, 700×75 for 650×65, 50/-.

BASTONE'S.—28×3, 45/-; Hutchinson ribbed, 50/-; Goodyear all-weather tread, 47/-.

BASTONE'S.—Michelin tubes, 26×2¼ or 26×2½, 6/6; Goodyear butted, 28×3, 10/-.—228, Pentonville Rd., King's Cross, London, N.1. Tel.: 2491 North. [5429

25% Off Best Make of Tyres, new stock.—Pitts, of Redditch. Tel.: 91. [X9325

H. EMANUEL, Tyre Factor.—See my bargains in displayed advertisement columns. [0235

MISS DOOLEY.—26×2½ new Macintosh and Spencer-Moulton tyres, 30/- each.—Below.

MISS DOOLEY.—26×2¼, 2⅜, and 2½ Dunlop retread tyres, as new; approval against cash; special quotations to the trade for minimum of 50; price 17/6 each.—Below.

MISS DOOLEY.—700×65, 650×65, 26×2¾, prices £2/5, £2, and £1/10 respectively.—Below.

MISS DOOLEY.—700×80 Avon square tread, new, 50/- each.—Below.

MISS DOOLEY.—28×3 inner tubes, Dunlop, new, 5/- each, plus carriage.—Below.

MISS DOOLEY.—28×3 inner tubes, 5/- each; also 26×3, new.—Below.

MISS DOOLEY.—650×65 Rom tyres, new, 35/- each.—Below.

MISS DOOLEY.—26×3 Dunlop retreads, 25/- each.—Below.

MISS DOOLEY.—700×65 Dunlop new tyres, 35/- each.—Below.

MISS DOOLEY.—700×80 Avon and Spencer-Moulton new tyres, 45/-.—Below.

MISS DOOLEY.—820×135 oversize for 820×120 Dunlop, etc., new, £5; Dunlop tubes for same, 16/-.—Below.

MISS DOOLEY.—28×3 new tyres, Wood-Milne, Spencer-Moulton, Mackintosh, etc.; 25/- each, plus carriage.

PLEASE apply for all the above to Miss E. Dooley, 33, Killyon Rd., Clapham, S.W.8. [8310

REPAIRS. Repairs. Repairs.—Send your tyres for repairs to the address below.

BURSTS, cuts, and broken beads repaired from 2/6. Every job guaranteed to give satisfaction.—Below.

PHŒNIX Tyre Repairing Co., 224, Sherlock St., Birmingham. [X2419

15/6 is the cost of retreading your old cover with extra heavy studded or ribbed tread.—Below.

3,000 miles can be done on these treads. Why not send yours to be retreaded?—Below.

HAND your tyres into the post office to-day, addressed to—Below.

PHŒNIX Tyre Repairing Co., 224, Sherlock St., Birmingham. [X2418

MOTOR Cycle Tyres on Easy Terms, standard makes; list post free.—J. G. Graves, Ltd., Sheffield. [0589

500 MOTOR Cycle Covers, all sizes, soiled only, heavy 25/-, light 15/-; approval anywhere.—Alltyres, 81, Dale End, Birmingham. [7433

CENTRAL Garage, Thornton Heath.—Second-hand covers salved from army machines, many as new, and good for several thousands, 12/6 each, carriage 1s/6; approval against cash. Please state size and make preferred.—Below.

CENTRAL Garage, Thornton Heath.—Free tubes, 12/6 line with all except 700 covers, no increase of price, cheapest house in the trade, despatched same day as ordered, brand new Wood-Milne covers, money immediately returned if dissatisfied, and cover replaced if not reasonable amount of wear: 26×2¼ 28/6, extra heavy 36/6; 26×2⅜ 30/-, E.H. 35/-; 26×2½×2¼ 35/-, E.H. 40/-; 26×2½ 36/6, E.H. 42/-; 26×3×2½ 37/-, E.H. 44/6; 26×3 40/-, E.H. 48/6; 28×3 E.H. 35/-; 650×65 36/6, E.H. 45/-; 700×80 45/-, E.H. 50/-; tubes for 700×80, 6/9.—Below.

DUNLOP Covers.—We are requested to withdraw our advertisement of these; probably those who complained could not compete with our prices. Write for list and save money.

CENTRAL Garage, Thornton Heath.—Special line brand new 28×3 Wood-Milne covers, extra heavy, 30/- each; approval willingly; listed at 87/6.—Central Garage, London Rd., Thornton Heath, S.E. [8780

A FEW LAST CHANCES AND SPECIAL OFFERS OF BRAND NEW MOUNTS AT ALEXANDER'S

Note the further inducements in price reduction.

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1920 4 h.p. Verus Blackburne, 3-speed, kick-start, £126 for .. **£90**

TWO TO CLEAR

2¾ h.p. 1920 Verus-Blackburne, 2-speed, kick-start, £110 5s. for **£80**

TWO ONLY

1920 4 h.p. Douglas, 3-speed combination, with 1921 sidecar, £170 for **£140**

LAST ONE

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1921 2¾ h.p. New Imperial,
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Ditto, with clutch and kick-starter **£73**

1920 8 h.p. Matchless Combination, ... **£174**
With spare wheel and windscreen **£185**

1920 8 h.p. Sporting Zenith, £135 for **£108**

1920 8 h.p. Zenith, clutch model, £152 for **£116**

1921 7 h.p. American X, 3-speed, £175 for **£130**

ALL ABOVE ARE BRAND NEW.
Send along your cheque at once, and secure one of those unbeatable values.

ALEXANDER & CO.,
113-115, LOTHIAN RD., EDINBURGH
272-274, GT. WESTERN RD., GLASGOW

TYRES.

HERBERT ROBINSON, Ltd., Green St., Cambridge.—Special clearance lines in covers, all guaranteed, and sent on 7 days' approval.

24×2 Wood-Milne Special, 23/9.—Robinson's.

24×2¼ Bates, 35/-; Pedley heavy, 39/6.—Robinson's.

24×2½ Avon Combination Steel-studded, 50/6.—Robinson's.

26×2¼ Bates Special Heavy, 37/11; Palmer cord, 37/11; Avon combination steel-studded, 49/11; Macintosh, 34/11; Clincher de luxe extra heavy, 37/11; Beldam, 30/11; Avon tricar, 34/11; Matchless, 25/-; Dunlop W.D., 39/-; Avon Sunstone, 37/11; Wood-Milne special, 26/10; extra strong, 34/-; combination steel-studded, 46/3; Avon lightweight, 27/6.—Robinson's.

26×2½ Wood-Milne Special, 31/10; extra strong, 36/1; combination steel-studded, 51/-; Bates special heavy, 45/-; Avon combination steel-studded, 53/6.—Robinson's.

26×2⅝ Hutchinson T.T., 34/11; Moseley extra heavy, 30/11; Hutchinson passenger, 37/11; Macintosh, 34/11; Clincher de luxe, 37/11; Bates special heavy, 37/11; Beldam, 30/11; Avon tricar, 34/11; Matchless, 25/-; Wood-Milne special, 28/4; extra strong, 34/3; combination steel-studded, 48/3.—Robinson's.

26×2½, to fit 2¼, Avon Tricar, 37/6; Avon combination steel-studded, 50/6; Wood-Milne special, 30/-; extra strong, 35/-; combination steel-studded, 50/9.—Robinson's.

26×3, to fit 2½, Wood-Milne Special, 32/-; extra strong, 41/-; combination steel-studded, 51/6.—Robinson's.

26×3 Englebert Touring, 37/11; passenger, 39/11; extra heavy, 43/11; Wood-Milne special, 33/4; extra strong, 43/-; combination steel-studded, 52/6.—Robinson's.

28×2½ Dunlop Combination steel and rubber-studded, to fit American rims, special clearance line, 35/6; Wood-Milne special, 32/4; extra strong, 43/9.—Robinson's.

28×3 Wood-Milne Special, 36/1; extra strong, 43/9; combination steel-studded, 57/-.—Robinson's.

650×65 Wood-Milne Special, 32/4; extra strong, 38/3; combination steel-studded, 51/10; Avon rubber-studded, 37/6; Avon heavy 3-ribbed, 38/6.—Robinson's.

700×80 Wood-Milne Special, 43/6; extra strong, 46/6; Avon heavy 3-ribbed, 50/-.—Robinson's.

700×75 Avon Combination Steel-studded, 54/-.—Robinson's.

HERBERT ROBINSON, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [89

ECONOMIC Tyre Co.—Special offer of Wood-Milne Keygrip covers, new and in perfect condition, 50% off list prices. All goods carriage paid, on approval against remittance.

ECONOMIC.—Wood-Milne 24×2 heavy, 23/9; 26×2 heavy, 25/-; extra heavy, 30/-.

ECONOMIC.—Wood-Milne 26×2¼ heavy, 26/1; extra heavy, 34/-; 26×2⅜ heavy, 28/4; extra heavy, 34/3.

ECONOMIC.—Wood-Milne 26×2½×2¼ heavy, 30/-; extra heavy, 35/-; 26×2½ extra heavy, 36/1.

ECONOMIC.—Wood-Milne 26×2½ O.S. extra heavy, 36/1; 26×3×2½ heavy, 32/-; extra heavy, 41/-.

ECONOMIC.—Wood-Milne 28×2½ heavy, 32/4; extra heavy, 40/4; 700×80 heavy, 43/6; extra heavy, 46/6.

ECONOMIC.—The following are all W.D. clearance, new, and in perfect condition. Compare our prices.

ECONOMIC.—Avon Sunstone 26×2¼, 33/-; Bates special heavy, 33/-; Dunlop heavy R.S., 33/-; Clincher De Luxe extra heavy, 33/9; Beldam combination, 35/-.

ECONOMIC.—Hutchinson T.T. 26×2⅜, 35/-; Passenger, 36/-; Clincher De Luxe extra heavy, 34/6; Beldam extra heavy, 32/6; Bates special heavy, 36/6; Dunlop heavy, 37/6.

ECONOMIC.—Fully guaranteed Dunlop rubber-studded, 24×2 26/3; 26×2, 28/9; 26×2¼, 30/-.

ECONOMIC Tyre Co., 314, New Cross Rd., S.E. (near Town Hall). 'Phone: New Cross 1593.

NEW Dunlop and Bates Tubes, W.D., 26×2¼, 26×2⅜, 5/- each; new Beldam clearance covers, all sizes, 30/- each, except 28×3 40/-, 650×65 and 700×80 50/- each; 700×80 new Wood-Milne square tread covers, guaranteed, 50/- each.—Homerton Rubber Works, Brocksby's Walk, Homerton, E.9. [

26×2½ New Beaded Covers, 30/-; new best quality tubes, 24×2¼ 6/-, 26×2 6/6, 26×2¼ 7/-, 2½ 7/9, 26×2½×2¼ 8/6, 26×3 9/6, 700×80 10/6, 750×75 12/6; new rubber belts, 6ft. 2in.×1in., 1/-; 15in. inflators, 2/6; sent approval, carriage paid, cash or receipt remittance.—Palmer's Garage, Tooting, S.W.

TYRES.

A FEW Real Bargains for Scottish readers, surplus Government, etc., covers and tubes. Write for list. McArthur Hill, 47, Carrick St., Glasgow. [8290

BURST Motor Cycle Tyres, chafed beads remoulded made perfect, tube vulcanising, butt-ends fitted, treading; send for list.—Melton Mowbray Works, Melton Mowbray. [0347

BAND New Extra Heavy 700×80 Cover, cost £4/0/7, accept 50/-; ditto 550×65, for Bebe Peugeot car, cost £3/16, accept 42/-; tubes 6/6.—Millard's, Sheffield Rd., Chesterfield. [5872

CEMPSHALL Non-skid, also Hutchinson T.T., 28×2½, brand new, at a remarkable figure; 35/- each; special prices for quantities over 6; carriage free; greatest bargains in tyres.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0259

TANKS.

TANKS Renovated, makers' colours, transfers; 12/6.—Whitworth Motor Renovating Co., 90a, Pershore St., Birmingham. [8630

TANKS Re-enamelled to Pattern. High-class work only.—D. Jenkins and Sons, 6, Richard St., Atkinson St., Deansgate, Manchester. Established 25 years. [3601

TANKS of every description replaced, repaired, and re-enamelled at our own works; all kinds of fittings stocked; quick service and reasonable charges. Send postage for illustrated price list to A. Green, Peter St., Chapel St., Salford, Manchester. Tel.: 2191 Central. [0256

BELTS.

1000ft. Brand New 1in. Belting, Dunlop, Pedley, etc.; 1/9 ft.—Marble Arch Motor Exchange, Edgware Rd., W.2. [9032

BEST make of Belting, all lengths in 1in. at 2/6 foot; 2-piece ⅞in. 1/9, ¾in. 1/6, on approval cash.—Pitts, of Redditch. Tel.: 91. [X9323

SPORTING Offer.—Balata and chrome V belts, ⅞in. 2/6, 1in. 3/- per foot, trial belt half price; leaders, 9d.; postage 1/-.—W. Pollin and Son, Hollington, St. Leonard's-on-Sea. [6014

LARGE Quantity of New Belts, not clearance: Clipper, 9ft.×1in., 22/- each; 8ft. 6in. ditto, 21/-; surplus by leading makers, ⅞in., any lengths, a foot; special offer of 6ft. 6in. of ⅞in. at 10/-; ¾in. ditto, 12/6.—H. Emanuel, Tyre Factor, 27, Tregeds Rd., N.16 Stores: 37a, Balls Pond Rd., Islington, N.1. 'Phone: Dalston 3161. [0348

MISS DOOLEY.—A large quantity of second-hand belting, like new, sizes ⅝in., ⅞in., 1in., in 6ft. lengths, at 6/- per length; anything over 6ft. 6in. would have to be in two pices, which is 7/6, plus carriage; special reductions for quantities.—Please apply the above to Miss E. Dooley, 33, Killyon Rd., Clapham, S.W.8. [8312

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MOTOR Cycle Insurance at Economical Premiums.—See below.

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CAR Insurance of all kinds (specially motor), apply Ernest J. Bass, Insurance Broker, 40, Chancery Ln., W.C.2. [0005

BOYS, Ltd., invite enquiries for insurance of all kinds. Competitive rates for motor cycles; list's and companies' prospectuses on application.—Gt. Portland St., London. [0055

"THE Motor Cycle" Insurance Policy is the policy authorised by "The Motor Cycle," and covers motor cycles or cycles and sidecars used for private purposes. Complete comprehensive cover. Maximum benefits, minimum rates. Full particulars and proposal forms on application.—The Autocar Fire and Accident Insurance Co., Ltd., 77, Cheapside, London, E.C. [0007

PATENT AGENTS.

E. S. LOCKWOOD, Motor Specialist.—Guide free.—3, New St., Birmingham. [7103

CONSULTING Patent Agency, 253, Gray's Inn Rd., London.—Aero and aircraft engines. [2373

PATENTS Advice, handbook free.—King, Registered Patent Agent, 146a, Queen Victoria St., E.C. Bankers' references. [0129

BRYSON, B.Sc., Assoc.M.Inst.C.E., A.F.R., Ae.S., Chartered Patent Agent, 29, Southampton Buildings, London, W.C.2. 'Phone: Museum 9622 [9622

N. & W. S. SKERRETT (H. N. Skerrett, Fellow of the Chartered Institute of Patent Agents, Mech.E., A.I.A.E. Associate I.E.E., etc.; W. S. Skerrett, A.I.A.E., Registered Patent Agent).—Patents, designs, and trade marks.—24, Temple Row, Birmingham. Tel.: Central 1038. T.A.: Skerrett, Birmingham. [1534

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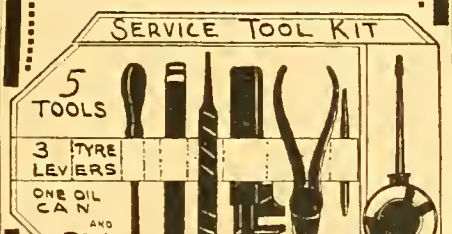
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WANTED, motor cycle mechanic, fully qualified and capable of doing all repairs.—Johnson's Motor Works, King's Lynn. [8734

BUSINESSES AND PROPERTY FOR SALE, TO BE LET, OR WANTED.

WANTED, good small motor cycle business, main road, Surrey preferred.—Box 4,101, c/o *The Motor Cycle.* [8972

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THE Old Barn Teahouse, Stocks Green, Hildenborough, beyond Sevenoaks, for real good farmhouse fare. [8672

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DOUGLAS.—"Cliff View," Promenade. 100 rooms; billiards; terms for motor race week 12/6 per day.—J. Ridehalgh, Manager. [8653

DOUGLAS, I.O.M.—The Hawthorns, 4, Cambridge Terrace. Homely apartments, every comfort for motor cyclists during the races. Private garage, telephone, bath.—Apply for terms. [9585

LONDON.—Central Hotel (exclusively for gentlemen), Percy St., Tottenham Court Rd., W.1. Special week-end terms, 6/6 bed and breakfast.—Museum 6205. Garage. Night porter. [7883

GARAGES.

BALHAM.—Eton Garage, 260-266, Balham High Rd., the finest and largest garage for motor cycles in the district; 2/- per week. Repairs of every description [9211

GENERAL TRADE.

AUCTION Sales.—Palmer's Garage, Tooting, the oldest solely motor auction rooms in London. Terms 7½%, not chargeable if automobile unsold. Motor cycles and cars bought and sold for cash. Nearest goods stations: Falcon Lane, L. and N.W.R.; Wimbledon, L. and S.W.R. and G.W.R.—Sole address: Palmer's Garage, Tooting, London. [8852

WANTED.

STURMEY-ARCHER 3-speed Gear Box.—31, Silver St., Enfield. [8511

TRIUMPH Back Stays and Sturmey Gear Box.—9, Percy Rd., W.12. [8718

N.S.U. Gear, fit Triumph, good condition, cheap for cash.—3, Oxford St., Kettering. [X2338

WANTED, motor cycle or Ford; cheap.—H. Jowett, 41, Falmouth Av., Bradford. [X2415

PALMER'S Garage Tooting.—The pre-eminent place for disposing of motor cycles.

PALMER'S Garage, Tooting, will make you a cash offer at sight.

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PALMER'S Garage, Tooting, will collect machines from any London railway station. The auction sale is held every Thursday, commencing 2 p.m. [8853

2¾h.p. Douglas, 1915-20, G.P. Morgan; cheap.—Write, Hill, H., 63, Solon Rd., Brixton. [8843

MORGAN de Luxe, w.c., 1920, wanted.—Val, 52, Thornhill Rd., Islington, London. [8876

WANTED, B.S.A. second-hand sidecar chassis.—Apply, 37, Myddleton Rd., Hornsey. [8768

N.S.U. Gear, any condition, or parts; also Grados, etc.—Box 4,104, c/o *The Motor Cycle.* [8975

1919 Grand Prix Morgan; instalments; Sevenoaks district.—Box 4,055, c/o *The Motor Cycle.* [8528

WANTED, good solo or combination.—Catton, 12, Rockmead Rd., Hackney. Dalston 2918. [8474

SWAN Sporting Sidecar, suitable for Triumph.—Gillman, 22, Rowden Rd., Beckenham, Kent. [8557

WANTED, Clyno interchangeable wheel rim for 65×650 tyre.—5, Newnham St., Bedford. [8777

WANTED, bottom back stays and wheel, complete, for countershaft.—11, Ashburton Hill, Cork. [8590

3½h.p. Sunbeam Combination, recent model.—Write, Roes, Hatfield, Avenue Elmers, Surbiton. [8642

WANTED, sound 3½-4½h.p. combination, about £65 cash, no dealers.—Box 608, c/o *The Motor Cycle.* [8614

WANTED, motor scooter; exchange good push bike and gramophone.—Box 4,102, c/o *The Motor Cycle.* [8973

WANTED, parts to complete P. and M. in quantities, cash waiting.—Inman, Othello St., Liverpool. [6700

WANTED.

PALMER'S Motor Auction every Thursday at 2; entries invited.—Palmer's Garage, Tooting.

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PALMER'S Motor Auction every Thursday at 2; entries invited.—Palmer's Garage, Tooting. [8851

WANTED, second-hand Morgans, in good condition. —Rey, 378-384, Euston Rd. 'Phone: Museum 6436. [5102

WANTED, good motor cycle or combination; cash. —C.S., 14, Swaton Rd., Bow, E.3. Tel.: E. 3155. [9016

WANTED, twin mag., 60°.—Send price and particulars to 3, Aiskell St., South Millfield, Sunderland. [8725

WANTED, gear box for lightweight, Grado countershaft preferred.—Walter, Kiaora, West Moors, Dorset. [8464

WANTED, Triumph bottom and top back stays, suit hub gear; approval.—Chalmers, 65, Brandon St., Hamilton. [8681

WANTED, A.J.S.; exchange 1920 Harley combination and cash.—45, Waterlow Rd., Highgate Hill. [8503

WANTED, 1920-21 Combination or solo; cash waiting.—Mosedale, 30, Canterbury Rd., West Kilburn, N.W.6. [6105

WANTED, 4-cyl. F.N.'s, T.A.C.'s, T.M.C.'s, Hendersons.—Wandsworth Motor Exchange, Ebner St., Wandsworth. [3151

WANTED, Douglas or similar mount, in good order; cheap.—Particulars to Smith, 20, Christchurch Rd., Newport. [8621

WANTED, Red Indians, Harley-Davidsons.—Wandsworth Motor Exchange, Ebner St., Wandsworth (Town Station). [3152

CONNECTING Rods, pistons, bushes, 8h.p. J.A.P. (1912), Zenith gear worms.—A. H. Adams, Shipston-on-Stour. [8818

WANTED, Simplex motor attachment, must be first-class condition, to put on lady's cycle.—Arscott, 178, West Parade, Lincoln. [8471

WANTED, good up-to-date second-hand motor cycle accessories; state particulars and price.—Service Co., 292, High Holborn, London, W.C.1. [0172

WANTED, 3½h.p. Triumph frame, tank, and gear box, together or separate.—Andrews, Teviot Cottage, Saltburn, near Invergordon, Ross-shire. [X2388

ALLBER Motors.—Bring your machines to us; we are spot cash buyers of good machines, or we sell on commission for you; exchanges entertained.

ALLBER Motors, Thorosett Rd., Earlsfield, London, S.W. (opposite Earlsfield Station). 'Phone: Latchmere 4388. [2852

CASH Waiting: solo and combinations, good prices given.—Write, 'phone, or call, Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709 [0604

TRIUMPH Engine with magneto (or separate), 1918-21, good condition; also nearly new 1910 cylinder (Triumph).—Box 4,074, c/o *The Motor Cycle.* [8583

1920-21 Matchless-Jap Magdyno Combination, new, or very near.—Price and full particulars to Turner, 27, Blackburn Rd., Church, Lancashire. [X2414

WANTED, 1920 P. and M. Combination, must be guaranteed perfect, full equipment; lowest for cash.—Letters only, 40, Barclay Rd., Leytonstone, E.11. [8728

W. T. DUNN, Ltd., 326, Euston Rd., N.W.1, require unlimited quantity modern solos, combinations, Morgans, light cars, etc.; top prices paid; cash on sight.—'Phone: Museum 5391, write, or call. [0332

WANTED, N.S.U., Brampton, Mabon, or hub gears; also water-cooled engines (single-cyl.), air-cooled single and twin; old motor cycles and parts, cheap.—17, Wilcox Rd., South Lambeth, London, S.W.8. [7753

WHO Pays the Best Price for second-hand motor cycles in England? We do. Please offer us your cycle and combination; cash paid on sight.—Percy and Co., 314, Euston Rd., N.W. 'Phone: Museum 1337. [8908

RELIABLE Sidecar Machine Wanted for tradesman's carrier, mechanically sound; exchange motor mudguards (new), domed, with valance, for Singer and other light cars.—Tidd Bros., Motor Panel Beaters, Ashford, Middlesex. [8450

F.O.C.H. still pays highest prices for sound machines. Bring 'bus along and take cash away; exchanges arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8815

WANTED, all kinds of motor goods, new and second-hand, any condition; job stocks bought to any amount; garage tools and accessories.—Montague's Motor Mart, 85-87, London Rd., Manchester. 'Phone: 7745 Central. [8682

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TELEPHONE: LANGHAM 1522.

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CASH on Sight for new and second-hand motor cycles and combinations, any make or condition. —Call, write, or phone, Short's Motor Stores, 485-493, Upper Richmond Rd., East Sheen, S.W. 'Phone: Richmond 2362 and 2363. [0372

SEND Your Motor Cycle to Palmer's Garage and Motor Auction Rooms, High St., Tooting. Cash offer telegraphed immediately on receipt. Nearest station, Wimbledon. We will collect from any London station. Machine can be included in auction sale if desired.—Sole address: Palmer's Garage, Tooting. [8854

EXCHANGE.

4-TON Maudslay as new, for combination and cash.—17, Heaton Rd., Mitcham. [8865

£20, offers; exchange Autoped Scooter, done 20 miles. —Saunders, 49, Riverside, Kingston-on-Thames. [8600

COUNTERSHAFT Zenith Combination for water-cooled Morgan; letters first.—Highdene, Ridgeway, Enfield. [8633

CLYNO Combination, Coulson, or P. and M., for Zenith.—Adeney, Mary's Hospital School, Paddington. [8877

ADVERTISER will exchange ebonised upright grand piano for 4h.p. Douglas.—11, Stromness Place, Southend. [8826

PIANO, Erard, perfect, and cash, for modern combination, good maker.—1, Raymead Av., Thornton Heath Pond. [8765

2¾h.p. Douglas, 1916, electric lighting; level ex 2-4 change combination; sell £55.—90, Burchell Rd., Leyton, E.10. [8877

EXCHANGE 8-10h.p. Fafnir Engine, complete, for motor cycle.—C. Astley, 47, West View Rd., Barrow-in-Furness. [8454

1918 Triumph Centre Portion Frame and Forks £6, or exchange for lightweight frame.—Box 4,057, c/o *The Motor Cycle.* [8567

EXCHANGE for lightweight, 3½h.p. Rudge Multi 1915, perfect condition, or sell £40; Surrey.—Box 4,090, c/o *The Motor Cycle.* [8754

1914 Abingdon 6h.p. Combination, any trial; ex change for light, modern car, or sell at £70.—Fagin, 2, Station Rd., Aldershot. [8567

1915 Calthorpe 2-seater, dynamo, dickey, tax paid; exchange combination or solo and cash.—Ramsdens, Maybell Av., Blackpool. [9000

N.S.U., 6h.p., 2 speeds, twin sidecar, taxed, fo 3½h.p. solo, P. and M. preferred, or sell £55.—Brace, Temple Rd., Hounslow, Middlesex. [8547

EXCHANGE Auto-Carrier, late type, splendid con dition, for motor cycle, or sell £60.—C.S., 1 Swaton Rd., Bow, E.3. Tel.: E. 3155. [9016

HUMBERETTE 2-seater, perfect condition, as new for good twin combination, or sell; £140.—Mosdale, 30, Canterbury Rd., Kilburn, N.W.6. [8711

ZENITH Combination, 6h.p. J.A.P., splendid con tion, tax paid; £75, for lower power and litt cash.—57, Kenbury St., Camberwell, London. [8781

1921 Calthorpe Light Car and Coventry Premi Runabouts; latest reduced prices; liberal e changes.—Motories, 25, Horton St., Halifax. [8934

1920 Hobart-Villiers, advertised, for new conditi Enfield combination (preferred), cash adju ment.—22, Buller Rd., Thornton Heath, S.E. [8911

EXCHANGE, new Kingsbury light car, comple for combination and cash.—Barkers' Motors, 19 Balham High Rd., S.W.12. Latchmere 4441. [7391

INDIAN 7-9h.p., 1915, T.T., lamps, Klaxon, spee meter, licensed, extremely fast, perfect, for go countershaft, or sell £50.—E. Waters, Orchester, Wil [8511

INDIAN 5h.p., 1915, 3 speeds, disc, speedometer lamps, horn, watch, new Dunlops, for Army mo Indian, or sell 60 gns.—10, Rolls Rd., Bermondsey. [8711

EXCHANGE 3½h.p. Premier Combination, 3-spee clutch, good running order, tax paid, for l model solo.—J.C., 93, St. John's Rd., Walthamsto [8711

EXCHANGE 10h.p. 2-seater Swift, excellent con tion, lamps, Stepney, hood, for good combinati or sell £150.—Goodwin, 167, Foxhall Rd., Ipswich [8811

G.W.K., 1914, stored during war, splendid lit car; £175; take War Bonds or exchange l combination and cash.—Box 4,105, c/o *The Mo Cycle.* [8911

F.O.C.H. are noted for fair exchanges.—5, Heath S Hampstead (near Hampstead Tube Stati 'Phone: Hampstead 3752. Hours 9-7, including Sat days. [8815

MOTOR Cycles, Premier runabouts, and Calthor light cars; exchanges; get our list; it's go so are allowances.—Collier's Motories, Horton Halifax. [8511

2¾h.p. Douglas Combination, takes passenger e 2-4 economical to run; for good modern second-h furniture, or sell £65.—5, Upper Richmond Rd., Putney. [8

POST Exchanges.—The Newnham Motor Co., 2 Hammersmith Rd., W.6; specialise in arrang exchanges by post; second-hand descriptions gua teed; write us your requirements; satisfaction ensu [8

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The Cooling of Motor Cycle Engines.

IN this issue we publish the first part of an informative article on the cooling of motor cycle engines—a subject which is exercising the minds of most designers. By them, we know that it will be read with more than ordinary interest, although it may be that the views expressed will not be unanimously accepted. Lay readers, too, will find much upon which they may debate, and, perhaps, it is well to remind them that the author is an idealist with very advanced views, who, having in mind the wonderful possibilities of the internal combustion engine in the future, may, possibly, be accused of underestimating the really remarkable stage of perfection which has already been reached.

That many of the author's contentions are true will be appreciated by all our readers, particularly the references to lack of silence—mechanical and exhaust—as compared with the engine of a car. We agree that the simplicity of air-cooling must be retained, and that comparative silence can be obtained with air-cooled engines has already been proved by certain manufacturers of air-cooled cars. These vehicles, it is true, are not, in the car enthusiast's opinion, the last word as regards silence, for often comments are heard anent their slight tappet noise. On the other hand, the motor cyclist regards these engines as almost ideal, which goes to show that the standards of perfection in the two classes of motorists differ very considerably.

It is strange, but true, that all present-day motor cyclists do not desire silence; that such a feature is highly desirable cannot be denied by all who wish to see the motor cycle movement expand to the possibilities awaiting it, when the economical machine really takes its rightful place as a utilitarian vehicle.

The author of the article under review points out that economically present-day engines fall short of the possible maximum in this respect, and while we think that great strides will be made in increasing their efficiency, in the meantime the majority of motor cyclists will not grumble if their machines continue to transport them about 100 miles at a cost of 3s. 6d.

Improved cooling undoubtedly will tend to bring about many modifications in other directions, for this important question determines the size of the engine. Size governs the weight of the power plant and of the machine as a whole: in the meantime we think all motor cyclists will agree that we have much for which we can thank the British motor cycle industry in producing the machines we ride to-day, and which are steadily improving in efficiency—even if they fall short of the ideal.

To such advanced thinkers as our contributor posterity may owe a great deal. While they continue to give to the world the results of their research, the motor cycle movement must benefit: for the so-called ideals of to-day may be accepted to-morrow as the essentials.

Next Month's Tourist Trophy Races.

LAST week rumours were current regarding the postponement of the Tourist Trophy Races as a result of the coal strike. At the moment of going to press, however, such rumours appear to be devoid of foundation, as, having stocks of coal, the Isle of Man Steam Packet Co. has agreed to maintain a daily service between Liverpool and the Isle of Man during the T.T. week, June 13th to 18th.

We understand that this arrangement is due to the efforts of the Auto-Cycle Union, which approached the Government regarding coal supplies, and the support of the Mines Department has been promised in the event of a shortage of fuel.

The Isle of Man has suffered very keenly this year through the lack of visitors, Whitsuntide being one of the "blackest" holiday periods in its history.

An Index to the advertisements in this issue will be found on the page facing the back cover.



Flywheel Magnetos.

THE flywheel magneto appears to be quite a dazzling success so far as ignition is concerned, but more than one firm has experienced a little difficulty in getting sufficient output to feed the lamps as well as the sparking plug. However, at least one inventor seems to have solved the double problem, and this fascinating type of electrical outfit should be very popular in the near future.

Perfecting the "Sparklight."

THE B.T.H. people are devoting the most meticulous attention to the development of their "Sparklight" lamp outfit for two-strokes, and I hear that before long we may be able to obtain a new edition suited to four-stroke engines. My own two-stroke outfit provoked no criticism beyond the fact that it was a little difficult to extricate the battery from its aluminium case in the event of more acid being required. The connections for the various leads were not too accessible, and the parts were a very close fit in the case. When I drew the makers' attention to this, I found they had already designed a better battery box fitted with a terminal board, so that it is only necessary to disconnect a couple of 3in. wires when the battery is to be removed for any purpose. The pick-up fittings have also been improved by the substitution of a lighter brush and the provision of greater clearance for the clock spring. A two-stroke fitted with such a lighting outfit is quite the most delightful utility mount for short distance work.

Stock Machines in the Six Days?

THE experiment with "stock" machines in the A.C.U. One Day Trial has led many motor cyclists to emphasise the extreme value which similar procedure would have in the Six Days. The idea is not so ridiculous as some pooh-poohers would suppose. It must be a good ten years since an entrant in a Scottish Six Days—Mr. W. Westwood, if memory does not fail me—was disappointed as to delivery of the machine which he intended to compete with, and after purchasing a Triumph from an agent's stock forty-eight hours before the trial started, won a gold medal after a no-trouble ride. I do not know whether the A.C.U. will have the hardihood to institute such a class in the 1921 Six Days; but there cannot be any doubt that if a firm asks the A.C.U. to select three machines at random from agents' stocks, and asks a club to nominate three amateur riders accustomed to the make of machine concerned, there would be a good sporting chance of an unparalleled advertisement. Moreover, I know more than one machine which ought to emerge triumphantly from such an ordeal, and which would be well in the running for the team prize so long as it enjoyed its fair share of luck. Stock machines of to-day are a great deal nearer the efficiency level of trade riders' "specials" than some jaundiced pessimists suppose. To hear some people talk, and to read the rubbish that is sometimes written, one would suppose that a wise rider invariably dismantles a new machine before he puts it on the road. *Pour moi*, I ride machines as they are delivered; and I seldom strike anything more than petty trouble inside 5,000 miles.

Duffers in Trials.

ONE or two of the officials concerned in managing the Edinburgh run returned to town with rather dismal impressions of the driving skill of the less experienced amateur riders, and with a feeling that a good many machines are still insufficiently braked. One competition expert made the downright remark that trial entries are becoming too large, and that they attract far too many dud riders—some sort of qualifying test is, in his opinion, necessary before a man should be allowed to compete in a "24."

And Brakes.

THE ordinary designer undoubtedly finds himself in rather a quandary when he settles the brake layout of a machine. If the stock mount as sold to the public is equipped with powerful, quick-acting brakes, quite a number of the firm's customers will "crash" before they have developed into adepts, for rash brakework on a two-wheeler spells spills. I think the real solution is to design brakes which will not lock the wheels until tremendous muscular force is applied. In a sudden emergency the half-novice makes a quick, instinctive grab at his brakes, and if that automatic snatch locks the wheels, a spill results. If this nervous grab merely applied the brakes mildly and sustained muscular effort were needed to stop the machine altogether, he would be given a fraction of a second in which to collect his wits. This brief interval would save him from a spill on the one hand and a collision on the other. Technically, such an arrangement of the brake leverage is quite possible.

Splashing Them Out.

TRIALS organisers regard the watersplash as a positive godsend nowadays, and the committee man who can discover two or three new ones—the deeper, the better—is a hot candidate for next year's presidency. The popularity of splashes is a mute tribute to the high quality of the modern moto

Ixion's "MOTOR CYCLE REMINISCENCES" have lately been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.

cycle. Hills can no longer stop it—not even if by hill we imply the back stairs to the lair of the chamois. But a deep splash is something of a lottery for the stoutest rider on the best machine—particularly so if there be a miniature weir, a lot of green weed, and a 3ft. pothole concealed under the turbid flood. Nominally, the watersplash is supposed to possess a high technical value in developing waterproof ignitions and transmissions. Actually, its chief function is to amuse the crowd and to protect the coffers of the organising club. I recall one particularly atrocious splash last year—miles and miles from anywhere. Beside it lay a neat bridge, on which were collected myself and two enthusiasts who had ridden miles to watch the fun. Rider after rider ticked cautiously up, eyed the bridge longingly, scanned the group of spectators vengefully, recognised me for a trumpery pressman but smelt something official about the other two. In they went. Off they came. Emerging, and wringing the water from their tresses, they told my two companions what they thought of them. Meekly my consorts explained that they were mere onlookers. *Then* the swear words crackled like the super sparks in a high power Marconi outfit.

Waterproofing the 'Bus.

ALL the same, forgetfulness seems to have attacked the trade on the important question of waterproofing a machine, so that it can safely be left in the open during a rain storm—an emergency which befalls every user during the season, and is a weekly or daily occurrence with many owners. There are three items which require protection, viz.:

1. The sparking plug. (Generally ignored.)
2. The carburetter. (Top feed types are usually safe; bottom feed types often give trouble.)
3. The magneto.

The 'bus which I at present use for "multi-stop" work is perfectly hopeless in these respects. I can manage the plug easily enough by carrying a dry spare in my pocket, fitting a waterproof pattern, or adding a Hunt "umbrella"; but a duffer might have bought the 'bus, and experienced stacks of trouble. To weatherproof the carburetter in this case is a real problem, as its shape enables it to catch the maximum amount of water, and to guide the water to the point where it will do most harm. The alleged waterproof magneto has a deepish circular recess round the point at which the high tension lead enters the casing, and until I puttied up this recess with candle grease and varnished it over with shellac, the machine was sometimes off duty after exposure. So many machines are now being bought for utilitarian purposes that these points are important.

Rained Out.

MOST English months seem to have dual personalities like the famous Jekyll and Hyde. Take the past month, for example. I left home in such blistering sunshine that I disdained my overalls. My ladylove's villa has no garage, and I left the machine—well, I believe an American would put it "down the side walk." Presently the rain descended and the winds blew. I happened to be unconscious of the external climatic conditions. When I emerged, my saddle was sodden, and not a bang could possibly be extorted from a 'bus which is normally a ready starter. Being—since the war and a Pelman course—a man of undoubted push and go, I hastily extracted the sparking plug, baked it in *her* oven for a minute or two, turned on the petrol, took the last tender farewells, and jazzed gaily up the road. Not a bang.

On examination, the bush of the magneto contact breaker rocker had swelled up in sudden sympathy with the increased humidity of the atmosphere. To think that I specified this particular magneto because its bush was stated to be "non hygroscopic."

To complete my opening paragraph, later that evening there were nine degrees of frost. I remember hearing an R.E. quartermaster sergeant say that all poets were crazy. Was it Browning who sang

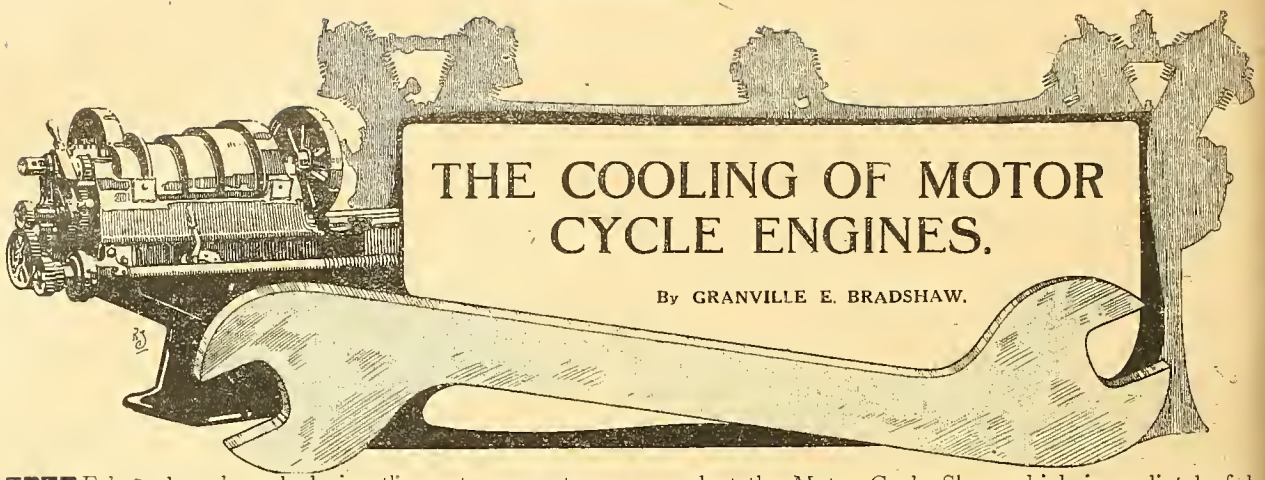
"Oh! To be in England
Now that April's here"?

Must have been a rotten April wherever he was.

CONTRASTS IN CORNERING.



Scenes at any trial.



THE COOLING OF MOTOR CYCLE ENGINES.

By GRANVILLE E. BRADSHAW.

Few have made such a close study of the problem of air-cooling as has Mr. Granville E. Bradshaw, and the views of this well-known designer are bound to be read with interest. That the average air-cooled engine uses from 20% to 80% too much petrol per b.h.p. is one of Mr. Bradshaw's contentions, while the advantages of cooling the crank case adequately are dealt with at length.

WE have heard much during the past year or two about the wonderful strides made in air-cooling in connection with aero engines, and we have been told (particularly in connection with cars) of the big improvements we can expect as the outcome of all this knowledge and experience, and yet—when one comes to look round—there is precious little difference between the present-day air-cooled single-cylinder and that of pre-war times except in very few instances.

In fact, probably 90% of engine cylinders are identical with those of 1912, 1913, and 1914, and very nearly as many are from the same patterns machined on the same tools.

Most of our present-day engines are tarred with the same old brush—most of them are given a new lease of life by an extra pumpful of cool oil on a long hill on a midsummer's day—most of them konk occasionally under similar conditions, unless their compression ratio is so low that they develop very little power for their size and use plenty of petrol in doing it. Most of them are exactly as noisy as they used to be, and it is a significant fact that, whereas nearly all water-cooled car manufacturers are reducing the size of their engines and still improving their performance, motor cycle manufacturers are increasing their cylinder dimensions year by year.

The 500 c.c. machine is rapidly becoming a 600 c.c., and there is a tendency even in the 1,000 c.c. class (especially in America) to increase this to 1,100, 1,200, and even 1,300 c.c.

Are we, therefore, advancing as rapidly as we could—is air-cooling a fundamental handicap, and if so, why?

The unbiassed, mechanically-minded person has only to recollect what he saw at the last Car Show and at the Motor Cycle Show which immediately followed it, to be compelled to confess to himself that the motor car engine unit had progressed many years ahead of the motor cycle engine.

In the one Show we saw beautiful and compact complete engine units wholly enclosed and smooth externally, silent in operation and of high efficiency, self-lubricating, docile and automatic, and in the other Show we saw (with rare exceptions) exactly what we have been looking at for at least fifteen years, but with a gear box added.

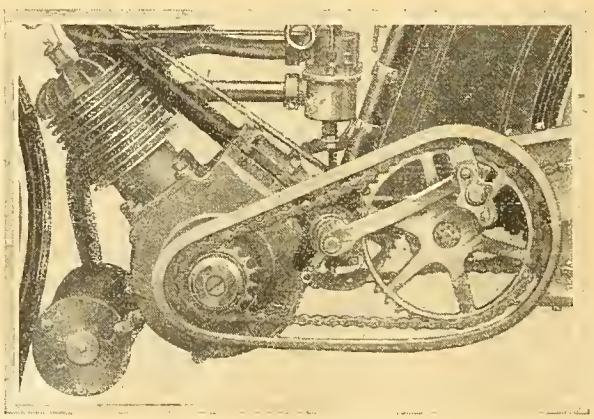
Is there really any difference between the old 2¾ h.p. and 3½ h.p. m.o.v. Minerva engines of about 1903 and 1904 and the majority of present-day motor cycle power units.

We still use the same old hand pump lubrication and two lever carburetters, but we have hung a magneto on to some part of the machine in such a way that it looks nothing more nor less than an afterthought. Worst of all, we have fitted a bicycle chain running round a small sprocket at engine speed, and we know perfectly well before we fit it that it is going to be excessively noisy.

Our cylinders are almost identical in design, and our methods of cooling are in no wise better than they were; consequently, we have little chance of improving our efficiency under touring conditions.

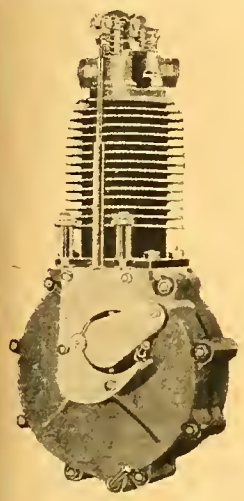
Where, then, do we stand to-day? Are we going to revert to water-cooling so as more completely to enclose our engines (the motor cycle engine demands more protection than does even the car engine situated as the latter is under a bonnet), or are we going to stick to our simplicity?

The answer, undoubtedly, is simplicity every time. Far better retain our big engines and even ask for

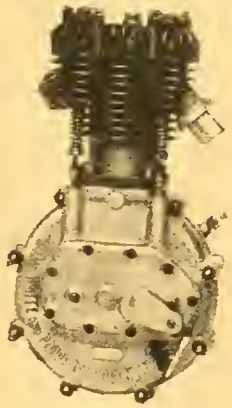


A popular engine two decades ago—the 3½ h.p. m.o.v. Minerva fitted to the Phœnix motor cycle in 1903. Our contributor draws attention to the striking similarity of this and the average 1921 single.

The Cooling of Motor Cycle Engines.—



A J.A.P. engine of 1903. It had mechanically-operated valves with a single tappet rod.

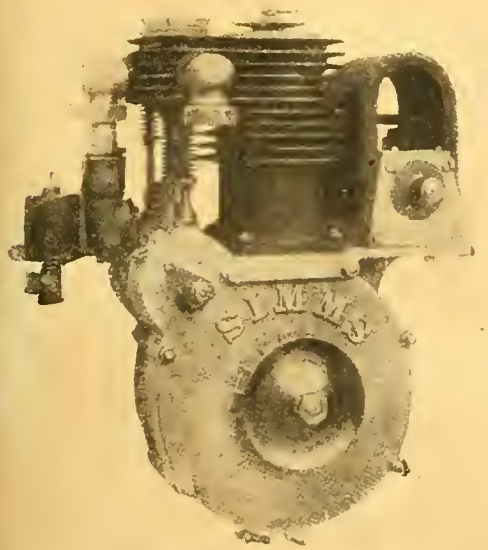


The 3½ h.p. White and Poppe of nearly twenty years ago—the original of an engine fitted to a well-known motor cycle—and very little altered in design.

ry little power from them for their capacity than ad a motor cycle with the extra cost, weight, compli-tion, and trouble of water-cooling. Already many our machines have wandered towards complication, a glance at some of the bigger mounts will show, d to add water-cooling to all this would be to add ore load to a vehicle that is rapidly becoming over-aded.

Improve Air-cooling.

Air-cooling must be retained, and all means of proving it in silence, consumption, volumetric iciency, and cleanliness of design must be sought. We shall all concede that the air-cooled cylinder s a natural handicap in that it needs a current of r directly on to it in order to enable it to function



A 75 × 75 mm. Simms engine of 1903, which had a mechanically-perated inlet valve and many features following present day ractice

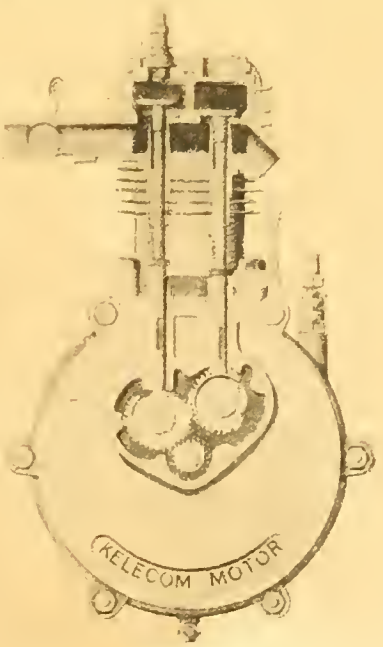
properly, whereas the water-cooled engine can be stowed away and the heat can be conveyed by a pipe to any suitable place where the air happens to be plentiful; moreover, it must not be forgotten that the water around the cylinder has a deadening effect upon noise, and prevents that metallic clatter which is so prevalent in air-cooled engines.

As far as power is concerned, an air-cooled engine can compete with the best of water-cooled engines. We can also get as good consumption, with good cylinder design, but we must have adequate cooling draught and in the right place, if we are going to stick to our existing types.

It is quite true that, considering all things, present motor cycle engines function reasonably well in practice, but this is principally due to such engines being inefficient for their capacity, and due to them working most of the time on small throttle openings, and it is also true that the air-cooled engine has temperature limitations very much wider than those of a water-cooled engine, *i.e.*, the limitations of a water-cooled engine are from 32° F. to, roughly, 200° F., when steaming takes place, whilst the air-cooled engine is not injured by temperatures below zero and up to 700° F., but at these high temperatures the air-cooled engine cannot approach the modern car engine as regards economy, efficiency, and power.

Temperature Limitations.

The present-day air-cooled motor cycle cylinder is frequently running at such a temperature, and it will only continue to do so by developing low horse-power per unit of cylinder capacity combined with an extravagantly rich mixture as compared with a well-designed car engine. This is one of the reasons why two-lever carburetters did not die out of existence long ago: most riders of sidecar machines fully realising the importance of closing the air to enrich the mixture when konking commences. When running under these conditions the air-cooled engine is generally developing not more than one-half of the brake-horse-power that an efficiently cooled engine of the same size could develop, and, moreover, it is using anything from 20% to 80% more petrol per brake-horse-power than it should.



A pioneer engine, the 1903 Kelecom, which our contributor mentions as one of the prototypes of the present day motor cycle power unit.

The fact that performances on Brooklands very frequently show high volumetric efficiency has no

The Cooling of Motor Cycle Engines.—

bearing upon the subject, because in this case the cylinder is receiving air at a suitable velocity due to the speed of travel, and there is no parallel to this in ordinary touring with all mudguards and extra gadgets, and especially when tugging a sidecar up a hill on one of the lower gears.

The air-cooled engine must, therefore, stagnate, as far as high output at low consumption is concerned, just as long as we retain the present designs of cylinder combined with the present methods of cooling.

Let it be noted here that the writer is not intending to decry actual engine designs, many of which are excellent and almost equal to the best in the car world, nor is he decrying the present method of natural cooling, which is simplicity in itself, but what he does state is that the combination of the two cannot possibly give us even reasonably good efficiency.

It may surprise many readers to know that it has been conclusively proved at Farnborough that a cast iron air-cooled cylinder of normal motor cycle engine size cannot give a first-class performance under heavy

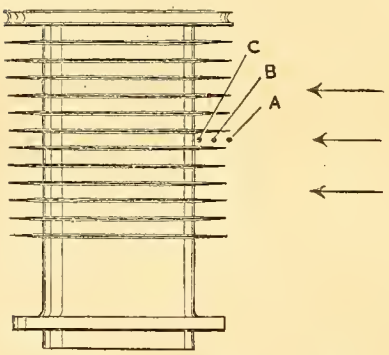


Fig. 1.—An ordinary steel cylinder, with the wind blowing exactly in a straight line. Velocity of wind at A = 60 m.p.h.; B = 47 m.p.h.; C = 35 m.p.h.

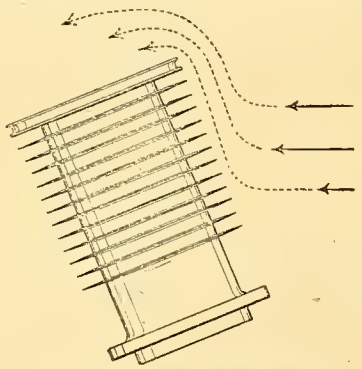


Fig. 2.—The same cylinder as fig. 1, showing how the air was found to glance off the tips of the fins when attacking the cylinder at fifteen degrees or more.

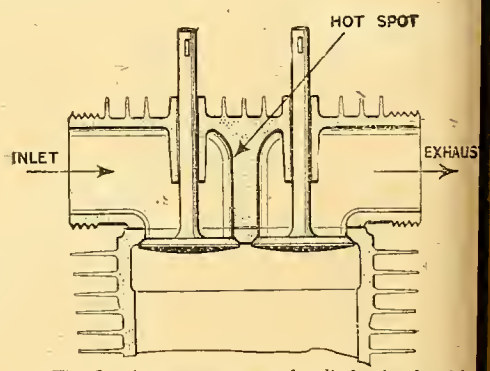


Fig. 3.—A common type of cylinder head, with the inlet and outlet ports cast solid. When the exhaust becomes very hot it beats up the whole of the inlet port, and the charge is rarified and the power falls off.

duty conditions unless it has an air blast of at least 60 m.p.h.! An engine will work satisfactorily with less air velocity than this, but only with reduced output and increased petrol consumption.

Cooling Fins Often Useless.

Before commencing to improve matters we must know our weaknesses, and a few observations made by the writer and others in connection with larger air-cooled cylinders may be helpful.

The capacity of the cooling fin has been thoroughly investigated as regards its shape, dimensions, material, and air current, and Dr. Gibson gave a fund of information in his paper before the I.A.E. some months ago. This particular information is, however, rendered almost valueless to existing designs, because the conditions are such as almost completely to neutralise the capacity of the cooling fin.

Speaking of his own observations, the writer has found that the direction of the air current plays an extremely important part in the matter, as the following will show.

Taking an air-cooled cylinder, machined from a bar of steel, with fins of the same material and of normal design, as shown in fig. 1, and subjecting this to an air current of 60 m.p.h., as shown by the arrow, the velocity of the wind at A was 60 m.p.h., at B it was 47 m.p.h., and at C (the hottest part) it was approximately 35 m.p.h. with a very carefully directed draught. With ordinary cast fins which are of greater thickness and less air space the velocity at the root of the fin was even much lower than this.

When, however, the draught was a casual one as regards direction the conditions rapidly changed, and with this draught attacking the cylinder at an angle of 15° or over, as shown in fig. 2, there was no air speed of any sort through and between the fins, but the whole current simply glanced over the tips.

Importance of Fin Disposition.

Observing that the amount of heat extracted by the air depends very largely upon the difference in temperature between the object and the air, it would appear that to remove the fins altogether and let the air blow straight on to the hot cylinder walls would not be worse than allowing it to glance over the comparatively cool tips.

In the average motor cycle engine there is no mean of directing the air current, and, considering th already mentioned leg shields, mudguards, etc., causin eddies and swirls, we cannot very well benefit by th increased surface given by the fin if the air only glanc over the tips.

The angle and disposition of the fin is, therefor a matter of considerable importance, and a V tw or inclined engine with fins cast round the barrel right angles, as is usual practice, cannot possibly g much air to it unless chutes are formed so as direct it.

In an aeroplane, of course, with a radial engi placed in the front of the machine it was an ea matter, and in an air-cooled car with a transver engine, such as the G.N., Rover, and A.B.C., the is more scope for satisfactory cooling.

For this very reason the engine in the A.B.C. mot cycle was placed transversely, and the fact that it w twice able to secure the one hour record and t two, three, four, five, and six hour as well as t 50, 100, 200, and 300 mile records in a class 25 bigger in capacity is attributed by the writ principally to the disposition of the engine in t frame and to its cylinder head fins being also exact

The Cooling of Motor Cycle Engines.—in the line of travel, thereby allowing a higher mean effective pressure than was obtained in other machines. The cooling of primary importance for the maintenance of high efficiency and low consumption is the cooling of the centre of the head. Unfortunately, and due to the disposition of the valves, valve gear, etc., this is the most difficult part to cool on the whole unit. Some designs incorporating overhead valves combine the inlet and exhaust outlet elbows in the one casting, possibly with a view to the direct conduction of some of the heat from the exhaust port to the inlet port, thereby increasing the effective radiating surface of the cylinder head. An example of this is shown in fig. 3, but for high output per cylinder capacity the writer has found this to be inefficient, because the very hot spot in the induction port produces excessive heating of the inlet gases prior to their entry into the cylinder. Any undue heating of these gases will naturally expand them, and the amount of the charge which enters the cylinder is correspondingly reduced.

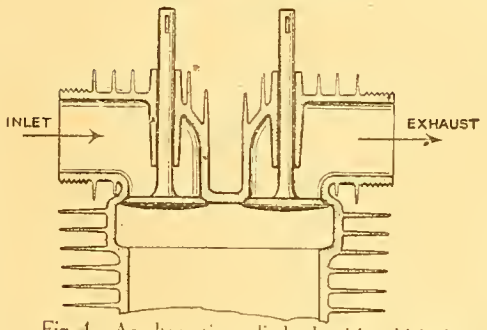


Fig. 4.—An alternative cylinder head in which the inlet port is separated as much as possible from the exhaust port, so that the heat from the exhaust does not travel directly to the inlet, and the charge is therefore cooler.

For continuity of operation of the engine this system is not bad, as it acts as an automatic governor and suitably reduces the power of the engine as it becomes excessively overloaded; but it would be a sign of weakness in air-cooling deliberately to employ such a method, as it results in a gradual falling off in power on a long hill.

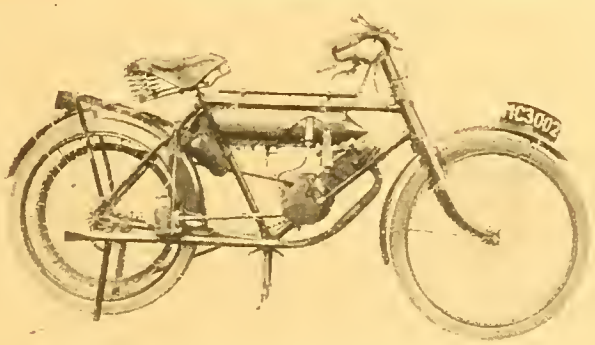
A better system for high efficiency is that shown in fig. 4, wherein the inlet and exhaust elbows are separated to the maximum extent, and the writer has even gone so far as to have a separate inlet elbow, with heat insulating washers between the elbow and the cylinder head, with considerable improvement.

(To be concluded next week.)

A POOR MAN'S MOUNT.

How a Reader Rejuvenated an Old Lightweight and Produced a Serviceable Runabout.

OWING to the inflated condition of the motor cycle market, early in 1919 I had decided to forego the pleasures of the open road for the time being. I was, however, reminded that the dismembered parts of an old Clement-Garrard were lying around somewhere amongst the strange assortment of junk that ordinarily litters my workshop. As it seemed likely that any necessary outlay would be well repaid, I decided to build up a little lightweight out of this scrap.



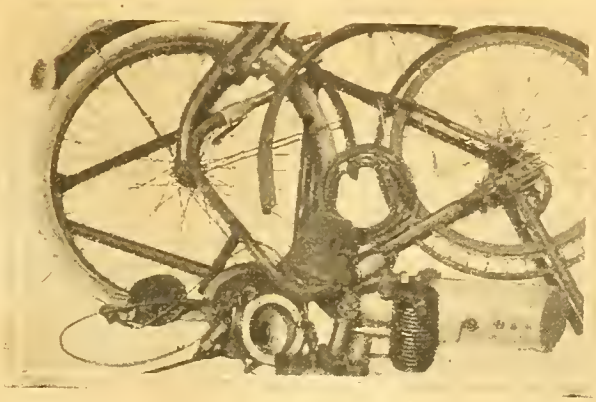
An expenditure of £10 converted the dump of old parts, shown in the picture below, into this quite presentable lightweight.

Those who are familiar with the Clement-Garrard engine will remember that it was clamped on to the front down tube in a sloping position. In order to get the engine as low as possible, I removed the pedalling gear, as I intended to use the machine as a light runabout only and to avoid bad hills. The frame was then sandpapered and enamelled signal blue.

The big end of the connecting rod was rebushed and a new gudgeon pin fitted. The cylinder piston and rings were perfect, and when assembled the compression was found to be excellent.

As the machine had originally been equipped with an accumulator, it seemed likely that to fit a magneto would be well worth the expense, so I obtained a small shaft-driven magneto.

The difficulty of installation was surmounted by placing the magneto on a platform made fast to one of the back wheel stays, and coupling it to a shaft driven by bevel gearing off the half-time shaft.



The parts of the old Clement-Garrard as they were found in our contributor's workshop.

The original carburetter was scrapped and replaced by an Amac.

The behaviour of this old crock in its resurrected form has exceeded my expectations. The engine develops plenty of power, and surmounts all ordinary hills with ease.

The total bill of costs amounted to £10, which included a new back tyre, saddle, magneto, and carburetter, and for this moderate outlay I have a very serviceable little machine.

TERENCE H. LAMBERT.



To Edinburgh in a Sidecar

A Passenger's Impressions of a 400 Mile Journey to Schedule.

HAVING been associated with the London-Edinburgh Run since its inception seventeen years ago we have made the journey on practically every form of motor vehicle which has competed therein, but this year for the first time the writer accomplished the trip as passenger in a sidecar.

Our mount was an excellent turnout—the 8 h.p. No. 7 Chater-Lea—driven by J. Chater Lea. It was fitted with a Lucas dynamo outfit, a very comfortable sidecar body, and a most efficient Sandum windscreen, the side wings of which add greatly to one's comfort.

The machine ran with clocklike regularity from the start and throughout the night, and the pleasure of the trip was greatly enhanced by the skilful and careful manner in which the driver handled the outfit. He never attempted to pass on a corner; he descended all hills with due caution, and was as careful of his passenger's comfort as of his engine, which was never forced to work to the utmost of its capacity at any time during the run.

Though the machine ran superlatively well the journey was not without incident. Nothing much happened in the early part of the run, which was over reasonably good roads, although just outside Barnet the speedometer cable came adrift, necessitating a stop of about thirty seconds, but we began to see life after the second breakfast at Ilkley, when the difficult country was entered. The first climb of note was the ascent of Cray Ghyll on second gear. By the side of the road were noticed the remains of an ancient Ford which looked as if it had been where it was for many weeks. It was a mere skeleton of a chassis upside



It was noticeable at the start that much bigger crowds gathered round the sidecars than either cars or solo mounts Prospective purchasers no doubt took advantage of the fine opportunity for close examination and comparison of such a big array of modern mounts

OVERSEAS CONDITIONS IN THIS YEAR'S LONDON-EDINBURGH RUN.

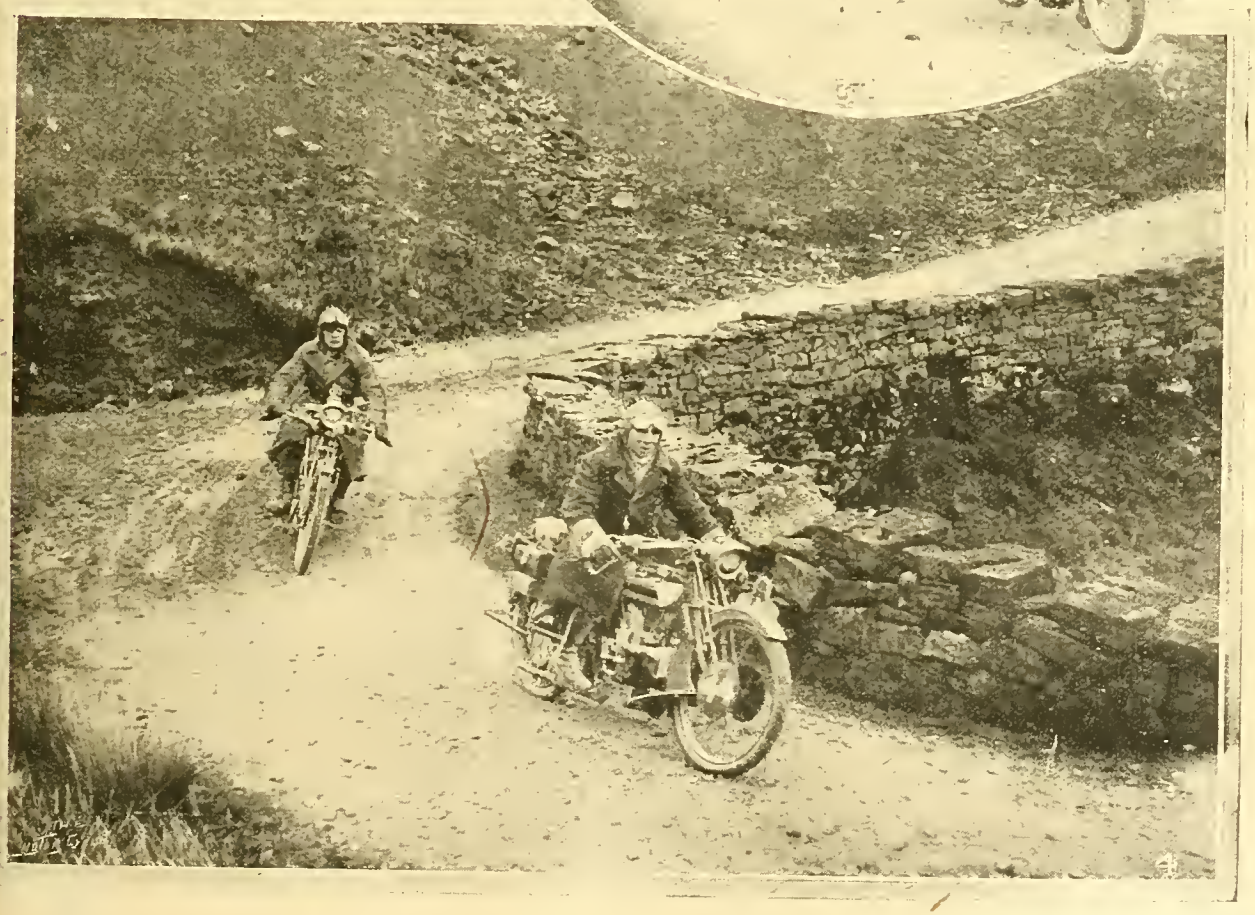






SOLOISTS IN THE LONDON-EDINBURGH.

(1.) J. A. Watson-Bourne (4 Powell) negotiating a surprise watersplash on the moors after leaving Buttertubs. (2) G. W. Dawson (Rudge) on rough going near Thwaite. (3) After Buttertubs, the course lay over moorlands. J. C. Watson (Harley-Davidson), followed by C. F. Plowman (Sunbeam) and H. V. Bateman (Diamond). (4) W. Stevenson (3½ Brough) and T. Morgan (Triumph) rounding a bend in North Yorkshire in good style.



down and covered in rust, and everything inflammable had been burned away.

Near the summit a little misfiring was experienced. Then came the descent of Kidstones Pass, which was rather perilous, as the road was very steep and the surface very loose. As misfiring was experienced near the bottom and the cause ascertained to be due to a flooding carburetter, ten minutes were spent removing an obstruction under the float needle seating.

The one Test Hill.

Buttertubs was climbed in excellent style, but for precaution's sake a change to low was made at the top of the steepest portion; but the next hill came as a great surprise.

The road suddenly changed from quite a good one to a most inferior mountain track; it was very narrow, branched through a gateway, and became somewhat steep. Unfortunately, it was noticed that the back tyre was flat before the climb was finished, and we rapidly set to work to change the wheel. This lost a few precious minutes, and though we were slightly ahead of time at the foot of Buttertubs we were now losing rapidly, and minutes were indeed valuable The nature of the country was such that no competitor who considered his machine, his passenger, or himself could possibly maintain the legal limit over this section. Probably fifteen minutes was lost to us through our trouble, but to our horror we soon came upon a secret check, and fears of a lost gold medal were entertained for the rest of the journey.

A Splendid Road.

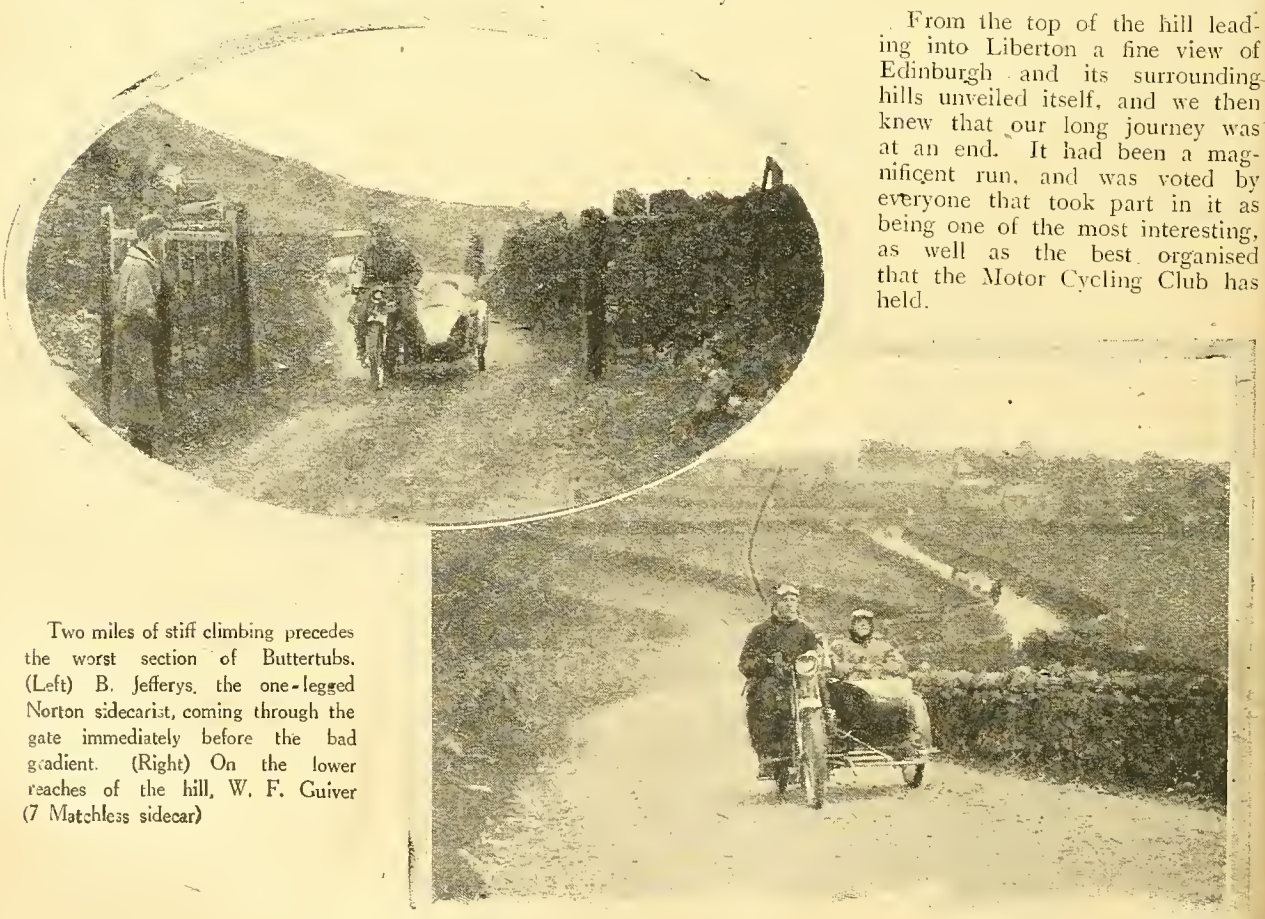
The fine broad highway (we know nothing like it in England) from Penrith to Carlisle was in as good condition as ever. It is one of the widest roads in the United Kingdom, and those responsible for its upkeep seem to take a real pride in it. After Carlisle came the longest hundred miles of the four. This may sound strange, but while the first three hundred pass pretty quickly the last hundred pass with feet of lead.

We were both fairly tired, and the dull sky and gradually increasing rain did not render the section to Moffat particularly cheering. However, it was good to stop at the little Lowland town and refresh ourselves with tea.

Then ensued that beautiful climb on one of the best graded roads in the British Isles up to the Devil's Beef Tub. The evening was now fine, clouds were rolling off the mountain tops, whose fresh green looked particularly beautiful in the evening light. Needless to say, the pass was climbed comfortably on high gear, while the wild scenery of the Devil's Beef Tub was enjoyed in full.

Then followed the descent of the other side, which was as smooth as a track, amidst scenery of great beauty.

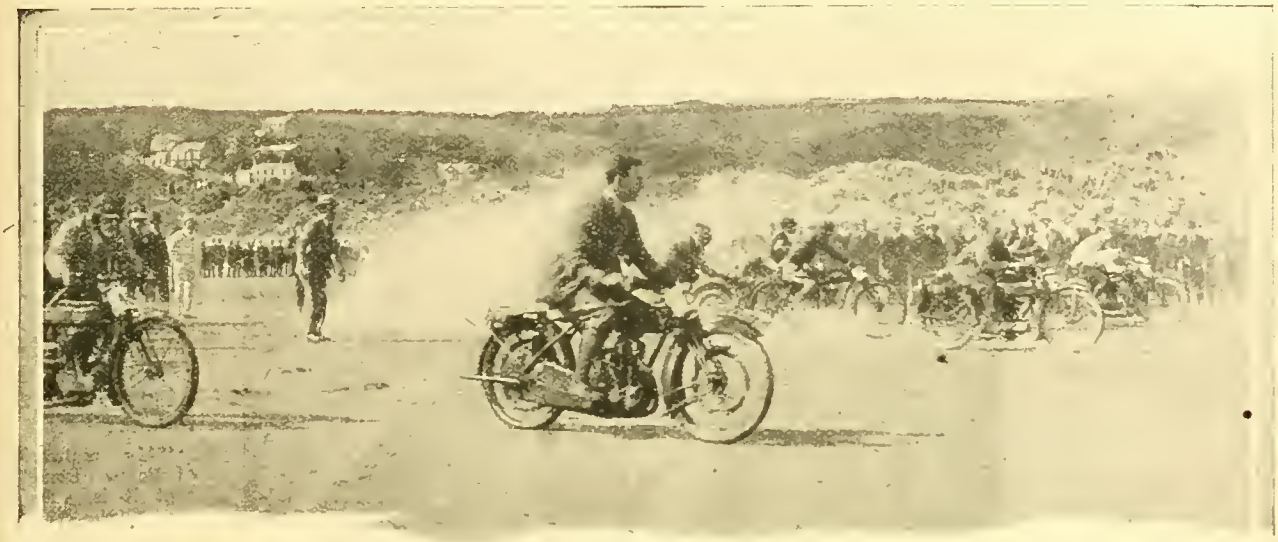
From the top of the hill leading into Liberton a fine view of Edinburgh and its surrounding hills unveiled itself, and we then knew that our long journey was at an end. It had been a magnificent run, and was voted by everyone that took part in it as being one of the most interesting, as well as the best organised that the Motor Cycling Club has held.



Two miles of stiff climbing precedes the worst section of Buttertubs. (Left) B. Jefferys, the one-legged Norton sidecarist, coming through the gate immediately before the bad gradient. (Right) On the lower reaches of the hill, W. F. Guiver (7 Matchless sidecar)

A FIFTY MILE RACE ON PENDINE SANDS.

Welsh Speed Championships Meeting in Carmarthenshire.



FIFTY MILES AT SPEED ON THE SEASHORE.

The start of the fifty mile event for machines of unlimited capacity, and won by Ogwyn Lewis (Norton) at 55 m.p.h., a really fine performance.

EXCELLENT entries and splendid racing combined to make the Welsh speed championships a complete success. The event was organised by the Carmarthen and District M.C. and C.C.C. at Pendine Sands, on the Carmarthenshire coast, on the 16th inst. The programme attracted the leading riders in South Wales, and for the first time in the history of Welsh clubs the event included fifty mile and twenty-five mile races.

Beautiful weather prevailed, and about five to six thousand people attended the meeting, proving that motor racing is becoming a very popular sport in that part of the country.

Pendine, with its fine expanse of sand, is an ideal place for speed trials, and the course was in fine trim excepting one or two patches of soft sand, which were responsible for a few harmless spills. The arrangements made were excellent. The fifty mile Welsh championship, which was the chief event, consisted of ten laps of five miles each, and it was a very exciting race. The premier award was a valuable silver cup given by Norton Motors, Ltd., and the winner was Ogwyn Lewis (Norton), who covered the distance in 54m. 36s., and the second prize was captured by F. P. Bush (Harley-Davidson), whose time was 54m. 49s. As these two were in the novice class, they also won the first and second prizes respectively in the general class.

True Sportsmanship.

Two competitors—Mansel Davies and R. E. Toms—had a rather severe collision in this race. Dr. Lindsay, who was also a competitor, dismounted to attend to Davies, and after seeing that he was out of danger and removing him to a place of safety off the course, again mounted his machine and continued with the race. The good sportsmanship on the part of Dr. Lindsay earned high praise. Dr. Clare, of Cardigan, attended to Toms. It was ascertained that the two victims of the crash sustained slight concussion, but were soon out of danger, and are now making favourable progress.

The other events were :

25 MILE WELSH CHAMPIONSHIP FOR SOLO MACHINES UP TO 350 c.c.

EXPERT CLASS.—1, William Edwards (Verus), 32m. 19s.; 2, Lutter Davies (Coulson-B.).

GENERAL CLASS.—1, H. Church (Velocette); 2, T. J. Stephens (Velocette).

A special first and second prize for machines up to 275 c.c., included in this competition, were also won respectively by H. Church and T. J. Stephens.

2½ MILES STRAIGHT SPRINT FOR SOLO MACHINES, UNLIMITED c.c.

EXPERT CLASS.—1, Handel Davies (Brough); 2, Dr. Lindsay (Norton).

GENERAL CLASS.—1, F. P. Bush (Harley-Davidson); 2, Ogwyn Lewis (Norton).

2½ MILES STRAIGHT SPRINT FOR SOLO MACHINES UP TO 350 c.c.

EXPERT CLASS.—1, Wm. Edwards (Verus); 2, S. Horsell (Coulson-B.).

GENERAL CLASS.—1, H. Church (Velocette); 2, J. Davies (Verus).

500 MILES AT BROOKLANDS.

Race for the 200 Guinea Miller Gold Cup.

CONSIDERABLE interest will be attached to the 500 mile scratch race on July 2nd for several reasons, not the least of which is that it will be the longest motor cycle race ever held, and for one of the most valuable trophies ever presented. This is the Miller Gold Cup, value 200 guineas, presented by Capt. A. G. L. Miller, and is to be won outright.

The second and third prizes will be silver cups presented by the British Motor Cycle Racing Club. Cups will also be presented to class winners, and certificates to survivors. A team prize consisting of a certificate to the nominator, and a gold medal to each of the three team members, will also be awarded. Teams must be nominated by a member of the B.M.C.R.C., and are to consist of three competitors all driving the same make of motor cycle. A silver cup value ten guineas has been presented by Mr. Victor Horsman for the first to finish in Class A or B.

Entries (which are limited to 100) cost £2 12s., and close on Wednesday, June 22nd. Application for entry must be made to Mr. T. W. Loughborough, The Mill House, Upper Warlingham.

The race, which will have a time limit of twelve hours, will start at 7 a.m.

Every competitor must display a front number-plate of T.T. size, which will be forwarded to him after acceptance of his entry, and must wear the racing colours of his class, which will be as follows :

Class A, 250 c.c., white.
Class B, 250 c.c. to 350 c.c., blue.
Class C, 350 c.c. to 500 c.c., yellow.
Class D, 500 c.c. to 750 c.c., green.
Class E, 750 c.c. to 1,000 c.c., red.

As previously mentioned in *The Motor Cycle*, special replenishment depots may be hired by entrants.

The Worst Hill in Wales



Some Opinions of Expert Riders on the Difficulties of Screw Road—the Hill discovered by "The Motor Cycle."

THE interest of thousands of motor cyclists is aroused whenever a seemingly "impossible" hill is discovered, and trials organisers send out prospecting parties with a view to including it in their next big trial.

Screw Road, "discovered" by *The Motor Cycle*, and with which we dealt last week, no doubt will prove no exception to this rule, and we are constrained to reiterate that the hill is totally unsuitable for inclusion in a trial. We also wish again to warn individual enthusiasts that on no account should the hill be descended or an attempt made to climb it without a large party of assistants on the bad corners.

The visit of *The Motor Cycle* party, described in last week's issue, impressed every participant in the event of the dangers of the hill without properly organised assistance in the case of a machine failing and running backwards, for although the road is not on the edge of a precipice, the banks are sufficiently steep to have the same effect.

Practically Impossible for Heavy Sidecar.

The following is J. L. Norton's opinion of the hill; in it this expert driver refers to "a lot of nothing" over the edge of the road. Mr. Norton intends to revisit the hill with a sidecar having a lower gear ratio than the one used on the occasion of his visit with *The Motor Cycle* party.

"I certainly think Screw Road the most difficult hill I have ever attempted. As a matter of fact it is the *only* hill I have been up that I have not succeeded in climbing unassisted (I shall do this later), and think it practically impossible with a heavy outfit on standard gears.

"The fact that my machine reared up and attempted to stand on its hind legs, so to speak, and swung round the sidecar, opened my eyes to the danger of steep ascents where there is 'a lot of nothing' over the edge of the road on the sidecar side. I would like to emphasise this—a declivity on the same side of the road as the machine such as Bwlch-y-Groes (which, by the way, is child's play after the Screw) is, comparatively speaking, perfectly safe."

W. H. Carson, is another expert hill-climber and one who perhaps has had more experience in climbing "freak" hills than most riders. His impressions of the hill are as follows:

"My impression of Screw Road is that it is one of the most difficult hills to climb with a motor vehicle I have ever encountered.

"The gradient is severe, the corners are exceptionally bad, the surface very unfavourable, added to which is the great danger of the vehicle going over the side into the valley from which there is no protection whatever.

"On the straight sections of the hill, there should be no difficulty with any good modern motor cycle, but a great difficulty is negotiation of the corners with a sidecar, as it is most difficult to keep the front wheel on the ground. Consequently, the steering is very much affected, especially with a touring sidecar such as is used on the Excelsior, the Norton, and one or two other machines on the occasion.

"The more I encounter freak hills with varied surfaces, the more I am of opinion that there is more scope for improvement in the design of 'treads' of tyres than there is need for development in the motor cycle itself."

Lightweights Score.

Another sidecar driver who attacked the hill is G. Selby Arter of the James Co. He writes:

"Screw Hill, to my mind, is one of the worst hills in Wales; it is rendered so by the series of acute hairpins, the length, and shaly surface. The gradient, though steep, is nothing to be afraid of in itself. For lightweight solo machines it is comparatively easy if taken carefully, but for heavyweight machines and sidecars wheel-slip has to be overcome. It is a possible climb for a sidecar with the right gear and back tyre, though even then it is always doubtful whether one has the power to steer round the hairpins. It is decidedly dangerous for the man who 'konks' and runs backwards."

The B.S.A. rider, A. E. Wood, who attempted the ascent of the hill with a single-cylinder outfit says:

"Undoubtedly Screw Road is the worst I have sampled for passenger machines, owing to the loose surface, and the large reserve of power required for the numerous hairpins and a very gruelling test for single cylinder sidecars, even with very low gears.

The Worst Hill in Wales.—

"I do not think it will prove a terror for solo riders, but in any case it is certainly not to be recommended to 'windy' drivers, especially the descent of the hill."

H. Greaves, the Beardmore-Precision rider, is able to judge the hill after ten years' experience in all the big trials.

"I was particularly struck with the severity of the climb from my first inspection. I have participated in most of the principal trials organised by the A.C.U. during the last ten years, and I think I have negotiated practically every hill of any account in the British Isles. Screw Hill I regard as a very good test, as owing to the dangerous nature of the climb, one was compelled in some parts to take the worst surface, in addition to which there was the combination of the gradient and hairpin bends, each of which called for reserve power. Although I have encountered hills which have caused me more trouble, I attribute the feats we are able to do to-day to modern machines, and the knowledge gained from similar tests. I should like to say that what I was particularly impressed with, and what I consider instructive to those participating in the climb, was the way *back wheels ploughed up loose earth*. This, I think, proves beyond doubt that in many instances a rider in an 'observed' climb is penalised for what is usually termed a failure owing to 'wheel spin,' but which is really due to the road not being made of the proper substance for this particular kind of traffic, and not capable of offering sufficient resistance."



NEARING THE SUMMIT OF SCREW ROAD.

M. F. Powney (4 Triumph) approaching the last and worst hairpin on the occasion of *The Motor Cycle* party's recent visit to this new hill. He made a clean ascent.

A. G. Cocks is another well-known competition rider who made a successful climb on a Beardmore-Precision. In writing his impressions of Screw Hill, he relates how, on reaching the top of the hill, a Ford driver advised him in the local vernacular that it was impossible to go any further as "they be a big hill down there, and if ye git down ye can't get back up un," or words to that effect. Cocks answered "Wait and see!" However, when he saw the hill he hoped that the local man would not "wait and see," as, he states, he would not have laid a penny to a pound on making a clean ascent.

"But," he continues, "all these 'pimples' appear worse looking down than looking up, after helping many riders down and to push many sidecars up, two kindly spirits let me down on my Beardmore-Precision, and I freely admit it was much more pleasant riding up than going in the reverse direction. I consider this hill a great find, and *The Motor Cycle* is to be congratulated both as regards the find and the splendid organisation which made this a most enjoyable day out for those of us who were lucky enough to receive an invitation. I think any modern motor cycle should climb this hill without much trouble when it is dry; whether it would be possible to climb it when it is wet is another matter.

"For sidecars this hill is a true proposition, and from what I saw it is just a matter of luck. If you manage to keep the course you may get up, if you don't keep that course, well ——!

"I have only one suggestion to make. *The Motor Cycle* should organise more of these very enjoyable and sporting hill-climbs, from which quite a lot of useful data may be obtained, and I am sure this will be echoed by every one of the party who visited Corkscrew Hill, Llithfaen, Carnarvonshire."

Percy Newman, of the Ivy Company, was also one of the lightweight riders. He writes:

"Screw Hill, Carnarvonshire, is undoubtedly the most severe hill I have ever seen, but on consideration, I believe that I could have climbed it under any weather conditions on account of the stony nature of the road. Were it not for the five hairpin bends the hill would be no worse than the A.C.U. freak hills, as the modern machine can annihilate sheer gradient provided wheel slip can be overcome. I thought taking the hairpin bends required considerable caution, as I found the back wheel was inclined to spin, and there was a danger of going over the edge. Altogether I thoroughly enjoyed the climb, as there is always a pleasure in accomplishing a feat not hitherto performed."

M. F. Powney, the Triumph rider, who practically lives on a single-cylinder machine, and therefore knows its capabilities, does not share Mr. Norton's optimism concerning a future attempt on the hill with a single-cylinder sidecar. He thinks Screw Hill beyond the limits of a present-day single propelling a sidecar, for he considers the power reserve is not sufficient to negotiate the bends with a sidecar. This Triumph rider was one of the party which afterwards visited Alt-y-Bady, and, after the Screw Road, he was not at all impressed by the severity of the Llangollen hill.

That Summer Lodge—the tit-bit of last year's A.C.U. Six Days—is a more difficult hill for a soloist to climb is the contention of W. Brandish, jun. He thinks, however, that Screw Road is the more difficult for a sidecar.

OVERSEAS SECTION

A Commentary based upon Practical Experience and a Study of Overseas Opinions.

British and American Competitions—a Contrast.

CAUSE and effect are often difficult to distinguish, and whether American machines are the product of American trials, or whether American trials have been evolved as a sequence to the type of machine popular there, is a case in point. Quite probably it is neither: for it may be that the wonderful variety of riding conditions, from natural speed tracks to literally unclimbable hills, has bred both the popular type of trial and machine. The fact remains, however, that motor cycle clubs over there have a considerably different way of organising sporting events from those in England.

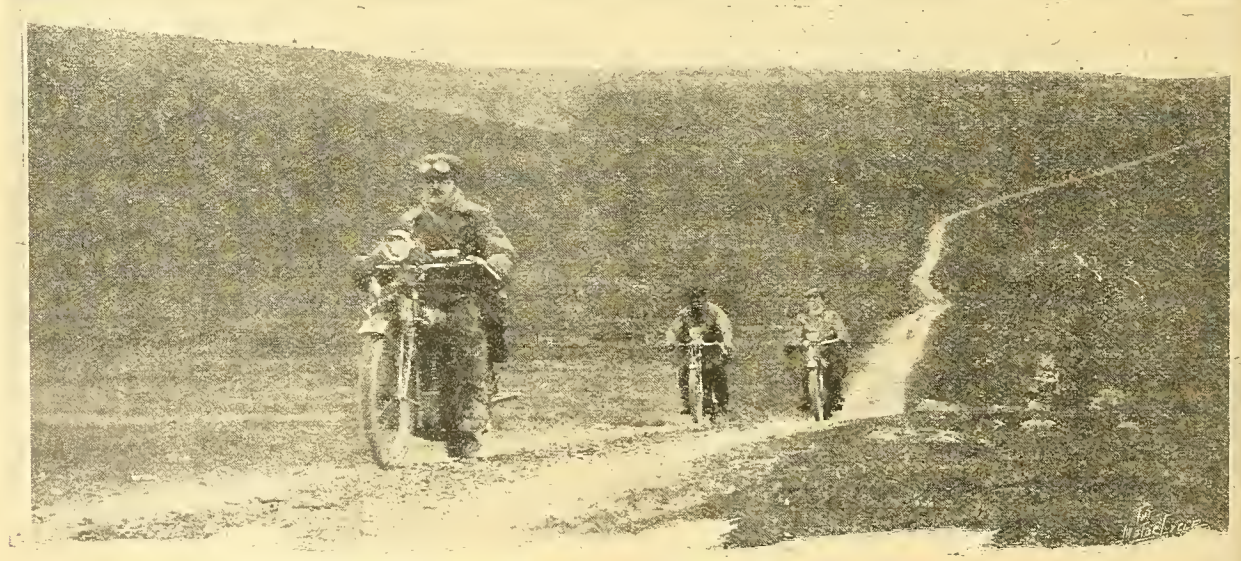
In the matter of reliability trials, for example, the very name is altered to "endurance runs," and, until recently, these runs lived up to their name so well that only the hardiest riders dared compete. Recently an endeavour was made to attract the average rider, but the trade element still predominates to a great extent. Freak courses or tremendous mileages at high averages have been common in the past, and even now the schedule average set by the ruling body (the Motor Cycle and Allied Trades Association) is 22 m.p.h. as compared with the British 20 m.p.h.

Incidentally, the arrowing difficulty has been solved in a very simple manner. The M. and A.T.A. issues a standard marking sign consisting of a plain yellow triangle, the apex of which is set right or left as the turn may be, or upright for straight on. It has been found that these triangles are so inconspicuous (they are unmarked) that the average small boy does not realise that it is possible to alter them!

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Hill-climbs and —Hill-climbs.

BUT it is in hill-climbs that the biggest contrast lies. A road is not necessary for an American hill-climb, and the winner is the man who gets up furthest, not fastest! Certainly these provisions make the event less of a cure for insomnia for the spectators than some of our speed trials on an up-grade, called hill-climbs. At the same time it must be borne in mind that to steer a bucking "over-size" twin or 10 h.p. four-cylinder up a trackless mountain-side is naturally going to be more exciting than, say, a suitably geared lightweight on the same hill. And "big" solo mounts are, of course, in the majority in America; they are very much in the minority here. We should like very much to see a suitably geared British miniature compete at, say, Capistrano, where so few seven to twelve horse-power



OVERSEAS CONDITIONS IN A CLASSIC BRITISH TRIAL.

Part of the wild moorland traversed by London-Edinburgh competitors. Hugh Gibson (Royal Ruby), S. Eastwood (Royal Ruby) and G. E Cuffe (2½ Metro-Tyler) on the rough section north of Buttertubs

Overseas Comments.—

twins succeed in reaching the summit. At all events it would be a most interesting comparison; it might even be a revelation. In the same way it would have been most interesting to see 7-9 and 12 h.p. American mounts on the Welsh Screw Road, the ascent of which by various British machines was described last week.

Dirt track racing, which attracts huge crowds in the States, does not, of course, exist for the English motor cyclist, but other events such as fuel consumption tests, and various forms of speed guessing and speed judging runs are common to both nations. As indicated already, however, trade men and trade interests predominate in practically every motor cycle club. Indeed, although the reason is obscure, this statement holds good of clubdom anywhere Overseas. Only in the British Isles does the private owner take such a controlling and healthy interest in the sport to the direct benefit of the buyer. Clearly, the Overseas motor cyclist requires reliability, economy, and hill-climbing ability just as his *confrère* in this country, and the strenuous nature of the average British trial tends to develop the right kind of machine for India, Africa, or the Antipodes more than those which in the United States are admittedly designed as advertising "stunts."

A Selection of Letters from Readers scattered all over the World.

Strenuous Australian Trials.

MR. H. T. GRIMWADE, of Melbourne, Australia, writes enthusiastically anent the 3½ h.p. Norton. He also emphasises the severity of reliability trials in his locality:

"I am writing in high praise of a sports model Norton. I had owned previously a very well-known British single which gave only fair service, was not exceptionally fast, and had to be constantly tuned up to attain 55 m.p.h.

"Strange to say, the Norton is very little known in this city, but when one day I saw a new one in an agent's depot I promptly bought it. The result of my precipitate action has been already more than justified, as solo, with a speedometer properly tested, I can do seventy, and the engine seems to like it. There is no slowing down after a burst of a mile or two owing to overheating or valve stretch or any other cause.

"The motor cycle club here recently held two fairly strenuous reliability tests. The first was 130 miles over mountainous country with an average of 26 m.p.h., and the second was 400 miles continuous riding for twenty-four hours. In the first I rode solo, and the second with a huge sidecar and passenger weighing fifteen stone. In both I got through on time at every control. On the twenty-four hours' trial we encountered a strong head wind blowing across quite open country, and against this we had 150 miles to do. The average speed was twenty-three, which under the conditions meant a 'flat out' ride for the entire distance. The engine never faltered, we gave it plenty of Castrol G.P., and generally had a few minutes to spare.

"This year there is a 200 miles open handicap solo race and a sixty-seven miles sidecar race, for both of which I intend entering. There are generally large entries for these events, and they cause quite a sensation in Gippsland, Victoria, where they are held. So far I had done no good in either of them; my engine always dried up, but now with the Norton I am hoping to show them all a clean back wheel."

Adapting an Eight-year-old Machine to South African Requirements.

"M.A.C." has carried out in practice what so many of our overseas correspondents recommend in theory: *i.e.*, the provision of greater ground clearance, protection for the magneto, greater fuel capacity, etc. His 1913 Zenith, which we illustrate, is certainly an excellent example of skilful modernisation, and is particularly suited to our practical Transvaal correspondent's needs. He writes as follows:

"Considering you may find it interesting, I enclose a photograph of my Zenith machine, on which, when comparing with the makers' standard model, you will see that several alterations (and, to my mind, improvements) have been effected.

"The machine, which is, I think, a 1913 model with 90 × 77½ side by side valve twin J.A.P. engine, I bought second-hand whilst stationed at Netheravon with the R.F.C. in 1916. It was only bought with the intention of using for a few months. Circumstances, however, decided that I should bring the machine out with me on my return to this country, and since then I have effected the changes as illustrated.

"The clearance being too low to suit Colonial requirements, I made and fixed a pair of extension links between rear fork stays and seat-pillar; this required no frame alterations and gave nearly an extra inch clearauce under the engine.

"Footboards were substituted for footrests. A new torpedo-shaped tank was made and fitted to the top tube for oil, and the existing oil tank converted into an additional petrol tank. On account of there being several drifts to cross in this district, I changed the position of magneto from front to rear of motor, this necessitating a new magneto chain guard.

"A somewhat differently arranged silencer and tail pipe was fitted to exhaust pipes. The Bowden front rim brake was discarded and substituted for a dummy rim brake with a Ferodo-lined pad, operated from the right handle-bar.

"The rear belt-rim brake I also discarded and substituted with external contracting Ferodo-lined band brake operated from the left handle-bar.

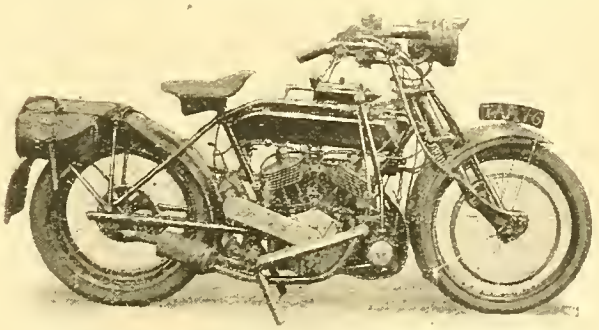
"A special sidecar attachment was made for the front head lug. A countershaft clutch was made and fitted to the front of the motor, operated by hand lever on right side of machine. This clutch consists essentially of three steel Ferodo-lined discs, about 5in. in diameter (two outers fixed to the sprocket drive, and the central one to the spindle of the belt drive), with single compression spring and quick thread release gear. The whole runs on Skefko radial and thrust bearings. This clutch, which works wonderfully smoothly, has now been in use for over eight months, and apart from oiling and engine chain adjustment has required no attention whatever. The same pulley which was formerly on engine-shaft is used on the countershaft and gives gear ratios of about 4.6—8½ to 1, or according to the size of the sprocket fitted to the motor.

"A kick-starter, which was procured from an old discarded two-speed gear, was altered and fitted to work on the existing engine-shaft.

"I may mention that all the above alterations and fittings, including the chain sprockets, were made and designed by myself, and I feel that I have been amply repaid for the time spent thereon by the extra comfort, etc., obtained. As for the expense, this has been practically negligible, as with the exception of the Skefko ball bearings, Ferodo, and one or two other minor gadgets, the materials were procured from an engineering scrap yard.

"The tanks, which do not show up to advantage in the illustration, are enamelled red with black lining and lettering.

"The machine is used both solo and with a sidecar."



What can be done with even a very old machine is exemplified in this picture of a Transvaal reader's 1913 8 h.p. Zenith, modernised on an "Overseas specification." (See letter from "M.A.C.")

T.T. NOTES AND NEWS.

Items of General Interest regarding Next Month's Manx Races. A Total of 128 Entries.

A FURTHER twelve entries for the T.T. have been received by the A.C.U., bringing the total for the two races to 128. Of these twelve, two are for the Senior event, a Norton entered by A. A. Jackson, and a Sunbeam entered by the Athol Motor Garage, to be ridden by T. M. Sheard, an experienced Manx rider who has competed in several T.T. races. The additional Junior entries are as follows:

ENTRANT.	RACE.	MACHINE.
F. Aslett-Coulson Engineering Co.	L. Nicholson	2¾ Coulson-B
O'Donovan Motors	R. N. Judd	2¼ Velocette
Sun Cycle Fittings Co.	B. H. Norris	2½ Sun-Vitesse
Sun Cycle Fittings Co.	.....	2½ Sun-Vitesse
D.F. and M. Engineering Co., Ltd.	F. J. Price	2¾ Diamond
D.F. and M. Engineering Co., Ltd.	S. A. Marks	2¾ Diamond
R. Weatherall	Entrant	2½ R.W. Scout
A. J. Stevens and Co., Ltd.	Vivian Olsson	2¾ A.J.S.
Hobart Cycle Co.	W. J. Lord	2¼ Hobart
Hobart Cycle Co.	.....	2¼ Hobart

* * * * * *

The two Diamond riders this year are F. J. Price and S. A. Marks. Last year the latter rider competed on a similar mount.

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J. A. Watson-Bourne, who finished 2nd on a Blackburne, was 8th, 8th, 4th, 3rd, 2nd, while J. Holroyd on a sister machine was 9th, 7th, 3rd, 4th, 3rd.

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The fifth man was Eric Longden on a twin-engined Dot-Jap, whose lap positions were as follows: 11th, 9th, 5th, 6th, 5th.

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The Junior winner's speed was 40.74 m.p.h., 39.44 m.p.h. and 39.37 m.p.h. being the speeds of the 2nd and 3rd respectively. The Senior race was won by De la Hay on a Sunbeam, at an average speed of 51.79 m.p.h., with the second man, D. M. Brown (Norton), at 51.05 m.p.h. Reg. Brown (Sunbeam) was third.

Cyril Williams's lap positions last year were 6th, 5th, 1st, 1st, 1st respectively.

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Of course, Cyril Williams will be a favourite for this year's Junior event. Second in 1914, first in 1920, on both occasions on an A.J.S., he should by now know both the course and his machine.

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Will the 250 c.c. class equal the speed of the larger (350 c.c.) entrants? Last year R. O. Clark, who on a Levis won *The Motor Cycle* Cup for the smaller class, was only 18m. behind the winner of the Junior Trophy, and but for his ten minutes' delay when his tyre came off, he would have finished second. His position for each of the five laps was: 4th, 4th, 2nd, 2nd, 4th respectively.

* * * * * *

T. M. Sheard, the Manx rider will make a third appearance in the Senior event. In 1914 he was mounted on a Rudge. This year he will ride a Sunbeam for the Athol Motor Garage.

* * * * * *

R. N. Judd, who recently accomplished 92 m.p.h. on Brooklands, will ride a Velocette.

* * * * * *

The Hobart Co. is entering two 2¼ machines.

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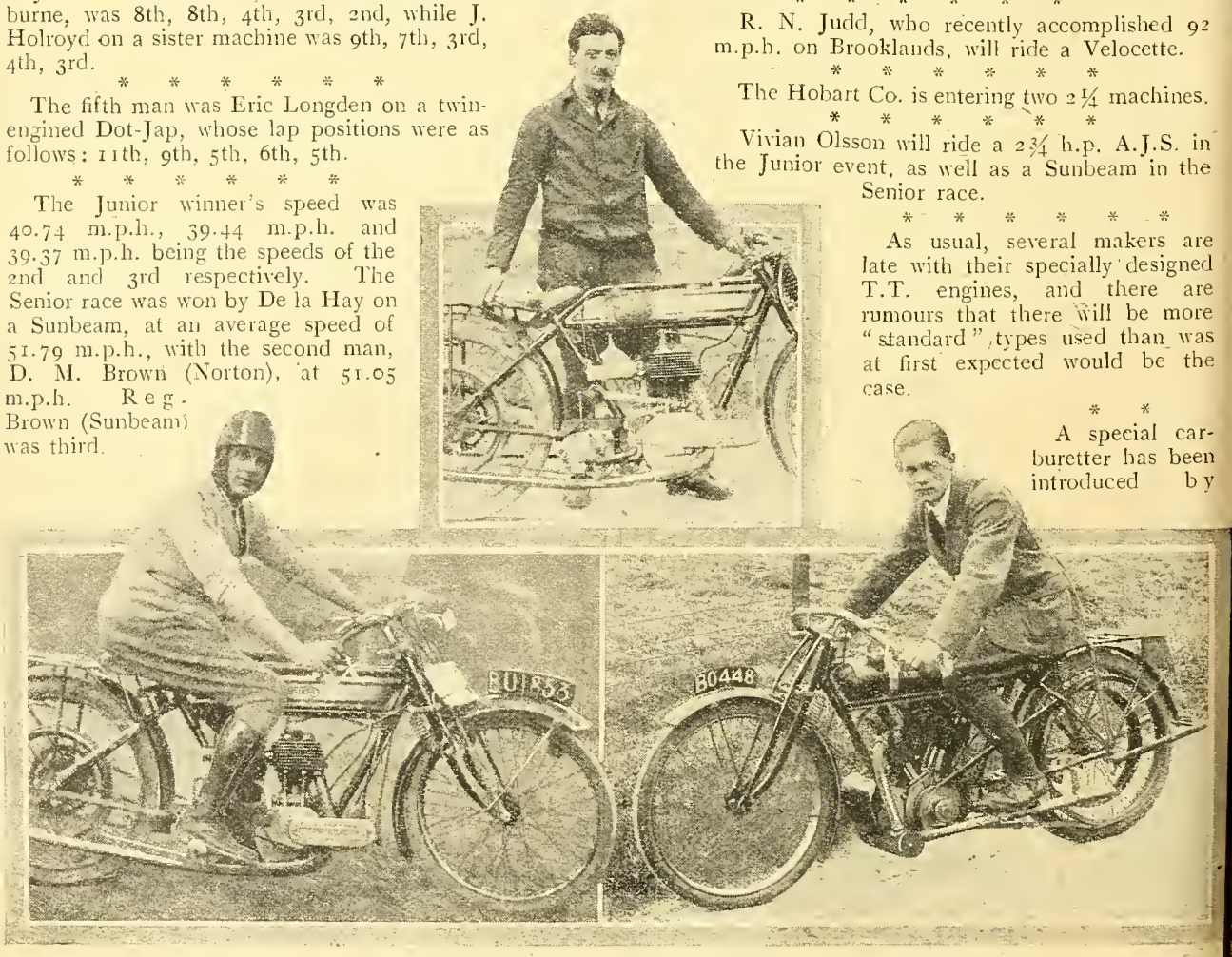
Vivian Olsson will ride a 2¾ h.p. A.J.S. in the Junior event, as well as a Sunbeam in the Senior race.

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As usual, several makers are late with their specially designed T.T. engines, and there are rumours that there will be more "standard" types used than was at first expected would be the case.

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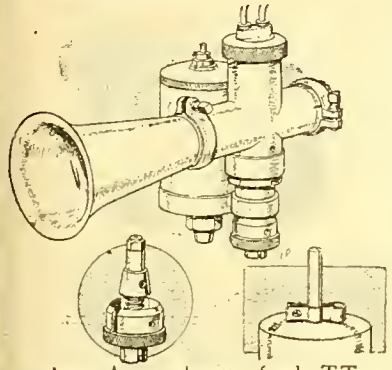
A special carburetter has been introduced by



THREE RIDERS IN THE SENIOR RACE.

(Top) Jack Thomas, who hopes to pilot a Norton to victory. (Left) J. Mitchell, a well-known North-country rider. Mitchell's mount will also be a Norton. (Right) Cyril F. Edwards, although mounted on a Bat-Jap, has not officially named his machine.

T.T. Notes and News.—



A new Amac carburetter for the T.T. (Inset: Left: The quickly detachable jet plug. Right: The float clip secured by a split pin.

Amac, Ltd., for the Isle of Man races a feature of which is the quickly detachable jet. The main jet and body can be instantly removed by a half turn of the bayonet-pointed base plug. No centre hole is provided in the spraying cap, and every part which is liable to work loose under vibration is locked by a grub screw. This feature extends to the float chamber cap, the cap of the main throttle barrel, and the control lever cap, while the float needle clip is secured by a split pin. It is difficult to imagine any source of trouble which has not been guarded against, and we prophesy a bright future for this new instrument for touring purposes as well as for racing.

* * * * * *

The speed capabilities of 1921 machines have increased, which again raises the question: Should the Senior machines be reduced to 350 c.c., and the Junior to 250 c.c.?

* * * * * *

The Auto-Cycle Union announces that the whole of the front row in the official grandstand has now been booked for the Senior Race. The booking of seats for both races is proceeding rapidly. A few seats are available in the Royal box (from which His Excellency, the Lieut.-Governor of the Isle of Man will witness the races) at 20s. and 15s. respectively.

* *

In 1920 fastest lap was made by G. Dance (Sunbeam), 40m. 43s. = 55.62 m.p.h., which is a record.

* *

Two Hobart machines are entered in the Junior event, one of which will be ridden by W. J. Lord.

* *

New Imperials will compete in both classes of the Junior event.



Dr. Cecil H. Hopwood, who is offering a cup for the best team performance in the 250 c.c. class. He will ride a Levis

The engines will be side-by-side valve J.A.P.'s, and three-speed New Imperial gear boxes will be used in conjunction with all chain drive and a shock absorber in the engine shaft. Very pleasing is their appearance.

* * * * * *

Probably one of the lightest machines in the Junior event will be the Climax-engined New Comet. The T.T. model is practically a standard model, and in order to bring it up to the F.I.C.M. weight minimum it will have to carry "ballast" to the extent of 11 lb. This appears to be quite absurd, as the light weight is not due to any cheese-paring, but is the weight of the standard model.

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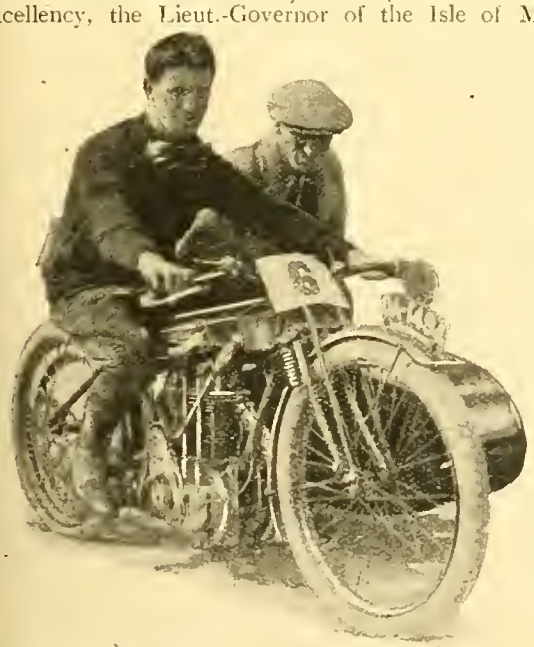
Yellow and black are to be the racing colours of L. N. Vicary and G. N. Norris, who will ride Ivy machines entered by Maude's Motor Mart.

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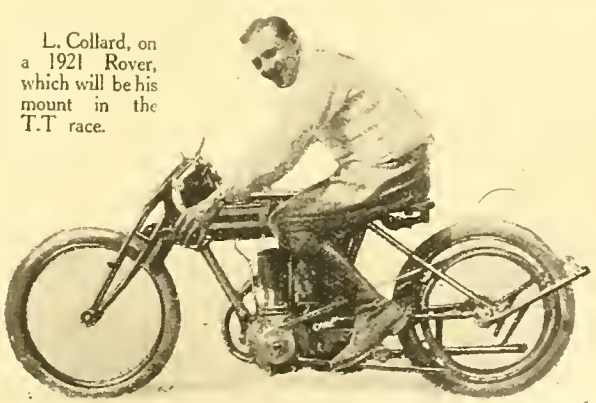
Altogether there are nine Ivy lightweights in the races, one of which will compete in the Senior event.

* * * * * *

Many tipsters for the races this year are basing their calculations not on engine efficiency but on the steering qualities of the machines, and on the riding qualities of the men.



G. Dance, of Sunbeam fame, on the 3½ h.p. overhead valve machine, which he has used successfully in speed trials and hill-climbs this year. A side-by-side valve type of engine will however, be used by him in the T.T. race



L. Collard, on a 1921 Rover, which will be his mount in the T.T race.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

AN ECCENTRIC MAGNETO.

Sir,—I have had the same trouble, and have also come across two other cases—one on a lorry. As your correspondent "T.D.C." remarks, there is no spark under compression, although a good one out of the cylinder.

I think the trouble is caused, first, by an internal short, and afterwards by the current taking the line of least resistance, *i.e.*, through the driving sprocket. I found that such was the case with my own magneto, and also in the case of the lorry. I might add my magneto was "shorted" through the lead from the high-tension coil breaking. The instrument on the lorry was "drowned out." In both cases the engines went perfectly with a British magneto.

A. B. HUNT.

Sir,—May I offer a most possible solution to this problem?

I had just the same trouble with an American magneto, and it took me the best part of two days to diagnose. Like your correspondent I could get a $\frac{3}{16}$in. spark easily, but never a shot out of the "'bus" until I tried the timing so far advanced that it would fire every charge backwards. This put me on the track that a spark would not fire gas under compression. I then dismantled the magneto, which is of the still coil variety (no windings on armature). When advancing or retarding, the armature tunnel, or pole pieces, go forward or backward, thereby keeping the same relative position to the contact breaker all the time, the idea being to maintain a maximum spark at all settings of the magneto (incidentally if it is set wrong in the first place, it is wrong in every setting, *i.e.*, advanced or retarded). If your correspondent will take out the four screws which fix the contact breaker to armature tunnel, and try it about "half a hole round" first in one way and then in the other, he will find enough "juice" there to fire half a dozen Rolls-Royces. The reason is that either the points open too soon before the condenser is filled, or too late, when it will have partially discharged.

ELECT. ART. R.N.

Droitwich.

MAXIMUM SPEED OF THE ALL-CHAIN TRIUMPH.

Sir,—I was pleased to read the account in your issue of May 5th of nine months' experiences with an all-chain Triumph. I have always been a Triumph rider, and have ridden one of each year's productions excepting the war models, and now possess an all-chain model, on which I have covered about 1,500 miles.

I can fully endorse all that the writer says of the Triumph.

Regarding his reference to "normal speed limit," I must object to this. I have never ridden a 4 h.p. Triumph which would not touch the 50 m.p.h., and should like to say that my 1919 machine would reach the speed of 60 m.p.h. I think any Triumph rider will agree with me that the 4 h.p. Triumph which will not do 50 m.p.h. has been badly treated.

About attention. I rode one 4 h.p. Triumph for 18,000 miles, competing in occasional trials, and all the attention that was given the engine was decarbonising about ten or twelve times and the fitting of a new set of piston rings. I should like to find a machine that (apart from cleaning) needs less attention.

With the usual disclaimer.

R. CLIFFORD ATCHERLEY.

[The writer of the article mentioned reaffirms his statement *re* normal maximum speed, but adds that he could pass many machines said to be capable of 50 m.p.h.—ED.]

MUDGUARDING ON LIGHTWEIGHTS.

Sir,—Referring to the mud question, "Ugh," in your issue of May 5th, says it is difficult to find a lightweight two-stroke that is equipped with adequate protection from mud. Whilst agreeing that mudguarding is not given the consideration from manufacturers that it should have, I would like to mention that two lightweights are marketed with really good mudguards. They are the Cedos two-stroke and the New Imperial-Jap four-stroke. The mudguarding on these two machines is not all one could wish for, but of the host of lightweights now offered they are undoubtedly the best in this respect. Business men who must keep clean will find that the New Imperial is much nearer the "ideal" than most other lightweights. Manufacturers of lightweights would do well to make a point of fitting wider and longer mudguards instead of fitting plated exhaust pipes and beautifully coloured transfers.

CHARLES STAGG.

CAMPING AND THE LAW.

Sir,—I note that Mr. Herbert Richardson, in the issue of *The Motor Cycle* dated 12th May, attempts to dispel doubt from the mind of a previous correspondent, Mr. J. Jameson, "as to the correct law regarding camping."

May I, with all due respect, suggest that, instead of referring to "a member of a well-known firm of tent "manufacturers in Holborn," he refers to Section 72 of the Highway Act, 1835, which enacts that:

> "If a hawker, higgler, gipsy, or other person travelling, shall pitch any tent, booth, stall, or stand, or encamp upon any part of the highway . . . . every person so offending . . . . shall . . . . forfeit and pay any sum not exceeding 40s. over and above the damage occasioned thereby."

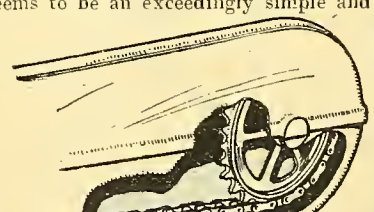
Birkenhead.

AB ORIGINE.

[We have received several letters in the same strain as the above; and we would also point out that this matter was made clear in an Editorial footnote to Mr. Jameson's original letter.—ED.]

CHAIN LUBRICATION.

Sir,—I have invented a device for chain lubrication which seems to be an exceedingly simple and cheap article, and I thought it might interest you and others if you care to publish a sketch of the device, when I shall be glad to have the opinions of your readers as to its utility.



Mr. H. T. Haselgrove's suggestion for keeping the chain well lubricated. (See letter on this page.)

The advantages, in my opinion, are: Efficient oiling, cheap construction, wear and tear practically *nil*, and continual circulation of oil.

The brush may be fixed on a central pivot or otherwise made on a floating drum.

H. T. HASELGROVE.

TEMPORARY ENGINE SEIZURE.

Sir,—As the owner of a well-known 4¼ h.p. sidecar outfit, I send you the following experience which happened to me last year. Twice on the same stretch of road at approximately the same place, when doing about 35 or 40 m.p.h. for about one and a half miles, the back wheel suddenly locked—once riding solo, and again with the sidecar attached. When doing about 20 or 25 m.p.h. it ran perfectly. On examining the machine, I failed to find any fault. As it was near holiday time, I gave it a thorough inspection, when I found that the exhaust valve had only half the usual lift, this being due to a worn rocker. Not having time to wait for a new rocker, I took the old one to a local blacksmith and had it drawn out so as to give the valve a lift of ¼in. Since then I have done about 1,500 miles without any sign of the trouble recurring. NOVICE.

Durham.

Sir,—Referring further to the question of mysterious seizures, an experience of my own may be of interest to many who have suffered from this complaint.

I possess a machine which I use as a hack mount, and ride every day to and from business. While on the usual journey my engine stopped in about four yards with all the symptoms of piston seizure. This surprised me, as I am always inclined to err on the side of over oiling, and at this particular moment I had only just delivered a pumpful of oil to the engine.

I dismounted and wheeled the machine backward and forward a few inches to investigate the trouble, but much to my surprise I discovered that everything was quite free, and I finished the remaining five miles of my journey without mishap.

However, to satisfy myself that the "innards" of the engine were behaving as they should I removed the cylinder and looked for signs that would indicate a tight piston or bearing, but everything was O.K. I reassembled and rode for about four weeks, covering 700 odd miles, when the same mysterious seizure occurred, and was just as easily cured. This time, however, on removing the cylinder I found the bore slightly scored, but strangely enough not on either of the pressure sides; the piston was not marked, but the rings were just a little. On removing the rings, which are of the eccentric type, I found that a carbon deposit had formed conforming to the eccentric gap at the back of the ring, and that seizure was due to one of the rings working round in its groove, and so wedging between the cylinder wall and the high spot on the carbon deposit. Wheeling the machine backward and forward must have worked the ring back to its original position in the groove and so freed the piston, thus accounting for the momentary nature of the seizure.

This wedging action could occur with rings of the concentric type which had become even a few thousandths eccentric due to wear, if the clearance at the back of the ring was sufficiently reduced by carbon deposit. N.S.F.

London, S.W.19.

Sir,—I have been very interested in the various theories put forward with regard to temporary engine seizures. My explanation is as follows, and may interest your readers who have suggested various reasons.

The seizure is due to expansion of the piston head when sufficient clearance has not been allowed *above* the top ring. The short interval between the time of seizure and the examination allows the piston head to contract, thus automatically becoming free.

When I was in charge of the largest motor cycle repair shop in France in 1916 I had occasion to test a new W.D. single, and, while doing about 45 m.p.h. after climbing our best hill, the engine suddenly seized and locked the back wheel. I skidded for fifty-nine yards before coming to rest, and, putting the machine on the stand, tried the kick-starter. *The engine was perfectly free* and I made sure nothing else was the cause.

I was naturally keen to find out the cause, and, suspecting a tight piston, I had the cylinder and piston removed on my return to the depot.

Deep scores above the top ring showed that insufficient clearance had been allowed to counteract expansion of the piston head, and, on measuring the piston with a micrometer, I found that the piston was the same diameter for its whole length. I measured twelve new pistons in my spare part stores to find the same result. By skimming about .008in. off the diameter above the top ring no further trouble was experienced.

I have never known a plain bearing seizure to become free without a good deal of coaxing or forcing, and, as the designer of the original Blackburne, I can claim to have had a great deal of experience of plain bearings.

E. A. BURNEY.

ELECTRICAL PHENOMENON.

Sir,—Your correspondent, Mr. F. C. Schofield, appears to take things too much for granted when he states the cause of my trouble as a partial earth due to faulty "flexible" insulation. Perhaps it would interest Mr. Schofield to know that the length of "flexible" in question was tested with an Evershed Magger testing set for insulation resistance, the whole of the wire, except the two ends, being immersed in a bowl of water. The reading on the scale was 25 megohms. This should, I think, convince any electrical man that the insulation resistance was all right. I have since tried other lengths of new flexible in the same manner, and with the same results.

Possibly Mr. Schofield overlooked the fact that I stated in my letter that the insulation of the "flexible" was sound. By sound, I meant that it was tested in the manner described. (I may state the "flexible" I used was best quality rubber-covered, not electric light or power cable.) Therefore, I adhere to my original solution of the trouble, and still regard this phenomenon as a pure case of electro-magnetic induction.

N. W. BENLEY.

A LONG JUMP!

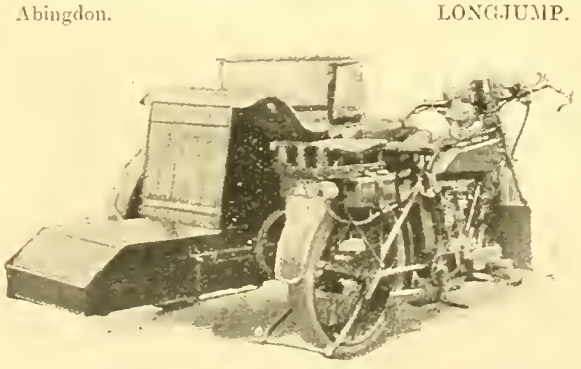
Sir,—I should like to draw the attention of motor cyclists to the danger of small country bridges over streams, etc.

The other day I and a friend were riding a 4 h.p. Blackburne, myself riding pillion. We were travelling along a country road, more or less straight and level. In the distance, *i.e.*, about 250 yards away, we could see a bridge over a stream, which looked as if it had a gentle approach. But when about twenty yards away we saw, to our horror (we were going rather fast), that it was really a very sharp ascent.

It was impossible to slow down, and the obvious thing happened—we shot up a frightfully steep incline and jumped, landing with a terrific crash which sent the Brampton forks into the lamp. After a few wobbles we came to a standstill by the side of the road, with no casualties. We walked back and measured the jump by the marks on the road. It was exactly twenty-seven feet.

The bridge came almost to a point on the top, and a car would probably have scraped its gear box going over.

Abingdon. LONGJUMP.



LUGGAGE CARRYING EXTRAORDINARY.

Mr. J. G. Poole, the owner of this Rudge-Multwin outfit, evidently desires to carry considerably more luggage than the average grid can accommodate. To this end he has constructed a box, as shown, which may be easily and quickly detached, and which has an "inside" carrying capacity of a full-sized suit case and other articles, while there is room on top for at least three spare tins of petrol.

ON THE ROAD WITH THE ENFIELD SIDECAR.

Sir,—I have read with interest the account in a recent issue describing a run on one of the new Enfield sidecar outfits.

As a user of a 1919 Enfield outfit, I can confirm what you mention—the tendency of the machine to run bumpily on bad roads, as far as the bicycle portion of the outfit was concerned. I cannot speak as to the sidecar, never having ridden in my own sidecar for more than a few hundred yards, though my passengers speak well of it.

I have since transformed the running of the machine, from the driver's point of view, by fitting a device similar to that indicated in the article referred to above. This is the patented saddle suspension marketed by the makers of the L.M.C. machine. I saw the advertisement of this in your paper, and also examined a specimen at the last Show, and finally bought one and fitted it. The Enfield not having the usual gear box, there is much less clearance between the seat tube and rear mudguard than in most machines, so that I had to do a little adjusting to get it in position. I found the easiest way was to take advantage of the Enfield divided rear mudguard, dropping the rearmost portion about half an inch and cutting away the head of one of the bolts which fasten the guard to the supporting pieces.

This allows clearance enough for the spring column of the L.M.C. device, which comes behind the actual seat tube. I find that it renders the machine as comfortable again to ride, it being possible to take roads at normal speed which were previously almost unrideable. Passengers in the sidecar have more than once commented upon the way in which they can see the bicycle jumping about violently on bad stretches, while the saddle, with myself on it, remains steady.

BERNARD J. PALMER.

AVERAGING THIRTY

Sir,—Your correspondent "Eclipsed" in your issue of the 28th ult. is labouring under several delusions. He says that in order to average 30 m.p.h. on the road a 60-70 m.p.h. spurt is often necessary. I should like to know, then, what speeds are *attained in spurts during the T.T. races to put up an average of 52 m.p.h.*, also whether "Eclipsed" is aware of the Brooklands lap speeds of machines which entered in previous years' T.T. races, the machines being in their T.T. trim and tune? I would suggest that he referred to the speed (average) put up by the Blackburne which finished second in last year's Junior T.T., and consider that the approximate maximum of this machine was 47 m.p.h. He states that most Douglas machines that he knows (presumably $2\frac{3}{4}$ h.p.) have a maximum of 55 m.p.h. Now there is not one standard $3\frac{1}{2}$ h.p. (let alone a $2\frac{3}{4}$ h.p.) in twenty that could touch 55 m.p.h. under normal conditions, or even favourable conditions, on the road to-day. Those who possess $2\frac{3}{4}$ h.p. Douglases which are capable of touching that speed in standard trim would be well advised to tune and race at Brooklands.

The average speeds of motor cycles and touring cars cannot fairly be compared at present, owing to the patches of bad road surface, which are impossible to negotiate at speed on a motor cycle, but which do not materially affect the car. The average motor cyclist with a mount of $2\frac{3}{4}$ h.p. (by this I do not mean 295 c.c. or so, but 350 c.c. and above) finds that very few cars can pass him and remain in front when he is in a hurry.

The average speed of most mounts, on the same average throttle opening, would be considerably increased by closer gear ratios. It is very annoying, and, moreover, a waste of time, to drop from 5 to 1 to $8\frac{1}{2}$ to 1 for an incline which is just too much for top gear. Manufacturers, on their solo mounts, could with advantage make a close ratio gear box optional.

From these remarks it may be thought that I agree to the possibility of doing 150 miles at an average of 28.3 m.p.h., two up, on a $2\frac{3}{4}$ h.p. Douglas (which statement "Eclipsed" criticises). Far from it.

L. W. E. HARTLEY.

Sir,—May I use again the valuable space of your columns to reply to "Eclipsed" about the speed of my Douglas.

I very much regret "Eclipsed" is not in Belgium, or myself in England, so that I could show him the machine at work.

The machine, first, is really $2\frac{3}{4}$ h.p. (although a friend of mine calls it "Two horses and one zebra"); and is a standard 1914 two-speed with k.s. and cone clutch. I bought it second-hand in February, 1920, and never had any trouble. The only changes I made were that I fitted another handlebar, wide and flat, a No. 5 cam and a Binks three-jet carburetter (and two $26\times2\frac{1}{2}\times2\frac{1}{4}$in. Palmer covers). The high gear ratio is $5\frac{1}{2}$ to 1. As an example of the speed of the machine, several times I made the journey from Brussels to Dinant and back (118 miles) in between 4h. 5m. and 4h. 12m., with my wife on the carrier. (I must tell you we are not heavyweights; my wife is about 110 lb. and myself 145 lb.) Riding solo, I made two single journeys, once in 1h. 40m. and once in 1h. 48m., for the 59.35 miles, but these rides were rather a T.T. The two journeys were accomplished with a favourable wind.

I understand "Eclipsed" is astonished by this, but he is not the first. In friendly "dust-ups" owners of big machines have been shown a clean pair of heels by the old "Duggie," and, except for the Norton, there are few mounts on the road that the machine fears.

JEAN C. WATELET.

Brussels.

LIGHTS ON STATIONARY VEHICLES.

Sir,—Endorsing "Ex-Cavalry D.R.'s" views in a recent issue, I may say that a few evenings ago I had a similar hair-raising experience. A car came round a bend and pulled up on its off side of the road, and I, being dazzled, attempted to pass on my near side, with the result that, saved by my own dazzle head light, I saw my mistake just in time to swerve and avert an accident.

I am sure that the practice of leaving vehicles with strong lights in the wrong direction is simply due to want of thought and not to bad manners, on the part of the drivers—I must confess I have myself been guilty of a similar offence, before my fright.

Therefore this little point in "road manners" requires publicity, so that others may not have to learn wisdom by bitter experience.

HALF WATT.

Great Sutton.

MOUNTS SUITABLE FOR DISABLED RIDERS.

Sir,—Referring to the letter of Mr. E. J. L. Strong, in the issue for April 28th, there must be many disabled men who would be glad of all possible information as to suitable types of machines and necessary alterations, etc. For myself, I used to ride a $3\frac{1}{2}$ h.p. single, solo, before the war (in which I lost my right leg, about 7in. below the thigh). Now I am looking forward to getting a sidecar outfit, but am somewhat deterred by lack of knowledge of the possibility or otherwise of wearing an artificial leg while sitting on the ordinary type of saddle and astride the modern wide tank. I am inclined to think that the shape of the ordinary saddle, coupled with the vibration and bouncing of the footboards, would tend to force the artificial leg off.

Is there anything in the nature of a well-padded and sprung bucket seat having a straight front suitable for fitting to an 8 h.p. outfit?

The Enfield outfit has rather appealed to me, partly on account of its simplicity, but it has a right-hand side brake pedal. Could this be converted to left side?

London, E.17. 1914-1919.

[It would be a somewhat difficult, but not impossible, task to convert the Enfield brake pedal to the opposite side of the machine.—ED.]

An Announcement.

THE MOTOR CYCLE

T.T. AND SUMMER NUMBER

WILL BE PUBLISHED ON

THURSDAY, JUNE 16th.

Special articles and illustrations of world-wide interest to every motor cyclist, whether soloist, sidecarist, tourist, competition rider or racer, are in preparation.

On sale on the day of the Senior T.T. Race, it will form a comprehensive guide to the blue riband of the motor cycle world, including the latest news from the course, details of the competing machines and practice lap times.

THURSDAY, JUNE 16th. *4d.*

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects. ROUTES.—By special arrangement with the Automobile Association and Motor Union, readers of "The Motor Cycle" desiring routes may enjoy the benefit of the Road Service Department of that organisation. Queries should be addressed to the Editor in the ordinary way (enclosing a 2d. stamp), and will be dealt with by the A.A. and M.U., who are regularly in receipt of reports from their representatives all over the country as to the existing state of the roads in any particular locality.

FITTING A SPEED GEAR.

[?] Having a 3¾ h.p. Elswick with Precision engine (single gear, with clutch), I am desirous of fitting a sidecar. As the machine is not powerful enough to take a sidecar with a single gear, what kind of variable gear would you advise me to fit?—J.U.

The simplest arrangement, and one which does not involve any structural alterations in the machine, is the Bradbury two-speed epicyclic engine-shaft gear. Of course, if you care to go to the expense, it would be much better to have a three-speed countershaft gear box with kick-starter, but the fitting of these, however, necessitates the rebuilding of the back part of the machine.

DYNAMO LIGHTING

[?] On a cycle car I use accumulators to light two side lamps and the tail light. I use four 4 volt ex W.D. accumulators. I am told that the correct charging rate for these accumulators is 2 amps. Each accumulator is of 12 amp. hours capacity. My four are in parallel, and, therefore, equal to a large 4 volt accumulator of about forty-eight hours capacity. I am thinking of fitting a 4 volt dynamo, and I see that this charges at from 2 to 5 amps., according to speed. (1.) Is 5 amps. too high a charge rate for my four accumulators in parallel? (2.) Where should the ammeter be put between the dynamo and the accumulators—on the + line or the —? (3.) My accumulators at present drop to 3.5 volts with all lights on. Is this normal? (4.) Is it harmful for the dynamo to be run with switch open so that there is no circuit for the current generated?—A.C.P.

) 5 amps. will be about correct for e batteries in parallel as arranged. (2.) e ammeter may be put either on + — side. (3.) The accumulators, when ly charged and lamps not on should ow 4.2 volts, and even when lights are they should not fall below 4 volts ke sure that the voltmeter wires are nected directly to the battery terminals l not to the lights, as there may easily half a volt drop in the lighting wires mselves. If it is confirmed that the ts drop to 3.5 at the battery itself, you either overloading the battery or not rging enough. (4.) The dynamo can ely be run with the switch open; but, a matter of fact, it will probably be essary to charge whenever possible.

CONTRADICTORY.

[?] May I ask your assistance in solving what appears to me a mystery? I have a Hazlewood outfit with a 5-6 h.p. J.A.P. engine and Amac carburetter. This machine runs very well until it comes to a hill, when it only goes halfway up and then pulls up dead. I have never had any trouble before, and nothing is changed.—N.T.

If, as you say, the machine is unchanged, and yet will not now climb hills as it did formerly, it is difficult to attempt an explanation. Obviously, some obscure change has taken place, and we think that if you go over all points carefully you will find the cause of the trouble. Examine particularly the petrol supply system, dismantle the carburetter, and clean the jet, also make quite sure that there are no air leaks at the induction pipe joints or at the inlet valve stems. A choked filter might also cause the trouble.

SILENCE AND SILENCERS.

[?] My machine is a 6 h.p. sports model Zenith, to which I have fitted a long copper exhaust pipe (1⅞in. inside diameter). The local police appear to view it with suspicion, and bring out various notebooks, etc., when I pass. Does an exhaust pipe pass as an expansion chamber if it is a certain length?—L.O.M.

Provided the machine is reasonably silent, we do not think that you need anticipate any interference on the part of the police; but if it creates an excessive noise, you may, of course, find yourself in difficulties; in any case, it would have been much wiser to have retained the makers' standard silencer. There is no special ruling concerning the length of exhaust pipes, etc. The legal requirement is that the exhaust gases must be reasonably silenced by being passed through suitable apparatus.



THREE, TWO, ONE—GO!

At the start of the recent Surbiton and District M.C.C. hill-climb. F. W. Barnes, of Zenith fame, will be observed with the flag starting H. B. Uhde (2¾ Douglas).

A STARTING DIFFICULTY IN THE TROPICS.

I have recently bought a 1920 model Scott, and am experiencing most unusual difficulty, or rather I should say treachery, in starting when the engine is hot. I have carefully gone over all such points as magneto being out of order, wrong timing, oil on plugs, unsuitable plugs, dirt in jet, etc. All these details I have eliminated, and find that everything is in order. The carburetter is an Amac with No. 27 single jet, which I think too large, as the machine will take all the extra air with the throttle just open. The average mean temperature out here (Singapore) is about 82° Fahr. The machine starts from cold easily at 8 a.m., with two or three pushes of the starting pedal, carburetter a little flooded, no air, and throttle half open. At noon, when the temperature has risen, with the same setting one push is sufficient; this is always reliable. But when I wish to start it after the engine is warm matters are very different, but I cannot think of a reason.—O.B.P.

The trouble is undoubtedly due to over-rich mixture when the engine is hot, and we should advise you to lower the petrol level as far as possible either by fitting a light washer between the top of the float and the split-pin on the float needle, or by lowering the collar on the latter. Also turn off the petrol when the machine is standing, and do not turn it on again until the engine has been restarted. If this does not effect a cure, probably the fitting of an extra air valve or tap in the induction pipe would help you. It should not be necessary to use a smaller jet than No. 27, although in your climate a variable jet adapter might be of considerable value, as it would enable you to start with a small jet opening, which could be enlarged after the engine started.

CHIEFLY RELATING TO MAGNETOS.

Having purchased a 2¾ h.p. Douglas motor cycle, the engine of which badly requires overhauling, I should be grateful if you would assist by enlightening me on the following: (1.) The machine has automatic inlet valves, with two-speed gear directly below the flywheel of the engine. The magneto fits in a recess in the tank; the lubrication of the engine is by hand pump, which is let into the front part of the tank. It has no two-way tap, but is operated by turning the plunger to the left for the tank and right for the engine. A glass petrol gauge is fitted on the right side of the tank. The engine has plain bearings. What is the year of manufacture of this machine? (2.) I notice that the timing side of the crankshaft is hollow, and has a thread right down the interior. What is this thread for? (3.) I wish to arrange, if possible, for the Bosch high-tension magneto on this machine to supply the spark for the engine and also illuminate the front and rear lamps. What voltage and ampèrage is the low-tension circuit likely to give when run at normal speed? (4.) Do you consider the current sufficient to illuminate both lamps? (5.) If I run both lamps direct from the magneto without incorporating a choking coil, am I likely to injure the low-tension windings in any way? (6.) I understand that a short circuit is injurious to any sort of electrical generator. If such is the case, why is it that when the platinum points of a magneto touch no harm results to the low-tension circuit? (7.) Does the condenser of the magneto come into action when the platinum points are open or closed? (8.) Why is there a fibre bearing in the rocker arm of the magneto? I presume that it cannot be intended for insulating purposes, as I see that the arm has a connection to earth *via* the spring.—W.W.

(1.) The machine is apparently a 1911 model. (2.) The makers would best answer this question. (3.) We cannot give you the figures you require, as they vary considerably with different types of magnetos. The voltage will probably be about 6. (4.) A reasonable light might be obtained, but it would fluctuate considerably with variations of engine speed. (5.) It is impossible to run both lamps from the magneto; you must use a choking coil. (6.) The low-tension windings are short-circuited when the magnetic flux in the armature is at a minimum. You should study the subject in such a handbook as "Magnetos," obtainable from our publishers. (7.) The condenser comes into action when the platinum points open. (8.) This material is used because it requires no lubrication.

Important Dates.

Sat., May 28th—East Midland Centre A.C.U. Open Hill Climb.

Tues., June 14th—Junior T.T. Race.

Thurs. June 16th—Senior T.T. Race.

Sat., June 18th—North-Western Centre A.C.U. Open Speed Trials.

Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup

Fri., July 1st, and Sat., July 2nd—Arbuthnot Trophy Trial.

Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.

Sat., July 2nd—500 Mile Race at Brooklands for the Miller Gold Cup.

Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials.

Sat., July 9th—St. Andrews Speed Trials

Sat., July 9th—Cardiff M.C.C. and associated clubs Open Hill Climb.

Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.

Sat., July 16th—Ilkley M.C. and L.C.C. Open Reliability Trial.

Sat., July 23rd—East Midland Centre A.C.U. Open Speed Trials.

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Sat., July 30th—Newcastle and District M.C. Open Speed Trials.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.

Sat., Aug. 6th—North Wales M.C.C. Open Reliability Trial.

Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

EXPERIENCES WANTED.

"F.B." (Woodley).—Bowden extra air inlet on 4 h.p. Triumph with sidecar; effect on speed and consumption.

SPARKLETS

Tyre Price Reductions.

A further reduction in the price of its motor cycle covers and tubes, as from May 19th, is being made by the Goodyear Tyre and Rubber Co. (Great Britain), Ltd., of 152, Shaftesbury Avenue, London, W.C.2.

For Camping Tourists.

"Camp Touring and Lightweight Camping," by "Rovator" (the Athenæum Literature Department, 10, Adelphi Terrace, London, W.C.2, price 1s. 6d.), is a well-illustrated booklet dealing with the question of camping, a subject which appeals to many motor cyclists. Particulars are given of the principal lightweight tents and of the various accessories used in connection with camping.

Tyres on Track and in Trials.

The Levis machine on which G. Davison won the Levis Cup awarded in this year's Colmore Cup Trial was fitted with Hutchinson tyres; the same make was fitted also to the wheels of J. V. Prestwich's Diamond-Jap on the occasion of his breaking the five miles 250 c.c. class records at Brooklands recently.

In a heavier class, the Harley-Davidson, on which D. H. Davidson won the 1,000 c.c. solo three-lap scratch race, and at the same time created a new world's record for the flying five miles at Brooklands, was fitted with Kempshall tyres.

Rom tyres were fitted to the 3½ h.p. Ariel on which F. A. Longman won the Jarrott Cup in the 1921 London-Land's End trial, and also to the 4 h.p. Triumph machine on which T. S. Sharratt won the Jarrott Cup in the same trial last year.

Catalogues Received.

H. Taylor and Co., Ltd., 21a, Store Street, Tottenham Court Road, London, W.C.1: Describing almost all the principal motor cycle accessories, Taylor's new catalogue is worthy of a place on every rider's bookshelf. An innovation, convenient in these days of price fluctuation, is the loose leaf binding which has been adopted in order to facilitate the insertion of new or revised sheets. One shilling is charged on the catalogue, but attached to the first page is a voucher of the same value which may be used when submitting an order for any goods listed.

Villiers Engineering Co., Ltd., Blakenhall, Wolverhampton: A booklet describing the Mark IV. Villiers two-stroke engine, which is fitted with flywheel magneto. Concerning the latter there is some interesting reading matter illustrated with clear drawings. The booklet also contains hints and tips with regard to the engine, and an illustrated list of spare parts, which are numbered and priced.

LONDON-EDINBURGH RESULTS.

ANALYSIS OF OFFICIAL RESULTS. COMPLETE LIST OF MOTOR CYCLE AND CYCLE CAR COMPETITORS AND AWARDS.

203 Motor Cycles, Sidecars, and Three-wheelers Started. 169 Finished. 103 Gold Medals, 30 Silver, 13 Bronze, 22 Disqualified, 1 Held Over.

AN analysis of the results of any important trial is always of interest, and the results of the 1921 London-Edinburgh Trial are no exception. As regards gold medal winners, it is interesting to note that of the motor cycle classes the three-wheeled cycle cars show the best figures, for 75% of the survivors obtained the highest awards. Solo machines come next with 70%, and sidecar machines last with 45%. A further search, however, reveals the fact that of the starters 88% of solo mounts finished, 84% of the three-wheelers finished, and 76% of the sidecar machines. As usual, therefore, the solo machine heads the list for the greatest percentage of survivors.

A.B.C.
J. A. Peacock (3). *Gold medal.*
A. Milward (3). *Gold medal.*
A. S. Pinchbeck (3). *Gold medal.*

A.J.S.
A. R. Penney (7 sc.). *Gold medal.*
W. C. Hemy (7 sc.). *Gold medal.*
E. Cross (6 sc.). *Silver medal.*
O. Wade (7 sc.). *Silver medal.*
J. R. Bell (7 sc.). *Silver medal.*
W. E. Leather (7 sc.). *Bronze medal.*
R. A. Biggs (6 sc.). *Retired.*
R. Rayner (7 sc.). *Retired.*
H. D. Hinde (6 sc.). *Retired.*

ARIEL.
F. A. Longman (3½). *Gold medal.*
F. E. Jones (3½). *Silver medal.*
C. Bourlet (3½). *Silver medal.*
F. J. Watson (6 sc.). *Retired.*
L. Pulham (3½). *Retired.*
E. Atkins (3½ sc.). *Retired.*

BAT.
S. T. Tessier (8 sc.). *Gold medal.*
J. Godsal (7-8). *Retired.*

BEAUMONT.
G. W. Shepherd (2¾). *Gold medal.*

BLACKBURNE.
R. Carey (8 sc.). *Gold medal.*
E. S. Taylor (8 sc.). *Bronze medal.*
P. H. Hall (4). *Retired.*

BRADBURY.
W. E. Grange (6 sc.). *Gold medal.*
S. Goodfellow (6 sc.). *Disqualified.*

BROUGH.
F. W. Stevenson (3½). *Gold medal.*
A. J. Bosworth (5 sc.). *Gold medal.*
J. K. H. Knight (3½). *Retired.*
W. E. Brough, sen. (5 sc.). *Retired.*

BROUGH SUPERIOR.
H. Karslake (8). *Gold medal.*
G. Brough (8). *Gold medal.*
J. D. Marvin (8 sc.). *Retired.*

B.S.A.
J. G. Bluhm (4¼). *Gold medal.*
R. M. Veale (6 sc.). *Bronze medal.*
J. A. Thompson (4¼ sc.). *Retired.*

CALTHORPE.
L. Heller (3 sc.). *Retired.*

CAMPION.
F. Clay (2½). *Retired.*

CEDOS.
C. H. Hanwell (2¼). *Gold medal.*
A. G. Wall (2¼). *Disqualified.*

CHATER-LEA.
J. Chater Lea (8 sc.). *Gold medal.*
J. E. Pantard (8 sc.). *Retired.*

CONNAUGHT.
J. Haworth (2½). *Silver medal.*

CORONA JUNIOR.
J. Harrison (4). *Gold medal.*
E. G. Opperman (4 sc.). *Bronze medal.*

COULSON-B.
H. F. Fellowes (4). *Gold medal.*
R. B. Clark (2¾). *Gold medal.*
H. F. Edwards (2¾). *Gold medal.*
H. Guy (2¾). *Disqualified.*
L. Nicholson (2¾). *Disqualified.*

COVENTRY VICTOR.
J. Joynson (5-7 sc.). *Retired.*

DALTON.
F. Begley (4). *Silver medal.*

DE DION.
B. F. C. Fellowes (2¾). *Gold medal.*

DIAMOND.
H. V. Bateman (2¾). *Gold medal.*

DOUGLAS.
E. Kickham (3½). *Gold medal.*
G. Fletcher (4 sc.). *Silver medal.*
H. W. Harrington (2¾). *Bronze medal.*
F. G. Waters (2¾). *Retired.*

DUNELT.
A. P. H. Pehrson (4½ sc.). *Silver medal.*

EXCELSIOR.
E. Hawkes (2¾). *Gold medal.*

F.N.
H. G. Bell (7) *Gold medal.*

GAMAGE.
B. P. Bridgeman (2½). *Silver medal.*

HARLEY-DAVIDSON.
J. C. Watson (7-9). *Gold medal.*
C. H. Mocatta (7-9). *Gold medal.*
J. A. O'Sullivan (4). *Gold medal.*
C. D. Michaelis (7-9 sc.). *Gold medal.*
H. M. Selby (7-9 sc.). *Gold medal.*
R. Newitt (7-9 sc.). *Gold medal.*
J. A. Masters (7-9 sc.). *Gold medal.*
W. H. Julian (7-9 sc.). *Gold medal.*
S. C. Tait (7-9 sc.). *Silver medal.*
J. L. R. Jensen (7-9 sc.). *Silver medal.*
E. J. L. Strong (7-9 sc.). *Retired.*

HAWKER.
P. R. Dowson (2¾). *Gold medal.*

HUMBER.
E. R. Johnson (4½). *Gold medal.*
R. B. Roberts (4½). *Silver medal.*
J. McKenzie (6 sc.). *Disqualified.*

INDIAN.
T. S. Sharrat (4). *Gold medal.*
J. McBirnie (7-9). *Gold medal.*
H. R. Harveyson (4). *Gold medal.*
E. A. Bridgman (7-9 sc.). *Gold medal*
R. R. Coes (7-9 sc.). *Gold medal.*
H. Brown (7-9 sc.). *Gold medal.*
W. J. Simpson (7-9 sc.). *Retired.*
P. G. M. Jones (4). *Retired.*
C. C. Labin (4). *Disqualified.*
P. H. Ingham (4). *Disqualified.*

JAMES.
J. W. Morton (3½). *Gold medal.*
H. Reyre (5-6). *Gold medal.*
H. H. Saddington (5-6 sc.). *Retired.*
A. G. Hooper (5-6 sc.). *Retired.*

LEA-FRANCIS.
A. Conville (3½). *Gold medal.*
J. Richardson (5 sc.). *Gold medal.*
H. R. Hancock (3½). *Silver medal.*

LEVIS.
G. S. Davison (2¼ sc.). *Bronze medal.*
F. W. Applebee (2¼). *Retired.*
H. R. Lane (2¼). *Retired.*

MARTINSYDE.
W. H. Bashall (6 sc.). *Bronze medal.*

MATCHLESS.
D. S. Parsons (7 sc.). *Gold medal.*
B. G. Robbins (8 sc.). *Silver medal.*
Geo. Nott (7 sc.). *Bronze medal.*
C. D. Hardee (7 sc.). *Disqualified.*
F. J. Ellis (7 sc.). *Disqualified.*
G. Packman (8 sc.). *Disqualified.*
W. F. Gniver (8 sc.). *Disqualified.*
T. J. Ross (7 sc.). *Disqualified.*
H. B. Shutes (7 sc.). *Disqualified*

METRO-TYLER.
G. E. Cuffe (4). *Gold medal.*
J. S. Bennett (2½). *Retired.*

NEW SCALE.
J. S. Holroyd (4). *Gold medal.*
H. J. Scale (4). *Silver medal.*

NORTON.
J. J. Lister (3½). *Gold medal.*
D. Bradbury (4 sc.). *Gold medal.*
D. Wright, jun. (4 sc.). *Silver medal.*
B. Jeffreys (4 sc.). *Silver medal.*
R. H. Allwood (4 sc.) *Disqualified.*

N.U.T.
M. O'Reilly (5). *Gold medal.*
A. C. Rhodes (3½). *Gold medal.*
D. S. Baddeley (3½). *Gold medal.*

O.K.
N. Hall (2½). *Silver medal.*

OLYMPIC.
D. J. Stone (2½). *Retired.*

OMEGA.
A. T. Pryor (2¾). *Bronze medal.*

P. & M.
L. A. Baddeley (3½). *Gold medal.*
J. A. Leyland (3½). *Gold medal.*
E. E. Chidley (3½). *Gold medal.*
G. M. Townsend (3½ sc.). *Gold medal.*
P. Cunningham (3½ sc.). *Gold medal.*
T. G. Bullus (3½ sc.). *Silver medal.*

POWELL.
J. A. Watson-Bourne (4). *Disqualified.*

QUADRANT.
C. Wilson (4½ sc.). *Silver medal.*
W. Pattison (5 sc.). *Silver medal.*

RADCO.
R. H. Baxter (2¼). *Gold medal.*

RALEIGH.
C. Guthrie (5). *Gold medal.*
E. Foster (5). *Gold medal.*

READING-STANDARD.
A. M. O. McLachlan (10). *Gold medal.*
J. Wallace (10 sc.). *Bronze medal.*

REX.
H. W. Glendinning (8 sc.). *Gold medal.*
J. P. Le Grand (8 sc.). *Gold medal.*
W. A. Jacobs (8 sc.). *Gold medal.*
F. White (8 sc.). *Retired.*

ROVER.
J. A. Hilger (5-6). *Gold medal.*
C. N. Green (5-6). *Gold medal.*

ROYAL ENFIELD.
J. R. Watkins (3). *Gold medal.*
J. G. Bryson (8 sc.). *Retired.*

ROYAL RUBY.
H. Gibson (2¾). *Gold medal.*
S. Eastwood (2¾). *Gold medal.*
W. A. Kay (8 sc.). *Silver medal.*
W. A. Apsey (8 sc.). *Retired.*

RUDGE.
G. W. Dawson (3½). *Gold medal.*

SCOTT.
R. T. Ball (3½). *Gold medal.*
J. A. Hoult (3½). *Silver medal.*

SUNBEAM.
P. Street (3½). *Gold medal.*
W. R. Preston (3½). *Gold medal.*
P. W. White (8 sc.). *Gold medal.*
L. V. Freeman (8 sc.). *Silver medal.*
G. Milner (8 sc.). *Retired.*
C. F. Plowman (3½). *Disqualified.*

TRIUMPH.
E. Pond (4). *Gold medal.*
R. C. Staunton (4). *Gold medal.*
W. Atkinson (4). *Gold medal.*
H. S. Moorhouse (4). *Gold medal.*
T. Morgan (4). *Gold medal.*
T. Francis (4). *Gold medal.*
G. Wray (4). *Gold medal.*
R. R. Rothwell (4). *Gold medal.*
W. P. Brandon (4 sc.). *Gold medal.*
R. Pugh (4 sc.). *Gold medal.*
C. S. Bourne (4). *Silver medal.*
E. J. Hardwick (4). *Silver medal.*
W. W. E. Clarke (2¼). *Bronze medal.*
S. J. Marks (4). *Bronze medal.*
R. E. B. Reeves (4 sc.). *Bronze medal.*
J. Bradbury (4 sc.). *Retired.*
A. G. Battley (4). *Disqualified.*
A. P. McGowran (4 sc.). *Disqualified.*

VERUS.
G. E. Stacey (2¼). *Gold medal.*
S. Dunford (2¾). *Gold medal.*
D. Hall (2¾). *Retired.*

WOLF.
R. T. Lloyd (2¼). *Retired.*

WOOLER.
A. C. Robbins (2¼). *Gold medal.*
F. C. Benest (2¾). *Disqualified.*
J. F. Hull (2¾). *Disqualified.*

ZENITH.
A. Ellison (6). *Gold medal.*
E. M. Barratt (2¼). *Bronze medal.*
R. Charlesworth (8 sc.). *Held over.*

THREE-WHEELED CYCLE CARS.

CASTLE-THREE.
S. Goodwin (10). *Gold medal.*
D. Henry (10). *Disqualified.*

COVENTRY PREMIER.
R. Croucher (8-10). *Gold medal*

DANDY.
E. Sumner (8). *Retired.*

L.S.D.
W. Hallett (8). *Gold medal.*
A. Sugden (8). *Retired.*

NEW HUDSON.
W. E. Line (10). *Gold medal.*

MORGAN.
H. F. S. Morgan (8). *Gold medal.*
S. Hall (10). *Gold medal.*
F. W. James (10). *Gold medal.*
G. G. Newman (10). *Gold medal.*
A. B. Care (10). *Silver medal.*
H. E. K. Sawtell (10). *Silver medal.*
S. A. McCarthy (8). *Disqualified.*
H. Richards (10). *Retired.*

T.B.
F. S. Spouse (10). *Gold medal.*
J. W. Meredith (10). *Gold medal.*
J. Wainwright (10). *Gold medal.*
F. H. Douglass (10). *Gold medal.*

OPEN HILL-CLIMB IN IRELAND.

DESPITE prevailing conditions and restrictions in Ireland, the Dublin clubs are little less active than usual, and on Saturday last carried out a very successful hill-climb near Tallaglit. The course was about half a mile in length, of moderate and even gradient, and quite safe, albeit by no means straight. The results were as follows:

LIGHTWEIGHTS.—1, J. A. H. Waters (2½ Diamond); 2, D. Allen (2½ Sun); 3, R. Humphreys (2¼ Velocette).

300 TO 550 C.C.—1, G. Bewley (3½ Norton); 2, J. Doyle (2¾ Douglas); 3, R. Kyle (3½ Norton).

550 C.C. AND OVER.—1, H. Oxer (5-6 Zenith); 2, W. J. Fagan (5 Indian); 3, W. L. Holding (6 Enfield).

SIDECARS.—1, W. Burney (8 Enfield); 2, S. Woods (7-9 Harley-Davidson); 3, Hon. R. Massey (7-9 Harley-Davidson).

WINNERS' HANDICAP.—1, J. A. H. Waters (2¼ Diamond); 2, H. Oxer (5-6 Zenith); 3, G. Bewley (3½ Norton).

THE ARBUTHNOT TROPHY TRIAL.

WE have just received a copy of the programme of the Arbuthnot Trophy Trial, which is open to any solo motor cyclist who is a commissioned or subordinate officer of H.M. Navy, the Royal Naval Reserve, or Royal Naval Volunteer Reserve on the active list on the date on which entries close.

Entries must be received by the Secretary, the Auto Cycle Union, 83, Pall Mall, London, S.W.1, on or before 5 p.m. on Monday, June 13th, 1921. Each entry must be accompanied by a fee of £1 1s., and if the entrant is not on the competition register of the Union by an application for registration, the fee for which is 10s. 6d., or, in the case of a member of a club affiliated to the Auto Cycle Union, 5s.

The trial will extend over one and a half days, and on Friday, July 1st, a start will be made from Sevenoaks, which will be the centre from the morning of the trial till the next day. The headquarters will be Bligh's Hotel.

A Hilly Course.

A hilly course, including some of the hills covered in the recent A.C.U. One Day Trial, will be traversed twice on the first day and once on the second day, after which competitors will proceed to Brooklands in time to see the finish of the 500 Miles Race.

A system of marking will be employed whereby competitors are credited with a total of 200 marks at the beginning of the trial, ten being deducted for any stop on named hills on the first circuit, fifteen on the second circuit, and twenty on the third circuit. The order of starting will be in the order of receipt of entry, at one-minute intervals.

An average speed of 18 m.p.h. will be the minimum, and the maximum will be 20 m.p.h., allowances being made for ten-mile limits and difficult country. There will be no secret checks.

NORTH-WESTERN CENTRE "CHAMPIONSHIP."

THE judges, having investigated all official observers' reports, now issue the following results :

NORTH-WESTERN CENTRE CHAMPION.—Hugh Gibson, Liverpool Motor Club (8 Royal Ruby), 88 points, awarded North-Western Centre Championship for 1921 and holder of 200 gn. Deansgate Challenge Cup, 1921. Second : Bernard Caldwell, Warrington Club (3½ Norton), 86 points. Third : O. Entwistle, Bury Club (3½ Sunbeam), 85 points.

AWARDS IN CLASSES.

CLASSES 1 AND 2 COMBINED (Solo Machines to 350 c.c.).—S. Eastwood, Warrington Club (2¾ Royal Ruby), 91 marks, first-class award; E. Jones Southport Club (2½ Velocette), 73 marks, no award.

CLASS 3 (Solo Machines from 351 c.c. to 600 c.c.).—Bernard Caldwell, Warrington Club (3½ Norton), 91 points, first-class award; O. Entwistle, Bury Club (3½ Sunbeam), 90 points, second-class award; T. H. Picton, Southport Club (3½ Sunbeam), 85 points, second-class award; H. Hulme, North Cheshire Club (4 Triumph), 84 points, second-class award); A. Moses, Liverpool Club (3½ Sunbeam), 74 points, no award; J. Shaylor, Liverpool Club (3½ Sunbeam), 73 points, no award; A. Douglas, Southport Club (3¾ Scott), 62 points, no award.

CLASS 6 (Sidecars up to 500 c.c.).—O. E. Carter, Manchester Club (3 A.B.C.), 87 marks, first-class award; T. Simmister, Macclesfield Club (3½ Norton), 67 marks, no award.

CLASS 7 (Sidecars from 501 c.c. to 750 c.c.).—M. Gavson, Manchester Club (4 Triumph), 90 marks, first-class award; J. F. Gibbon, North Cheshire Club (4 Triumph), 85 marks, second-class award.

CLASS 8 (Sidecars over 750 c.c.).—H. Gibson, Liverpool Club (8 Royal Ruby), 93 marks, first-class award; S. Bann, Macclesfield Club (7 Matchless), 87 marks, no award; A. Green, Stalybridge Club (8 Excelsior), 49 marks, no award.

No competitor other than the above completed the course within the rules of the Trial.

BRISTOL TO NEWQUAY via PORLOCK.

PORLOCK and Lynton were the chief test pieces in the Bristol M.C.C. trial for the Kickham Cup to Newquay on the 14th inst., but few failures —three only—were recorded. Full results have now been worked out, and are as under :

KICKHAM CUP.—E. W. Spencer (4 Omega-Blackburne). A faultless ride, dead on time at all points, and excellent climbs of Porlock and Lynton, error 0m.

GOLD MEDALS.—F. G. Mann (7-9 Harley-Davidson sc.), S. Hodges (3 A.B.C.), both excellent performances, error 1m.; W. H. Ings (4 Triumph), 10m.

SILVER MEDALS.—B. W. Hall (3½ Sunbeam sc.) and C. W. Rankin (8 Morgan).

BRONZE MEDALS.—K. J. Woods (3½ Wilkin sc.), Eli Clark, jun. (3½ Beardmore-Precision), F. A. Simpson (2¾ Douglas), E. S. Waycott (8 Clyno sc.), H. W. Jacobs (8 Zenith), R. B. Walker (4 Norton sc.), and E. Leslie Smith (4 Triumph).

THE INTERNATIONAL SIX DAYS TRIALS.

SOME further particulars concerning this interesting and important event have reached us from Geneva. An outline of the regulations and a map of the course appeared in *The Motor Cycle* of February 3rd.

The competition is open to all members of national motor cycle unions affiliated to the F.I.C.M. ; to all holding competitors' licences issued by the ruling body of their own particular country ; to all makes of motor cycles, sidecar outfits, and two-seated cycle cars. Motor cycles must be in the following classes : 250 c.c., 350 c.c., 500 c.c., 700 c.c., and 1,000 c.c. ; sidecar outfits 600 c.c. and 1,000 c.c. ; and two-seated cycle cars up to 1,100 c.c.

The event is a six days reliability trial extending over 1,125 miles. Each day's journey will be divided into two sections, which must be covered at an average speed of 30 km. (approximately twenty miles) an hour. The time limit is likely to be varied over several of the principal mountain passes.

The International Trophy, which is presented by the British Cycle and Motor Cycle Manufacturers' and Traders' Union, is at present held by the Swiss Club, and will be put up for competition by a team of three riders chosen by each nation.

Entries may now be sent to the Secretary, Union Motocycliste Suisse, 42, Rue du Rhône, Geneva, Switzerland, and cost 300 francs for machines entered by manufacturers, agents, or drivers in their employ, and 150 francs for private owners. Entries close at ordinary fees on June 25th, 1921, and at double fees up to July 10th, 1921.



Competitors in the Birmingham M.C.C.'s trial for the Sangster Cup having a "breather" after the long ride which culminated in a fast climb up Countisbury Hill. Giles-(A.J.S. sidecar), Gus Khun (Verus) immediately behind, G Denley (Velocette), and Sam Hall (Sunbeam) are noticeable in the photograph.

CURRENT HAT

Times to Light Lamps.

May 26th	... ...	9.28 p.m.
,, 28th	... ...	9.30 ,,
,, 30th	... ...	9.32 ,,
June 1st	... ...	9.35 ,,

Major Hyde Resigns.

Major C. Water Hyde has resigned his position as motor cycle sales manager for the B.S.A. Co. owing to ill-health.

Welsh Speed Trials.

The illustration recently published of the speed trials held by the Neath M.C.C. showed E. Walters (Douglas), and not H. Lewis as stated. The former won the 350 c.c. novice class.

Wanted, 1,000 Motor Cycles per Year.

Such is the heading of an advertisement that appeared last week in a Midland daily paper. It is stated that they are required for the Dutch East Indies, and that they *must be able to compete* with two well-known American big twins *in quality, durability, and price.* Comment seems superfluous.

Another Price Reduction.

It is announced that from to-day onwards the price of the standard spring frame model 3½ h.p. Beardmore-Precision will be reduced from £105 to £85. It will be remembered that the specification includes kick-starter and selective clutch two-speed gear, automatic lubrication, and a specially constructed welded frame which embodies the tank.

The Motor Cycle Grand Prix.

The blue riband of speed events on the Continent in 1921 will be the Motor Cycle Grand Prix, organised by the Union Motocycliste de France, 8, Place de la Concorde, Paris, on July 24th. Entries close at ordinary fees (400 francs) on May 31st at six o'clock.

So far the list of entries is exclusively composed of British machines with British riders, which stand as follows: Four B.S.A.'s (the first three being ridden by Pickering, Gibbs, and Pool) and three Nortons (ridden by Victor Horsman, Hubert Hassall, and Graham Walker).

The course is a triangular one of approximately 10½ miles, and is situated quite close to Le Mans.

Found.

In Cowdray Park, Midhurst, articles of clothing and tools, by Mr. E. C. Bannister, West Street, Midhurst; in Queen's Drive, Liverpool, a tool kit, by Mr. J. W. Mackarel, 52, Royston Street, Edge Hill.

T.T. and Summer Number.

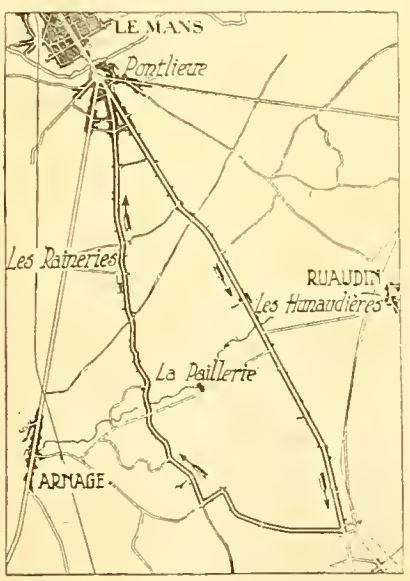
The annual special T.T. and Summer Number will be published on June 16th, the day of the Senior T.T. race.

A Record Week for the A.C.U.

Despite strikes and the general trade depression, the Auto Cycle Union is able to make the gratifying announcement that for the last week its income from new subscriptions was the largest of any week since it commenced operations in 1903. At such a time as the present, steadily increasing membership of the national motor cycling organisation is an entirely healthy sign.

Power Alcohol.

An experimental consignment of the new patent alcohol fuel "Natalite" arrives at the Port of London this week from South Africa. "Natalite" has been manufactured, and has been in general use in South Africa for four years, and is now also being produced in East Africa, India, and Australia, but this is the first consignment to reach this country, and is being imported under special permit given by the Excise and Customs authorities. The whole of the first consignment will be used exclusively for demonstration and experimental purposes. It is said that tests have shown that Natalite will give as good mileage as petrol.



The course of the great French classic race—the Grand Prix—to be held on July 24th.

Special Features.

THE COOLING OF MOTOR CYCLE ENGINES.

TO EDINBURGH IN A SIDECAR.

Why?

In the Midlands the term "combo" is used quite extensively to designate sidecar outfits.

A Private Trial in S. Devon.

Capt. P. Pike, who is well known as a competition rider on lightweight motor cycles, recently organised a trial in Exeter which attracted over fifty starters, including four ladies. The course was an easy one, being practically a top gear route. The prize-winners were: Ladies' prize, Miss Whitehead. Gentlemen's prizes: 1, A. M. Knill (Indian); 2, J. Clarke (Norton), five marks lost.

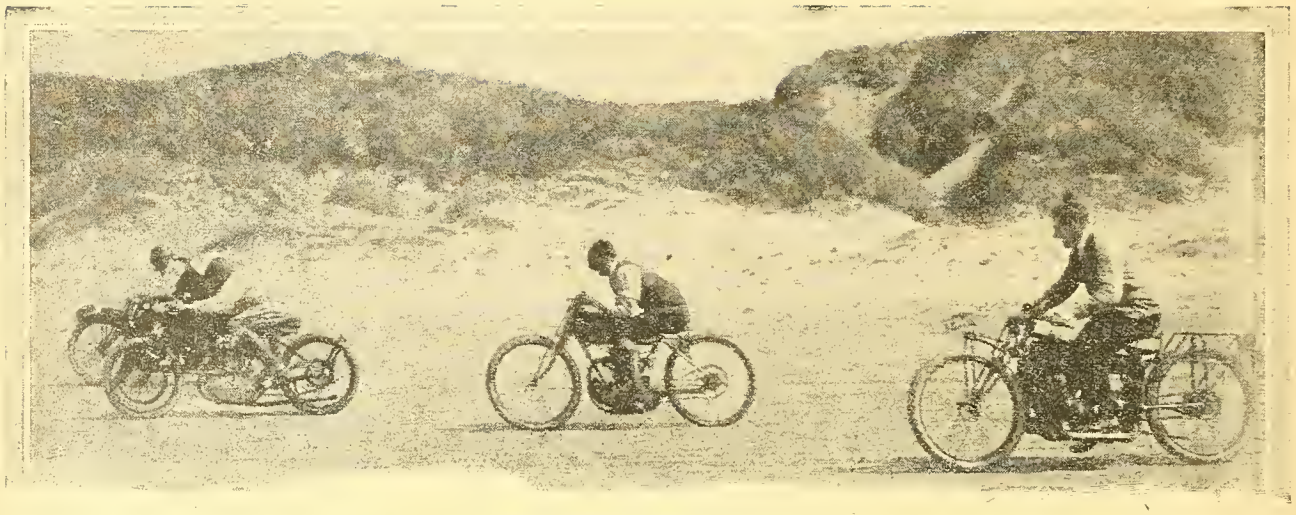
"Found"—a Sequel and a Moral.

A fortnight ago a reader notified us regarding the finding of a toolkit on the Sevenoaks Road. As a sequel to the publicity of these columns he now writes:

"I have had five applications for the tools found, but the *owner* has not yet written. If five applied and not the right one, which makes six, and these were all lost on one road in one week, can *The Motor Cycle* or any reader please tell me how to work out the sum to get at the approximate number lost in one year? Oh! ye makers and designers!"
—H. GRAVETT.

The Dustless Road Problem.

The earliest cure for dusty roads was water, and very often it was also the worst possible thing for them. We may still (says *The Autocar*) see the old pumps standing all along the great Bath Road and other highways; and it has often made motorists wonder why they were supposed to have invented dusty roads at the same time as motors. Then came tar, and when the dust plague ceased new plagues took its place. There was wet tar, tar as put down by local experts, tar under the influence of a hot sun, tar with a flat tyre, tar with a new body. How long, one wonders, are motorists going to put up with tar—motorists who are paying eight millions or so a year for the upkeep of the British highways? If there were no substitute for tar we might grin and bear it, but of late a new mixture called by the old name of bitumen has been imported—a substance that can do all that tar can do, makes no mess of the roads or of one's cars, costs a little more at first, but is guaranteed to last ten times as long.



SOUTHPORT SPEED TRIALS.

Four very much stripped machines at speed in the 500 c.c. class. Second from the left is F. Collard on the T.T. Rover he will ride on the Island next month. The others are mounted on A.B.C.'s (two) and a 2¾ h.p. Diamond.

A Week of Speed Events.

On the Saturday following the T.T. races the North-western Centre A.C.U. will hold its speed trials on Morecambe Promenade.

Obituary.

By the sad death of Mr. Guy Jeffreys, following his fall at the Orton Scar hill-climb on Whit-Monday, the motor cycling world has lost an excellent sportsman. Jeffreys was an exceedingly popular figure up North.

A Settler in the Antipodes.

C. R. Little, who drove one of the Triumphs in the A.A. 5,000 miles benzole test, is settling in Sydney, Australia, and will specialise in the selling and repairing of English motor cycles.

"Motor Cycles and How to Manage Them."

The twenty-second edition of "Motor Cycles and How to Manage Them," which has been carefully revised and brought up to date, is now ready, and copies may be obtained upon application to Messrs. Iliffe and Sons Ltd., 20, Tudor Street, E.C.4. The price is 2s. 6d. net, or by post 2s. 10d.

Bonuses to Competition Riders.

We mentioned some time ago that the Manufacturers' Union approved the recommendations of the Proprietary Article and Tyre Manufacturers Sections to the effect that such manufacturers should not offer or pay bonuses or rewards directly or indirectly to competition riders, nor give or loan to such riders any of their proprietary articles or accessories.

We now learn that the terms of the bond in this connection, if necessary, will be enforced by penalties, or in such a manner as may preclude any offending member from exhibiting at the Show.

It would appear that cases of competition riders soliciting or receiving payments or gifts will also receive attention with a view to steps being taken in accordance with the Bribery and Corruption Acts.

It is intended that everything that can be done shall be done to rid the sport of the pseudo-amateur.

Clubs confined to Riders of Particular Makes.

There is a Harley-Davidson M.C.C. confined to riders of Harley-Davidsons; the Connaught M.C.C. confined to riders of Connaughts; and now we hear of the Old Ford M.C.C. confined to owners of —no, not what you think, good reader—any make of motor cycle! By the way, what has become of the Single Gear Club nowadays?

Contrasts in Motor Driving Permits.

In Belgium, every man, woman, or child is free to drive any type of motor car without permit, certificate, or registration of any kind. The French applicant for a driving licence, on the other hand (says *The Autocar*), begins by paying a twenty franc tax, makes a formal application on stamped paper, and has to submit to a practical examination, which may consist of an hour's drive through dense Paris traffic or a ten minutes' run over a deserted national highway, according to the whim of the inspector. Once obtained, the licence is good for all time, unless withdrawn for some really serious fault, and it is not available for endorsement.

A Busy Two Months.

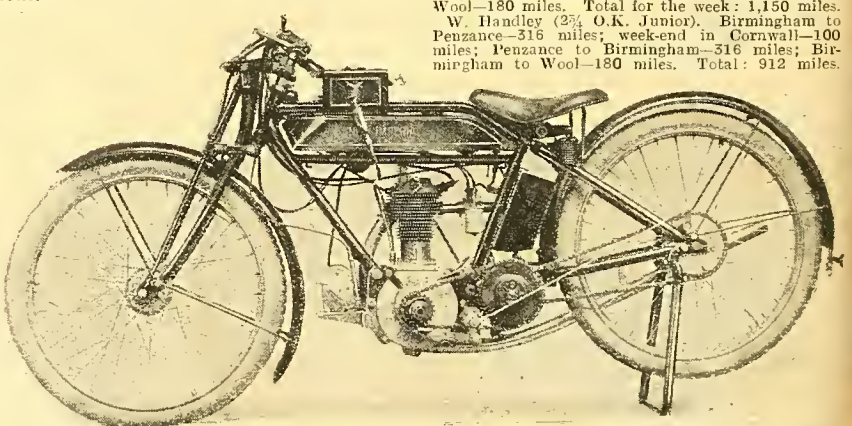
June and July are to be busy months for competition riders of both the trial and speed classes. In addition to the T.T. races on the 14th and 16th of June, there is the M.C.C. Team Trial, for *The Motor Cycle* Cup on the 25th, the Arbuthnot Trophy event on July 1st and 2nd, and the 500 mile race at Brooklands on the latter of these two dates, while on the 9th there are the St. Andrews Speed Trials, the Scottish Six Days from the 11th to the 16th, and the Motor Cycle Grand Prix on the 24th.

Lightweights for Strenuous Work.

It is not so very long ago that lightweights were not regarded as serious long distance touring mounts, but their post-war successes in trials have proved that they are capable of the most strenuous work. As a matter of general interest we give below details of the Whitsuntide mileages of two O.K. riders who are with the Tank Corps at Wool, Dorset, and obtained leave to enter competitions.

N. Hall (2¾ O.K. Junior) rode from Wool to Birmingham with his colleague on the carrier—180 miles; from Birmingham to London—120 miles; London to Edinburgh—400 miles; Edinburgh to Birmingham—300 miles; Birmingham to Wool—180 miles. Total for the week: 1,150 miles.

W. Handley (2¾ O.K. Junior). Birmingham to Penzance—316 miles; week-end in Cornwall—100 miles; Penzance to Birmingham—316 miles; Birmingham to Wool—180 miles. Total: 912 miles.



The T.T. New Imperial, which made its first appearance at the A.C.U. Western Centre hill-climb at Chatcombe. The engine is the new 350 c.c. J.A.P.

SPEED AND SUNSHINE.

Success of the Improved Arrangements Varied Racing at the B.M.C.R.C. Second Members' Meeting.



Start of the Senior T.T. Class Race, which was won by J. L. Emerson—a splendid debut with his Douglas.

BRILLIANT sunshine, magnificent racing, and the removal of general headquarters to the "fork" combined to make the second B.M.C.R.C. members' meeting quite the jolliest little motor cycle event ever held at Brooklands. Under the old regime the general public filtered into Brooklands at one gate, whilst members, competitors, and the new rich entered by another.

This separation of the sheep from the goats did not make for the *camaraderie* which should hall-mark any motor cycle meet, and the fact that what Sam Weller would describe as a double extra million magnifying power telescope was necessary to follow racing from the paddock cast a further gloom over past races.

On Saturday everybody got the freedom of the entire track for 3s., exclusive of a small fee for his car or cycle. Portable hurdles closed the mouth of the finishing straight, and visitors had the thrill of scorching the wrong way down the straight before they parked their machines, and leant against the aforesaid hurdles.

An Omission.

There was one very serious blot on the organisation, which will doubtless be remedied before the next fixture—the only liquids obtainable at the fork were oil and petrol. As the sun was blistering, and concrete is a magnificent reflector, the absence of a bar was keenly felt by all present.

In other details the officials deserve every possible compliment. A small covered stand was available opposite the timekeepers' van. The starters' numbers were pinned to the front of this, and each man's lap register was notified by swinging down a green card bearing the correct number. The genial timekeepers worked out every item of interest in record time, and thereby much facilitated the labours of hot and thirsty pressmen.

Turning to the more technical side of the races, the card was framed as a dress rehearsal for the T.T. But it partly failed in its purpose, as our racing cracks are apt to be coy, and the absentees were possibly more notable than the contestants. The Triumph team was conspicuous by its absence. Is the firm's new engine doing too much or too little for a public *début?* Sunbeams were indeed represented, but Messrs. Brown and Chawner do not yet rank as the Wolverhampton first strings, whatever their fame may be when T.T. week is over. It looked as if this pair might be gaining a little speed experience, or testing some new gadget, but they cannot have been out for blood. No Scotts were visible. No Levises. No Rovers. No B.S.A.'s. No James. Of the machines which ran, the Wooler, Douglas, Coulson, A.J.S., Norton, Indian, Sunbeam, and Blackburne were credited with being actual Manx models.

The twenty-four lap (65m. 394 yards) Junior T.T. was the first event on the card, and was framed to give entrants a chance of beating the hour record, which, for the 350 c.c. class, stands at 63m. 696 yards. Of twenty-two entries, Eve and Ware (Martins), Remington (Blackburne), J. S. Preston (Singer), V. Longden (Coulson), and McNab (Trump), declined. H. R. Davies, on his T.T. A.J.S., was a screaming favourite at two to one on—a ridiculous price in an hour's race with sixteen starters—and four to one bar one was freely offered.

The starters were :

		Bore and stroke.	c.c.
1.	Capt. A. G. Miller (Martin-Jap)	70 ×90	347
3.	Harry Martin (Martin-Jap) ...	70• ×90	347
5.	F. A. Longman (Wooler) ...	60.5×60	345
6.	S. E. Longman (Wooler) ...	60.5×60	345
7.	J. F. Hull (Wooler)	60.5×60	345
9.	C. Fairweather (Blackburne)	71 ×88	349
10.	E. Longden (Coulson-Jap) ...	60 ×61	348
12.	Tudor Thompson (Douglas) ...	60.5×60	349
13.	A. Watson (Douglas)	60.5×60	350
14.	J. V. Prestwich (Massey-Arran-Jap)	64.5×76	249
15.	J. S. Holroyd (Massey-Arran-Jap)	71 ×88	349
17.	G. S. Smith (Morris)	67 ×70	247
18.	A. A. Prestwich (Dot-Jap) ...	70 ×90	346
20.	H. R. Davies (A.J.S.) ...		
21.	T. Thorpe (Douglas)	60.5×60	349
22.	F. Thorpe (Douglas)	60.5×60	349

The only real newcomer was the Morris, the latest "hotstuff" two-stroke, which is expected to appear shortly as a standardised sports model, with a welded lugless frame and a "no effort" stand. It has an aluminium cylinder with steel liner and a detachable head.

When the flag fell, Davies immediately streaked away from the field, and was an obvious winner if stamina supplemented speed. He was followed at the conclusion of one lap by Fairweather's Blackburne, A. A. Prestwich's J.A.P., F. Thorpe's Douglas, and Eric Longden's Coulson, but a single lap sufficed to give the speedy A.J.S. a lead of perhaps half a mile. Some of the men were early in trouble. Harry Martin and T. Thorpe never came round. Tudor Thompson had a stop near the fork. J. V. Prestwich was apparently holding on part of his carburetter with one hand, and actually steered one-handed for twenty-two laps, his engine missing badly if his muscles relaxed their grip. He had hardly passed on his first lap before Davies was round again.

Duelling for Places.

On the third lap A. A. Prestwich dropped back to from third to sixth, and on his fifth lap he had a stop at the fork. But for the first ten laps the situation may be summed up by saying that H. R. Davies was piling up an ever-increasing lead from a quartette of respectful followers, of whom Fairweather was always an easy second, and quite possibly driving his engine a little gently in the hope that the A.J.S. would crack up. Behind the pursuing Blackburne, Longden's Coulson and F. Thorpe's Douglas fought a determined duel, each leading in turn. Capt. Miller's Martin was a consistent fifth. Lower down the list the machines were perceptibly slower, and the positions were more variable.

Just when the crowd was settling down to expect a soft victory for the triumphant A.J.S., the positions at the end of the ninth lap seemed to indicate that

Speed and Sunshine.—

Fairweather was picking up ground. The end of the tenth lap saw the A.J.S. pass comparatively slowly. It was heard to falter in its crackle, and Davies was peering anxiously down at his machine. Lap 11 saw Davies running second to the Blackburne, and hotly pursued by Longden and F. Thorpe. By lap 12 Davies had dropped back to fifth place, and on the next lap he was missing. Interviewed later, he refused to say what had stopped him, but the behaviour of his machine did not suggest any actual fracture. Fairweather gratefully accepted his lead, and held it from the ninth to the eighteenth lap, in spite of a replenishment stop, in which he also seemed to adjust a tappet. Longden could not, or would not, overhaul him, and Thorpe's Douglas had ceased to overtake Longden at intervals. The nineteenth lap brought the second sensation of the race, for Fairweather was missing when due, and lap 20 saw Eric Longden on the Coulson-Jap a good mile ahead of Thorpe, with Capt. Miller lying third far back. The trio raced like this for three laps, and then Thorpe's Douglas fell back, and Tudor Thompson pressed a sister machine in chase of Miller. On the last lap Thompson caught Miller, thus working up gradually from twelfth to second, and the finishing order was:

	h.	m.	s.	m.p.h.
1. Eric Longden (Coulson-Jap)	1	11	35	54.67
2. Tudor Thompson (Douglas)	1	14	18	52.67
3. Capt. A. G. Miller (Martin-Jap)	1	14	30⅘	52.52
4. F. Thorpe (Douglas)	1	16	28⅕	51.02

Of the rest, J. V. Prestwich (Massey Arran) did 23 laps in 1h. 19m. 57⅖s.; G. S. Smith (Morris), 22 laps, 1h. 17m. 19s.; F. A. Longman (Wooler), 21 laps, 1h. 19m. 15⅘s.; J. F. Hull (Wooler), 19 laps, 1h. 14m. 35s.; A. A. Prestwich (Dot Jap), 19 laps, 1h. 19m. 40s.; J. S. Holroyd (Massey-Arran), 18 laps, 1h. 19m. 57⅖s.; C. Fairweather (Blackburne), 18 laps, 51m. 22⅗s.

A Popular Victory.

No records were beaten. Longden's victory was very popular, as he has done a lot of racing without much luck. J. V. Prestwich's grit in covering the distance steering one-handed is notable, as are the first time performances of the Morris and the Massey-Arrans.

The scratch race of three laps for machines up to 1,000 c.c. attracted only five starters, namely:

C. F. Temple (Harley-Davidson), 988 c.c.
D. H. Davidson (Harley-Davidson), 988 c.c.
O. M. Baldwin (Matchless, 4-valve J.A.P.), 994 c.c
Capt. J. Woodhouse (Martin), 996 c.c.
E. Remington (Blackburne), 998 c.c.

Temple was favourite at even money, and they got away to a fine start. Four of the men roared past "under a handkerchief" after one lap, with Woodhouse eighty yards astern. Davidson, Temple, Remington, and Baldwin was the apparent order of the leading quartette, but Temple was going best of the bunch. The second time round Temple had dropped to fourth place, with Woodhouse still last, but the favourite caught both the Britishers on the third lap, so that the final placings were:

	m.	s.	m.p.h.
1. D. H. Davidson (Harley)	5	39⅘	86.37
2. C. F. Temple (Harley)	5	41⅕	86.02
3. O. M. Baldwin (Matchless)	5	44	
4. J. Woodhouse (Martin)	5	55⅖	
5. E. Remington (Blackburne)	6	9	

Temple registered the fastest lap at 90.09 m.p.h.

The twenty-eight lap (76m. 167 yards) Senior T.T. was plotted to cover incidental attacks on the hour record of 72m. 841 yards, and was regarded by the wiseacres as a probable gift for the Douglas team. Five started, and with stalwarts like Emerson and S. L. Bailey in the saddle business was evidently intended. No other make had a real team out, though individual entrants looked dangerous enough. The trouble was to pick out the machine with which the Douglas people might declare to win, and popular fancy identified the ex-A.B.C. wizard, Emerson, who ranks with O'Donovan among the super-speedsters. The betting ran evens Emerson and Horsman, twos Kaye Don, and threes Le Vack.

The Twenty Starters.

	Bore and stroke.	c.c.
O. M. Baldwin (Martin M.A.G.)	64 × 77	496
G. S. Smith (Martin-M.A.G.)	64 × 77	496
W. R. Brown (Sunbeam)	85 × 88	499
R. C. Chawner (Sunbeam)	85 × 88	499
V. Horsman (Norton)	79.5×100	498
Kaye Don (Norton)	79 ×100	490
T. Thompson (Douglas)	68 × 68	494
J. Emerson (Douglas)	68 × 68	494
R. Bond (Rudge)	85 × 88	499
H. Le Vack (Indian)	79.3×100.8	499
E. Longden (Coulson-Jap)	64.5× 76	498
S. L. Bailey (Douglas)	68 × 68	499
T. Thorpe (Douglas)	68 × 68	499
F. Thorpe (Douglas)	68 × 68	499

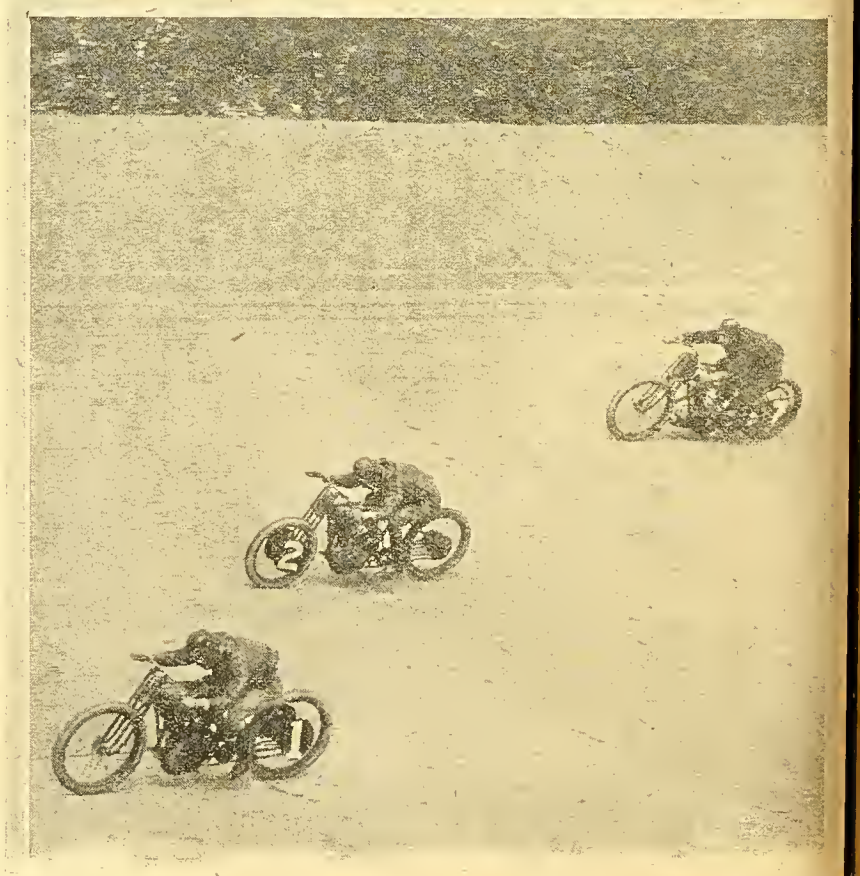
Those who complain that Brooklands is bumpy should note that after E. Longden had won a twenty-four lap race he was still game to ride in a faster event of twenty-eight laps. Thompson and F. Thorpe had also done their twenty-four laps.

Emerson got away best, and Horsman was badly left, his engine refusing to fire for eighty yards or so. At the end of lap one Emerson was leading Bailey by perhaps fifty yards, and some distance behind came a knot of men who were presently dubbed the "clump" by the crowd as they lapped in a tight bunch for a prolonged period.

All in a Bunch.

The composition of the "clump" varied for a time, but on lap two, when Horsman, who had recovered from his bad start, passed Bailey and was chasing Emerson, the "clump" consisted of Don, Le Vack, T. Thorpe, Brown, Chawner, and Longden in the order named. For six laps Horsman hunted Emerson hard, and may have gained a little at times, but never fully atoned for his unfortunate start. The "clump" lapped like a solid body with a slow internal circulation. After six laps Horsman's petrol tap closed, and pushed him back from second place to eleventh.

At this the "clump" began to sit up and take notice. Emerson still kept his imposing lead, his engine sounding as clear and willing as it did on the first



C. F. Temple (7-9 Harley-Davidson), who made fastest lap, but finished second, fighting a losing battle with D. H. Davidson (similarly mounted), who won this event, the 1,000 c.c scratch race. E. Remington (8 Blackburne) is the third man.

Speed and Sunshine.—

round, but his immediate attendants varied. T. Thorpe was the first to evince ambitions to be runner up, and from the seventh to the eleventh lap he filled the position, after which Le Vack dispossessed him, whilst Bailey lay fourth with a watching brief against Le Vack, and Kaye Don ran a steady fifth. To cut a long story short, Emerson's Douglas was as reliable as it was fast, and, in spite of a longish replenishment stop, he finished the easiest of winners. Le Vack had no great difficulty in staving off the challenges of two more Douglases, and this pair in turn were just too fast for Kaye Don's Norton. Horsman retired with a broken saddle, and the placings were:

	h.	m.	s.		m.p.h.
1. J. L. Emerson (Douglas)	1	4	37⅖	..	70.65
2. H. Le Vack (Indian) ..	1	6	42⅖	..	68.44
3. T. Thorpe (Douglas) ..	1	6	55	..	68.22
4. Kaye Don (Norton) ..	1	9	11⅘	..	65.99
5. F. Thorpe (Douglas) ..	1	11	18	..	64.03
6. O. M. Baldwin (Martin-M.A.G.)	1	16	11	..	59.93
7. G. S. Smith (Martin-M.A.G.)	1	18	10	..	58.41

S. L. Bailey had trouble near the finish, but completed 27 laps in 1h. 7m. 31⅗s. The distances covered by the three leaders in an hour were, Emerson, 70m. 868 yards; Le Vack, 68m. 864 yards; and Thorpe, 68m. 704 yards. No records were broken. The magnificent showing of the Douglas team will not escape attention, especially with regard to the T.T., and the change in their transmission since 1920 will by no means impair their chances.

The passenger three lap handicap was something of an anti-climax, though fine speeds were attained. The starters were:

	c.c.	m. s. scr.
W. D. Hawkes (Morgan-M.A.G.) ..	1,098	
D. H. Davidson (Harley sc.)	989	0 6
W. D. Marchant (Zenith-Jap) ..	986	0 18
E. B. Ware (Morgan-Jap sc.)	1,088	0 18
J. A. Masters (Harley sc.)	989	0 39
S. E. Longman (Harley sc.)	989	0 51
E. C. Baragwanath (Zenith-Jap sc.)	986	0 51
O. de Lissa (Motosacoche sc.) ..	994	1 0
R. Dequin (Zenith-M.A.G. sc.) ..	994	1 18
E. Longden (Morgan-Jap)	986	1 27
Capt. R. Charlesworth (Zenith-Jap sc.)	744	2 0
F. A. Longman (Ariel sc.)	498	3 36

Marchant's outfit was distinguished by a vertical post above the sidecar axle, joined by a cross tube over the chair to the saddle-pillar of the machine. Several racers in this class have a good deal to learn about getting off the mark; S. E. Longman and W. D. Marchant stole many yards by fine work in this respect. The Ariel was naturally leading after one lap, with Charlesworth still hanging on to his start, and Masters and Davidson making up ground fast. Dequin pulled up with plug trouble. On the second lap de Lissa was in trouble, the Ariel was still in front, and S. E. Longman had commenced to look very dangerous. The Morgans fell out, and the finishing order was:

1. S. E. Longman (Harley sc.) ..	65.78	m.p.h
2. D. H. Davidson (Harley sc.) ..	61.87	..
3. F. A. Longman (Ariel sc.) ..	54.22	..

Charlesworth and Masters were pressing the Ariel hard. The Harleys thus shared with the Douglases the principal honours of the day.

A MAIN ROAD HILL-CLIMB.

Open Event of the A.C.U. Western Centre. 2¾ h.p. Machine makes Fastest Time.

APPARENTLY a special providence watches over the weather conditions of the A.C.U. Western Centre, for last Saturday's event at Chatcombe Hill was carried out under a cloudless sky and burning sunshine.

Perhaps it was the heat of the day also which accounted for the otherwise unaccountable misfiring which seemed to trouble almost every competing machine. Without doubt the atmosphere was so warm that a carburetter tuned on the rich side for a normal day would be excessively rich under such conditions.

A main road hill, although granted a comparatively little used one, was used, and only one or two short delays occurred for the passage of slow local traffic. Timing by means of telephones was arranged, and the speed at which the classes were run off was excellent. No new models or unconventional machines were in use, except the 2½ h.p. New Imperial T.T. machines, and Dance (with his 2¾ Sunbeam) had it all his own way, especially as G. S. Boston, who was entered to ride his 2¾ h.p. A.J.S., was perforce a spectator, his machine being unready.

Chatcombe Hill is not one on which thrills are to be seen, as its surface is perfect, the gradient very even (about 1 in 8), and there is only a slight left-hand bend; consequently the proceedings were a little monotonous. Some of the private owners, too, were decidedly slow, and in one or two classes some amusement was caused by the "finish of class" banner bearer, mounted on a 3½ h.p. Sunbeam, visibly overhauling the last competitor, whom he followed.

The measured course was half a mile, and the fastest time of the day, by G. Dance (2¾ Sunbeam), was 31⅘s., equalling 57.32 m.p.h. Fastest car time was 34⅖s. (52.85 m.p.h.), by A. Frazer Nash (G.N.).

Formula results were not worked out at the finish, and the awards will be announced later. The placings of the first three in each class decided on time are as follows:

CLASS 1: Solo, up to 275 c.c. (Open).—H. Newey (2¼ Levis), 41⅗s.; G. Denley (2¼ Velocette) and R. E. Pugh (2¼ Levis), 45⅖s., tied; B. Kershaw (2¼ New Imperial), 47s.

CLASS 3: Solo, up to 350 c.c. (Open).—B. Kershaw (2¼ New Imperial), 49⅘s.; W. M. Hartland (2¾ Velocette), 53s.; A. H. Camery (2¾ Cotton), 55⅗s.

CLASS 4: Solo, up to 350 c.c. (Private).—S. A. Such (2½ Connaught), 71⅘s.; W. H. Buckle (2½ Connaught), 73⅗s.

CLASS 5: Solo, up to 500 c.c. (Open).—L. Paynter (3½ Norton), 35⅗s.; T. B. G. Vale (3½ Norton), 35⅘s.; W. B. Gibb (3½ Douglas), 36⅗s.

CLASS 6: Solo, up to 500 c.c. (Private).—W. Worrall (3½ Sunbeam), 36⅘s.; R. Fellows (3½ Sunbeam), 40⅖s.; E. Griffiths (3½ Norton), 43⅘s.

CLASS 7: Solo, up to 750 c.c. (Open).—G. Dance (2¾ Sunbeam), 33⅗s.; W. B. Gibb (3½ Douglas), 37s.; J. Thomas (3½ Norton), 37⅘s.

CLASS 8: Solo, up to 750 c.c. (Private).—W. Worrall (3½ Sunbeam), 36⅘s.; R. Fellows (3½ Sunbeam), 37⅖s.; E. Griffiths (3½ Norton), 38⅘s.

CLASS 9: Solo, Unlimited (Open). *G. Dance (2¾ Sunbeam), 31⅘s.; I. P. Riddoch (8 Zenith), 33⅗s.; L. Paynter (3½ Norton), 34⅘s. *Fastest time of the day.

CLASS 10: Solo, Unlimited (Private).—I. P. Riddoch (8 Zenith), 34s.; W. Worrell (3½ Sunbeam), 36⅘s.; R. Fellows (3½ Sunbeam), 37⅗s.

CLASSES 11 and 12: Solo Machines, on Formula (Open and Private).—Results not yet announced.

CLASS 15: Passenger, up to 600 c.c. (Open).—L. Paynter (3½ Norton sc.), 43⅗s.; G. Dance (2¾ Sunbeam sc.), 43⅘s.; E. Kickham (3½ Douglas sc.), 44⅗s.

CLASS 17: Passenger, up to 750 c.c. (Open).—L. Paynter (3½ Norton sc.), 41⅗s.; G. Dance (2¾ Sunbeam sc.), 42s.; J. Thomas (3½ Norton sc.), 43⅗s.

CLASS 19: Passenger, Unlimited (Open).—H. R. Godfrey (8 G.N.), 39⅗s.; G. Dance (2¾ Sunbeam sc.), 42s.; L. Paynter (3½ Norton sc.), 42⅗s.

CLASS 20: Passenger, Unlimited (Private).—I. P. Riddoch (8 Zenith sc.), 41⅗s.; R. J. Blick (7·9 Harley-Davidson sc.), 52s.; W. A. Carr (8 Morgan), 55⅗s.

CLASSES 21 and 22: Passenger Machines, on Formula (Open and Private).—Results not yet announced.

CLASS 23: Cycle Cars, up to 1,100 c.c. (Open).—H. R. Godfrey (8 G.N.), 37⅗s.; H. F. S. Morgan (8 Morgan), 42s.; W. A. Carr (8 Morgan), 54⅗s.



Go! E. Kickham (3½ Douglas sidecar) crossing the starting line at the Western Centre hill-climb

OPENING EVENT AT STILE KOP.

No Waiting! A Feature of the Coventry and Warwickshire M.C. Hill-climb last Saturday.

AN entry of nearly 180 and a hot summer day attracted several thousand spectators to Stile Kop last Saturday to witness the hill-climb organised by the Coventry and Warwickshire M.C. Never have we seen so many visitors lining the Rugeley hill, showing the growing popularity of motor cycle events as a sport for the general public.

The presence of T. C. de la Hay on his overhead valve Sunbeam and H. W. Hassall with one of the T.T. Nortons promised some fast speeds, and in this direction the spectators were not disappointed.

Several other T.T. machines were being tried out, among which D. A. Atkins's little 2¼ h.p. Hobart distinguished itself by winning the three events in which it was entered—a notable *début* for both rider and machine. R. Elliott's 3½ h.p. T.T. Rover was also among the first three in several events.

Tremendous Speeds.

A course of approximately half a mile had been fixed upon, the competitors being given a flying start. If the distance were correctly estimated, the speeds attained were in the neighbourhood of 60-65 m.p.h., for Hassall, who made fastest time of the day, covered the course in 27⅗s., equalling 65.2 m.p.h. The Norton riders did not compete in the sidecar classes, reserving their efforts for the solo events.

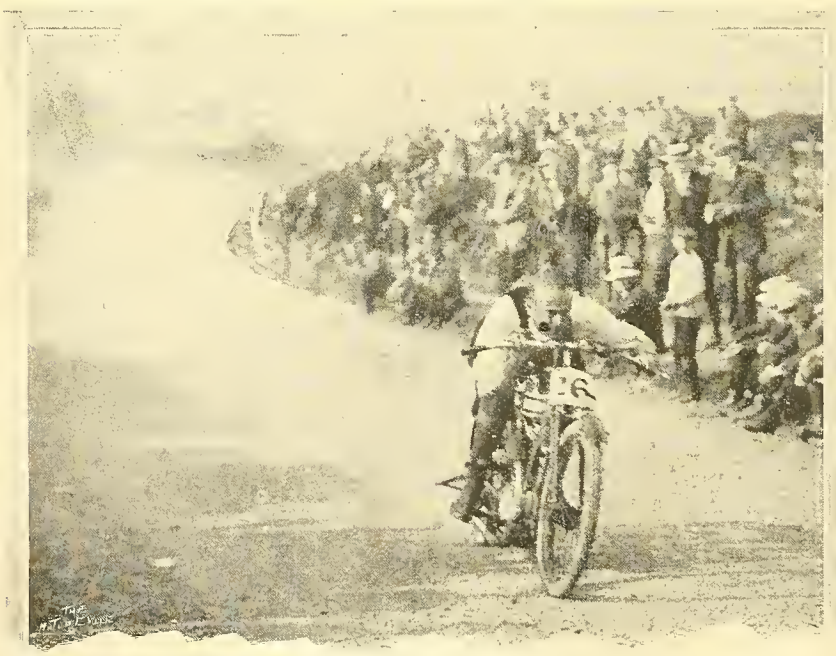
Owing to the drought, the hill was in a loose condition; and, as the organisers had planned not to keep the spectators waiting, competitors, following each other at half-minute intervals, were riding in a cloud of dust. After each event, Major Vernon Brook announced to the crowd the results in stentorious tones, and, as programmes had been well distributed, the interest in the place winners' times was most apparent.

The results were as follows:



A RECORD CROWD AND FINE RIDING AT STILE KOP.

An idea of the crowd that watched the climb may be gathered from this photograph, which also shows W. A. Fell Smith bringing his touring Rex sidecar up at an excellent pace.



Fastest time of the day! Although when the picture was taken neither Hassall (Norton) nor the spectators were certain of this, they felt that it was highly probable.

SIDECAR CLASSES.

550 c.c. (AMATEURS).—1, G. W. Ravenhall (3½ Rover sc.), 54⅘s.; 2, G. T. Baragwanath (3½ Sunbeam sc.), 54⅘s.; 3, H. C. Rhodes (3½ Sunbeam sc.), 58⅗s.

550 c.c. (OPEN).—1, T. C. de la Hay (3½ Sunbeam sc.), 37⅕s.; 2, R. Elliott (3½ Rover sc.), 49⅗s.; 3, G. J. Baragwanath (3½ Sunbeam sc.), 59⅗s.

750 c.c. (AMATEURS).—1, G. W. Ravenhall (3½ Rover sc.), 52⅗s.; 2, G. J. Baragwanath (3½ Sunbeam sc.), 56⅗s.; 3, W. Tongue (3½ Rover sc.), 59⅗s.

750 c.c. (OPEN).—1, T. C. Greenwood (4 Sunbeam sc.), 38⅘s.; 2, S. Wright (4½ Humber sc.), 52⅗s.; 3, G. J. Baragwanath (3½ Sunbeam sc.), 57⅗s.

1,000 c.c. (AMATEURS).—1, G. W. Ravenhall (3½ Rover sc.), 53⅗s.; 2, W. A. Fell-Smith (8 Rex sc.), 54s.; 3, G. W. Baragwanath (3½ Sunbeam), 61⅗s.

1,000 c.c. (OPEN).—1, T. C. de la Hay (3½ Sunbeam sc.), 38⅗s.; 2, T. C. Greenwood (4 Sunbeam sc.), 39⅗s.; 3, W. A. Fell-Smith (8 Rex sc.), 51⅕.

SOLO CLASSES.

275 c.c. (AMATEURS).—1, D. A. Atkin (2¼ Hobart), 45s.; 2, W. F. Smith (2¼ Hobart), 48s.; 3, A. W. Thrush (2¼ Levis), 48⅕s.

300 c.c. (AMATEURS).—1, D. A. Atkin (2¼ Hobart), 46s.; 2, W. F. Smith (2¼ Hobart), 46⅗s.; 3, A. W. Thrush (2¼ Levis), 47s.

350 c.c. (AMATEURS).—1, D. A. Atkin (2¼ Hobart), 45⅗s.; 2, J. N. Roberts (2¼ Levis) and W. F. Smith (2¼ Hobart) tied, 46⅗s.

350 c.c. (OPEN).—1, T. C. Greenwood (2¾ Sunbeam), 42⅕s.; 2, W. F. Smith (2¼ Hobart), 46⅗s.; 3, A. W. Thrush (2¼ Levis), 48s.

550 c.c. (AMATEURS).—1, B. Fidgeon (3½ Norton), 35s.; 2, J. E. J. Whitaker (3½ Norton), 36s.; 3, R. Elliott (3½ Rover), 36⅕s.

550 c.c. (OPEN).—1, H. W. Hassall (3½ Norton), 28⅕s.; 2, T. C. de la Hay (3½ Sunbeam), 28⅗s.; 3, R. Elliott (3½ Rover), 36⅗s.

750 c.c. (AMATEURS).—1, B. Fidgeon (3½ Norton), 34⅕s.; 2 R. Elliott (3½ Rover), 35⅗s.; 3, J. E. J. Whitaker (3½ Norton), 36s.

750 c.c. (OPEN).—1, H. W. Hassall (3½ Norton), 27⅗s.; 2, T. C. Greenwood (3½ Sunbeam), 30s.; 3, A. Elliott (3½ Sunbeam), 34⅖.

1,000 c.c. (AMATEURS).—1, B. Fidgeon (3½ Norton), 33⅘s.; 2, L. Crisp (4½ Humber) and J. E. J. Whitaker (3½ Norton) tied, 35⅗s.

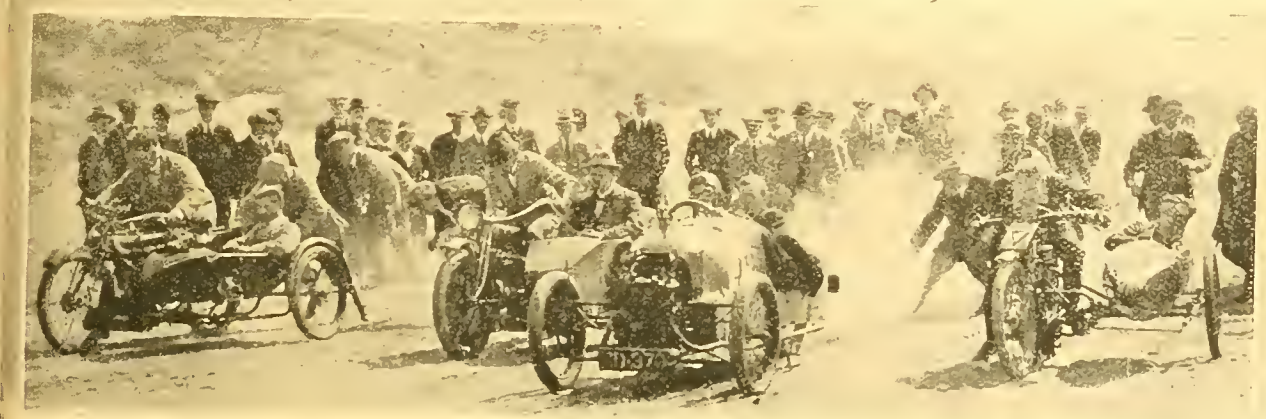
1,000 c.c. (OPEN).—1, H. W. Hassall (3½ Norton), 27⅗s.; 2, T. C. de la Hay (3½ Sunbeam), 28⅗s.; 3, T. C. Greenwood (4 Sunbeam), 29⅗s.

SPEED TRIALS AT SOUTHPORT.

Low Gears an Advantage in Foreshore Racing.

THIS year the Southport speed trials were held on the foreshore instead of on the promenade as hitherto, and some very good racing was witnessed by the several thousands of spectators who lined the course last Saturday afternoon. Motor cycle police patrols were used to keep the "track" clear. The going was heavy, so the low-geared machines scored easily. Many last-minute entries rendered the printed programme almost useless, and a feature of the event was the number of youthful riders who competed. Southport apparently is a prolific nursery for future racing men.

Competitors returning in the centre of the course, to the start rather hampered the officials, but the programme was completed without a hitch. The results will be published next week.



A LIVELY SCENE ON THE SANDS.

Single and big twin sidecars and a three-wheeler at the start of the unlimited passenger class. From left to right: H. Reed (8 Dot sidecar), D. Barron (7-9 Indian sidecar), H. L. Hughes (8 Morgan), and A. Cowley (3½ Norton sidecar).

RELIABILITY TRIAL IN SOUTH BEDS.

LUTON and South Beds. A.C. had a reliability trial on Saturday over a course of between eighty and ninety miles. This included observed ascents of Sharpenhoe, Sundon (which had to be approached round a hairpin at the foot), Chaul End, and Studham Hills, the latter being in very bad condition. Competitors had to cover this circuit twice, and then do a non-stop section over new ground, including a watersplash and an observed ascent of Bradger's Hill. Few riders completed the two circuits, and only four finished. Provisional results: 1 (Club Cup), C. Dunham (4 Norton); 2, H. Reyre (5-6 James). Dunham's total error on the time schedule was 6m. 50s.



A Norton rider taking the second bend on Amulree in the Glasgow Western M.C.C. Inter-team Trial last Saturday. Observe the loose surface of the road.

THE F.I.C.M. IN AMERICA.

THE American motor cyclist organisation, the Motor Cycle and Allied Trades Association, which, to some extent, fulfils the position occupied by the Auto Cycle Union in this country, has realised that the rules of the Elgin road race must conform to the conditions imposed by the F.I.C.M.

Now, with regard to the international rules, the correspondent of one of the American motor cycle papers points out that the aim of the international body seems to be to race with touring machines on roads and to use stripped motor bicycles for track events only, and this, of course, is the case; but he seems to be greatly disturbed by the fact that the rule compelling the carrying of mudguards, stand, and two brakes will not meet with the approval of American riders. He concludes by saying, "In justice to American motor cyclists, it would be well to get an official ruling from the F.I.C.M. covering these points, for if fast times are made the winner should get his name on the world's record book, which will not occur if the F.I.C.M. regulations are not followed.



Larkhill and District M.C.C.

Mr. John Ireland, Linglea, Netherburn, has been selected as president, and Mr. W. R. Gold, 48, Harelashill, Larkhill, appointed secretary of a new club as above.

Worcester and District M.C.C.

At a Whit-Monday sports meeting at Worcester, undoubtedly the most attractive event, from the spectators' point of view, was a three-mile motor cycle race on the grass organised by the local motor cycle club. Results :

Heat 1.—F. Dayrell (2¼ Levis). Heat 2.—H. B. Taylor (3½ Triumph). Heat 3.—C. Eveson (3½ Norton). Heat 4.—E. Griffiths (3½ Norton). Heat 5.—H. Beach (3½ Enfield). Heat 6.—C. G. Horton (2¾ Wilkin). Semi-finals.—Heat 1 : 1, F. Dayrell, 4m. 53⅗s.; H. B. Taylor, 4m. 56s., fastest loser. Heat 2 : H. Beach, 4m. 56s. Final. —1, H. B. Taylor; 2, H. Beach; 3, F. Dayrell.

West Kent M.C.

A second hill-climbing event on the 14th inst. on Crockham Hill, near Westerham, resulted as follows :

350 c.c. (on Time).—1, A. E. Jessop (2¾ New Imperial), 40s.; 2, Simmons (2½ Levis), 46s.

500 c.c. (on Time).—1, E. L. Sharp (3½ Sunbeam), 30s.; 2, C. M. Bowen (3½ Norton), 30⅘s.

600 c.c. (on Time).—A. G. Williams (3½ Norton) and E. L. Sharp (3½ Sunbeam), 31s., tied for first place; 2, Bowen (3½ Norton), 32s.

UNLIMITED c.c. (on Time).—A. G. Williams (3½ Norton) and C. M. Bowen (3½ Norton), 30s., tied for first place; 2, E. L. Sharp (3½ Sunbeam), 31⅗s.

Eastbourne and District M.C.C.

There were sixty-nine individual entries and approximately 2,000 spectators at the recent inter-club hill climb.

300 c.c. SOLO.—1, G. F. Lazenby (2¾ Omega-Jap), 1m. 21s.; 2, J. C. Smith (2¼ New Hudson), 1m. 48s.; 3, W. J. Hylands (2¼ New Hudson), 1m. 50s.

500 c.c. SOLO.—A. Hewitt (3½ Sunbeam) and T. Swinnard (3 A.B.C.), 59s., tied for first place; E. Gorringe (3½ Sunbeam) and C. Volk (3½ Sunbeam), 1m. 1s., tied for second place.

UNLIMITED SOLO.—1, A. Hewitt (3½ Sunbeam), 56s.; 2, L. Watts (4 Triumph), 57s.; C. Rice (6 Zenith) and T. Swinnard (3 A.B.C.), 57½s., tied for third place.

600 c.c. SIDECAR.—1, H. D. Dodson (3½ Norton sc.), 1m. 17s.; 2, L. S. Watts (4 Triumph sc.), 1m. 19s.; 3, W. Collins (4 Triumph sc.), 1m. 23½s.

UNLIMITED SIDECAR.—1, S. Dunford (7-9 Harley-Davidson sc.), 1m. 3s.; 2, E. A. Firrell (7-9 Harley-Davidson sc.), 1m. 8½s.; 3, D. D. Dobson (3½ Norton sc.), 1m. 12s.

CYCLE CARS.—1, F. H. Chrimes (G.N., 1m. 8s.; 2, J. Sawford (8 A.V.), 1m. 12s.; 3, L. Humphries (G.N.), 1m. 16s.

GOLD MEDAL FOR FASTEST TIME OF THE DAY.—A. Hewitt (3½ Sunbeam).

SILVER CUP FOR BEST FORMULA PERFORMANCE.—F. H. Chrimes (G.N.).

Mid-Cornwall M.C.C.

Somewhat contrary to usual practice, a committee of motor cyclists in the neighbourhood of St. Austell is arranging a hill-climb for June 4th at Hollicoombe Hill, near Bodmin, at which event it is hoped to form a club, as above. Those interested should communicate with Mr. Gordon Williams at the Y.M.C.A., St. Austell.

Week-end Club Events.

May 28.—Sutton Coldfield and North Birmingham A.C. Reliability Trial.
May 28.—N.E.A.A. Gymkhana.
May 28.—Edinburgh and District M.C. Dobson Trophy Trial.
May 28.—Surbiton and District M.C.C. Mellano Cup Trial.
May 28.—North London M.C.C. Paperchase.
May 28.—North-west London M.C.C. Club Run to Woburn.
May 28.—Public Schools M.C.C. and Wallington and District M.C.C. Inter-club Hill-climb.
May 28.—Plymouth and District M.C. and L.C.C. Gymkhana.
May 28.—Essex County and Southend A.C. Hill-climb.
May 28.—Yorkshire Centre A.C.U. Hill-climb.
May 28.—Central London M.C.C. Club Run to Burnham Beeches.
May 28.—Northern M.C. Club Run to Roman Wall and Northumberland Lakes.
May 28.—Oxford M.C. and Banbury M.C.C. Inter-club Hill-climb.
May 28.—Helensburgh M.C.C. Reliability Trial.
May 28.—Luton and South Beds. A.C. Ladies' Day.
May 28.—Reigate, Redhill, and District M.C.C. Hill-climb.
May 28.—Dewsbury and District M.C.C. Competition.
May 28.—North Wales M.C.C. Picnic.
May 28.—Kidderminster M.C.C. Hill-climb.
May 28.—Bristol M.C.C. King Cup Reliability Trial.
May 28.—Ivy M.C.C. (Wolverhampton). Club Run Bradley.
May 28.—Macclesfield and District M.C. Reliability Trial.
May 29.—Halifax and District M.C.C. Club Run to Chester.
May 29.—Leeds M.U. Inter-club Run.
May 29.—Wakefield and District M.C.C. Club Run to Rievaulx Abbey.
May 29.—Coventry Triangle M.C. Club Run to Malvern.
May 29.—Barrow and District M.C. Speed Trials.
May 29.—Barnsley and District M.C.C. Club Run to Chester.
May 29.—Middlesbrough and District M.C. Reliability Trial.
May 29.—North Cheshire M.C.C. Reliability Trial.
May 29.—Plymouth and District M.C. and L.C.C. Club Run to Dartmeet.
May 29.—Doncaster and District M.C.C. Club Run to Harrogate.
May 29.—Exeter M.C. and J.C.C. Club Run to Dartmeet.
May 29.—Sheffield M.C.C. Club Run to Bolsover and Hardwick.
May 29.—Burton and District M.C.C. Club Run to Ashover.
May 29.—Leeds and District M.C. Club Run to Sutton Bank.
May 29.—Central London M.C.C. Club Run to Sevenoaks.
May 29.—Holwood M.C.C. Club Run to Titsey.
May 29.—Rochester, Chatham, and District M.C. and L.C.C. Club Run to Perry Wood.
May 29.—Brighton and Hove M.C.C. Hill-climb.
May 29.—Portsmouth and District M.C. and L.C.C. Club Run to South Harting.
May 29.—Woolwich, Plumstead, and District M.C. Club Run to Toys Hill.
May 29.—Berwick and District M.C. Reliability Trial.
May 29.—Amersham and District M.C.C. Speed Judging Contest.
May 31.—Ealing and District M.C.C. Evening Reliability Trial.
June 1.—York and District M.C. Garrowby Hill-climb.

A Section devoted to Club Announcements will be found on Supp. xliii.

University College of N. Wales M.C.C.

This newly-formed club held its first event on a recent Wednesday, when some dozen members took part in a most enjoyable half-day trial. The course, in all about seventy miles, included two good specimens of Welsh hills and several miles of tortuous byroads. Results :

	Total Error.
1. M. Griffiths (3½ Sunbeam)	... 3m.
2. R. S. Owen (3½ Triumph)	... 3¼m.
3. H. I. Jones (2¼ Triumph)	... 7¾m.

R. E. ORICE'S SPECIAL PRIZE FOR BEST PERFORMANCE ON OBSERVED HILL.—Norman Jones (4 Triumph).

North-west London M.C.C.

On Saturday, June 4th, the annual London-Coventry-London Trial will take place with the Lawrence Challenge Cup as premier award. Specially reduced fees are offered to new members, who must be amateurs, joining for this event.

Macclesfield and District M.C.

Results are appended of the recent fuel consumption test held on the Buxton road :

CLASS 1 (350 c.c. Solo).—J. Hopwood (2¾ Verus-Blackburne), 67.2 m.p.g.

CLASS 2 (Unlimited Solo).—A. Lomas (3½ Triumph), 65.6 m.p.g.

CLASS 3 (600 c.c. Sidecars).—T. Simister (3½ Norton sc.), 44 m.p.g.

CLASS 4 (Unlimited Three-wheelers).—G. Bunn (8 Matchless sc.), 38.2 m.p.g.

Eastern Valley M.C.C.

Full formula and time results are now available for the hill-climb held on the 12th inst., and are as under :

EVENT 1 (350 c.c. Solo).—1, E. S. W. Eardly (2¾ Douglas), 25s.; 2, G. Oliver (2¾ Douglas), 28.4s.; 3, F. Furlong (2¾ Douglas), 31.8s.

EVENT 2 (600 c.c. Solo).—1, J. Boshier-Jones (3 A.B.C.), 16.2s.; 2, J. C. Dibble (3½ Sunbeam), 16.8s.; R. E. Thom (3 A.B.C.) and Evan Howells (3½ Norton), 17s., tied for third place.

EVENT 3 (Unlimited Solo).—*1, J. Boshier-Jones (3 A.B.C.), 15.2s.; 2, Geo. Harris (10 N.U.T.-J.A.P.), 16s.; 3, J. C. Dibble (3½ Sunbeam), 16.8s.

*Fastest time of the day : 59.04 m.p.h.

EVENT 4 (Solo, on Formula).—1, R. E. Thom (3 A.B.C.); 2, Handel Davies (3 A.B.C.).

Warrington M.C.

Mow Cop, which was climbed twice, caused considerable trouble to competitors in the trial on Whit-Monday for the Melbourne Challenge Bowl. Results have now been announced and are as follows :

1, B. Caldwell (3½ Norton), Melbourne bowl and gold medal; 2, J. H. Green (8 Excelsior sc.), silver medal; 3, A. Douglas (3½ Scott).

SPECIAL SOLO PRIZE.—H. Bleckley (3½ Norton).

SPECIAL SIDECAR PRIZE.—J. Bardsley (6 Martinsyde sc.).

One lap of this trial was also used to find the winners of the Pearn trial, which had to be re-run. Results :

1, B. Caldwell (3½ Norton), Pearn prize; 2, J. H. Green (8 Excelsior sc.); 3, J. B. Terras (6 Bradbury sc.).

SPECIAL LIGHTWEIGHT PRIZE.—S. W. Phillpott (2¾ Edmund).

COULSONS ARE AGAIN SUCCESSFUL THIS WEEK!

Write for the Book of the Coulson.

LONDON TO EDINBURGH TRIAL, 13th May

Mr. R. B. CLARKE writes:

"All five arrived to time and in good form. Good for Coulsons."
R. B. CLARKE.

WIRE RECEIVED 17th May.

2¾ Coulson secured first place six mile course, Leinster Motor Cycle Club, Portmarnock Strand, yesterday.
Rider,
Randall Walsh.

Neath & District M.C.C.
Speed Trials at MORGAN PARK.

S. R. Horsell, Coulson-B., first in 350 c.c. class.

Surbiton Hill Climb.

H. Guy, 2¾ Coulson-B., secures three second places.

The Successful **COULSON** Spring-Framed Mount

NEW PRICED COULSON MODELS FROM 90 GNS.

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(Proprietors: FLIGHTCRAFT, LTD.)

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Stop the Waste—

Waste expenditure in anything is sheer madness when it can be stopped. Stop the waste in your engine by fitting BRICO Piston Rings, stop the waste of compression, oil, petrol, and money due to leaky piston rings—FIT BRICO.

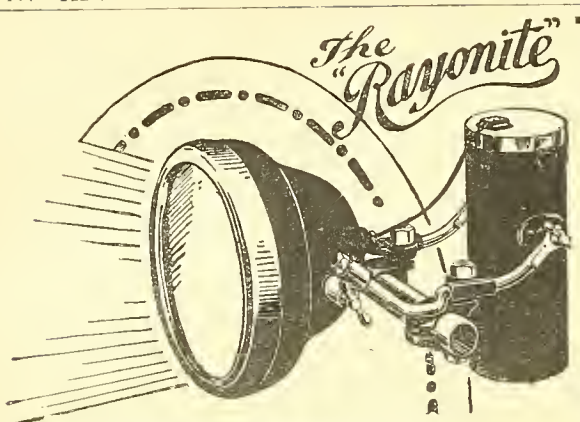
BRICO Rings in your engine mean money in your pocket because they are made of the highest grade of iron adopted as a standard for Aircraft Piston Rings, iron having high tensile, high elasticity, minimum permanent set, and great durability under working heat—iron that is exhaustively tested in both raw and finished state. Best also because BRICO Rings are perfectly round and are tested to .0001 of an inch divergence before going into stock, so accurate that perfect compression is ensured. They are the perfected production of specialisation and standardisation—so good, that improvement is impossible.

To obtain maximum generation of power a new set of BRICO Rings should be fitted once a year—that is a rule that results in economy.

There's a BRICO Ring for every Engine
in stock at all Dealers, Agents, and Garages.
FIT BRICOS NOW.

Don't just ask for a Piston Ring — *Ask for a BRICO and get the BEST*

THE BRITISH PISTON RING CO., LTD., COVENTRY



The "Rayonite"

SELF-CONTAINED MOTOR CYCLE ELECTRIC HEAD LAMP.

British Made.

A Great "Volex" Achievement.

Recommended for home and export.

No accumulator, oil, or acid required; a brilliant light obtained at will. The convenience of this self-contained set cannot be over-estimated; the pleasure of having a lamp always ready for use without preparation will be appreciated. A successful self-contained motor cycle lamp such as the "Rayonite" is only rendered possible by the remarkable efficiency of the "Volex" Dry Battery, which is in a class apart from all other Primary Batteries. Comprising "Superba" Headlamp, 5½" front, combined with a strong metal container holding the "Rayonite" Dry Battery, complete with bulb. No. M/1. Price **£4 4 0** Ditto with "Superba de Luxe" Headlamp (7" front) **£4 17 6.** *Spare "Rayonite" Batteries, 10/6*

"Volex" Dry Battery

Motor Cycle and Sidecar

LIGHTING OUTFITS.

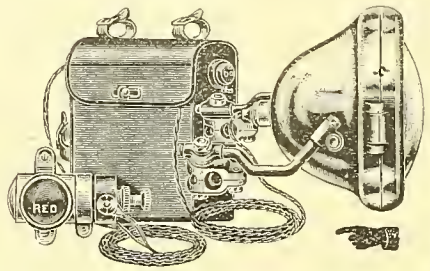
Best British Manufacture.

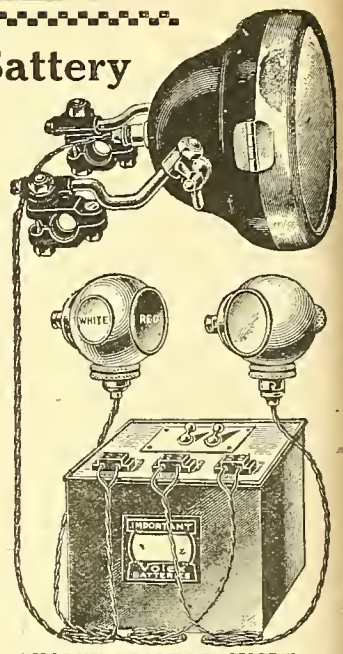
No other battery outfit will give results equal to the "Volex."

Volex Dry Battery Lighting Sets are the ideal no-trouble outfits. In satisfactory service for over 10 years with a constantly increasing demand due to their Reliability, Convenience, and Economy in use.

This set gives lasting and effective service without attention.

SPECIFICATION—6 volt "Volex" Dry Batteries in metal container, Switchboard, Superba Headlamp (5½" front), Side and Tail Lamps, Cord and Bulbs. No. Mc/490, as illustrated, price **£8 8 0** A high-grade, handsome, and reliable outfit. Also supplied with Superba de luxe Headlamp. 7" front, No. Mc/450, price **£9 9 0.**





"VOLEX" MOTOR CYCLE

SOLO LIGHTING SETS

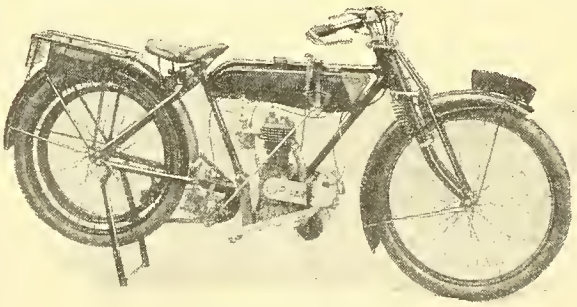
The most efficient Dry Battery Solo Sets produced. Made upon the same principle as our "Volex" Combination sets. Headlamp is provided with 6 volt bulb giving an exceptionally brilliant light, and ample light is provided in the rear lamp.

SUPERBA HEAD AND REAR LAMP as illustrated. Headlamp with 5½ front. M10 10. Price complete **£5 10**
M10 7. Headlamp Set only **£4 15**
SUPERBA DE LUXE HEAD AND REAR SET. Headlamp with 7" front. M10 11 .. .. **£6 0**
M10/8. Head Set only **£5 5**

Ward & Goldstone LTD. PENDLETON MANCHESTER

Sectional list M/202, illustrating a wide range of Electrical Accessories for the Motor Cycle and Garage on request. Send business card or memo for trade terms

AT LAST! **SLADE J.A.P.** *The last word in Motor Cycles.* **2-speed, kick-start, hand-clutch.** **£65**



— SPECIFICATION —

ENGINE—J.A.P. 2¾ h.p.	DRIP FEED—Best & Lloyd's
TYRES—Dunlop	TANK—Best heavy plate.
BELT—"John Bull"	FRAME—Best quality
CHAIN—Coventry	CARBURETTER—B. & B.
HANDLE-BARS—Bowden	FOOTBOARDS—Aluminium
LEVERS—Bowden inverted	FOOTBRAKE—Toe
BRAKE—Bowden front	GEAR—Albion 2-speed, (k.s.)
SPRING FORK—Druid	MUDGUARD—Black, valanced
SADDLE—Leatheries	MAGNETO—Bosch

PANNIER BAGS

The above specification speaks for itself—all the noted makers are named.

ORDER AT ONCE AND AVOID THE RUSH

Obtainable only from the Manufacturers:—

Phone: 1182 Rusholme **WHITTLE'S MOTORS** 8, SLADE LANE, Longsight, MANCHESTER

OFFICERS' ARMY TRENCH COATS

PRICE **30/-** EACH

CARRIAGE PAID.

These trench coats have been reconditioned and are indistinguishable from new. Their cost originally was £7 or £8 each. They are interlined oilskin, and are the very thing for the motor cyclist. When ordering state height and chest measurement.

Delivery is made in from 14 to 21 days. Prepaid mail orders only are accepted, and if the garment does not give complete satisfaction, money will be refunded in full, provided the coat is returned undamaged within 7 days.

ORDER NOW, as the supply is limited.

G. WESTON & CO.,

Dept. M.C. - - HOUNSLOW.

Beldam

All-British Tyres

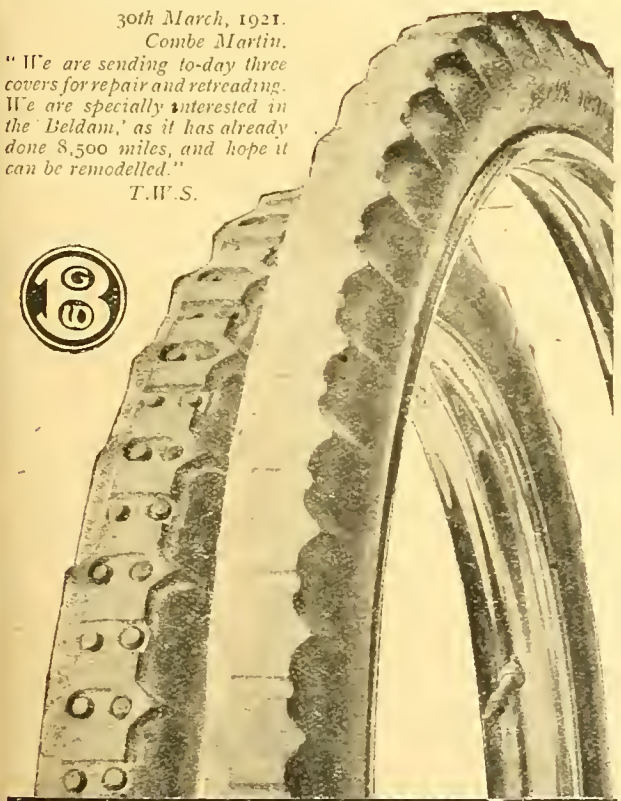
Cost less to buy
—and last longer.

Note these prices:

Size. (3 ply).	All Rubber, V Design.	V Rubber and Steel
in.	£ s. d.	£ s. d.
26×2	2 1 9	3 5 6
26×2¼	2 4 3	3 6 9
26×2⅜	2 4 6	3 7 6
26×2½	2 5 9	3 9 6
26×3	2 10 3	3 13 0
28×3	2 13 6	4 4 3

Also 26×3in. CC1 fitting. Prices on application.

30th March, 1921.
Combe Martin.
"We are sending to-day three covers for repair and retreading. We are specially interested in the 'Beldam,' as it has already done 8,500 miles, and hope it can be remodelled."
T.W.S.



BELDAM RETREADS Don't throw an old cover away—it may be worth retreading. No matter what make it is, send it to us, and, if the canvas is sound, we will quote cost of making it good for several thousand extra miles by renewing with a BELDAM RETREAD.

THE BELDAM TYRE CO. (1920) LTD., BRENTFORD, MIDDLESEX

Radiac

Radiac

Shirts and Collars Guaranteed



WHEREVER you see an Outfitters with the RADIAC sign in the window, you can be sure of satisfaction. Wherever you buy them RADIAC Cotton Tunic Shirts are guaranteed fadeless.

RADIAC Collars (soft or starched) are also guaranteed to give you entire satisfaction. To be obtained in a wide range of colours and designs.

Sold by all the leading Hosiers

Sole Manufacturers: McINTYRE, HOGG, MARSH & CO. LTD.
New Basinghall Street, London, E.C.2 27 Portland Street, Manchester

Radiac

St. James's 6

Immediate Delivery

RE-PLATED.
RE-ENAMELLED.
RE-BUILT.

Perfect finish in 1920 Colours.

3½ h.p. P. & M.—£60 or £30 down and 12 monthly payments of £2-12-6, 2-speed Kick-start and clutch.

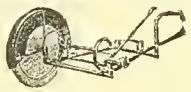
Well upholstered and roomy new sidecar and chassis, **£20.**

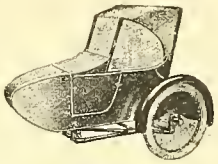
4 h.p DOUGLAS — £75 or £40 down and 12 monthly payments of £3-2-6, 3-speed, Kick-start.

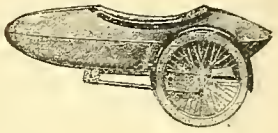
Well upholstered and roomy new sidecar and chassis, **£21.**

Acetylene generator, head and tail lamps, tools, pump, and mechanical horn, £5 the set.

MOTOR VEHICLES (Engineering and Supply) ASSOCIATION, Ltd.
15, 16 & 17, Eldon Street, London, E.C.2.
'Phone: Wall 543.








Inclusive Charges. No Extras.

Crates and packing free.

TAXI SIDECAR COMBINATIONS.

Watsonian SIDECARS

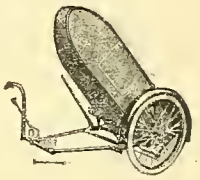
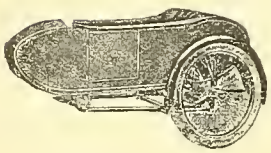
A range of models suitable for machines from 2½ to 10 h.p.

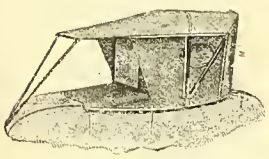
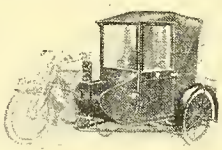
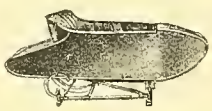
Prices from 20 to 44 guineas.

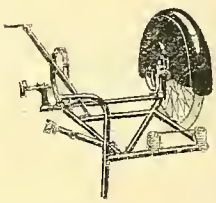
Full list from the actual manufacturers

WATSONIAN SIDECAR CO., 129-131, Conybere St., Birmingham.

Telephone: Mid. 520. Telegrams: "Watsonian, Birmingham."



X-L-ALL



SADDLES

STILL EXCEL ALL OTHERS IN

COMFORT
QUALITY
PRICE

Sole Manufacturers

JOHN LECKIE & Co., Ltd.,

London Saddlery Works, Walsall.

When ordering saddles, please give make and year of machine

ADDRESS ALL ENQUIRIES TO WALSALL.

THE

DUNLOP TOURING MAPS

OF THE BRITISH ISLES

WITH COLOURED CONTOURS.

"The Maps alone are worth two guineas."—*Illus. Sporting and Dramatic News*

"The finest set of Contour Maps I have yet scanned."—*Graphic.*

SECTION 1—Key Map to Sections (numbered).
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SECTION 32 — North Wales, Snowdon District (5 miles to an inch)

Each map measures 11 inches x 8¼ inches Contours are printed in eight colours, roads graded and prominently shown in red, distances from point to point marked along the roads. Cloth Bound and stamped in gold

THE CHEAPEST TOURING ATLAS EVER ISSUED 3/- NET

ED. J BURROW & CO., LTD.

Imperial House, CHELTENHAM,

and Regent House, Kingsway, London, W.C.2.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable & Co. to ILIFFE & SONS Ltd., and crossed & Co. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, 1 %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., guaranteed as new, done 5,000 miles, owner bought car; inspected any time; £100.—Black Bull, Market, York. [1024

A.B.C., 1,054 miles, dynamo lighting, speedometer, etc.; cash bargain, £115.—Collier's Motories, Horton St., Halifax. [9471

1920 A.B.C., not used since October, P. and H. lamps, etc., mileage under 1,000; £100.—Mells, Woburn Sands, Beds. [9943

1921 A.B.C., brand new; £105, or fitted with new A.B.C. sidecar £137.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. [8923

WHEN IN DOUBT CONSULT GODFREY'S

¶ GODFREY'S KNOW. Their long experience in the trade, their many successes on road and track is ample proof of that.

¶ And Godfrey's knowledge is entirely and freely at your service, whether you purchase a machine from them or not.

¶ If you live in town call and see us. You can inspect all the well-known models, and have their respective and special merits explained without being pressed to buy. If you live at a distance write to us and you will receive the best possible advice by return post.

¶ We shall shortly be making an interesting announcement concerning the T.T. Race. We propose to send out free telegrams giving the final results. would you like us to include your name on our list ?

We give below a few selections from our stock. Full list of new 1921 models, (both solo and combinations). 1920 shop-soiled bargains, and second-hand, fully guaranteed machines post free on request.

Any machine or combination can be purchased on Godfrey's Easy Payment System —one quarter down and 12 equal monthly instalments.

New 1921 Models in stock comprise—

ALLON.	MARTINSYDE.
ARIEL.	MATCHLESS.
BLACKBURNE.	NEW IMPERIAL.
B.S.A.	RADCO.
CALTHORPE.	ROYAL RUBY.
COVENTRY-EAGLE.	ENFIELD.
CHATER-LEA.	RUDGE MULTI.
DOUGLAS.	SCOTT SQUIRREL
EXCELSIOR-BLACKBURNE.	SCOTT.
INDIAN.	SUNBEAM.
INDIAN SCOUT.	TRIUMPH.
LEVIS.	ZENITH.

1920 Shop-soiled Models.

BLACKBURNE, 4 h.p.	£105 0
B.S.A., Model H, 4½ h.p.	£103 0
B.S.A., Model K, 4½ h.p.	£100 0
COVENTRY-EAGLE, 3½ h.p.	£98 0
COVENTRY-EAGLE, 4 h.p.	£125 0
CLYNO, 2¾ h.p.	£64 0
INVICTA, 2½ h.p.	£48 0
INVICTA, 3½ h.p.	£98 0
MATCHLESS Combination	£185 0
MATCHLESS Combination	£174 0
ZENITH, 8 h.p.	£108 0
NEW IMPERIAL, 6 h.p.	£155 0
NEW IMPERIAL, 2¾ h.p.	£68 0
NEW IMPERIAL, 2¾ h.p.	£79 0
ZENITH, 8 h.p.	£116 0

Second-hand Machines.

Sidecar Combinations.

*†TRIUMPH, 1920, 4 h.p.	£128 0
*†MATCHLESS, 1920, 8 h.p.	£168 0
*INDIAN SCOUT, 1920, 4 h.p.	£145 0
*†JAMES, 6 h.p., 1919	£115 0
*†ENFIELD, 6 h.p.	£110 0
*†SCOTT, 1920, 3½ h.p.	£118 0
DOUGLAS, 4 h.p.	£110 0
INDIAN, 1920, 7 h.p.	£160 0
†BLACKBURNE, 1920, 8 h.p.	£150 0
INDIAN, 1916, 7 h.p.	£145 0

*These Machines are licensed to December, 31st.

†These machines complete with accessories.

GODFREY'S, LTD.,
208, Gt. Portland St., London, W.1
One minute from Gt. Portland St., Met.Rly.Stn.

Telephone Langham 1,300 (2 lines)

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1921, 3h.p., kick start, all accessories, run 600; £100.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [9898

A.B.C., 1920, 4 speeds, mileage 2,125 (Watford), lamps, horn, £5 spares, 57 m.p.h., guaranteed; £103.—E., 18, Madeira Rd., Streatham, S.W.16. [9933

A.B.C., late model, done about 50 miles, lamps and horn, speedy machine; first reasonable offer accepted.—10, Stockwell Park Rd., Clapham, S.W. [9109

A.B.C., delivered July, 1920, as new, only done 1,300 miles, including accessories, tax and insurance policy; £100.—Dodson, 3, Akenside Rd., Hampstead, N.W.3. [0592

A.B.C., 1920, excellent condition and appearance, new tyres and chain, lamps, mechanical horn, tools; price £85, lowest.—Dickson, Stanhoe, Britterne Park, Southampton. [1089

H.R. KING'S 1920 72m.p.h. A.B.C., lovely condition, very special machine, many spares; will accept first reasonable offer or exchange; has cost over £200, and won 24 medals; genuine sacrifice.—88, Lord St., Southport. [9335

1920 A.B.C. Combination, splendid condition, equal to new, special electric lighting outfit for solo or sidecar with 2 accumulators, hand and foot clutch, all tools and accessories, licensed; bargain, £115.—Slingo, 11, Hythe Bridge St., Oxford. [9139

Abingdon.

1915 5-6h.p. Twin Abingdon, 4-speed kick Jardine gear box, chain-belt drive, good tyres (engine badly damaged); £22/10.—13, New St., Wellington, Salop. [X2711

Acme.

A WONDERFUL Bargain.—Brand new 1920 8h.p. Acme-Jap combination, spare wheel; list price £213, finally reduced to £170 spot cash.—The Premier Motor Co., Aston Rd., Birmingham. [X2717

A.J.S.

JULIANS of Reading have 1921 A.J.S. in stock. 0532

DAN GUY, Weymouth.—1921 A.J.S. in stock; £215. [0549

NEW 7h.p. A.J.S. Combination, with dickey seat, in stock.—Crow Bros., Guildford. [8967

A.J.S. 1921 Models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [4557

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [8592

1920 A.J.S., speedometer, lamps, horn, spare wheel; £170.—Dodwell, Queen's Circus, Cheltenham. [9373

DAN GUY, Weymouth.—A.J.S. agent for Dorset; earliest deliveries new 2¾h.p.; provisional price £100. [0557

DAN GUY, Weymouth.—A.J.S. 6h.p. combination, 1917, recently re-enamelled, splendid condition throughout; £120. [0559

1916 2¾h.p. A.J.S., hardly used since makers' overhaul, fully equipped, first-class order, unlicensed; £60.—Little, King's College, Cambridge. [9292

1921 A.J.S. 7h.p. Combination, Lucas acetylene outfit, horn, etc., mileage 300, perfect; tax included, £200, or best offer near.—Barclay, Painter, Forfar. [9295

1919 (November) A.J.S. Combination, like new, all accessories, tax paid, genuine bargain; £150; must sell.—Hagues, 60, Cromford Rd., East Putney. [1249

DAN GUY, Weymouth.—1920 6h.p. A.J.S. Combination, purchased November, as new, guaranteed condition, fitted Lucas Magdyno, small mileage, tax paid; £195. [0596

1920 A.J.S., Lucas Magdyno lighting set, hood, screen, exceptionally fine outfit, perfect condition; 170 gns.; Midlands.—Box 615, c/o *The Motor Cycle*. [X2475

IF the Owner of Machine Bearing Registration XO 2548 will communicate full details, he will hear of something to his advantage.—Box 4,147, c/o *The Motor Cycle*. [9261

A.J.S. 1920 6h.p., electric lighting, Watford, screen, spare wheel unused, 2 horns, mileage 600, perfect condition; any trial; £160.—Griffin, Petergate, Grange Rd., South Norwood. [9190

1920 A.J.S. 6h.p. Combination, hood, side curtains, spare wheel, Lucas lamps, Klaxon, Tan-Sad, spares, tax paid, good condition; £170.—A. E. Philcox, 7, Albion St., Lewes. [9705

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. 6h.p. 1914-15 Combination, in excellent condition, running order, being thoroughly overhauled, new tyres; price £90, or close.—Thomson, 1, Broadway-Buildings, Southall. 'Phone: 94. [9632

LATE 1920 A.J.S. Combination, as new, mileage about 200, best Lucas lighting set and horn, tax paid; owner buying car; £185, or nearest.—A. Baston, Yeos Farm, Alphington, Exeter. [9793

A.J.S. 6h.p. Combination, 1919, Lucas dynamo lighting, spare wheel; £155; exchange solo and cash.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [9894

1916 6h.p. A.J.S. Combination, interchangeable wheels, D.A. lighting, Lucas lamps, engine overhauled makers Oct.; £95.—Major Gillespie, Lynton Lodge, St. Margarets, Twickenham. [1131

1920 A.J.S. Combination, complete with spare wheel, hood, Lucas lamps, spare tubes and chains, excellent running order; any trial; 150 gns., or near offer. —21, Coombe Lane, Kingston Hill, Surrey. [9054

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

A.J.S. 7h.p., brand new 1921 combination, interchangeable wheels and spare, just arrived from works, in stock for immediate delivery; £215; no waiting.—Wilkins, Simpson, opposite Olympia, London. [1175

A.J.S. Combination, Oct., 1919, 2,700 miles, lamps, speedometer, hood, hood cover, apron, Empire de luxe saddle, Tan-Sad, spares, excellent condition, tax paid; £155.—Parish, Shortheath, Farnham, Surrey. [9858

1920-1921 A.J.S. Combination, delivered March, 1921, as new, fully equipped, mileage 300, any trial, makers' guarantee, tax and insurance paid; £190. —45, Malden Rd., New Malden, Surrey. 'Phone: 39 Malden. [9082

1920 A.J.S. Combination, Lucas dynamo lighting, hood, side curtains, Tan-Sad, Cowey speedometer, horn, etc., all as new, mileage only 800; bargain, £195.—Superintendent, Putney Vale Cemetery, London, S.W.15. [9061

A.J.S. 6h.p. Combination, Lucas lamps, Cowey speedometer, Klaxon. 1921 Rideasy bulbous body with child's seat, Easting wind screen, tax paid; £160, or exchange good solo and cash; after 6.—A., 28, Albert Rd., Dalston. [9076

1920 A.J.S. 6h.p. Combination, fully equipped, Lucas lamps, horn, screen, spare wheel and chains, unpunctured, under 900 miles, excellent condition, owner bought car; £170.—W. J. Shepherd, Baswich Lane, Weeping Cross, Stafford. [9202

1919 Late 6h.p. A.J.S. Combination, Magdyno lighting, ampmeter, speedometer, spare wheel, screen, Dunlop heavy car tyres, luggage carrier, licensed, magnificent touring outfit, must sell; real bargain, £155. —Parsons, 1, Acton Lane, Chiswick. [9761

A.J.S. (Nov., 1919) 6h.p. Combination, car electric lamps, Sterling legshield, sprung seat pillar, Stewart's signal hood, apron cover, side curtain, spare wheel, speedometer, condition excellent; £160; tax paid.—10, Shepherd's Bush Green (opposite Tube Station). [9869

A.J.S. 1920 Combination, 6h.p., P. and H. lamps, Lucas horn, handle-bar mirror and watch, aluminium plates, mascot, spare wheel to sidecar, little used, perfect mechanically and appearance, licence paid; £172/10.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9550

1917-18 A.J.S. Combination, in beautiful condition and hardly scratched, complete with Lucas dynamo lighting and electric horn, hood, storm apron, wind screen, footrest, spare wheel, retyred all round, renovated to £60, medal winner 1920 Reliance cup; £165, or offers.—Roberts, Breeze Hill, Connah's Quay. [9103

Alldays.

E. KICKHAM for Allon, sole agent for Bristol and district.—Stokes Croft, Bristol. [3356

1920 Allon 2¾h.p., 2-speed, clutch, K.S., practically new; 65 gns.—Horner, 51, Montholme Rd., S.W.11. [9060

ALLON 2¾h.p., 2-speed, excellent condition; appointment; £45, offers.—Reynolds, Percy House, Eltham. [9293

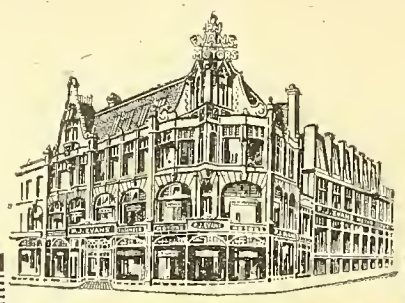
ALLDAYS Allon, 2 speeds, lamps, horn, legshields, tax paid; bargain, £42.—Brown, 67, Manor Rd., Wallington, Surrey. [1281

ALLDAYS 3½h.p. Combination, fully equipped, good running order; £45, or offer.—11, Spurstowe Rd., Hackney, E.8. [9876

ALLON 2¾h.p., newly overhauled, re-enamelled, excellent condition; £38; Saturday.—18, Bedford Rd., South Tottenham. [9323

1919 Allon, 2-speed, clutch, leg shields, Klaxon, lamps, discs; £48.—Parritt, 14, Stanhope Gardens, Highgate, N.6. [9905

ALLON, 2¾h.p., late 1920, K.S., clutch, 2-speed, condition faultless, mileage 500, fully equipped; 63 gns., or near; evenings.—B., 131, Grove, Hammersmith. [9938



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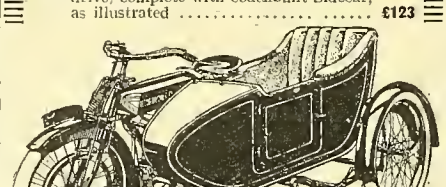
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TRIUMPH, 4 h.p., Type H., as per manufacturers' specification, complete with coachbuilt Sidecar, as illustrated **£138**

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The following are also in stock.

7	h.p.	**A.J.S.** Combination	£215 0
7	h.p.	**Ditto,** with lighting set	£243 0
6	h.p.	**A.J.S.** Combination	£195 0
7	h.p.	**JAMES** Combination	£195 0
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7-9	h.p.	**INDIAN** Combination	£226 0
5-6	h.p.	**ROVER** Combination	£167 10
3½	h.p.	**ROVER** Combination	£152 10
8	h.p.	**NEW IMPERIAL** Combination ...	£107 0
4	h.p.	**NORTON,** with de Luxe Sidecar .	£177 0
4	h.p.	**Ditto,** with family Sidecar	£180 0
3½	h.p.	**NORTON** and Sports Sidecar, with Lucas Magdyno	£192 0
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4½	h.p.	**JAMES** Combination	£170 0
6-7	h.p.	**B.S.A.** Combination	£175 0
4½	h.p.	**B.S.A.** Combination	£149 0
4½	h.p.	**B.S.A.,** Model K.	£107 0
4	h.p.	**BLACKBURNE,** 3-speed, solo	£127 10
4½	h.p.	**HUMBER** flat twin	£140 0
4½	h.p.	**Ditto,** with Sidecar	£173 10
4	h.p.	**INDIAN SCOUT,** speedometer ...	£157 0
4	h.p.	**TRIUMPH,** 3-speed, chain-cum-belt	£115 0
4	h.p.	**TRIUMPH,** all-chain drive	£125 0
3½	h.p.	**JAMES,** twin solo	£135 0
3	h.p.	**CALTHORPE** Combination; M-L Maglita	105 gns.
3½	h.p.	**ROVER,** 3-speed, chain drive	£115 0
3½	h.p.	**ROVER,** T.T., single-speed	£90 0
3½	h.p.	**NORTON,** 3-speed	£132 0
3½	h.p.	**NORTON,** T.T., single-speed	£98 0
2¾	h.p.	**NEW IMPERIAL,** kick-starter ..	£89 5
2¾	h.p.	**MASSEY-ARRAN,** Sturmey gear.	£90 0
2¾	h.p.	**Ditto,** with Blackburne engine ...	95 gns.

CASH. EXCHANGES. DEFERRED PAYMENTS.

81-91, John Bright Street, BIRMINGHAM.

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MOTOR CYCLES FOR SALE.

Alldays.

ALLDAYS-MATCHLESS Combination, 3½h.p., 2-speed, F.E., handle start, lamps; £50.—44, Staines Rd., Hounslow, London. [9944

ALLON 1921 2¾h.p., 2-stroke, K.S., clutch, new; £80/15; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1163

ALLON, 1920, 2½h.p., 2-speed, kick start; £55; exchange, with cash, for combination.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [9896

ALLON 1920 2¾h.p. 2-stroke, 2-speed, all accessories; £63; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1137

ALLDAYS-ALLON 2¾h.p., July, 1919, fully equipped, new condition, engine recently overhauled by makers, 2-speed, K.S., Tan-sad; £55.—39, Dalyell Rd., Stockwell, S.W.9. [1090

70 m.p.h. Machine for £60.—Racing Alldays-Matchless, 3½h.p., in perfect condition, largest Lucas lamps, horn, new tyres, polished crank case, plated exhaust, forced feed lubrication, written guarantee of speed and mechanical condition given, tax paid.—Keyte, Evesham St., Redditch. [9827

American X.

AMERICAN X 1919 Electric, 2-seater sidecar, excellent condition.—Seen at Gray and Levin, 5 The Boulevard, Balham, S.W. Tel.: Streatham 2417 [9668

7-9h.p. American X Sporting Solo, 1918, 3-speed, hand and foot clutch, drop bars, enamelled French grey, very fast, appearance as new; £110.—J. Kirkness, jun., 12, Rosevale Place, Leith. [9376

7-9h.p. American X Combination, hood, screen, 2-speed electric lamps, good chains and tyres; bargain £68; also petrol engine, about 3½h.p., water-cooled £8/10.—Withers, 4, College Rd., Cheshunt. [948

AMERICAN X, 1916, 3 speeds, clutch, K.S., lighting set, hood screen, pillion seat, in new condition and mechanically perfect, will give 40 miles trial; £100.—76, Western Rd., Southall, W. 'Phone: 58. [869

AMERICAN X Combination, 7-9h.p., 3 speeds, kick start, dynamo lighting, speedometer, discs, electric horn, screen, hood, tax paid; £93.—Rackham Claverings Farm, Bowmces Rd., Lower Edmonton, N.9 [916

THE Last One.—Brand new 1921 American standard model 7-9h.p., 3-speed, 27×3½in. tyres Royal blue finish, fitted Millford de Luxe bulbous back sidecar; list price £217; reduced to £170.—The Premier Motor Co., Aston Rd., Birmingham. [X271

Ariel.

JULIANS of Reading have Ariels in Stock. [053

DAN GUY, Weymouth.—Ariel agent; early deliveries dates. [055

ARIEL Latest New 1921 4½h.p. Chain-drive Model in stock.—Moss, Wem. [X274

ARIEL 1914 4h.p., 3-speed clutch, tax paid; ride away; £35.—23, Radipole Rd., Fulham. [902

ARIEL Combination, 1914, 3 speeds, tax paid; horn lamps, etc.; £55.—145, Northcote Rd., Battersea S.W.11. [946

ARIEL Lightweight 2½h.p., 4-stroke, good running order, accessories, licensed; £15.—Adams, 2, Ullswater Rd., Putney. [905

ARIEL Combination, 6-7h.p., 1920, licensed, mileage 1,200, as new; £120.—Smith, Renfrew, Willingdon, Eastbourne. [93

1920 3½h.p. Ariel Combination, Lucas lighting, guaranteed perfect condition, mileage 800; £105. Wooldridge, York Rd., Woking. [94

£75.—Ariel 1920 3½h.p. solo, 3-speed, hand clutch fully equipped, and guaranteed perfect.—Silverlea Farnborough Rd., Farnborough. [93

1920 3½h.p. Ariel Combination, only done 4 miles, tax paid, £105; also 1914 T.T. model £39.—Ross, 86, High Rd., Lee. [11

NEW 1921 Ariel 3½h.p. Combination, 3-speed, etc in stock; list price £135; exchanges entertained —Bambers', Eastbank St., Southport. Tel.: 607. [87

ARIEL 3½h.p., actually in stock at new price; also very good makes, new and second-hand.—Autoveyors, Ltd., Service Depot, 12, Palmer St., S.W. [04

1920 Ariel Combination 7h.p., equipped Eastin Tan-sad, speedometer, luggage grid, Klaxon lamps, mileage 2,000, enamel unscratched; £150; exchange.—43, Highbury Rd., Luton, Beds. [10

ARIEL Service Depot.—Orders now booking for the new all-chain models, which are the Rolls-Royce of motor cycles. All spares stocked. Prompt attention —F. Speakman, Ariel Expert, 7, Rochdale Rd., Hurpurhey, Manchester. Tel.: 325 Cheetham Hill. [82

ARIEL.—This is the machine for reliability. We are practical riders and gold medal winners with the wonderfully efficient and reliable motor cycle. We can give you immediate delivery from stock. All spares in stock. Trade-supplied.—Jones' Garage, Muswell Hill and at Woodside Parade, N. Finchley. [03

MOTOR CYCLES FOR SALE.

Cedos.

E. KICKHAM for Cedos, sole agent for Bristol and district.—Stokes Croft, Bristol. [3357

CEDOS 1921 2¼h.p., 2-stroke, 2-speed, shop-soiled only; £55; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1151

CEDOS 1921 2-stroke 2¼h.p., 2-speed, lady's model, shop-soiled only; £56; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1156

CEDOS 2-stroke, the finest lightweight reaching the public, carliest deliveries, particulars on application.—Largest London Agents: Fowler and Brigden, 130, Euston Rd., London, N.W.1. 'Phone: Museum 4827. [0469

Chater-Lea.

CHATER-LEA 1921 2½h.p., 2 speeds, like new, lamps, tax paid; hargain, £50.—Rose's Garage, Uxbridge. [9495

CHATER-LEA 8h.p. Combination, perfect condition, overhauled; offer about £90.—Reid, 40, Forest Hill Rd., Dulwich. [9158

CHATER-LEA 3½h.p., single-stroke, Bosch mag., tax paid; £18.—W.J.C., 47, Boscombe Rd., Tooting, S.W.17. [9698

CHATER-LEA Combination, J.A.P. 8h.p., hood, wind screen, speedometer, electric lighting; any trial; tax paid; £95.—12, High St., Fulham. [9432

CHATER-LEA New Model No. 10 Sidecar Combination, 8h.p., 3-speed, the best value on the market; £160. Have you seen it? Write for leaflet.—Chater-Lea, Ltd., Banner St., London, E.C.1. [3142

CHATER-LEA 8h.p. Combination, £160, delivery in a few days; this is the cheapest high-class outfit on the market; catalogue on request.—The Moroton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. Phone: Victoria 7164. [5838

Chater-Lea-Jap.

4h.p. Chater-Lea-Jap Combination, good condition, all on, licensed, trial; £35.—199, King's Cross Rd., W.C.1. [9600

CHATER-LEA-J.A.P., 1915, 2-speed, double sidecar, lamps, speedometer, good condition, tax paid; £70; appointment.—51, Stanhope Gardens, Ilford. [X2745

Chater-Minerva.

CHATER-MINERVA, Grade gear, all on, tax paid; ride away; £26.—135, Mornington Rd., Leytonstone. [9283

Clyno.

19 18 Clyno Combination; £85.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [9665

CLYNO 2-stroke, 1915, just overhauled, tax paid; £38.—Hodge, Russels, Wiveliscombe. [9871

19 14 Clyno Combination, spare wheel, lamps, tax paid; £95.—Ross, 86, High Rd., Lee. [1106

CLYNO 2-stroke, 2-speed, nearly new, tax paid; 40 gns.; exchange.—19, Streatley Rd., Brondesbury. [9184

DAN GUY, Weymouth.—1921 8h.p. Clyno combination, small mileage, as new; cash offers wanted. [0551

5-6h.p. Clyno Combination, 1916, lamps, speedometer, spare wheel; £105.—28, Badminton Rd., Balham. [X2731

CLYNO Combination, 1921, 8h.p., spring frame, not done 200 miles; what offers?—McKinney, Cooks-town, Tyrone. [9306

5-6h.p. Clyno Combination, excellent running order, spare wheel, 5 tyres, lamps; £75.—Victoria Garage, Surbiton. [9966

CLYNO, 5-6h.p., 1917-18, £50; combination, £75; W.D. models renovated; guaranteed.—272, Green St., Forest Gate. [8252

19 19 Clyno Lightweight, 2-speed, clutch, condition as new, fully equipped; £48.—97, Pendle Rd., Streatham, S.W. [9960

CLYNO Lightweight, 1920, 2 speeds, clutch, and accessories, in good order; £52.—King, Mooks Alley, Binfield, Berks. [9695

LIGHTWEIGHT Clyno, fully equipped, clutch, gears, speedometer; any trial; as new; £50.—12, Maidn Hill West, Paddington. [9746

CLYNO Combination, 6h.p., rebuilt, hood, box of spares, spare wheel; £75, offers.—Wilson, Long Ditton Rectory, Surbiton. [9964

CLYNO 2¾h.p., 1915, new piston, crank, gears, well equipped; offers invited.—75, North End Rd., Golders Green, N.W.11. [1261

CLYNO 2-stroke, 2-speed, clutch, electric lamps, bulb horn, in good condition, new February, 1920; £43.—16, Carlton Rd., Sidcup, Kent. [9427

19 17 6h.p. Clyno Combination, countershaft, late sidecar, spare wheel, lamps, screen, fine order, tax paid; £85.—9, Church Rd., Willesden. [9558

8h.p. Clyno-Jap Combination, all on, any trial, tax paid, leaf spring saddle and Tan-sad; £110, no offers.—E. De Cort, 39, Essex Rd., London, N.1. [1083

REGISTERED TRADE MARK H.A.H. TRADE MARK REGISTERED

H.A.H. Complete Electric Lighting Sets.

Accessories. Specialities.

Genuine Hellesen Dry Batteries.

Send a p.c. for address of nearest agent.

H.A.H. MOTOR CYCLE HEAD, SIDE & TAIL LAMPS.

Medium Size Model. Fig. 881.

Best quality finish throughout. Totally insulated holder, with switch and 4-volt bulb, adjustable focus, adjustable brackets, dust and weather-proof front. As illustrated. Nickel-plated, 43/- each. Black-plated, 47/- each

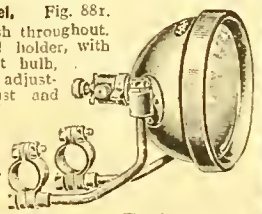


Fig. 873. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. Price as illustrated, 55/- each, black-plated

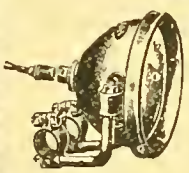
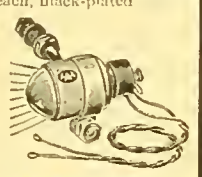
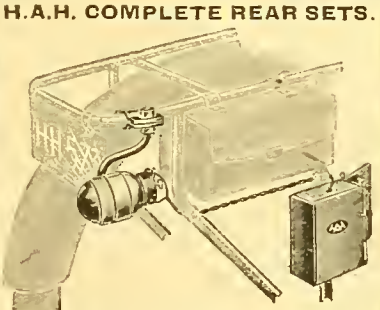


Fig. 560. Sidecar Lamp As illustrated. Complete switch, bulb, wire, nuts, washers, etc. Price 8/6 each.



H.A.H. COMPLETE REAR SETS.



Complete Set, 29/6, as illustrated.

Comprising: Fig. 573. Rear Lamp, 9/8 each. "Force" Genuine Hellesen Dry Battery, 9/11 each. Fig 386, Metal Carrying Case, 10/6 each. With an Acetylene Head Lamp use an Electric Rear Lamp Set, which cannot blow out, and is always ready to be switched on at a moment's notice.

H.A.H. SWITCHES.



Fig. 449. 2-way Motor Cycle Type. Price 3/- each. Very strong—definite action.

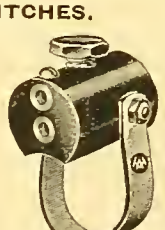


Fig. 428. 1-way Motor Cycle Type. Price 2/- each. Screw Action, both contacts insulated.

A. H. HUNT, LTD., H.A.H. WORKS, Tunstall Road, CROYDON, Eng.

Telephones: Croydon 2225, 2226. Telegrams: "Keyage, Croydon."

MOTOR CYCLES FOR SALE.

Clyno.

CLYNO 1915 5-6h.p. Combination, lamps, screen, hood, 5 interchangeable wheels, ready ride away; must sell.—198, Oxford Rd., Reading. [9313

2¾h.p. Clyno, 1919, 2-speed, hand clutch, free engine, T.T. bars, tax paid, little used, privately owned; £48.—Lloyd, 356, York Rd., Wandsworth, S.W. 9873

CLYNO C.B. Combination (6h.p., 2-speed, chain drive, K.S., Bosch, B. and B., lamps, spares, tools, tax paid: £65; ride away.—73, Ardgowan Rd., Catford, London. [9454

19 16-17 Clyno 5-6h.p., countershaft, new coachbuilt, interchangeables, takes 3 up, spares; trial willingly; photo; £110.—Webber, Eastleigh, Honiton. [9923

CLYNO Lightweight, 1920, very little used, lamps, mechanical horn; 50 gns.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., New Bond St., W.1. [0511

19 18 Clyno 6h.p. Combination, engine No. 7054, mechanical horn, electric lighting, Tan-sad, interchangeable wheels, 700×80, tax paid, trial; £110. —Ellis, 151, Lyndhurst Rd., Wood Green. [9669

CLYNO Combination, 6h.p., 3-speed, K.S., clutch, spare wheel, new tyre, speedometer, new lamp, new coachbuilt sidecar, hood, wind screen, cycle replated, re-enamelled, equal to new; £160.—Bland, Canning Rd., Wealdstone, Harrow. [1088

CLYNO 5-6h.p. Combination, 1916-17 models, rebuilt, replated, enamelled grey or black, 3 speeds, kick start, foot clutch, new carburetters, magnetos, interchangeable wheels, sidecars rebuilt, painted to choice, as new; solo £75, combinations £90; deferred payments arranged.—Hearn Bros., 117, Longhborough Park Brixton, S.W.9. 'Phone: Brixton 2888. [9000

Connaught.

CONNAUGHT (Late) 2½h.p., Amac, E.I.C., variable ignition, Dunlops, Druids, lamps, accessories, licence brand new condition; £40; exchange 2¾h.p. Douglas.—69, Solon Rd., Brixton. [1071

Coulson.

19 20 2¾h.p. Coulson-B., little used, lamps, etc., tax paid; £75.—114, Brixton Hill. [9884

COULSON B 1921 Models in Stock.—Sole Wiltshire Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5007

F.O.C.IL for Coulson-B's; exchanges or easy payments arranged.—5, Heath St., Hampstead (near Hampstead Tube Station). [8811

19 20 Coulson 2¾h.p., 2-speed, clutch, mileage 500, 2½ Dunlops, unpunctured, speedometer, electric lights, Klaxon, equal new, 3 months' guarantee; £80.—28, Gloucester St., S.W.1. [9053

NEW 1921 2¾h.p. and 4h.p. Coulson B, 3-speed, kick starter; list prices; £117/10 and £126; in stock; exchanges entertained. — Bambers', Eastbank St., Southport. Tel.: 607. [8741

COULSON B 4h.p.; 120 gns.; an ideal solo or sidecar mount, as low and handy as a Levis; in stock. —Sole agents for Leeds and 15 miles radius, excluding Bradford, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds 'Phone: Headingley 480. [0495

COULSON-B 4h.p., 1920, unscratched, Amac carburetter, mechanical lubrication, fully equipped, licensed and insured, cost with accessories £139/10; near offer £115, or exchange Douglas or Indian.—Bert Houlding, Marks and Rigby, Ltd., 215-217, Lancaster Rd., Preston. [9338

Coventry Eagle.

COVENTRY EAGLE-J.A.P. 1920 2½h.p., 2-speed, ideal little lightweight, practically unused; £60 each, exchange, or arrange convenient payments.—Bunting's Motors, Wealdstone. Closed Sundays. [1019

Coventry Victor.

COVENTRY VICTOR, the perfect flat twin engine, 5-7h.p.; these famous engines, and all fittings for assembling the complete motor cycle, now available from stock; highest specification throughout; send for our special offer of complete demonstration machine.—Coventry Victor Motor Co., Ltd., Coventry. [0520

Dane.

DANE-J.A.P. 1921 2¾h.p. Twin, o.h.v., Sturmey countershaft gear, all accessories, practically new, exceptionally fast; 55 gns.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. Hampstead 2767. [0610

Dayton.

DAYTON 2-stroke, top-hole; £22 for quick sale.—602, King's Rd., Fulham, London. [1015

DAYTON Lightweight, 2¾h.p., new T.D.C. 2-stroke engine, Amac carburetter, Bosch mag., complete with lamps, horn, etc., condition as new; £25.—Wetherly, Fire Station, Eaglefield Rd., Plumstead, S.E.18. [1214

De Luxe.

2¾h.p. De Luxe, Albion 2-speed, little used; bargain, £30.—Shaw, Park St., Wellington, Salop. [X2709

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B33

MOTOR CYCLES FOR SALE.

Diamond.

DIAMOND, brand new, 2¾h.p. Villiers; £45.—Clark, 7, Exhibition Rd., South Kensington. [9514

E. KICKHAM for Diamond, sole agent for Bristol and Bath district.—Stokes Croft, Bristol. [3355

DIAMOND, 192- 2¾h.p. J.A.P., Enfield 2-speed, new; £84; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1162

DIAMOND 1920 2½h.p., 2-stroke, single-gear, shop-soiled only; £52/10; extended payments entertained.—The Layton Garages, 30, Holywell St. Oxford. T.A.: Integrity. 'Phone: 581. [1150

IMMEDIATE Delivery of any Diamond Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0507

Dot.

8h.p. Dot-Jap Combination, 1915, fully equipped, just overhauled; any trial; tax paid; 85 gns., or close offer.—16, Cavendish Rd., Harriogay. [9575

Douglas

DOUGLAS, Douglas, Douglas.

1921 Models in stock: 4h.p. combination, £170; 4 h.p. solo, £130; 2¾h.p. clutch model, £105; 2¾h.p. 2-speed model, £85; extended payments if desired; spare parts stocked; repairs.—Douglas specialists, Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0375

DOUGLAS Motors in Stock; £85; lamps, etc., free.

GOURLAY, the great Douglas agent and expert, Fallowfield, Manchester. [4487

DOUGLAS 4h.p. Solo, rebuilt, equal to new, all accessories; £80.—Below.

DOUGLAS 4h.p. Combination, cycle as above, new sidecar and chassis, Douglas colours, all accessories; £100; call and select.—Winstan-Henney Motor Co., 63, South End, South Croydon. Tel.: 2431. [4580

HERBERT ROBINSON, Ltd., 32-35, Green St., Cambridge.—Below.

DOUGLAS 1921 2¾h.p., new, 2-speed, including P. and H. lamps, horn, and licence holder; £85; in stock; exchanges.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles.

DOUGLAS 1921 4h.p. New Solo, £130; or combination, including P. and H. lamps, horn, licence holder, and sidecar wind screen, £170; exchanges.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles.

DOUGLAS 1921 2¾h.p., new, 3-speed, clutch, and kick starter, including P. and H. lamps, horn, and licence holder; £105; in stock; exchanges.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles.

DOUGLAS 1920 4h.p., lamps, horn, licence paid, first-class appearance, mechanically sound; £95.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles.

DOUGLAS 1920 4h.p. Combination, polished aluminium discs, Lucas horn, front legshields, Rotax dynamo lighting set, Cameo, ridden few miles only, new appearance, guaranteed perfect throughout; £150.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9546

E. KICKHAM for Douglas and spares; trade supplied.—Stokes Croft, Bristol. [3351

£38.—Douglas, 1916, 2-speed, in excellent condition, —24, Church Walk, Hampstead. [1257

DOUGLAS 1916 2¾h.p., as new; cheap, bargain.—19, Askew Gres., Shepherd's Bush. [9870

DOUGLAS, tax paid; £20.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [9658

1916-17 Douglas 2¾h.p., 2-speed, new condition; £40.—59, Aytown Rd., Brixton, S.W. [9089

£18.—Douglas 2¾h.p., 1910, good condition, requires 2 new rings.—170, Red Lane, Coventry. [X2744

2¾h.p. Douglas, 1911, countershaft, running order; £25.—72, Portland Terrace, Southampton. [9423

4h.p. Douglas, 1919, solo, good condition; £75.—Apply, Sutton, 19, Garden Walk, Cambridge. [9147

DOUGLAS 2¾h.p., 1911, and sidecar; £30; exchange 2-stroke.—68, Gloucester Rd., Camden Town. [9993

DOUGLAS 2¾h.p., 2-speed, with lamps and horn, in stock; £85.—Rivett, 236, High Rd., Leytonstone. [5886

DOUGLAS 2¾h.p., 1911, excellent condition; bargain, £20.—1, Norwood Rd. Herne Hill, S.E.24. [9255

DOUGLAS 2¾h.p., 1916, tax paid, all on, like new; £40.—C., 12, Station Parade, Muswell Hill. [9392

DOUGLAS 1920 C.B. Combination, very nice order, electric lamps; 100 gns.—54, Coval Rd., Mortlake. [X2832

£40.—Douglas, 1916, 2-speed, lamps, tax paid, in first-class order.—53, Pelham St., S. Kensington. [1256

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ALLON, 2¾ h.p., 2-speed, clutch, k-start.	£75 0
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ARIEL 6-7 h.p. Combination, all-chain	£167 10
B.S.A. 6-7 h.p. Combination, with dynamo lighting	£195 15
B.S.A., 4½ h.p., Model K.	£107 0
B.S.A. 4½ h.p. Model H and No. 3 S-car	£152 0
B.S.A. 4½ h.p. Model H. with No. 3 Sidecar and dynamo lighting	£172 15
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NEW IMPERIAL, 2½ h.p., 2-speed, with clutch and kick-starter	£89 5
NEW IMPERIAL 8 h.p. Combination .	£186 18
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ROYAL ENFIELD, 2¾ h.p., 2-speed ...	£65 0
ROYAL ENFIELD, 2¾ h.p., 2-speed, clutch, and kick-starter	£70 0
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TRIUMPH, 4 h.p., Model H	£115 0
TRIUMPH, 4 h.p., Model S.D.	£125 0
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ZENITH, 1920, 8 h.p., Henderson Elite Sidecar, all accessories. Tax paid	£150 0
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CLYNO, 1920, 2¾ h.p., 2-speed, clutch, accessories. Tax paid	£55 0
NEW HUDSON 1916 6 h.p. Combination, accessories, hood, luggage grid ..	£100 0
DOUGLAS 1918 4 h.p. Combination, lamps and horn	£110 0
ROYAL ENFIELD 1917 8 h.p. Combination	£120 0
SUNBEAM 1914 6 h.p. Combination, lamps and horn	£105 0
TRIUMPH 1920 4 h.p. Model H., new	£105 0

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Douglas.

1915 2¾h.p. Douglas, insurance, licence, accessories; £40.—Lane, Charing Cross Hotel, Strand, W. [9156

2¾h.p. Douglas, 1915, splendid condition; £45.—25, James St., Camden Town, London, N.W. [1279

WESTON-SUPER-MARE.—Jack Prnen, Oxford St., all Douglas models and spares.—'Phone: 440. [6251

DOUGLAS 2¾h.p., 1919, new tyres, accessories; £50.—Danbeny, 3, Pembroke Villas, Kensington, W. [9694

DOUGLAS 1921 2¾h.p., 3-speed, clutch, £96, brand new.—Clark, 7, Exhibition Rd., South Kensington. [9517

DOUGLAS 4h.p. and Sidecar, new body, splendid outfit, any trial; £85.—39, Essex Rd., London, N.1. [1082

£33.—1913 2¾h.p. Douglas, 2-speed, splendid running order, licensed.—King, Egrove Farm, Oxford. [X2756

EXCEPTIONALLY Smart ~~1919~~ Douglas, well equipped; £50.—60, Wallingford Av., N. Kensington. [9731

DOUGLAS 2¾h.p., 1915, 2-speed, good condition, all on, tax; £38.—Tout, 36, Elmwood Rd., Chiswick. [9464

1919 2¾h.p. Douglas, mileage under 500, all accessories; £65.—Jones, 25, Hythe Bridge St., Oxford. [9639

1920 2¾h.p. 3-speed Douglas and accessories, tax paid; £75.—Bounds, 223, High Rd., Kilburn, N.W. [9386

£40.—Tax paid, 1916 2¾h.p. Douglas, newly renovated; real bargain.—22, Powney Rd., Maidenhead. [9502

DOUGLAS 2¾h.p. T.T., 2-speed, excellent order; £42.—R. V. Foster, Station View, Hitcham, Bucks. [9503

1916 2¾h.p. Douglas, 2-speed, tyres excellent, lamps, horn, etc., discs; £42.—Buckingham, Underriver, Sevenoaks. [9058

1919 Douglas 4h.p. Combination; £95, or near.—A. E. Harling, 123, Great Suffolk St., Boro', London, S.E. [9446

DOUGLAS 2¾h.p., 2-speed, like new, not W.D.; £27.—53, Colonial Rd., Bordesley Green, Birmingham. [9973

1915 2¾h.p. Douglas, 2-speed, Bosch mag., tyres practically new; £45, or nearest.—B. Powell, Presteigne. [9460

DOUGLAS 2¾h.p., 1916, perfect condition, lamps, horn, £48; also 4h.p. Triumph.—119, Brecknock Rd., N.19. [1025

1919 Douglas 2¾h.p., as new, fully equipped; £60—48, Warlock Rd., Paddington. Tel.: Willesden 1744. [1304

1916 Douglas, 2¾h.p., 2-speed, fully equipped, good condition, licence paid; £45.—12, Dover Rd., Upper Norwood. [9349

1912 2¾h.p. Douglas, newly overhauled, new tyres, owner bought combination; £35.—Box 4,210, c/o *The Motor Cycle.* [9576

DOUGLAS 1915 2¾h.p., 2-speed, lamps and horn, excellent condition; £45.—330, Ivydale Rd., Nunhead, S.E.15. [1284

£44.—Douglas 1916 2¾h.p., condition and appearance as new; must have cash; bargain.—4, Elm Gardens, Hammersmith. [9149

DOUGLAS 2¾h.p., 2-speed, K.S., splendid condition, lamps, horn, tax paid; £45; best offer; evenings.—46, Highbury Park. [9576

GIBB, Gloucester, can give immediate delivery Douglas 1921 models and spare parts from stock.—'Phone: 852. [6340

1915 2¾h.p. Douglas, 2-speed, lamps, tools, horn etc., new condition, tax paid; £42.—Oakdene Anerley Park, S.E.20. [1280

DOUGLAS 2¾h.p., late 1919, excellent condition throughout, all accessories, tax paid; £68.—247 Friern Rd., East Dulwich. [7600

ALLON Douglas Models from Stock; 2¾h.p. 2-speed £85; 3-speed clutch, £105; combination, £170.—Moffat, Yeovil. 'Phone: 50. [5041

DOUGLAS 1918 4h.p., 3-speed clutch combination, lamp, horn, screen, etc., perfect condition; £75.—619, Garratt Lane, Earlsfield. [9061

1920 Douglas, 3-speed, clutch, kick starter, complete lamps, etc; £75; perfect order.—165, London Rd., Camberley, Surrey. [9981

DOUGLAS Combination, all on, good condition throughout, tax paid, fully insured; £80.—28 Pendrell Rd., Brockley, S.E.4. [9961

DOUGLAS 4h.p. Combination, 1920, splendid condition, tax, insurance, complete; £110, lowest.—2, Somerset Rd., New Barnet. [9671

DOUGLAS, 1919, not W.D., lamp, speedometer, etc., splendid condition; £50.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E. 3155. [1270

MOTOR CYCLES FOR SALE.

Enfield.

OCTOBER, 1920, 8h.p. Enfield Combination, hardly soiled, mileage 700, hood, screen, Klaxon, mirror, x and insurance paid; sell, or exchange good solo d cash.—Cobbold, Clifton Mount, Summerhill Rd., rtford. [9114

ENFIELDS.—The cheapest twin on the road. We are North London agents, and can supply from ock standard models £160, electric £182, cash, or ferred payments. All spares in stock. Trade sup- ied.—Jones' Garage, Muswell Hill, and at Woodside rade, N. Finchley. [0380

1920 Enfield Combination, 8h.p. Jap engine, Easting wind screen, Lucas acetylene lighting set, bulb rn, mirror, and all accessories; will do over 50 m.p.g. th passenger, new last Aug., in first-rate condition, ne about 2,000 miles; price £150; can be tested in ewbury or elsewhere by arrangement.—C. W. Bloxsom, ermitage, Berks. [9363

Excelsior.

WASH Needed.—British Excelsior single, late clutch model, tax paid, guarantee; sacrifice; £50.—Box 221, c/o *The Motor Cycle*. [1204

1920 8h.p. British Excelsior Combination, dynamo lighting, hood, screen, spare wheel, tax paid; st £240 last year; accept £125.—37, Arlington Rd., rhiton. [9831

EXCELSIOR J.A.P. 2¾h.p., 1919, 2-speed counter- shaft gear, kick starter, hand-controlled clutch, accessories; £45, tax paid.—Eagles and Co., 275, gh St., Acton, London. [9751

Federation.

1920 (Nov.) 2¾h.p. Federation-Jap, Burman 2-speed gear, kick starter, absolutely unsoiled, all acces- ries, licence paid; £60, cost £90.—29, Montford ace, Kennington, S.E.11. [9936

F.N.

F.N. 2½h.p., tax paid, needs slight attention; sacri- fice £14/10.—Newman, Fairview, Horton Rd., oncester. [1009

£15.—F.N. 2½h.p., variable gear, Bosch, new belt good tyres, guaranteed sound.—89, East Hill, andsworth. [9957

F.N. 2¾h.p., all accessories, excellent condition; must sell, £19, or offer.—Herbert, 6, Buller Rd., ensal Rise, N.W.10. [9706

F.N., single-cyl., shaft drive, good condition, ride away, tax paid; £25.—Harvey's, 47, South Lam- th Rd., Vauxhall, S.W.8. [9666

F.N., 1920, new end unridden, 7h.p., 4-cyl., 3-speed, solo model, cost over £160; accept £120.—Godden, , Fellows Rd., Hampstead. [9223

F.N. 2½h.p., 2 speeds, clutch, shaft drive, electric light, taxed, goes splendid; £26; bargain.—143, evensbury Rd., Earlsfield, S.W. [1170

F.N. Combinations in stock, reduced price £188; call for a trial run.—Grimes and Co., 18, Brixton ace, Bond St., W. Mayfair 4792. [6071

IAN GUY, Weymouth.—1921 4-cyl. 7h.p. F.N. 3- speed combination, all lamps, Easting screen, abso- tely as new, mileage about 400, tax paid; £165. [0594

IMMEDIATE Delivery of any F.N. Model: cash or deferred payments; book your order now, and void disappointment later.—Burlington Motors, Ltd., outh Side, Clapham Common, S.W.4. 'Phone: Brix n 2417. [0500

1921 4-cyl. F.N. Combination, in excellent condi- tion, having only run 2,000 miles, fitted with ew P. and H. head lamp, tail lamp, coachbuilt side- r, with hood and screen, Klaxon horn, kick starter, speed gear box, and clutch; price £160.—The otorists' Advisory Agency, Ltd., 89, Wigmore St., W. [9823

Francis-Barnett.

GULIANS of Reading have 1921 Francis-Barnett in stock. [0479

1920 Francis-Barnett, 2¾h.p. J.A.P., 2-speed, clutch, kick starter, condition almost like new, licensed, sured, owner bought combination; £65.—21, Kings d., Leytonstone. [9367

Grandex.

4h.p. Grandex Combination; £40.—59, Palfrey 4 Place, Dorset Rd., Clapham Rd., S.W.8. [9657

Harley-Davidson.

1920 Flat Twin Harley, sporting sidecar; £145.— Ross, 66, High Rd., Lee. [1114

SHEFFIELD Agent for Harley-Davidsons; from £120.—Stacey, 12, Ecclesall Rd. [0577

1919 Harley-Davidson Combination, electric lighting, all tools; £135.—2, Wolverton Av., Kingston. [9631

1919 Horley-Davidson and sidecar, good condition, accessories; £120; £95 solo.—1, Brook Hill Rd., oolwich. [9747

HARLEY Sports, brand new, fully equipped; £135 to clear.—K. B. Clark and Co., 7, Exhibition Rd., uth Kensington. [9513

HARLEY-DAVIDSON, 1920, brand new, 4h.p. Sports Model; bargain, £120.—Fleming, Ambleeote rage, Stourbridge. [9230



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26×2¾	Dunlop W.D. Heavy	42/6	56/9
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"	Clincher de Luxe Ex. Hy	39/-	68/6
"	Beldam Extra Heavy	37/6	53/-
"	Kempshall Anti-skid	37/6	52/6
"	Wood-Milne Ex. Heavy	37/-	63/9
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650×65	Wood-Milne Ex. Heavy	43/6	83/-
"	Bergounan 3-rib Heavy	35/-	83/3
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MOTOR CYCLES FOR SALE.

Harley-Davidson.

£75.—Harleys 1918 models, good appearance and in running order; 3 only left.—Owen, 59, Scholefield Rd., Upper Holloway. [X2819

LATE 1920 Harley-Davidson de Luxe Combination, equipped regardless, discs; £158.—60, Wallingford Av., N. Kensington. [9726

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', Southport, Lancashire. Tel. 807 [5009

HARLEY-DAVIDSON Combination, 1920, brand new, 7-9h.p. electric lighting; bargain, £195.—Fleming, Ambleeote Gorage, Stourbridge. [9229

HARLEY-DAVIDSON 7-9h.p. Combination, 1915-16, magneto model, perfect; any trial; accessories; £90.—Seen 87, Battersea Rise, Clapham. [9442

LATE 1919 Harley-Davidson Combination, beautifully equipped, discs, mileage 2,000; £112, tax paid.—60, Wallingford Av., N. Kensington. [9727

HARLEY-DAVIDSON Combination, 1917, all on, hood, wind screen, tax paid, excellent condition; £120.—81, Shenley Rd., Camberwell, S.E.5. [1283

HARLEY-DAVIDSON 1920 C.B. Combination, electric model, speedometer, all guaranteed condition, licensed; 150 gns.—54, Coval Rd., Mortlake. [X2830

HARLEY 1915 Combination, Mills-Fulford sidecar, splendid touring machine, Tan-Sad and accessories; 85 ghs., bargain.—Belsey, 49, Sloane St., London. [9652

1915 7-9h.p. Harley Combination, perfect mechanical condition, any trial, completely overhauled; best offer over £75.—Clayton, Hazelmount, Whitehorse St., Hereford. [9312

1920½ 4h.p. Harley-Davidson Flat Twin, 1,200 miles, absolutely as new; 110 gns., or near offer.—Christopher, R.F.A., R.A. Mess, Ewshott, Aldershot. [9977

HARLEY-DAVIDSON 1915 Combination, re-enamelled, speedometer, lamps, Tan-Sad, screen, tax, condition, appearance good; £105.—54, Dieppe St., West Kensington. [9990

1920 Harley Combination, electric model, discs, spares, speedometer, licensed, perfect order; £158.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [1133

HARLEY 7-9h.p., 1917, not W.D., Sandom Super 2-seater sidecar, recently overhauled, tax and insurance paid; £100; after 6.—Kentmere, St. James's Rd., Sutton, Surrey. [1282

£120.—1917 standard model Harley-Davidson, with accessories, fitted with brand new 40 gn. Model de Luxe Millford sidecar.—The Premier Motor Co., Aston Rd., Birmingham. [X2719

HARLEY-DAVIDSON 1920 4h.p. Model, Swan sporting sidecar, electric lighting, good condition, as new; £185.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2679

HARLEY-DAVIDSON Combination, 1915-1916, electric model, excellent condition, large Harley sidecar, oil fittings, splendid engine; nearest £102.—Buckingham, Underriver, Sevenoaks. [9059

HARLEY Combination, date 1919, new June, 1920, beautiful condition, tax paid, trial; would exchange good small solo; cash adjustment.—719, Barking Rd., E. 'Phone: East Ham 467. [9372

7-9h.p. Harley-Davidson, Model F, De Luxe sidecar, new Feb., 1921, done 3,000 miles, perfect condition, mechanical horn, lamps, speedometer, discs; £250.—Strong, Enslie, Sidmouth. [9865

HARLEY-DAVIDSON 1919 7-9h.p., speedometer, lamps, horn; £97/10; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1141

HARLEY-DAVIDSON Combination, 1919, 7-9h.p., complete with accessories; £125; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1148

HARLEY-DAVIDSON (Nov., 1919) Combination, new condition, hood, wind screen, speedometer, lamps, etc., tax paid; £160; owner bought car.—Wilson, 289a, Regent St. 'Phone: Maytair 6666. [9434

1918 Harley-Davidson with Harley bulbous back sidecar, hood, wind screen, lamps, horn, pillion seat, privately owned since new; bargain, £110.—Parker, Station Rd., St. Ives, Hunts. 'Phone: 15. [9242

1915 7-9h.p. Harley-Davidson Combination, mag., Easting's wind screen, complete with lamps and horn, also Remy and accumulator; £90, or near offer. —Halliwell, 52, Wellesley Rd., Sheerness, Kent. [9723

HARLEY Combination, electric model, splendid condition, just overhauled, new tyres, pillion seat, screen, tax and insurance paid; any trial; £95, or near offer.—Fisher, 74, Settrington Rd., Fulham, S.W. [9955

HARLEY-DAVIDSON 1916 7-9h.p. Combination, just been overhauled, re-enamelled by makers, double sidecar; price £125; an absolute bargain.—Thomson 1, Broadway Buildings, Southall. 'Phone 94. [9633

1918 Harley-Davidson Combination, mag. model, fitted with new coachbuilt sidecar, enamelling and plating perfect, any trial, £130, or exchange 1920 Triumph solo and cash.—Fuller, 704, Holloway Rd., N. [9988

MOTOR CYCLES FOR SALE.

Harley-Davidson.

HARLEY-DAVIDSON 1919 Combination, specially built de luxe sidecar fitted with dickey seat, Easting, speedometer, in perfect condition and subject to any trial or examination; £160.—Noyes, 163, Railway Approach, Shepherd's Bush, W.12. [9412

1919 Harley-Davidson 7-9h.p. and new twin Mills-Fulford sidecar, accumulator electric lighting, mechanical horn, licence paid, new condition and appearance; £150.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9548

HARLEY-DAVIDSON 1919 Combination, 7-9h.p., fitted new high grade coachbuilt sidecar, just overhauled and re-enamelled, a very handsome outfit, and a bargain, £120.—Hill, 1, Chichester Mews, Chichester Rd., Paddington (near Royal Oak Station, Met.). [9540

SPECIAL Racing 3-speed Harley, engine No. 19A547A, exceptionally fast, in perfect condition, Mills-Fulford sidecar, genuine track engine, as used on Brooklands 1919; £160 complete.—Bert Houlding, Marks and Rigby, Ltd., 215-217, Lancaster Rd., Preston. [9339

HARLEY-DAVIDSON (late 1920) 7-9h.p. Combination, electric model, screen, apron, side screen, can carrier, tools, Tan-sad seat, very luxurious outfit, like new; £160, or offer; must sell; privately owned. —Sumner, 70, Camden Mews, Cantilowes Rd., Camden Rd., London, N.W. [9643

1915 Harley Combination, electric, discs, tyres nearly new, just been completely overhauled and repainted new Harley colour, absolutely indistinguishable from new, perfect condition throughout, only wants seeing, tax paid, any trial any time; £110.—177, High St., Barnet. [9686

£112.—1920 (July) Harley flat twin solo, speedometer, lamps, Klaxon, tools, etc., 3in. tyres, unpunctured, and as new, mileage under 1,500, and condition first-class, tax paid, and including £5/15 comprehensive insurance policy until Feb., 1922 (personal £250, machine £130).—Westcott, 17, Stirling St., Portsmouth. [9459

NEW Harley-Davidson, 1921, Model J De Luxe, dynamo combination, delivered May 7th, 3½in. tubes and tyres, discs, electric horn, Triplex screen, disappearing hood, Tan-Sad, tools, tax paid, all complete; cash wanted, therefore will sell at reasonable reduction.—Apply, 13, Elspeth Rd., Wembley, Middlesex. [9616

HARLEY-DAVIDSON.—Gentleman unable to take delivery of a new electrical J. Model, is prepared to accept £25 less than list price for same; list price £199/10; machine will be sent immediately carriage paid to first applicant depositing £174/10 with "The Motor Cycle" and communicating with Box 4,208, c/o *The Motor Cycle*. [9574

HARLEY-DAVIDSON Bargains.—To clear our stock to make room for new models, we are offering the following: 1920 Model F 7-9h.p., new, bnt shop-soiled, £175 (list price £196); 1920 4h.p. flat twin and sidecar, tax paid, £140; 1920 Model F 7-9h.p. and sidecar, tax paid, £150; 1920 4h.p. flat twin solo, tax paid, £120; 1920 Model F 7-9h.p. solo, tax paid, £137. Any of the above sent carriage paid; all are guaranteed mechanically perfect; exchanges entertained.—Macrae Bros., Harley-Davidson Agents, 37, Cockburn St., Edinburgh. [9562

Hazlewood.

4h.p. Hazlewood-Jap Combination, 3-speed, kick start, electric lights, new spare cover and tube; any trial; £65; evenings.—5, Beverley Rd., New Malden. [9100

H.B.

1920 H.B., 2¾h.p. Blackburne, 2-speed, clutch, kick starter, legshields, lamps, Cowey horn, small mileage; £75.—Dean, 60, Park St., Cambridge. [9995

Henderson.

HENDERSON Combination, excellent condition; 95 gns.—Basildon House, West Byfleet, Surrey. [7064

E. KICKHAM for Henderson, sole agent for Bristol and Bath districts.—Stokes Croft, Bristol. [3354

HENDERSON 4-cyl. Solo, like new; £90, or exchange Zenith.—The Rosery, Church Rd., Hanwell. [1268

10h.p. Henderson 4-cyl., 2-speed, clutch, as new, guaranteed; £90.—106, Barlow Moor Rd., West Didsbury, Manchester. [1031

1917 Henderson 4-cyl., in good condition, with Patey family sidecar, seats 3; price £150.—Martin, Penhallam, Torrington. [8686

1920 Henderson Combination, as new, mileage 500, hood, wind screen; £160; tax paid; owner bought car.—Pearson, 74, Micklegate, York. [X2747

10h.p. Henderson Combination, 1915, 2-speed and clutch, lamps, etc., tax paid, mechanically perfect; £85.—73, New Park Rd., Brixton Hill, S.W.2. [1218

HENDERSON Z2 Solo, 3-speed, mileage negligible, plated exhausts, speedometer, dynamo lighting, electric and bulb horn; £135.—13, Victoria Rd., Sheffield. [1122

4-CYL. Henderson Motor Cycle and Sidecar, electric lighting, just thoroughly overhauled, in first-class order, tax paid; 100 gns.—Capt. Taplin, 16, Lordship Park, N. [1060

1920 Henderson Combination, small mileage, unscratched, electric lights, disc wheels, extra large touring sidecar, bulbous back, all accessories; £190, or nearest.—Apply, Box 4,250, c/o *The Motor Cycle*. [1297

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HENDERSON, 1920, dynamo lighting, heavy bulbous sidecar to match, Royal Easting screen, child's folding seat, perfect condition; £160, or offer. —'Phone: Streatham 1910, or 22, Earlsthorpe Rd., Sydenham. [995

1920 Model Z2 Henderson 10h.p., 4-cyl., electric lighting set, Canoelet bulbous back sidecar, Cameo wind screen, not done 1,000 miles, guaranteed as new; £170.—The Premier Motor Co., Aston Rd., Birmingham. [X272

HENDERSON Combination, late 1920, electric model, Elite de luxe sidecar, screen, hood, spare petrol can carrier, speedometer, outfit in beautiful running order, cost £280; will sell £205, or nearest seen evenings after 6.30.—Airnetti, 63, Albany St., N.W.1. [959

Hobart.

1921 Hobart, J.A.P. engine, Sturmey-Archer gear, shop-soiled; £70.—Ross, 86, High Rd., Lee. [110

HOBART 2½h.p., 3-speed, in perfect order; £36, near offer.—13, St. James's Rd., Kingston-on-Thames. [924

Humber.

HUMBER 3½h.p. Combination, good condition, £40.—Heath, 3, Belson Rd., Woolwich. [94

3½h.p. Humber Combination, 2-speed, handle, new tyres; £45.—179, Uxbridge Rd., Hanwell. [98

HUMBER 3½h.p., 1914, 3-speed clutch, splendid condition; £40, or near offer.—44, Highview Av., Grays. [91

HUMBER 1914 3½h.p., 3-speed, kick-starter, clutch, £38; bargain.—Marshall, 121a, Western Rd., Southall Middlesex. [96

1919 3½h.p. Flat Twin Humber, 3-speed countershaft, new condition; trial; £72.—15, Foleshill Flats, Foleshill, Coventry. [X27

HUMBER 3½h.p. C.B. Combination, 3-speed, hood, speedometer, excellent condition; £50.—53, Fitzmouth Av., Highams Park. [95

HUMBER 3½h.p., good going order, re-enamelled, drop frame, good tyres, £15; also sidecar to suit, £5.—256, Division Rd., Hull. [X25

£35.—Humber combination, P. and M. 2-speed gear and torpedo sidecar, lamps, licensed, good order.—King, Egrove Farm, Oxford. [X27

HUMBER 1919, Montgomery sidecar, 3-speed, 8h.p., fully equipped; owner ordered Mesopo sacrifice £100.—Hardie, 4, Aldridge Rd. Villas, W. [95

1920 Humber Motor Cycle, flat twin, 3-speed hand bar clutch, handle starter, new slightly shop soiled; £115 cash, or offer.—Mortons, 19, Highbu Place, N.5. 9 to 6.30. Sats. 9 to 1. [96

HUMBER 1919 3½h.p. Flat Twin and Mills-Fulf Corvette sidecar to match, accumulator light set complete, horn, ridden 2,500 miles only, perf appearance and guaranteed mechanically perfect; £ —Herbert Robinson, Ltd., 32-35, Green St., Cambrid Tel.: 995. T.A.: Bicycles. [9

HUMBER Flat Twin, 1921, 4½h.p., with Lucas ho Smith speedometer (trip), ridden a few hund miles only, licence paid, general appearance as n mechanically perfect, having been very carefully us price 115 gns.—Enquire, T. Darby, c/o Messrs. Robinson, Green St., Cambridge. [9

Indian.

E. KICKHAM for Indian, sole agent for Bris and district.—Stokes Croft, Bristol. [3

1914 7-9h.p. Indian, clutch model, in good con tion; £45.—80, York Rd., Battersea, S.W. [9

INDIAN 7-9h.p. C.B. Combination, perfect, very sma £90; any trial.—3, West Gardens, Robinson Tooting. [9

1915-16 Indian 5-6h.p., 3-speed, clutch, K.S., sp did condition; £68.—Green, Victoria Ho Hadeley, Salop. [9

1919 7-9h.p. Indian Combination, dynamo lighti good condition; £112.—Bounds, 223, High Kilburn, N.W. [9

INDIAN, 1919 (latest), 7-9h.p. Powerplus, dyna lighting, 3-speed combination; £115.—619, Gar Lane, Earlsfield. [9

INDIAN 1918 Powerplus, appearance and condi equal to new; 60 gns.—Owen, 59, Scholefield Upper Holloway. [X2

3½h.p. Twin Indian, 3-speed, kick start, perfect ord £70, or Indian single-cyl. and cash.—McMenam Naas, Co. Kildare. [9

1919 7-9h.p. Indian, spring frame, 3 speeds, clu 2 brakes, like new; £65.—C., 12, Sta Parade, Muswell Hill. [9

£57.—Powerplus 1916 Indian, 3 speeds, etc., li used, guarantee, tax paid.—14, Bushey Rd., H lington, nr. Hounslow. [1

INDIAN, Scout model, 3-speed, K.S., clutch, la improvements, all on; first £48 for immed sale.—321, Edgware Rd., London. [1

1918 5-6h.p. Sporting Indian, 3-speed, clu mechanical horn perfect coudition, tax p £80.—1, Norwood Rd., Herne Hill, S.E.24. [9

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174.—Matchless Combinations.

920 Brand New H2 Models offered at this price owing to cancelled export order, spare wheel and e 8 gns. extra, screen £2/12; makers' full guarantee. Tassell, 1a, Bloomfield Rd., Plumstead. [5793

ULIANS of Reading have all Matchless models in stock. [0480

MATCHLESS 1921 Combination, M.A.G.; £205, from stock.—Gibb, Gloucester. [0443

h.p. Matchless C.B. Combination; £74 for quick sale.—44, Thorpe Rd., Kingston. [9962

35.—3½h.p. Matchless, B. and B., Bosch, variable gear.—45, High Rd., Woodford Green, Essex. [9889

M.A.G.-MATCHLESS Combination; £98.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [9656

OUR Matchless from Whitby's, special agents, 7, The Vale, Acton, W.3. List free on request. [1057

MATCHLESS 1920 Electric Combination, £20 extras, licensed; 150 gns.—54, Coval Rd., Morte. [X2831

MATCHLESS Combination, 6h.p., good condition; £50.—Petley, 81, Denmark Hill, Camberwell, .5. [9485

920 Matchless Combination, Lucas mag., dynamo lighting, fully equipped; £160.—86, Herbert Rd., nstead. [9218

MATCHLESS, late 1920; cost £225, accept £165.—Prior, Replingham Rd., Southfields. 'Phone: Put. 1694. [9999

MATCHLESS 7h.p. M.A.G. Combination, 3-speed, enclosed chains, splendid condition; 98 gns.—. Archway Rd., N.6. [9875

921 Matchless-Jap, 600 miles, insurance, complete except lamps; £200; real reason selling.—Rollin. 82, Market St., Colne. [9888

MATCHLESS-J.A.P. Coachbuilt Combination, V.S., 2-speed, K.S., in good condition; £70.—Foxhound . High St., Orsett, Essex. [9679

MATCHLESS Combinations, new, in stock, from £174; 1921 models, £205.—Sheffield Agent A. Stacey, 12, Ecclesall Rd. [0574

920 Model H. Matchless Combination, electric lighting, all accessories; £160.—Hyde, Mottingham, 9. 'Phone: Lee Green 500. [9159

921 Matchless, Magdyno lighting, brand new, unused, unregistered; owner must sell; £198.—Madrid Rd., Barnes, S.W. [8928

ATE 1920 Matchless Combination, Lucas dynamo lighting, lavishly equipped, tax paid; £160.—60, Ringford Av., N. Kensington. [9730

CAN Supply you immediately with new Model H Matchless combination; £185; usual guarae.—Ross, 86, High Rd., Lee. [1121

MATCHLESS, 1917, M.A.G., electric lighting, Tan-Sad, hood, screen, splendid condition; £125.—39, e Rd., Clapham Common, S.W.11. [1288

MATCHLESS 1920 Magdyno Lighting Combination, handsomely fitted; £165, or near offer.—Spurl. 8, Courthope Rd. Hampstead, N.W.3. [9671

MATCHLESS, Magdyno lighting, spare wheel, screen, brand new, unused; £180.—Edwards, 50, ington Rd., South Kensington, S.W.7. [8926

MATCHLESS Model H Combination, new from works, guaranteed; £174.—Matchless Agents, R. B. Clark Co., 7, Exhibition Rd., South Kensington. [9512

MATCHLESS 1920 8h.p. Combination, dynamo lighting, speedometer, spare wheel, etc., perfect; £150. ., 38, King-ley Rd., Palmer's Green, N.13. [9357

p. 1913 Matchless Twin, coachbuilt combination, 2-speed, kick start, re-enamelled and plated, licence ; £60.—Scotts, Gayton, Blisworth, Northants. [9137

MATCHLESS, 1921, all-on, hardly soiled, under 700 miles; £185.—Farnbank, 7, Beauchamp Clapham Junction, S.W.11. (One minute station.) [9863

MATCHLESS Combination, M.A.G. 7-9h.p., 3-speed, kick starter, 2-seater sidecar, like new; £115.—ne: New Cross 327. 165, New Cross Gate, S.E.14. [1230

MATCHLESS C.B. Combination, underslung, 6h.p., 2-speed, kick starter, new tyres, mechanically ct, tax paid; £70.—89, Kew Rd., Richmond. [9976

921 2-seater Matchless, dynamo lighting, spare wheel, 2 screens; £205, cost £241; done 100 miles; paid.—Thompson, 253, Munster Rd., Fulham. [9614

p. Matchless-Jap Combination, 2-speed gear, tax paid, all accessories, in fine condition; £80, or after 6 o'clock.—Beer, 87, Buxton St., Mile End. [1287

VICTORY Model Matchless, interchangeable wheels, good condition, just thoroughly overhauled, usual tyres; £135.—Mitchell, 39, Piedmont Rd., Plumstead, S.E.18. [9505

MATCHLESS, Matchless, Matchless.—Latest 1921 model 8h.p. combination, for immediate delivery. dian Hardie, and Lane, Ltd., 23 and 24, Wood. St., W.1 [0418

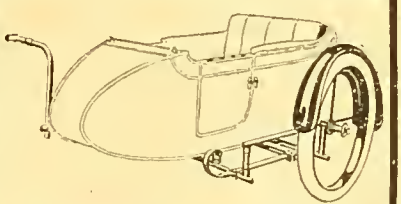
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MATCHLESS Late 1920 Model H Combination, Lucas accessories, spare wheel, lavishly equipped; £155.—Parker's, Brndshawgate, Bolton; also 245, Deansgate, Manchester. [X2680

MATCHLESS Combination, Model H, Nov., 1920, perfect condition, mileage 500, mechanical horn, screen, spare wheel, tools; £165, or offers.—Bickmore, 15, Park Parade, Cambridge. [9170

1920-21 Matchless-M.A.G. Combination, Lucas lighting, fully equipped, licence paid, unsoiled, brand new condition; £165; lightweight part exchange.—294, Kennington Park Rd., S.E.11. [9075

MATCHLESS Combination, 1920 J.A.P., Binks, Lucas' Magdyno, speedometer, electric horn, spare wheel, numerous luxurious spares, only 1,600 miles, tax paid; £185.—Bushby, Abbots Park, Chester. [9073

F.O.C.H. have a 1920 Matchless combination, Magdyno, small mileage, fully equipped, hood, screen, spare wheel, luggage grid, tax paid; £175.—5, Heath St., Hampstead (near Hampstead Tube Station). [8812

MATCHLESS Combination, 8h.p., 1920, little used, Magdyno, Cowey horn, original tyres in excellent condition, beautiful throughout, privately owned and well looked after; £165; seen London.—Box 4,202, c/o *The Motor Cycle.* [9537

MATCHLESS 1921 Models, immediate delivery, with or without Magdyno lighting; no waiting; in stock ready to drive away; at lowest nett prices; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [1180

MATCHLESS, 1920 Model H, very little used, perfect condition, speedometer, horn, watch, hood, screen, Tan-Sad, spare wheel, low mileage, tax paid; £150, or offer.—3, Beechwood Av., Thornton Heath, or 'phone Holborn 5765. [9334

MATCHLESS, 1921 Family Model, 2-seater sidecar combination, delivery from stock; £212/10; liberal exchange or extended payment terms.—Authorised agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0066

MATCHLESS, 1918, 8h.p. J.A.P., roomy sidecar, battery lighting, speedometer, spare wheel, back rest, many accessories, tax paid; £110; an absolutely sound reliable touring vehicle; owner bought car.—19, St. Mary's Mansions, London, W.2. Tel.: Paddington 3886. [1102

MATCHLESS, late 1920, M.A.G., Clincher Dreadnought, Lucas Magdyno, inspection lamp, wind screen, cover, valance, Watford trip, spare wheel, child's seat, small mileage, £20 spares, beautiful condition, licensed; £195.—Headmaster, Madley, Herefordshire. [9812

MATCHLESS Model H, 1920, specially tuned J.A.P. engine, 3 speeds, Lucas lamps and horns, leg shields, step, Easting screen, speedometer; bargain, £150; owner short of cash, and would accept £100 and 2-speed lightweight, war bonds or shares; no reasonable cash offer refused.—Box 366, c/o *The Motor Cycle.* [X2748

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MATCHLESS Late 1919 8h.p. J.A.P. 3-speed Combination, luxuriously equipped, interchangeable quickly detachable wheels and spare, oversize car tyres on all wheels, luggage grid, specially sprung sidecar hood, side curtains, wind screen, 4 lockers, map case, 2 complete lamp sets, 1 acetylene, 1 electric, 6 lamps, 60 ampere accumulator, electric horn, speedometer, mechanical horn, Tan-Sad, petrol can carrier, spare chain, large foot pump, metal toolbox on tank, W.S.R. adjustable jet, hot air intake, Flexekas, insurance transferable, very fast and powerful; £148.—13, Spencer Gardens, East Sheen. [9529

Maxim.

MAXIM-DALM, Dec., 1920, 3h.p., 2-stroke, absolutely new, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, £52; ditto with clutch, kick start, £58/10.—224, Pentonville Rd., London, N.1. [4292

Metro.

METRO-TYLER (Nov. 1919) 2¾h.p., 2-speed, discs, splendid condition, tax; £50, or nearest.—184, Victoria Rd., Alexandra Park, N.22. [9675

METRO-TYLER, S Type model, 2-speed, ridden 500 miles, tax paid December 31st, insurance paid February, 1922, lamps, mechanical horn, tools; £65. —Victoria Garage, Surbiton. [9965

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METRO-TYLER 1920 2¼h.p., 2-stroke, Model S, 2-speed, shop-soiled only; £70; extended payments entertained.—The Layton Garages, 30 Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1155

Minerva.

3½h.p. Minerva Combination, new Grade, Senspray; £30.—179, Uxbridge Rd., Hanwell. [9860

MINERVA 3½h.p., rebushed, C.A.V. mag., lamp set, horn, good tyres and belt, running order; £20, no offers.—33, Micheldever Rd., Lee, S.E. [9409

3½h.p. Minerva, Bosch mag., B.B., re-enamelled, plated, as new, variable gear, tax paid; £27, or offer.—68, York Rd., East Ham, E.7. [9602

Monarch.

MONARCH 1920 2¼h.p. 2-stroke, single gear, lamps, licensed; £37/10; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1136

Moto-Reve.

2¾h.p. Moto-Reve Twin, licence paid, ride away; £15.—A. G. Whale, 47, Moor St., Coventry. [X2826

MOTO-REVE 2¾h.p., good running order; £23.—Morris, 34, Silverhill Rd., Ecclesall, Sheffield. [9219

Motosacoche.

MOTOSACOCHE 2h.p., perfect condition, little used; £22; after 7.—814, Hambalt Rd., Clapham Park, S.W.4. [9321

New Comet.

SIDECAR Combination (New Comet), 2¼h.p. 2-stroke, 3-speed gear, all accessories, only done 300 miles, equal to new; £85, or nearest offer.—Dawbarn, Stapylton, Harborne, Birmingbam. [9861

New Hudson.

JULIANS of Reading have all New Hudson models in stock. [0534

1914 3-speed New Hudson, fine condition; £36.—Ross, 86, High Rd., Lee. [1112

NEW HUDSON and Hazlewood Combinations; bargains, £55 each.—97, Calbourne Rd., Balham. [9166

1917 New Hudson 2-stroke, 1919 engine, condition top bole; no further use for same.—Box 4,197 c/o *The Motor Cycle*. [9520

NEW HUDSON, 4h.p., 2-speed, 1916, excellent order, bargain, £45; with smart sidecar, £65.—1, Norwood Rd., Herne Hill, S.E.24. [9254

NEW HUDSON de Luxe 1920 2¾h.p. 2-stroke, 2 speeds, little used, as new; £45, tax paid.—Eagles and Co., 275, High St., Acton, London. [9752

NEW HUDSON Canoelet Combination, 1914, 4h.p., fully equipped, tax paid, most reliable machine; £48.—53, Colonial Rd., Bordesley Green, Birmingham. [9974

1914 New Hudson Combination, clutch model, splendid condition, lamps, horn, speedometer, spare tube, tools, tax paid; bargain, 75 gns.—Fricker, Newtown, Bognor. [9330

NEW HUDSON 4h.p. Coachbuilt Combination, thoroughly overhauled, tax paid, any trial; £65, or exchange 2-seater, cash adjustment.—Crathie, Wantage Rd., Reading. [9987

1919 New Hudson and Sidecar, 4h.p., 3-speed countershaft, speedometer, wind screen, lamps, tools, excellent condition, under 2,500, tax paid, also riding suit, giving up; £110.—500, Lever Edge Lane, Bolton. [1050

NEW HUDSON Lightweights, all models, on view: Popular, 50 gns.; de luxe, 65 gns.; Ace, 75 gns. Spares for 2¼h.p., 3½h.p., and 6h.p. machines stocked. Catalogues and any information by return.—New Hudson Depot. 45, Gray's Inn Rd., Holborn, W.C.2. [8334

£35; New Hudson-Jap 2¾h.p. Motor Cycle, brand new Lucas lighting set, ditto Palmer cord tyres and tubes, just been re-enamelled and plated and engine overhauled by J.A.P.'s, tax paid; a bargain.—20, Heath Rd., Twickenham. 'Phone: Richmond 96. [1168

New Imperial.

8h.p. Imperial-Jap, unused; cost £147, accept £95.—Box 4,213, c/o *The Motor Cycle*. [1206

NEW IMPERIAL Agents.—Lightweights and spare parts in stock.—Crow Bros., Guildford. [4709

2¾h.p. New Imperial, J.A.P. engine, Albion 2-speed, lamp set, good condition; £35.—91, Mapledene Rd., Dalston, E.8. [1262

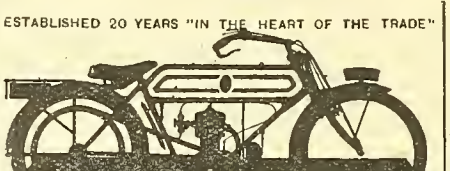
4h.p. New Imperial-Jap, 3 speeds, clutch, very fast; £45, offers.—29, Wimbledon Park Rd., Southfields, S.W.18. [9705

1921 8h.p. New Imperial Combination, only used a few times, absolutely as new; £160.—Tilleys, The Esplanade, Weymouth. [1124

NEW IMPERIAL-J.A.P., 2½h.p., 2-speed, 1914, new belt, good tyres, lamps, horn; any trial; licensed; £35.—Bide, Farnham, Surrey. [9834

1921 New Imperial Lightweight, countershaft gear, kick start, 250 miles only; £73/10.—Collier's Motories, Horton St., Halifax. [9470

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New Imperial.

BRAND New New Imperial 2¾h.p. J.A.P. mo cycle, kick starter model, hand control clut £71.—Clarke, 12, Queen St., Louth. [12

IMPERIAL-J.A.P. 2¾h.p., 2-speed, free engi lamps, horn, tools, unridden; cost £85, acc £54.—Box 4,216, c/o *The Motor Cycle*. [12

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, lam horn, tax paid, splendid condition; £40.—Se 2, Hogarth Rd., Earl's Court, London. [9

1920 2¾h.p. New Imperial, 2-speed, lamps, to new back tyre, engine perfect; nearest 57 g After 6.—North, 116, Thurlow Park Rd., W. Dulw [9

1919 New Imperial, 2¾h.p. J.A.P., sound condit 2 speeds, clutch, new tyres and tubes; £50, nearest offer.—Randles, 92, Warwick St., Victo S.W.1. [9

2¾h.p. New Imperial, 1920, 2-speed, perfectly n lighting set, all accessories, guaranteed d under 500 miles; £60.—Bishop, 35, Princes Wimbledon, S.W.19. [8

IMPERIAL-J.A.P. 1919 2¾h.p., 2-speed, K clutch, all accessories; £50; extended payme entertained.—The Layton Garages, 30, Holywell Oxford. T.A.: Integrity. 'Phone: 581. [1

NEW IMPERIAL-J.A.P., 1916 (late), 2¾h.p., speeds, clutch, kick-starter, renovated, all ac sories, etc., guaranteed condition, any trial, licen £45.—103, Bensham Grove, Thornton Heath, Croy (D) [9

NEW IMPERIAL, 1914, 2¾h.p., thoroughly o hauled, condition as new, many accessor £45, or nearest offer; seen by appointment.—'Pho Willesden 1290.—Jackson, 7, Mapesbury Rd., Bron bury. [9

NEW IMPERIAL 1920 8h.p., R.34 sidecar, as screen, all accessories and spares, tax paid, sured till March, 1922; £145, or near offer; a sporty lot.—Surgery, 3, Mitcham Rd., Tooting Bi way, S.W. [7

IMMEDIATE Delivery of any New Imperial Mo cash or deferred payments; book your order and avoid disappointment later.—Burlington Mot Ltd., South Side, Clapham Common, S.W.4. 'Pho Brixton 2417. [0

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NEW RYDER, single-geared, 2-stroke, good o £33, or near offer.—Partington, Heighing Durham. [9

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3½h.p. 3-speed 1919 Norton, engine very fast, and cast iron pistons, Senspray carburetter; £ —Below.

NORTON T.T. Model, 1917, perfect; £70, or offer.—Bert Houlding, Marks and Rigby, Ltd., 217, Lancaster Rd., Preston. [

NORTON 1921 Models.—Sole district agents, W Motors, Ltd., 60, Catherine St., Salis 'Phone: 72. [

LATE Model 3½h.p. Norton, 3-speed, equi tax paid; sacrifice 78 gns.—Ramsden, Ma Av., Blackpool. [

1921 (March) Big Four Norton, P. and H. L speedometer, Cowey horn, tax paid; £140. Old Market St., Bristol. [

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OVER 1914 3½h.p., 3-speed hub; £40; extended payments entertained.—The Layton Garage, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1147

1921 3½h.p. 3-speed Chain Drive Rover, all accessories, tax paid, mileage 500, guaranteed as new; £95.—The Premier Motor Co., Aston Rd., Birmingham. [X2725

3½h.p. Rover, 1919, Canoelet sidecar, lamps, horn, speedometer, 2 new tyres, mileage 3,000, excellent condition, tax paid; £105, or offer.—Perriman, Grove Park, Chertsey. [9282

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery; hire-purchase if desired.—Collard, Clerk's Garage, Shifnal. [2684

3½h.p. T.T. Rover, Philipson pulley, hand-controlled, 2 Klaxon horns, discs, enamel and plating as new, ebonite grips; £55.—Duncan and Shepherd, 33, The Parade, Golders Green, N.W.4. [9125

ROVER Combination, 3½h.p., 1914, most comfortable sidecar, 3-speed, clutch, adjustable pulley, recently re-enamelled, Cameo screen; £60, or exchange lighter power.—Branscombe, Ballard's Lane, Finchley. [9687

3½h.p. Rover Combination, W.D., new March, 1920, enamelled and lined, all accessories, including hood and tools, under 800 miles, tax paid; £65; selling because of ill-health, a real bargain.—Rose, 38, The Grove, Southend-on-Sea. [9790

ROVER 1914 3½h.p. 3-speed Combination, excellent condition and appearance, engine and gears recently overhauled (£14), lamps, screen, hood, new Dunlop back, tax paid, privately owned; £75, or offer.—Seen at Clarke's Garage, South St., Romford. [9126

ROVER 5-6h.p. Combination, W.D., overhauled throughout by makers Dec., 1920, bought May, 1920, original tyres, unpunctured, Easting, accumulator lighting, electric and acetylene, head lamp, perfect condition; any trial; £105.—Dr. Sleigh, Whipps Cross Hospital, Whipps Cross Rd., E.11. [9096

Royal Ruby.

ROYAL RUBY 2-stroke, good running order; £35.—Foxhound Inn, High St., Orsett, Essex. [9680

4h.p. Royal Ruby, spring frame, 2 speeds, brand new, cost £120; price £85. — Tilleys, The Esplanade, Weymouth. [1129

ROYAL Ruby 2¾h.p. 1921 Sports Models, delivery from stock.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0542

1916 2-stroke 2-speed Royal Ruby Tourist, had little use, overhauled; £38, guaranteed.—Greenfield, 2, Temperley Rd., Balham. [1030

ROYAL RUBY 2-stroke, 2-speed, clutch, sound order, tax paid; any trial; £36.—93, Hatherley Gardens, East Ham, London. [9663

ROYAL RUBY Combination, 1919, 8h.p. J.A.P., absolutely as new; any trial or expert examination; £140.—Davies, 471a, Holloway Rd., London, N. [9437

Rudge.

RUDGE Multi, 1918, semi-T.T., in perfect condition; £53.—Chard, Clarendon, Taunton. [9072

4h.p. Semi-T.T. Rudge, just overhauled, very fast, tax paid; bargain, £30.—Gale, New Rd., Ascot. [9213

RUDGE Late 1918 Combination, taxed, new condition; £68.—Clark, 7, Exhibition Rd., South Kensington. [9510

1917 Rudge Multi, good condition, lamps, very fast, tax paid; £48/10.—467, Green Lanes, Harringay, N.4. [X2740

1920 I.O.M. Rudge Multi, lamps, Klaxon, knee grips, etc., as new; £65.—2, Holford Rd., Hampstead. [9674

RUDGE Multi 1919 3½h.p., perfect, with new sidecar; £75.—Call 8-5 or appointment, 153, Hungerford Rd., N.7. [9160

1920 Rudge Multi, good condition; seen after 6.30 or Saturday afternoon; £75.—41, Cavendish Rd., Brondesbury, N.W.6. [1234

RUDGE Multi Late 1919 3½h.p., new tyres and belt, first-class condition, all on, tax paid; £65.—Albert Spicer, Leamington. [X2712

1919 (Oct.) I.O.M. Rudge Multi, tyres, inner, belt, nearly new, good condition; 60 gns.—Lawrence, 1, Arran Rd., Catford, S.E. [9174

1918 Rudge Multi, I.O.M. Model, tax paid, lamps, horn, new Oct., perfect; £70.—Parker, Station Rd., Sawtry, Hunts. 'Phone: 15. [9243

1920 5-6h.p. Rudge de Luxe Combination, Tan-Sad, Easting, electric light; cost £180, bargain, £98. Ettrani, Laundry, Broadstairs. [9140

4h.p. Speed Model Rudge Multi, equipped, new tyres and belt, 2¾ to 1 top gear; £57.—Bishop, Irwin-Fernbank Rd., Ascot, Berks. [9487

RUDGE Multi 3½h.p., sloping tank, roadster, with pedal starter, in stock; £85.—Peacock, 219, High Rd., Balham. 'Phone: Streatham 170. [1192

RUDGE MULTI, 1917, with 1920 sidecar, smart appearance, all accessories, ready for road; £70, Gunn.—35, Freegrove Rd., Holloway, N. [9968



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NEW IMPERIAL, 2½ h.p., 2-sp., kick-st.	85 gns.	
SCOTT Combination	£170	0
SCOTT, new Squirrel model	£130	0
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TRIUMPH, chain drive, and Sidecar .	£150	0
B.S.A. twin Combination	£175	0
B.S.A. 4½ h.p. all-chain Combination ..	£152	10
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SUNBEAM, 3½ h.p., sports model	£155	8
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***DOUGLAS** 4 h.p. Combination	£170	0

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HARLEY 1920 Combination, electric .	£180	0
HARLEY, 1916, & s/car, very smart	£105	0
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INDIAN, ditto, wants slight attention	£50	0
BRADBURY, 3½ h.p., 3-speed, Sidecar	£75	0
RUDGE, 5-6 h.p., Multi-Rudge Sidecar	£65	0
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RUDGE Multi, late 1920, in perfect condition, not done 500 miles, with lamps, etc.; £70; owner buying car.—J. H. Bailey, Roade, Northampton. [X2628

3½h.p. Rudge Multi, 1913-14, hand clutch, new cylinder and piston, lamps, Cowey, fast and reliable; £35.—22, Whitehorse Rd., Croydon. [1032

RUDGE Multi 3½h.p., sloping tank roadster, pedal start; immediate delivery, straight from works; £85.—Telford Garage, 47, Streatham Hill, S.W.2. [9536

3½h.p. Rudge Multi Combination, all on, tax paid, new Binks carburetter, good appearance and sound; £58.—Swift, 6, St. Thomas St., Scarborough. [9378

1921 Rudge Multi in stock for immediate delivery; £85; T.T. bars; delivered free by road or rail.—Forfield Motors, Forfield Place, Leamington Spa. [X2808

1916 5-6h.p. Rudge Multi Combination, Mills-Fulford sidecar, excellent order, complete with lamps, horn, and tools, tax paid; £65.—Brown and Moffat, Snettisham. [9132a

1920 (late I.O.M. Rudge, very small mileage, perfect condition, as new throughout, 57 m.p.h., 95 m.p.g., licence paid, all on; £72/10.—Brown, 9, Sheep St., Bicester, Oxon. [1123

RUDGE Multi 3½h.p., purchased new Oct., 1920, mileage 1,000, licensed, speedometer, electric light, horn, in perfect condition; £68.—Gardner, 67, Coleraine Rd., Blackheath, London. [9362

RUDGE Multi 3½h.p., T.T., pedal starter, brand new; immediate delivery from stock at makers' latest reduced price, £85; no waiting.—Wilkins, Simpson, opposite Olympia, London. [1174

1916 3½h.p. T.T. Rudge Multi, handle-bar clutch, kick-starter, speedometer, C.A.V., Sensprov, lamps, accessories, licence, new condition; £60; 2¾h.p. Douglas part.—63, Solon Rd., Brixton. [1072

RUDGE Multi Twin 1920 7-9h.p., Klaxon, mileage 250 only, cost £150; £97/10; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 681. [1140

RUDGE Multi, late 1920, I.O.M., 3½h.p., T.T., knee grips, long copper exhaust, speedometer, spare belt and case, tools, etc., excellent condition and appearance; £65, or near offer.—Yarnold, Huntingdon. [9921

3½h.p. Rudge Multi, late model, overhauled, clutch, kick start, back tyre unpunctured, long copper exhaust, splendid order, spares, belt, horn, tax paid; £55; before 7 p.m.—48a, Hawley Rd., Kentish Town, N.W.1. [8479

£55.—1914-15 Rudge Multi combination, 3½h.p., clutch, starter, luxurious coachbuilt sidecar, lamps, horn, tax paid, tank re-enamelled, good Dunlops, really decent outfit; any trial.—88, Brook Green, Hammersmith. [9725

RUDGE Multi 3½h.p., just received from makers, specially finished model, Tan-Sad, horn, Watford, tools, overalls, gloves, goggles, numerous spares, licence paid; £75.—Oakman, 41, Spurling Rd., Bruce Grove, Tottenham, N. [9440

1920 5-6h.p. Rudge Multi, fully equipped, original tyres, everything equal to new, tax paid, with two sidecars, interchangeable, one sporting canoelet, other tradesman; £115, or sell separate.—128, London Rd., King's Lynn. [9417

Scott.

SCOTT Combination, Binks, tax paid; £65; splendid condition.—Turk, Jeweller, Northfleet, Kent. [9712

£40.—1914 Scott combination, complete, good condition.—25, Temple Rd., South Ealing, W.5. [9397

SCOTT 3¾h.p., 1921, from stock, £130; or with Watsoniac sidecar, £152/10.—Gibb, Gloucester. [0445

SCOTT, late 1918, in good order, ready for road; £50 cash, or nearest cash offer.—8, Pencester Rd., Dover. [9902

SCOTT, 1920, accessories, good condition; £85.—Johnson, Parkhurst Cottages, Mealt Green, Horley, Surrey. [1053

F.O.C.H. Have Several Scotts, solos and combinations; bargains.—5, Heath St., Hampstead (near Hampstead Tube Station). [9527

SCOTT 1914 Combination, canoelet sidecar, splendid condition, numerous spares; £90, or offer.—Elwes, Woolbeding, Midhurst. [9249

ADVERTISER Will Sacrifice Brand New Scott, just delivered, unpacked, Squirrel Model, for £115.—Box 619, c/o *The Motor Cycle*. [X2546a

1919 Scott Combination, small mileage, spares, lamps, horn, good condition, tax paid; bargain, £100.—Staite, Radford, Leamington. [X2538

SCOTT, 1920, semi-T.T., mileage under 500, unpunctured tyres, excellent condition; best offers around £90.—36, New End Sq., Hampstead, N.W. [9447

SCOTT 3¾h.p., standard model, May, 1920, under 1,000 miles, Miller, Binks, Palmers, perfect; bargain, £102.—12, Leaside Av., Muswell Hill, N.10. [1269

SCOTT 1920 Combination, first-class condition, done about 1,100, Easting screen, licence paid; £135.—Squadron Leader Havers, Milton Camp, Steventon, Berks. [9851

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SCOTT, 1920, mileage only 1,000, tyres unpunctured, perfect running order, Binks, lamps, horn, and speedometer; best offer over £100.—13, Clifton Crescent, Folkestone. [9555

SCOTT and Sidecar, November, 1919, Binks, Klaxon, speedometer, new tyres, equipment, licensed, perfect, delivered; £105.—Thorpe, Castle Boulevard, Nottingham. [9393

SACRIFICE.—Just delivered, new Scott, standard model; owner must realise, and is prepared to accept £100; cost £116; never ridden.—Box 620, c/o *The Motor Cycle*. [X2546

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SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4 'Phone: Brixton 2417. [0510

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1921 Weatherby Scout, 3h.p., 2-speed, 2-stroke, as new; £65; cost £78.—C., Roslyn, Nertherby Rd., S.E.23. [9209

Singer.

SINGER 1914 T.T., 2½h.p., 2-speed Albion, Brampton forks, fast; £25.—Shaw, Park St., Wellington, Salop. [X2707

2½h.p. Singer, free engine and clutch, good condition, tax paid; £28.—Olphert, 66, Church Rd., Barnes, S.W. [9649

McINTOSH'S Racing Singer, 275 c.c., capable of over 60 miles per hour, 2-speed gear; £45.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. Hampstead 2767. [0609

Sparkbrook.

SPARKBROOK, delivered March, 1920, 2-speed, as new, lamps, horn, licence; £52.—Field, Church St., Wolverton, Bucks. [9673

SPARKBROOK, 1918, 2¾h.p. Villiers 2-stroke, 2-speed, all accessories, tax paid, in perfect condition.—Bryant, Diplocks, Hailsham, Sussex. [9699

SPARKBROOK, 1918, Villiers 2¾h.p., chain-cum-belt, lamps and spares, perfect running order; price £40.—E. Holmes, 9, King Edward Rd., Oxbey, Watford. [9783

1921 2½h.p. Sparkbrook 2-stroke, the ideal lightweight, at an ideal price, new; £64. — The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W. [9822

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1917 Sun-Villiers, 2-speed, new tyres, belt, and lamps, horn, splendid condition, ready for tour; £35.—89, East Hill, Wandsworth. [9958

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Sunbeam.

SUNBEAM Latest Special Light T.T. and Standard Models in stock.—Moss, Wem. [X2752

SUNBEAMS.—Early delivery of any model; cash or exchange.—Bunting, Wealdstone. [1017

E. KICKHAM for Sunbeam, sole agent for Bristol and district.—Stokes Croft, Bristol. [3352

SUNBEAM 8h.p., hood, screen, spare wheel, Lucas dynamo; £150.—Wilson, Long Ditton Rectory, Surbiton. [9210

LATE 1920 8h.p. Sunbeam de Luxe Combination, lavisbly equipped; £170.—60, Wallingford Av., N. Kensington. [9729

1915 6h.p. Sunbeam Combination, equipped, tax paid; must sell, first 85 gns.—Ramsdeo, Maybell Av., Blackpool. [9403

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3½h.p. Sunbeam, new 1921, just delivered; price £155/8; easy terms. [1184

1921 3½h.p. Sunbeam Touring Model, F.R.S. lighting, Lucas horn, guaranteed as new; £145.—Burnett, Rowsley, Derbyshire. [9670

1921 8h.p. Sunbeam Combination, run about 300 miles, noscratched, horn, liceace; £225.—Tilleys, The Esplanade, Weymouth. [1125

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

1919 8h.p. Sunbeam Combination, dynamo lighting, spare wheel, screen, horn, speedometer, licence; £180.—Tilleys, The Esplanade, Weymouth. [1126

SUNBEAM Late 1919 3½h.p., legshields and apron, Millford sidecar, Easting screen, excellent condition; £140.—16, Ranulf Rd Hampstead, N.W.2. [1267

SUNBEAM 3½h.p., 1914, new heavy Dunlops, all accessories, tax paid up to December, seen any time; £88.—27, Corsehill St., Streatham, S.W. [9348

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SUNBEAM 8h.p. Combination, 1919, complete feet condition; £145.—Sander's Garage, Rich Rd., East Twickenham. 'Phone: 1282 Richmond.

SUNBEAM Combination, 1919, countershaft, drive, accessories, new condition; 105 gns.; Triumph part exchange.—Highgrove, Swallow Reading.

SUNBEAM 8h.p. Combination, 1920 model, lighting set, spare wheel, speedometer, horn excellent condition; £220.—Robins and Day, Rochester.

SUNBEAM 1915 3½h.p. Model, with sidecar, plete with all accessories, excellent cond £110.—Parker's, Bradshawgate, Bolton; also 245, gate, Manchester.

1920 3½h.p. Sunbeam, with nicely built sidecar plete with horn and lamps, condition eq new; price £160; illness reason for selling.—H West Hamthree, Bristol.

SUNBEAM 3½h.p. Combination, as new, 1920, low mileage, 3-speed, kick starter, electric lighting, tax paid; £175.—Nichol, 1, H Place, Earl's Court, S.W.5.

SUNBEAM 3½h.p. Late 1919 Combination, n sidecar, speedometer, all new Michelins, equipment, perfect order; 145 gns.—Geary, B Garage, 65, Queen's Rd., St. John's Wood.

1920 (Aug.) 3½h.p. Sunbeam, latest Sunbeam car, all wheels interchangeable, Sunbeam apron, leg shields, Lucas accessories, carefully Offers to Wrixon, 41, Richmond Park Rd., S.W.

3½h.p. Late W.D. Sunbeam, renovated throu disc wheels, with Swan sporting sidecar, cessories, new tyres, mudshields, tax paid, perfe dition; £125, or offers.—Seen, Wolfe Garage, W ham.

3½h.p. Sunbeam Combination, 1914-15, stored ing war, in splendid condition and appea lamps, horn, speedometer, Easting screen, licence paid; 90 gns.—Green, Queen's Parade, bridge.

1920 3½h.p. Sunbeam Combination, Lucas speedometer, spares, perfect running buying car; particulars and trial on applic nearest to £150.—Powell, 28, Stafford Terrace, sington, London.

SUNBEAM 1916 3½h.p. and Skiff Sidecar, lamp set, horn, mirror, speedometer, scre sidecar, licence paid, guaranteed mechanically and good appearance; £105.—Herbert Robinson, 32-35, Green St., Cambridge. Tel.: 995. Bicycles.

SUNBEAM 1915 3½h.p. and Henderson F weight sidecar, 1920, all accessories, perfe dition, just overhauled by makers, overalls in stored during war, only done 3,000 miles; speed owner proceeding abroad; £110, or offer.—261, wich Rd., Crewe.

LATE 1920 3½h.p. T.T. Sunbeam, under 300 new condition, laminated spring fork, leg s Cowey horn, 3-jet Binks, P. and H. lighting, Bonniksen speedometer, interchangeable wheels Dunlops, insured; price £140.—E.B., 5, Su Villas, Grove Rd., Mitcham, Surrey.

1919 8h.p. Sunbeam Combination, fully eq with Lucas lamps, 2 D.A. cylinders, spare Bluemel's wind screen, Klaxon horn, Watford meter, handle-bar muffs, all tyres nearly new, new size outer cover, just been re-enamelled and and overhauled by makers; price £205.—Box c/o *The Motor Cycle*.

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TORPEDO Precision, 1914, 4h.p.; cheap; sidecar if desired.—Thompson, 32, Clarendon Kentish Town.

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918 Triumph Combination; £85.—59, Palirey Place, Dorset Rd., Clapham Rd., S.W.8. [9654

AN GUY, Weymouth.—1921 Triumph combination, £182/10· Triumph 2-stroke, £75; in stock. [0555

919 Triumph, not W.D., countershaft 3-speed, K.S., nearly new; £85.—19, Streatley Rd., Brondesbury. [9183

RIUMPH 3½h.p., fixed engine, all on, any trial, ride away; £28.—4, Abinger Rd., Bedford Park, W.4. [9468

RAND New Model H 3-speed Countershaft Triumph; £105.—Clarke, 12, Queen St., Louth. [1226

918 Triumph Countershaft, fully equipped, perfect condition; £67/10.—1, Othello St., Licerpool. [9543

919 Triumph Countershaft, excellent; offers.—A.C.U. Consul, 1, St. John's Rd., Oxford. [X2812

RIUMPH 4h.p. Combination, in splendid condition, all on, tax paid; offer.—28, Cromwell Grove, W.6. [9624

RIUMPH Combination, nice turnout; £65, or deferred payments.—24, Clovelly Rd., Hornsey. [9847

920 Triumph-Gloria Combination, new condition, spares, tax paid; £129.—69, Falcon Rd., Batter- [2377

917 Countershaft Triumph, reconditioned, as new, fully equipped; any trial; £65.—4, Queen's s, Windsor. [9501

RIUMPH 1912 3½h.p., thoroughly overhauled, tax paid; £45, or nearest.—Springfield, Pinner View, ow. [1086

RIUMPH, selected, overhauled, late W.D. models; £62; only few left.—Clark, 7, Exhibition Rd., South ington. [9515

RIUMPH 1913 3½h.p., clutch, sports model, dropped frame, tax paid; £34; quick sale.—1, Priory Rd., Green. [9635

RIUMPH, 3 speeds, clutch, tax paid, good order; £47; with 4-point C.B. sidecar, £57.—102, Kenyon Fulham. [9952

RIUMPH Combination, 4h.p., 3-speed, countershaft, clutch, bulbous sidecar, perfect; £85.—179, Brix- Rd., S.W.9. [2739

18 Triumph, countershaft, splendid condition, as new, tax paid; £69.—37, Canterbury Rd., on, London. [1253

19 Triumph, Model H, completely equipped, excellent condition, licensed; £90.—Rankin, Moul- Chelmsford. [9188

RIUMPH 3½h.p., perfect condition, disc wheels, accessories, licensed; £37/10.—13, Roua Rd., pstead, N.W. [1007

RIUMPH 1920, 3 speeds, speedometer, Tan-Sad, spring footboards, lamps, etc., perfect; £85.—40, ee Rd., W.14. [9480

p. Triumph Countershaft Combination, engine 5702, tax paid; £100.—Marrell, Godstone Rd., ham Valley. [9716

20 Triumph Combination, everything complete; genuine bargain, 105 gns.—Fersfield, Westbury New Malden. [9629

20 Triumph Combination, all on, Cameo screen, perfect; £125; tax paid.—104, High St., ramstow, E.17. [1285

RIUMPH 3½h.p., 3-speed, new Dunlops, lamps, licensed, excellent condition; £45.—65, Sophia Leyton, E.10. [9690

14 4h.p. Triumph, lamps, horn, aluminium discs, in good running order; £42.—53, Southerton Hammersmith. [9678

20 Triumph and Sidecar, practically brand new, electric lamps, horn, Easting, etc., tax paid; £130. Brixton Hill. [9880

RIUMPH 4h.p., 1920, with B.S.A. sidecar, excellent condition, little used, tax paid; £130.—11, Frank- Rd., Herne Hill. [9291

18 Countershaft Triumphs, reconditioned; from £58; combinations from £75.—60, Wallingford N. Kensington. [9733

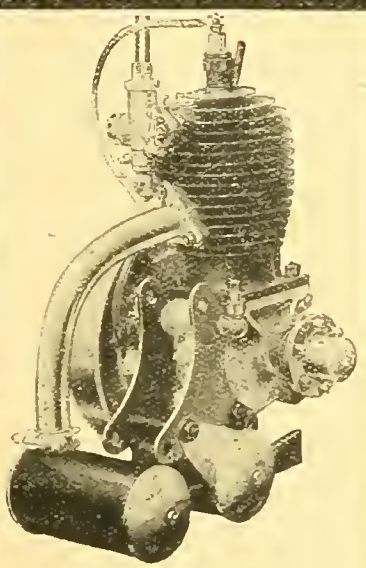
RIUMPH, 1917-18, lamps, Klaxon, excellent condition; 60 gns.—446, Rotherhithe New Rd., Bridge, S.E.16. [1246

RIUMPH, late 1920, speedometer, lamps, horn, Tan-Sad, licence paid; £95, or nearest offer.—nder, Filey, Yorks. [8726

RIUMPH 3½h.p., Grado gear, lamps, tax paid, splendid condition and running order; £50.—, School, Axminster. [9197

RIUMPH 3½h.p. T.T. Model, fully equipped, exceptionally fast, tax paid; £36.—Marks, 121, Lane, Chiswick, W.4. [1104

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TRIUMPH, renovated, just overhauled, fast, good tyres, belt, adjustable pulley; £35, nearest.—59, Ivy Rd., Cricklewood, N.W. [9448

1921 Triumph (April), not done 100 miles, guaranteed perfect, Tan-sad, licensed; £100.—Aldersley, Barnoldswick, Yorks. [9640

TRIUMPH 1920 4h.p., 3 speeds, clutch, countershaft, indistinguishable from new; £95.—35, St. Clements Mansions, Lillie Rd., Fulham. [9092

TRIUMPH 4h.p., 1916-17, 3 speeds, countershaft, new tyres, guaranteed good condition throughout; £68.—Rose's Garage, Uxbridge. [9496

TRIUMPH Junior, 1921, everything as new, mileage about 200, lamp set, tax paid; £68.—Morgan, Kingston Blount, Wallingford. [9154

TRIUMPH, renovated by makers, new gear box, engine, carburetter, mag., tyres, etc.; £95; fully guaranteed.—114, Brixton Hill. [9382

BRAND New Countershaft Triumph, latest model, unused; accept £108.—James, 15, Warwick Court, Holborn. 'Phone: Central 4733. [9093

TRIUMPH, chain and belt models; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [9893

1920 Late Triumph and Swan Sporting Sidecar, fully-equipped; £120.—48, Warlock Rd., Paddington. Tel.: Willesden 1744. [1305

1918 Triumph 4h.p. Solo or Combination, like new, all accessories and spares; any reasonable offer. —282, South Lambeth Rd., S.W.8. [9704

TRIUMPH Junior, 1920, as new, Lucas lamps, horn, legshields, accessories, licensed; £65.—Brown, Stoke Mandeville, Aylesbury, Bucks. [9622

TRIUMPH, Model H, mileage 700, unscratched, carefully run in, Klaxon, £6 worth spares; £110.—Stone, West Wycombe, Bucks. [9696

TRIUMPH, 1918, 4h.p., countershaft, enamel, plating, and mechanical condition splendid; £75. —30, Crystal Palace Park Rd., Sydenham. [9941

4h.p. Triumph Coachbuilt Combination, 3-speed, clutch, Bosch, Binks, perfect condition; £60, near offer.—St. Olaves, Eastworth Rd., Chertsey. [1098

TRIUMPH Combination, 1914, 4h.p., 3 speeds, engine recently overhauled by makers, lamps, etc.; 55 gns.—55, Edgar Rd., Sanderstead, Surrey. [9105

55 GNS.—1920 Triumph Junior, mechanically perfect, appearance like new, done 1,000, lamps, licence.—Annis, 61, Woodstock Rd., Oxford. [1011

F.O.C.H. are Triumph Agents.—Combinations and solos, new and second-hand, in stock.—5, Heath St., Hampstead (near Hampstead Tube Station). [8809

W. WHITBY and Son have one only new 1920 4 h.p. Triumph, £106; also 1921 models, £115. —7, The Vale, Acton. 'Phone: Chiswick 1513. [1056

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TRIUMPH Junior, as new, delivered April 24th, not run 30 miles, owner decided use car instead, tax paid, horn; £65.—Captain Cunard, Faringdon, Berks. [9038

TRIUMPH 3½h.p., 3-speed, clutch, 1914, lamps, perfect, £50; also 1912 Triumph single 3½h.p., £28; must sell.—Hadfield, Dentist, East Grinstead. [9193

1916 C.S. Triumph C.B. Combination, Canoelet sidecar, lamps, tax paid; trial; £75; will separate. —Mitchell, Beacon, Chelwood Gate, East Grinstead. [9187

1920 Triumph, Model H, chain-cum-belt drive, new, slightly shop-soiled; what offers?—Mortons, 19, Highbury Place, N.5. 9 to 6.30; Saturdays 9 to 1. [9612

TRIUMPH and Sidecar, 1919, 4h.p., 3-speed, clutch, kick start, accessories, practically as new; £115, or offer.—769, Romford Rd., Manor Park, London, E. [9560

49 GNS.—1914 Triumph and sidecar, 3-speed hub, clutch, Bosch, Lucas lamp, horn, beautiful condition; bargain.—56, Upper Park Rd., Hampstead. [9561

1918 4h.p. 3-speed Countershaft Triumph, lamps, horn, etc., excellent running order and condition; £65.—436, Whitehorse Rd., Thornton Heath, S.E. [1027

1918 Countershaft Triumph, excellent condition, exceptionally fine engine; £72.—72, Longbridge Rd., Earls Court, London. 'Phone: Western 1344. [9094

TRIUMPH, 1918, countershaft, lamps, tax paid, in perfect condition and tune; £65.—'Phone: Waltham Cross 299.—Queen's Head, Waltham Abbey. [9685

TRIUMPH 1912, 2-speed, free engine, wicker sidecar, all accessories, tax paid, perfect running order; £40.—Owen, 59, Scholefield Rd., Upper Holloway. [X2821

T.T. 3-speed Triumph, late 1914, condition as new, new heal lamp, horn, etc., any trial; 60 gns., or near offer.—P., 5, Bentinck Mews, Marylebone Lane, W.1. [9535

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TRIUMPH 1918 Combination, 4h.p., countershaft, lamps, horn, spare belt, wind screen, good condition; £85; after 3 p.m.—1, Norgrove St., Balham (nr. Station). [9717

TRIUMPH 4h.p. Countershaft, 3-speed, kick start, all on, many accessories, motoring suit, tax paid, any trial £70, offer.—Crew, 363, Holmesdale Rd., South Norwood. [1026

1920 Montgomery Triumph Combination, new condition, speedometer, grid, lamp set (unused), spares, tools, etc.; £110, or nearest.—15, Birkhall Rd., Catford, S.E. [9151

60 GNS.; 1914 4h.p. Triumph, 3-speed S.A. combination, perfect mechanical order, lamps, horn, etc., any trial.—Newman, 1, Old South Lambeth Rd., S.W.8. [1223

1912 Triumph, new cylinder and piston, clutch, Philipson, Bosch, Stewart horn, in perfect running order; £33.—Harris, 58, Hanover Gardens, Kennington, S.E. [1290

1912 3½h.p. Triumph, 1919 Watsonian sidecar, 2-speed N.S.U., clutch, electric lighting, good tyres, ride away; £45, less sidecar £37.—83, Sinclair Rd., Hammersmith. [9615

TRIUMPH 1914 3½h.p., 3-speed hub, wicker sidecar, speedometer, lamps, pump, horn, tools, spares, tax paid; £60, or near offer; after 6.30 p.m.—20, Roschill Rd., Wandsworth, S.W.18. [9676

1914 Triumph, Gloria sidecar, just overhauled by makers, speedometer, all accessories, 3-speed, splendid condition; £70.—Mayer, 584, Mansion House Chambers, E.C. [9235

1913 3½h.p. T.T. Triumph, re-enamelled and plated, engine rebushed, licence paid; ride 30 miles to purchaser; £35, or nearest offer.—Scotts, Gayton, Blisworth, Northants. [9138

TRIUMPH, late 1914, 3-speed, reconditioned by Triumph Co., C.B. sidecar, wind screen, electric lighting, tax paid, any trial; 80 gns.—5, Bentinck Mews, Marylebone Lane, W.1. [9536

TRIUMPH Combination, 4h.p., countershaft gear, overhauled, enamelled and plated, guaranteed mechanically perfect; bargain, £90.—Davies, 471a, Holloway Rd., London, N. [9438

EXCEPTIONAL Bargain.—1921 renovated Triumph, 4h.p.; cost over £100 recently; registered and fully equipped; 77 gns.; financial difficulties.—4, Elm Gardens, Hammersmith. [9150

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1920 T.T. Triumph, excellent condition, Lucas equipment, spare valves, etc., tax paid, £85; also Cowey speedometer (£6) for £5.—Sutherland Haremoss Terrace, Airdrie. [9117

TRIUMPH Combination, electric lamps, wind screen, just overhauled and repainted, excellent condition, only wants seeing; £75, or would separate.—6, Rectory Grove, Clapham. [9777

60 GNS.—1917 Countershaft Triumph combination, smart C.B. car, Cameo screen, hood, electric light, tax paid, fast, condition good.—71, Tulse Hill, S.W. 'Phone: Brixton 484. [9171

4h.p. Countershaft Triumph Combination, 1916, guaranteed in perfect mechanical condition, excellent appearance, lamps, horn, tools; £80.—Langford's, 37, Cricklewood Broadway, N.W.2. [9274

LATE Triumph Combination, Easting, speedometer, legshields, picnic box, nicely equipped, must sell, 82 gns.; 1920 Baby Triumph as new, 48 gns.—67, Fernley Rd., Balham; evenings. [1076

TRIUMPH, 4h.p., 3-speed, with sidecar, excellent condition, £88; another, £82; solo, £67 and £65.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [9897

TRIUMPH, 3½h.p., clutch, kick start, 1920 Montgomery sidecar, screen, apron, hood, all on, tax paid; £60, or offer; trial by appointment or after 7.—23, Gladesmore Rd., Stamford Hill. [9596

1918 Triumph, fitted lamps, horn, reconditioned, and in perfect mechanical condition; £60, or fitted new Sandom 18 gn. sidecar £78.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. [8924

TRIUMPH 1919 Combination, thoroughly overhauled this year and in splendid condition, like new, bulbous back sidecar, roomy and comfortable; £100; this is cheap.—Cox, 38, Vanston Place, Walham Green. [9176

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TRIUMPH 4h.p., late 1917, 3-speed, countersh[aft], clutch, and kick starter, with new Canc[ar] sidecar; 80 gns.—Smith's, 86, Chalk Farm [Rd.], opposite Chalk Farm Tube Station. Hampstead 2[7] [0

TRIUMPH 4h.p., late 1917, engine 50991, 3-sp[eed] countershaft, clutch, and kick starter, perf[ect] any trial; 58 gns.—Smith's, 86, Chalk Farm [Rd.], opposite Chalk Farm Tube Station. Hampstead 2[7] [0

TRIUMPH Gloria Combination, 1920, S.A. 3-s[peed] gear box, lamps, horn, etc., complete outfit first-class condition throughout, fully guaranteed; [price] £125, or sell solo £95.—33, Hackford Rd., Brix[ton] S.W.9. [1

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VELOCETTE 1920 (Sept.), 2-speed, splendid con[dition] what offers?—Lewis, Union Bank, Winsfor[d]

VELOCETTE, nearly new, splendid running, 2[50] 70 Aero plugs; £40.—92, Savernake Rd., [Kentish] Town.

VELOCETTE 2¼h.p., good running order; [offers] £25.—Rudge, Brantwood, Great Saukey, W[arr]ton.

IMMEDIATE Delivery can be given of the [new] Velocette, 1921 model, 2¼h.p., 2-speed, al[l] drive; £75. — Agents, W. Sparrow, Ltd., O[ld] Garage, Yeovil.

Verus.

1920 Verus-Blackburne, disc wheels, lamps, [etc.] ridden 250; bargain, £82.—Shepherd, [Rose] Highway. Tel.: Waltham Cross 31.

VERUS-BLACKBURNE 2¾h.p., 2-speed, kick [start] brand new, tax paid; £75, near offer; own[er] Turner, 95, Richmond Rd., Twickenham.

VERUS-BLACKBURNE 1920, 4h.p., K.S., [3-sp]Sidecar Combination; about £100; will s[ell] —Write, 38, York Mansions, Battersea Park, [S.W.] Ealing 689.

MOTOR CYCLES FOR SALE.

Verus.

VERUS, 2½h.p., 2-speed, clutch and kick start, 1920 model; £57/10; exchange for good combination with cash.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [9895

IMMEDIATE Delivery of any Verus Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0502

Villiers.

2¾h.p. Villiers Dreadnought, 2-speed, modern, little used, good tyres; £32/10.—Shaw, Park St., Wellington, Salop. [X2710

Wilkin.

1921 4h.p. Wilkin, brand new, unused, £96, listed £130; another 4h.p. demonstration model, indistinguishable from new, £89.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. [1132

Williamson.

WILLIAMSON Combination, 8h.p. water-cooled, recently overhauled, complete with all accessories; 70 gns.; exchange solo and cash, or lower power combination.—35, High St., Dartford. [9113

WILLIAMSON 8h.p., air-cooled, new 3-speed countershaft gear, Binks, Brooks pan, Cuncelet sidecar, screen, hood, accumulator, 3 electric lamps, speedometer, watch, licence and insurance paid; price £75.—Burton, 1, Queen St., Hammersmith. [9878

WILLIAMSON 8h.p. Water-cooled Combination for sale, Douglas engine, Bosch mag., 2-speed and K.E., electric lighting, in perfect order, very fast; 98 complete, or nearest reasonable offer, for quick sale; can be seen by appointment.—1, Kynance Place, Gloucester Rd., S.W.7. 'Phone: Western 4491. [9603

Wolf.

WOLF, 2-speed, countershaft; £25.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [9659

WOLF 2¾h.p. J.A.P., 1920, 2-speed, shop-soiled only; £40, bargain.—Sander's Garage, Richmond Rd., East Twickenham. 'Phone: 1282 Richmond. [9759

WOLF-J.A.P. 2¾h.p., 2-speed countershaft, horn, lamps, generator, tyres nearly new; bargain, £36.—Phillips, 138, Manor Park Rd., Harlesden, N.W.10. [9419

WOLF.—Sole agents for London, South of Thames and district. We are now fixing sub-agencies and invite enquiries.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4 'Phone: Brixton 2417. [0503

Wooler.

WOOLER 1921 Touring, new, speedometer, lamps, accessories, tax paid; £90.—Bristow, Windham Rd., Camberwell. [9294

1920 Wooler, fully equipped, excellent condition; £70; exchanges entertained.—61, Jephson Rd., Forest Gate, E.7. [9634

1920 Wooler, sports model, speedometer, horn, lamps complete, variable gear, fast; bargain, £80.—Lillie, 4, Victoria St., Cambridge. [9165

35 GNS.—1920 Wooler flat twin, brand new condition, lamps, Tan-Sad, etc.—Hardy, 8, Breams Buildings, Chancery Lane, London. Holborn 4752. [9701

1920 (Middle) Wooler, splendid condition, lamps, horn, tools, licence, low mileage, owner getting combination; best offer over £60.—'Phone: Winslow Creamery, Bucks. [9346

1920 Wooler, 2¾h.p., flat twin, all on, spares, mechanically perfect, insured £95, excellent condition; £55, genuine bargain.—Burgin, 50, Onslow Rd., Endcliffe, Sheffield. [9846

Zenith.

JULIANS of Reading have Zenith 1921 5h.p. in stock. [0482

DAN GUY, Weymouth.—Zenith agent, early delivery all models. [0556

ZENITH Twin, 4-5h.p., excellent condition, tax paid; £60.—26, York Rd., Woking. [9934

ZENITH Motors, Ltd., Hampton Court.—1920 shop-soiled 8h.p. models, from £108. [9215

VAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8h.p. Zenith and sidecar, 1914; £60. [1181

1920 New Zenith, 8h.p., Model H, and sidecar; £180.—Meldrum, Esplanade, Dundee. [8730

1916 4h.p. Zenith Combination, splendid condition; £55.—44, Whyteville Rd., Forest Gate. [1070

1914 Special 6h.p. Zenith, C.S. gear, £65; also 1915 5h.p., £63.—Ross, 86, High Rd., Lee. [1116

1920 (Aug.) 5h.p. Zenith, lamps, discs, licence paid; £85.—157, Queen's Crescent, Haverstock Hill, W.5. [9152

ZENITH, 3½h.p., overhauled, perfect, T.T. bars, Terry links; offers.—38, Sherriff Rd., West Hampstead, N.W.6. [9644

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ZENITH 3½h.p., Gradua gears, lamps, believed 1915; £45; exchange 2-stroke and cash.—23, Jupiter Terrace, Well Hall, S.E.9. [9718

ZENITH 8h.p. 1920 Combination, lamps, horn, Cameo, excellent condition, tax paid; £130.—121, North Side, Clapham Common, S.W. [9368

ZENITH 1914 5-6h.p. Combination, Canoelet, lamps, fast, perfect condition.—Parsons, 1, St. Nicholas Rd., Balham. Tel.: 1525 Battersea. [9189

1920 8h.p. Countershaft Zenith Combination, speedometer, electric lighting; £145; lightweight part.—17, Garden Av., Mitcham, S.W. [9935

£55.—1917 4h.p. Zenith, mileage negligible, perfect condition, private owner, lighting set, tools, etc.; must be sold.—30, Legard Rd., Highbury, N.5. [9070

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1920 8h.p. Zenith, Swan sidecar, disc wheels, beautiful condition, scarcely used; cost £220, accept £155.—12, Birchwood Mansions, Muswell Hill, N.10. [9071

ZENITH-GRADUA 1913 3½h.p.; £30; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1143

ZENITH GRADUA Coachbuilt Combination, believed 1914, perfect order, tax paid; £50; exchange lightweight and cash.—Dunkley, Brackley, Northamptonshire. [9129

ZENITH-GRADUA, 3½-4h.p. J.A.P. engine, good tyres, P. and H. lamps, semi-T.T. bars, believed 1913; £37. — Weypools, Longdon, Tewkesbury, Gloucester. [9948

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ZENITH 1921 5h.p. Sports Model, new; £123; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone 581. [1165

ZENITH Sports 1920 8h.p., shop-soiled only; £108; extended payments entertained.—The Layton Garages, 30, Holywell St., Oxford. T.A.: Integrity. 'Phone: 581. [1152

5-6h.p. Zenith Combination, recently overhauled, re-enamelled and plated, excellent running order; £60.—Apply, 29, Elmcroft Crescent, Golders Green, N.W.11. [9586

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ZENITH 1921 8h.p. Outfit, just delivered, special sprung rear seat, etc., lighting and horn, twin filament head lamp, licensed; cost £209, accept £192. —252, St. Ann's Rd., Tottenham. [1029

1920 8h.p. Zenith, clutch, kick starter combination, as new, mileage under 1,500, every conceivable necessary and spares; cost £240; any trials; no reasonable offer refused.—Box 4,212, c/o *The Motor Cycle*. [1043

ZENITH 1920 6h.p. Sporting Combination, Lucas head, rear, and sidecar lamps, Cowey speedometer, knee-grips, Ace disc wheels, luggage grid, equal to new; £160.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2683

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1920 Zenith Model H Combination, Bonniksen, electric lighting, horn, wind screen, oversize tyres, discs, special sidecar, springs and toolbox, luggage grid and spares; best offer.—Robinson, Stonyhurst, Woodlands Drive, Harrogate. [9318

1921 8h.p. Zenith Countershaft Combination, Lucas, D.A., Royal Easting, sprung grid, 28×3, enclosed chain, etc., 1,800 miles, guaranteed perfect and almost new; £175.—Silverlea, Farnborough Rd., Farnborough, Hants. [9395

8h.p. 1919 Sports Zenith, and Swan sporting side car, a really fast machine in beautiful condition, electric lighting, Ace discs, Bonniksen, cup and medal winner, owner buying car; £135, or offer.—Jarvis and Sons, Ltd., Victoria Crescent, Wimbledon. [7763

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THE Zenith Service Depot at 89, Wigmore St., is in a position to supply new 1920 models at greatly reduced prices, and, although the Whitsun holidays have greatly reduced our stock, we have still 1 or 2 machines left for immediate delivery.

8h.p. and 6h.p. Countershaft Models, with kick starter and clutch, price £116; 8h.p. and 6h.p. standard models, £110; 5h.p. sporting model, £96.

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SECOND-HAND, privately-owned machines for sale at reasonable prices, all of which have been examined before being offered for sale. Pay the depot a call to-day and tak advantage of the low-priced machines offered.—'Phone: Mayfair 5598.—The Zenith Service Depot, The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W. [9824

ZENITH 1913 Gradua, 5-6h.p. J.A.P., overhauled, K.S., clutch, Bosch, new extra heavy Dunlops, Gloria de luxe wicker sidecar, luggage grid, petrol carrier, lamps, horn licence; £85; by appointment, would drive 30 miles.—Symes, Fleet St., Beaminster, Dorset. [9222

ZENITH 6h.p. Combination, late model, countershaft K.S., Klaxon, lamps, speedometer, screen, Tan-Sad, nearly new tyres, excellent appearance, perfect mechanical condition, tax paid; must sell, £90; after 5 or week-end.—2, Rye, Ambleside Rd., Willesden (near White Horse), N.W.10. [9837

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ROYAL RUBY (Lady's), new condition, 2½h.p., 2-speed; £40.—Hadfield, East Grinstead. [9192

LADY'S Douglas, 2¾h.p., speedometer, clutch, K.S., perfect; £40, or reasonable offer.—105, Coal Clough Lane, Burnley. [9951

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BARGAINS.—New O.K.'s, Ariels, Harleys, Omegas, Quadrants; exchanges entertained. — Booths' Motories, Halifax.

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BARGAINS.—1920 Indian combination, dynamo lighting, screen, £165/10; 1919 7-9h.p. Harley-Davidson combination, £135/10.—Booths' Motories, Halifax.

BARGAINS.—G.W.K. 1915 car, detachable wheels, £185/10; 3½h.p. Ariel, free engine, accessories, £35/10; 1914 P. and M., £45/10; 1920 Scott, £87/10; 1920 O.K., £35/10.—Booths' Motories, Halifax.

BARGAINS.—Clyno 2-stroke, 2-speed, clutch, £35/10; 1919 Rudge Multi, £67/10.—Booths' Motories, Halifax.

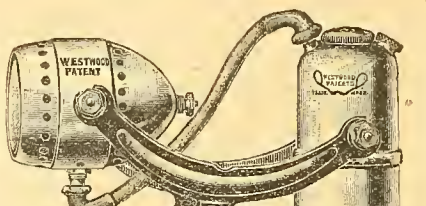
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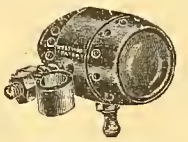
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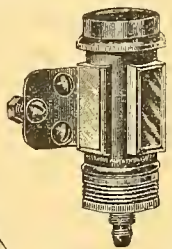
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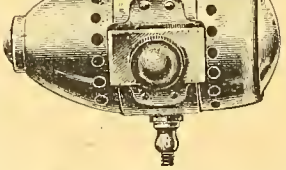
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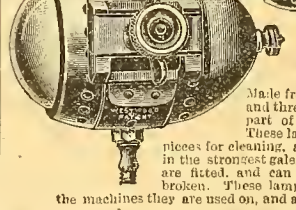


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VICTORY Garage. Victory Garage.—Triumph, 1918 all on, £75: Douglas 1916 2¾h.p., as new, £50 Matchless 8h.p. combination, £85; Zenith, 90 hor sporting sidecar, new tyres, all on £110; Norton, 1919 B.R.S., fast, all on £95; Quadrant 3h.p., good goe £25.—2b, Denmark Rd., Camberwell. [910

TRIUMPH Countershaft, not renovated but ne mileage 1,000, lamps, tools, spares, guarantee perfect, £90; also Enfield combination, 8h.p. J.A.P 1918 Colonial model, Easting screen, lamps, tool spares, new 700×80 spare tyre, mechanically perfec £110; both tax paid.—42, Salehurst Rd., Brockl S.E.4. [961

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AUTO-WHEEL, B.S.A. de luxe; bargain, £8.—M drum, Esplanade, Dundee. [87

AUTO-WHEEL de Luxe, splendid condition, t paid; £13.—22, Evesham Rd., New Southgate [96

WALL Auto-wheel, 1916, perfect condition, n tyre; best over £10.—24, Micheldever Rd., L S.E.12. [90

SIMPLEX Cycle Attachment, 1920 (late); £15, offer; owner going abroad; must sell.—6, Bur Rd., Rosherville, Kent. [94

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INVALIDS' Tricycles and Motor Tricycles; catalog free.—Rayner, 10-12, George St., Blackpool. [X70

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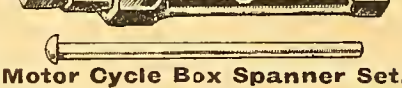
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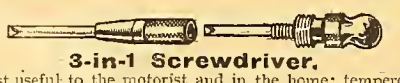
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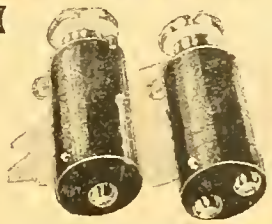
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IGH Tension Wire (new), 9 mm., 5d. per yard; 25 yard coil, 8/6; 7 mm., 4d. per yard; 25 yard 6/-; 5 mm., 3d. per yard; 25 yard coil, 4/-; 3 , 2d. per yard; 25 yard coil, 2/-; postage on coils all goods per return post; on approval on receipt ash; money refunded if not satisfied.—County of don Engineering Works, Ltd., 51a, New Park Rd., tno Hill, S.W. [4647

OVELAND Magneto Repair Service.—Repairs to all makes quickly and efficiently executed. Spare for all types. Bosch pattern contact breakers, each; Bosch pattern contact screws, 10/6 per ; remagnetising by special process, 5/- per pair.—ne: Streatham 1390.—Loveland Bros., Crescent neto Works, Norbury, S.W. [6602

AGNETOS.—Thomson-Bennett, clock or anti-clockwise, 42°, 45°, 50°, 55°, 180°, 50/-; for le-cyl. engines, 4-strnke, 45/-; 2-stroke, 40/-. All e have variable ignition and are new, waterproof, guaranteed. Please state direction required; no ing. Write for illustration and further particu—Super Power Co., 81, North Side, Clapham, 4. [9648

ACCESSORIES



ADAPTERS

To convert bayonet to screw-in bulb.

Single or Double Pole, **2/-** each, post free.

MECHANICAL HORNS.

"COWEY"

1920 pattern

29/6 Each.

Postage 1/-. Maker's Price 60/-

PISTON RINGS

for all engines.

1 3 each, postage extra.

Up to 89 m/m.

SILENCERS

(Aluminium with Tube)

FOR SINGLES 13/6 each.

FOR TWINS 15/6 each.

Postage 1/-

We have in stock and can supply Repair Parts for B.S.A. Machines, J.A.P. and VILLIERS Engines, DRUID Spring Forks, BEST and LLOYD Lubricators. BOWDEN Brake Parts, and STURMEY-ARCHER Hub on countershaft gears. Also spare parts and jets for Amac, Brown & Barlow, Binks, and Senspray Carburetters, and Chater-Lea lugs and races, etc., etc.

Write us to-day.

TURNER'S STORES

The Motor Cyclists' Accessory House,

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'Phone:—Western 6177.

IGNITION APPLIANCES.

RUNBAKEN Repair Service.—Thorough and efficient repairs to any make of dynamo, starter, or mag. We have the spare parts, plant, and skilled labour turning out guaranteed work only.—Enclose instructions and send by rail to The Runbaken Magneto Co., Ltd., 115, Gt. Portland St., London, W. 'Phone: Mayfair 3586. North of England: Derby St., Cheetham, Manchester 'Phone: City 8266. 0258

MAGNETOS.—Thomson-Bennett Singles and Twins, all degrees, clock or anti, 43/- each; C.A.V., single and twin-cyl., set at any degree, clock or anti, 47/- each; Bosch D.A. (B.B. Type), for high power machines, 70/- each, all carriage free. Every magneto is carefully tested before dispatch, and is guaranteed in perfect working order; in fact, the majority are unused. —Anglo, 198, King St., Hammersmith. [9212

THE Magneto Repairing and Winding Co. (established 1912), contractors to H.M. Government, and officially appointed by the R.A.C. Magneto repairers of every description; all repairs at lowest possible prices, and strictly guaranteed. We can mostly return them within 24 hours. We have several new and second-hand single and 2-cyl. magnetos in stock, all guaranteed.—The Magneto Repairing and Winding Co., 78, Hampstead Rd., Euston, London, N.W.1 'Phone: Museum 1158. T.A.: Komagnelec, Euroad, London. [6015

MAGNETO and Engineering Co., special lines: Thomson-Bennett magnetos, singles and twins, 42°, 45°, 48°, 50°, 55°, and 180°, £2/15 each, postage 1/6 extra; ready to fit on Douglas, P. and M., Clyno, Triumph, J.A.P., Harley-Davidson, or any 2-stroke, variable ignition. The Magneto and Engineering Co. guarantee these magnetos to be thoroughly efficient for the above mentioned machines. Terms, cash with order. Satisfaction, or money refunded.—Below.

C.A.V. Magnetos, ready to fit on 2¾h.p. Douglas, or any lightweight, single, with variable ignition, £3 3; ideal magnetos for lightweight.—Below.

THE Magneto and Engineering Co.'s Lodge and K.L.G. W.D. plugs, new, at 2/6 each; finest value on the market; trade export inquiries solicited.—Magneto and Engineering Co., Cromwell House, High Holborn, W.C.1. Tel.: 2054. [1064

NEW Arrival of Thomson-Bennett Magnetos, any degree, and ready to bolt on, Douglas, P. and M., Triumph, J.A.P., Clyno, A.J.S., Harley, etc., etc., £2/15 each, plus carriage 1/6, guarantee satisfaction, cash with order, variable ignition; C.A.V. single or twins, perfect machine for a lightweight; we guarantee satisfaction or cash refunded without delay; trade fitting thousands; £3 3 each, plus carriage 1/6. Plugs, Lodge and K.L.G., new, not reconditioned, 2/6 each. Trade and exporters, please write for special terms.—Dept. B, Coventry Ignition Supply, 97, Gorton St., Coventry. [1063

EUSTON Ignition Co.'s 24-hour repair service. Guaranteed repairs to all types of magnetos; Splitdorf and Dixie specialists; official Indian electrical service station; Thomson-Bennett repairs and spares. All repairs are tested on an approved A.I.D. test bench before despatch, and therefore carry our guarantee for 12 months. We hold the largest stock of guaranteed magnetos in London, twins all degrees; spare parts for all makes in stock; charged accumulators, all voltages, always ready in stock; plugs, cables, ½-watt and vacuum bulbs, all voltages. We give you real live service allways.—Euston Ignition Co., 329, Euston Rd., London, N.W.1. 'Phone: Museum 5034. T.A.: Magdyno, Eusroad, London. [0263

TYRES.

25% Off Best Make of Tyres, new stock.—Pitts, of Redditch. Tel.: 91. [X9325

H. EMANUEL, Tyre Factor.—See my bargains in displayed advertisement columns. [0235

BASTONES for Covers and Tubes, no better or cheaper house. See displayed advert. 9916

MOTOR Cycle Tyres on Easy Terms, standard makes; list post free.—J. G. Graves, Ltd., Sheffield. [0589

500 MOTOR Cycle Covers, all sizes, soiled only, heavy 25/-, light 15/-; approval anywhere. —Alltyres, 81, Dale End, Birmingham. [7433

R. D. VARTY, Thundersley, Essex, for tyres, all new, unused, clearance, guaranteed value and satisfaction or money returned, compare the prices.

R. D. VARTY.—Dunlop studded, 26×2¼, 2⅜, 28×3, 37/6; Palmer cord same price.

R. D. VARTY.—Wood-Milne tyres, 26×2⅜, 28×3, 28/-; 650×65, 32/-; 700×80, 43/-; 28×2¼, 32/-; combination studded, 26×2¼, 48/-; 28×3, 56/-; 650×65, 52/-; 700×80, 53/-.

R. D. VARTY.—Clincher de luxe extra heavy, 26×2¼, 2⅜, 33/-; Kempshall anti-skid, 26×2¼, 28×3, 34/-.

R. D. VARTY for tubes, all guaranteed perfect, 26×2¼, 2½, Palmer, Avon, Hutchinson, etc., 6/-; 28×3, 7/-; butt-end, 1/3 extra.

R. D. VARTY will send any of the above on approval against cash.—Don't delay, post your order now to R. D. Varty, Thundersley, Essex. [1312

A FEW Real Bargains for Scottish readers, surplus Government, etc., covers and tubes. Write for list. —McArthur Hill, 47, Carrick St., Glasgow. [8290

BURST Motor Cycle Tyres, chafed beads remoulded, made perfect, tube vulcanising, butt-ends fitted, retreading; send for list.—Melton Mowbray Works, Melton Mowbray. [0347

TYRES.

ECONOMIC Tyre Co.—Special offer of Wood-Milne Keygrip covers, new and in perfect condition, at 50% off list prices. All goods carriage paid, on approval against remittance.

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ECONOMIC.—Wood-Milne 26×2¼ heavy, 26/10; extra heavy, 34/-; 26×2⅜ heavy, 28/4; extra heavy, 34/3.

ECONOMIC.—Wood-Milne 26×2½×2¼ heavy, 30/-; extra heavy, 35/-; 26×2½ extra heavy, 36/1.

ECONOMIC.—Wood-Milne 26×2½ O.S. extra heavy, 36/1; 26×3×2½ heavy, 32/-; extra heavy, 41/-.

ECONOMIC.—Wood-Milne 28×2½ heavy, 32/4; extra heavy, 40/4; 700×80 heavy, 43/6; extra heavy, 46/6.

ECONOMIC.—The following are all W.D. clearance, new, and in perfect condition. Compare our prices.

ECONOMIC.—Avon Sunstone 26×2¼, 33/-; Bates special heavy, 33/-; Dunlop heavy R.S., 35/-; Clincher De Luxe extra heavy, 33/9; Beldam combination, 35/-.

ECONOMIC.—Hutchinson T.T. 26×2⅜, 35/-; Passenger, 36/-; Clincher De Luxe extra heavy, 34/6; Beldam extra heavy, 32/6; Bates special heavy, 36/6; Dunlop heavy, 37/6.

ECONOMIC.—Fully guaranteed Dunlop rubber-stud, 24×2 26/3; 26×2, 28/9; 26×2¼, 30/-.

ECONOMIC Tyre Co., 314, New Cross Rd., S.E.14 (near Town Hall). 'Phone: New Cross 1393. [6786

KEMPSHALL Non-skid, also Hutchinson T.T., 28×2½, brand new, at a remarkable figure; 35/- each; special prices for quantities over 6; carriage free; greatest bargains in tyres.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0259

CROYDON Motor Tyres, Ltd.—New Clincher clearance endless tubes, not W.D. or perished, 26×2 6/3, 26×2¼ 6/6, 26×2½×2¼ 7/3, 700×80 8/6; post free against remittance; Wood-Milne Keygrip covers, all sizes, 3 and 4-ply, at half prices.—Croydon Motor Tyres, Ltd., 53a, London Rd., Croydon. [4296

NEW Dunlop and Bates Tubes, W.D., 26×2¼ and 26×2⅜, 5/- each; new Beldam clearance covers, all sizes, 30/- each, except 28×3 40/-, 650×65 45/-, and 700×80 50/- each; 700×80 new Wood-Milne square tread covers, guaranteed, 50/- each.—Homerton Rubber Works, Brooksby's Walk, Homerton, E.9. [0331

26×2½ New Beaded Covers, 24/-; new best quality tubes, 24×2¼, 5/-; 26×2, 6/-; 26×2¼, 8/8; 26×2½×7/6; 26×2½×2¼, 8/-; 26×3, 9/-; 700×80, 9/6; 750×75, 10/-; 28×3, 10/6; new rubber belts, 6ft. 2in.×1in., 10/6; 15in. inflators, 2/3; sent approval, carriage paid receipt remittance.—Palmer's Garage, Tooting. [9769

CENTRAL Garage, Thornton Heath.—This is the cheapest house in the long run, as we replace cover should it be unsatisfactory, despatch same day as order. Fully guaranteed Wood-Milne covers: 26×2¼ 26/6, extra heavy 32/6, 26×2⅜ 27/6, E.H. 33/-, 26×2½×2¼ 30/-, E.H. 35/-, 26×2½ 34/-, E.H. 36/-, 26×3×2¼ 32/-, E.H. 40/-, 28×3 27/6, E.H. 30/-, 650×65 32/6, E.H. 37/6, 700×80 40/-, E.H. 45/-; tubes, 5/6.—Below.

CENTRAL Garage, Thornton Heath.—Dunlop covers, 26×2¼, 2⅜, and 2½, 650×65, 28×3, etc., heavy and extra heavy, prices on application.—Below.

CENTRAL Garage, Thornton Heath.—Special line brand new 28×3 Wood-Milne covers, extra heavy, 30/-, approval willingly, listed at 87/-.—Below.

CENTRAL Garage, Thornton Heath.—Second-hand covers salved from army machines, many as new, and good for several thousands, 12/6 each, carriage 1/6; approval against cash. Please state size and make preferred.—London Rd., Thornton Heath, S.E. [9836

TANKS.

B.S.A. Tanks, in good condition: 18/-.—Marble Arch Motor Exchange, 135, Edgware Rd., W.2. [1300

TANKS Renovated, makers' designs, transfers, 12/6. —Whitworth Motor Renovating Co., 90a, Pershore St., Birmingham. [9439

TANKS Re-enamelled to Pattern. High-class work only.—D. Jenkins and Sons, 6, Richard St., Atkinson St., Deansgate, Manchester. Established 25 years. [3601

TANKS Repaired, re-enamelled; partition leakage, dents, drip feeds fitted, etc.; re-enamelling, makers' colours, finish, and transfers guaranteed; prompt return.—Park Works, 1a, Paradise Rd., Green Lanes, Highbury, London. [X2814

TANKS of every description replaced, repaired, and re-enamelled at our own works; all kinds of fittings stocked; quick service and reasonable charges. —Send postage for illustrated price list to A. Green, Water St., Chapel St., Salford, Manchester. Tel.: 2191 Central. [0256

BELTS.

500 Brand New 1in. Belts, 6ft. 6in. lengths, Dunlop, Pedley, etc.; 12/- each.—Marble Arch Motor Exchange, 135, Edgware Rd., W. [1299

THE MOTOR CYCLE

Insurance Policy



Testimony

THIS space will be occupied each week with copies of letters from Policy holders who have made claims. Original letters may be inspected.

Dear Sirs,

I have to acknowledge with thanks cheque for your portion of the liability for the accident to my combination.

Your promptness and generous business methods have resulted in a thoroughly satisfied policy holder, and I will do all in my power to recommend your Company in the future, realising that it is in the interests of my fellow motor cyclists to do so.

The only Safe Test of Insurance is Claims. We settle Claims promptly.

The AUTOCAR FIRE and ACCIDENT INSURANCE COMPANY, LIMITED

(Incorporating The Autocar Insurance Department, Established 1904).

Head Office:

77, Cheapside, London, E.C.2.

Telephone: City 9831 and 9832.

BELTS.

BEST make of Belting, all lengths in 1in. at 2/6 foot; 2-piece ⅞in. 1/9, ¾in. 1/6, on approval against cash.—Pitts, of Redditch. Tel.: 91. [X9323

SPORTING Offer.—Balata and chrome V belts, ⅞in. 2/6, 1in. 3/- per foot, trial belt half price; fasteners, 9d.; postage 1/-.—W. Pollin and Son, Hollington, St. Leonard's-on-Sea. [6014

LARGE Quantity of New Belts, not clearance: Clipper, 9ft.×1in., 22/- each; 8ft. 8in. ditto, 21/- each; surplus by leading makers, ⅞in., any lengths, 2/1 a foot; special offer of 6ft. 6in. of ⅞in. at 10/- each, ¾in. ditto, 12/6.—H. Emanuel, Tyre Factor, 27, Belgrade Rd., N.16. Stores: 37a, Balls Pond Rd., Dalston, N.1. 'Phone: Dalston 3161. [0348

INSURANCE.

MOTOR Cycle Insurance at Economical Premiums:—See below.

FULL Policy up to 2¾h.p. £3/10, 4½h.p. £4, 6h.p. £4/10, 10h.p. £5/10.—See below.

PUBLIC Liability Only, unlimited indemnity, from £1/7/6.—See below.

FULL Particulars will be forwarded on receipt of postcard stating make, h.p., and value.

L. ALDRIDGE and Co., Ltd., 23, Bucklersbury, E.C.4. Branches at Brighton (56, East St.), Manchester (10, South Parade, Deansgate), Margate (6, Cecil Sq.). [5533

FOR Insurance of all kinds (specially motor), apply Ernest J. Bass, Insurance Broker, 40, Chancery Lane, W.C.2. [0005

TOURIST Trophy Race.—Special policies, all risks; motor cycle insurances of all kinds at lowest rates. —E. W. Winckle, Insurance Broker, 105, Colmore Row, Birmingham. [X2729

ROYS, Ltd., invite enquiries for insurance of all kinds. Competitive rates for motor cycles. Lloyd's and companies' prospectuses on application.—170, Gt. Portland St., London. [0055

"THE Motor Cycle" Insurance Policy is the policy authorised by "The Motor Cycle," and covers motor cycles or cycles and sidecars used for private purposes. Complete comprehensive cover. Maximum benefits, minimum rates. Full particulars and prospectuses on application.—The Autocar Fire and Accident Insurance Co., Ltd., 77, Cheapside, London, E.C.2. [0007

PATENT AGENTS.

J. E. S. LOCKWOOD, Motor Specialist.—Guide free. —3, New St., Birmingham. [7103

PATENTS Advice, handbook free.—King, Registered Patent Agent, 146a, Queen Victoria St., E.C. 35 years' references. [0129

W. BRYSON, B.Sc., Assoc.M.Inst.C.E., Chartered Patent Agent, 29, Southampton Buildings, London, W.C.2. 'Phone: Museum 3651. [1049

AGENCIES.

UNIVERSITY Commerce Student with engineering experience desires to arrange agencies in Spain for progressive motor cycle firm.—Box 4,145, c/o *The Motor Cycle* [9266

HOTELS AND APARTMENTS.

MARGATE.—Oxford Hotel, minute East Margate Station. Bed and breakfast 5/-; garage. [7036

THE Old Barn Teahouse, Stocks Green, Hildenborough, beyond Sevenoaks, for real good farmhouse fare. [8672

DOUGLAS.—"Cliff View," Promenade. 100 rooms; billiards; terms for motor race week 12/6 per day.—J. Ridehalgh, Manager. [8658

DOUGLAS, I.O.M.—The Hawthorns, 4, Cambridge Terrace. Homely apartments, every comfort for motor cyclists during the races. Private garage, telephone, bath.—Apply for terms. [9583

LONDON.—Central Hotel (exclusively for gentlemen), Percy St., Tottenham Court Rd., W.1. Special week-end terms, 6/6 bed and breakfast.—Museum 6205. Garage. Night porter. [7883

TUITION.

HOUSE and Estate Agency, Auctioneering, etc.—Train by post for this paying profession. Start a business of your own. Prospectus free.—Agricultural Correspondence College (Dept. T.), Ripon. [0389

FINANCIAL.

CREDIT Accounts opened with members, 5% benefit. —Particulars, Star Club, 9, Baronsmere Rd., London, N.2. [1317

PARTNERSHIPS.

WANTED, straight man with £1,000 to invest as partner in cycle and motor cycle shop, N.W. London, business growing, extension necessary, adjoining premises shortly available, present trade about £60 weekly, small sales and 20% repairs, expenses low, profitable concern.—Box 4,211, c/o *The Motor Cycle*, [8920

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

EDITORIAL OFFICES: Hertford St., Coventry.
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ADVERTISING AND PUBLISHING OFFICES: 20, Tudor St., London, E.C.4.
Telegrams: "Cyclist, Fleet, London."
Telephone: 2848 City (13 lines).

Midland Branch Offices: Guildhall Buildings, Navigation Street, Birmingham.
Telegrams: "Autopress, Birmingham."
Telephone: 2970 and 2971 Midland.

Northern Offices: 199, Deansgate, Manchester.
Telegrams: "Iliffe, Manchester."
Telephone: 8970 and 8971 City.

Subscription Rates: Home, 23s. 10d.; Canada, 23s. 10d.: other countries abroad, 28s. 2d. per annum.

Novelty in the T.T.

IN this issue are described two entirely new machines, which have been produced for the 1921 Tourist Trophy races by firms which did not compete last year.

One is a combination of a world-famous works and one of the best-known authorities on high-speed internal combustion engines. It is true that its *début* in the Isle of Man is something in the nature of a trial run, but this is purely on account of the fact that there has been no time for further development. Indeed, it is a tribute to the design that an engine which first saw the light of day but little over a month ago should have inspired such confidence in the manufacturers as to be entered for the classic road race.

The second machine also bears a name historic in the annals of the motor cycle movement, and is the considered development of a design more than a year old. Both frame and engine are unconventional, and the machine has been designed to suit the requirements of the Isle of Man course.

It is noticeable that almost every feature which has been incorporated in T.T. mounts *is a direct improvement from the tourist's point of view.*

It is true that the tourist does not require to travel at such high speeds as those attained in the Isle of Man, but he does require comfort, ease of control, quick acceleration, and good braking. All these features are essential to winning the Tourist Trophy. In addition to the two machines to which reference has been made, and which mark a new epoch in motor cycle development, there is evidence amongst other entrants of a distinct advance along sound mechanical lines. Machines which were entered in the 1920 event have been developed still further, and in most cases have been lightened as a whole, and particularly as to reciprocating weight.

Newcomers are generally inclined to be daring, but, so far, we have discovered no single development of importance which will be without a happy influence on touring machines. There will be some who consider that the evergrowing popularity of overhead valve gear is a mistaken policy adopted purely for speed purposes. We cannot agree, since as engine efficiency is increased so will fuel consumption and overall weight be decreased. In certain cases we find Tourist Trophy machines fitted with two-speed gears. Is this a retrograde movement? We think not, although we do not suggest that three speeds are unnecessary for touring mounts; rather it is a proof that the latest engines possess improved flexibility.

There may be manufacturers who fail to apply the lessons learned in the Isle of Man to their standard productions, but such concerns are becoming increasingly scarce, and surely they will reap their own reward.

Why Not an Isle of Man Racing Week?

IF the R.A.C. and the A.C.U. combined their efforts what a splendid Isle of Man week could be organised in 1922! The parent body has announced its intention to organise races for two classes of cars next year; such events, combined with the Junior and Senior motor cycle events, would evoke the enthusiasm of all classes of motorists. Much money, considerable time and work in the organisation would be saved if the two bodies worked together. The only obstacle which suggests itself is that it might be difficult to persuade the Isle of Man authorities to close the roads for four days in one week.

However, there is plenty of time in which the matter could be discussed and obstacles overcome. It is sincerely to be hoped that, when the time comes, the leading motor car and leading motor cycle associations will work together and provide a really sporting week in the I.O.M. There are plenty of motor cyclists who would like to witness the car races, and quite an equal number of motorists who are anxious to see the motor cycle races.

An index to the advert s ments in this issue will be found on the page facing the back cover.



Yes, Really.

AFTER a prolonged period during which benzole was about as scarce as decent beer in war time, my local supply man approached me with a furtive air, and a sombrero pushed well down over his forehead. He whispered, "Any use for a fifty-gallon drum of benzole?" "Good stuff?" I queried. "Rather!" he responded emphatically. So I bought. It has now arrived. On the drum is stencilled in large letters "Anglo-American Oil Co." I have no quarrel with the quality of the benzole, which is top-hole juice. But what a game it is. It seems only yesterday that we were assured by Parliament and by a certain section of the press that British benzole was to be our mighty ally in pulling down petrol prices. I shall commence drilling for oil in my back garden.

Road Perils.

THE railways being largely out of action, we all took to the roads at Whitsuntide, and our national highways were about as safe as Orvillers in June, 1916. Let us, dear readers, compare notions, and recognise wherein the peril consisted? Was it gilded nuts on high-powered sports 'buses? Was it motor coaches? Well, I spent some of the windiest hours of my nervous young life, and I find no fault with either of the above. I rank the real perils of the road in the following order:

1. Cyclists.
2. Low-powered sidecar outfits.
3. Closed cars (especially taxis).

To Justify.

THE above catalogue requires a little explanation. Most of my mileage was covered on famous main roads. As a rule these roads were just wide enough to accommodate the usual twin procession of cars travelling in opposite directions. All the potential perils arose from *overtaking*. On each side of the road, close to the kerb, there was a string of cyclists, riding sometimes two abreast, but often three or four alongside. Their presence absolutely vitiated the basic principle on which the width of the road had been originally plotted, for they made the road centre an uncommonly tight fit for the twin streams of cars. Overtaking of cars by cars was almost universally due to the obstacle caused by a vehicle of lower pace than the average, and in nine cases out of ten that slow vehicle was a low-powered sidecar outfit. Finally, the chief mishaps caused by cars overtaking cars were ascribable to vehicles with projecting tops, which blanketed the vision of the drivers next behind; and the chief offenders were the slow taxis, for a 40 h.p. limousine did not ordinarily allow itself to be overtaken.

Without Malice.

THE last paragraph is written without any bias against cyclists, low-powered sidecars, and taxi-cabs. All of them have obviously as much right to the roads as anybody else. But I was profoundly impressed with the urgent necessity for widening sundry roads which are usually regarded as satisfactory. If so much pressure can arise in these days when hardly anybody can afford to motor, what will be the state of our highways in ten years' time, when our national prosperity has bucked up again, and we emulate the famous State of Ohio, where one person in every seven owns a car? Road authorities must not rashly decide that a 30ft. roadway is good enough for modern traffic.

Battery Boxes.

BEHIND the scenes I am conducting a little useful propaganda work with the firms who manufacture electric lighting outfits. I have at last coaxed two concerns to modify their battery cases in such wise that one may remove the lid without breaking most of the connections. No credit to me. The principle is simply that of the common or garden flash lamp, in which spring metal tongues make automatic contact with the necessary terminals. By another mighty brainwave a colleague induced some of these gentry to drill small holes in the off side of their tail

Occasional Comments.—

lamp bodies, so that one need not remain in ignorance of a dud bulb until the moment of arrest. From which experience I deduce that the design of a motor cycle or a motor cycle gadget is a job demanding a trinity. No. 1 should guarantee that the job is technically sound, and will work. No. 2 should boil the article down to a form in which economical production is practicable. No. 3 should know nothing about technics or manufacture; he should be an ordinary thick-headed user, like myself, with a knack of taking things to pieces as often as possible, and putting them back wrong.

Impulse Starter Magnetos.

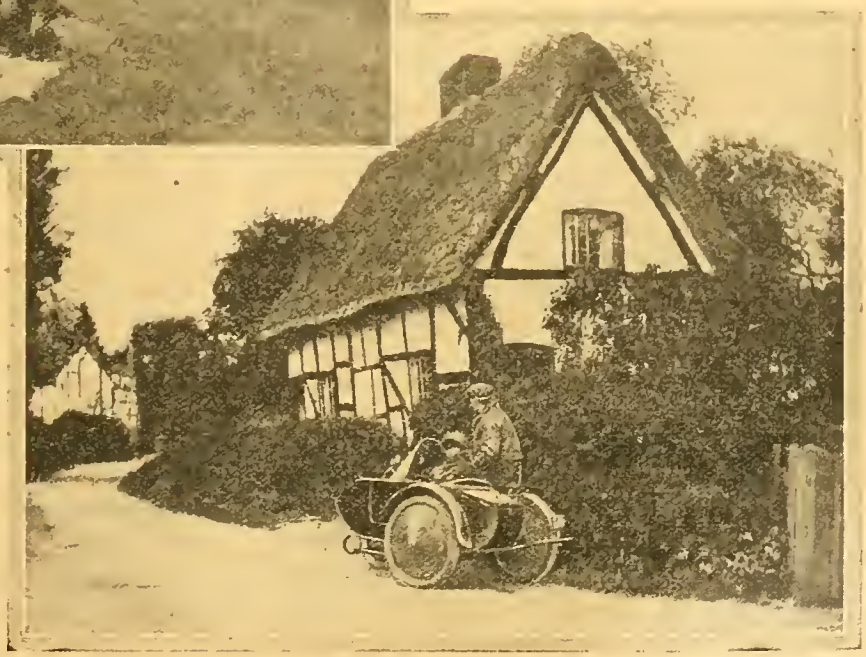
CORRESPONDENCE indicates that a few slim fairies and corpulent paterfamili—(what *is* the plural of this beastly word?)—asses own cycle cars which have induced them to become mightily interested in any gadget which substitutes mechanical ingenuity for brute strength in starting engines. So I beg to announce that most of the impulse starter devices can easily be mounted on ordinary magnetos, and that there is no need to buy a complete new instrument. I notice that in some cases the device is keyed to the armature spindle; and riders meditating a conversion might do well to consult the manufacturer of their magneto as to whether the instrument should be returned to the works to have a keyway cut in the spindle. Some authorities say that the key is merely added to simplify timing: others hold that its presence is a precaution against the slipping of a friction drive.

A Chance for Repairers?

LIKE many other innocent spendthrifts, I was deeply fascinated last autumn by the various lever-operated flashlamps, which dispense with batteries. Quoth I to myself, quoth I, "No more dismantling magnetos by the roadside in darkness, rationing out the last three matches over the job." I have carried one of these lamps ever since. Quite recently, when I was endeavouring to clear a carburetter jet about 2 a.m., the lamp developed a worn pawl, or words to that effect. Next day I met the only local repairer whom I ever permit to touch my buses. I consulted him. Should I take the lever lamp to bits, and try to fake it up? "Don't!" he implored me. "I took one to bits in my shop the other day. When the case came off, it behaved like a Mills grenade. It's got a scatter-spring inside it, about 50 h.p., and my staff are still raking over the garage litter in their spare time trying to find the missing bits."

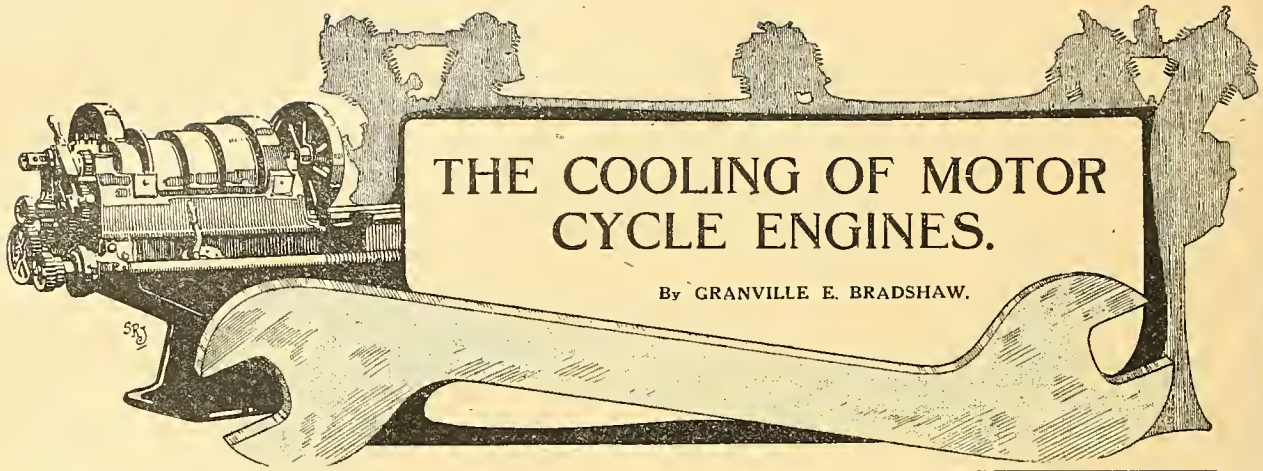
I find the repairers are rather slack just now, and a lot of us have got some of these lamps which have lost some of their original candle-power. Better still, will somebody write us a useful hint and tip for reconditioning these very handy little accessories? They are just the goods for night riders.





SISTER PASTIMES—
MOTOR CYCLING, FISHING, AND PHOTOGRAPHY.

These two attractive pictures secured the ten-guinea first prize and the five-guinea second prize respectively in the recent photographic competition organised by Mr L. B. Henderson, of Sheffield, for owners of Henderson sidecars. The view on the left secured the first prize for C. W. Knight, Bexley, while the second prize photograph (reproduced on the right) is by H. T. Pollit, of Bromsgrove.



THE COOLING OF MOTOR CYCLE ENGINES.

By GRANVILLE E. BRADSHAW.

In last week's instalment our contributor emphasised the simplicity of air-cooling in relation to water-cooling. He proceeded to point out the advantages of certain arrangements of cooling fins and valve disposition. In the succeeding notes it is urged that engines have suffered in the past from lack of proper precautions for cooling the crank case and, incidentally, the lubricant therein.

(Concluded from page 637.)

AN interesting point that came to the writer's notice was the importance of cooling the crank case, and he first recognised this in 1915 in connection with some small engines that were designed by him for the purpose of driving wireless and searchlight dynamos.

As first designed the engine and dynamo were both bolted to a bedplate, and an ordinary fan (similar to an office desk fan) was carried on the crankshaft blowing air towards the engine generally.

This fan was not sufficiently large in diameter to reach nearer than to within three inches of the cylinder heads, and a certain amount of chance had to be taken, as it was impossible to increase the general dimensions for this purpose. The whole unit, however, ran extremely well, and on its first test it did fifteen hours per day for ten consecutive days on continuous full throttle.

Several months later the writer decided to make a really compact unit almost wholly enclosed, and an enclosed centrifugal blower was used which did not blow on to the crank case at all, but which directed the air through ducts right on to the cylinder heads.

Effects of Crank Case Heat.

The result was astonishing---the engines would not develop the same power, nor would they perform satisfactorily for long periods. The crank case became so hot that it melted the insulation in the magnetos, and the system had to be discarded.

This proved conclusively that a great amount of the cooling of an engine is done by the crank case and the circulation of the oil.

Later experiments confirmed this, and subsequently it was proved by Dr. Gibson at Farnborough to what extent the crank case and circulation effected cooling.

In his excellent paper (which really ought to have been taken most seriously by the motor cycle designer, as it probably constitutes the greatest fund of information that air-cooling has ever received) he remarks, "From these figures it appears that of the total heat dissipated from these cylinders only 53% in test No. 9 and 60% in test No. 10 are actually removed from the cooling surface of the cylinder itself. The remainder ranging from 47% to 40% . . . . . is dissipated from the surface of the crank case. . . ."

One can no longer wonder that "Brooklands" speedmen are continuously pumping oil into their engines. It has frequently been stated that they are more oil-cooled than air-cooled, and strangely enough experiments have shown that even water-cooled engines benefit to very nearly the same extent from oil-cooling.

This promptly brings out a handicap which the air-cooled engine has unknowingly suffered for many years, *i.e.*, whilst the water-cooled car engine has almost invariably been provided with a large crank case, a large oil sump and a constant circulation of a large quantity of oil, the air-cooled engine has a diminutive crank case and drops of oil at about sixty per minute.

The car engine has been lucky because it certainly was not fitted with this sump and circulation lubrication for the purpose of assisting in the cooling of the engine, although it has unconsciously played nearly as much part in the cooling as has the radiator. The principal object was, of course, to remove all need for attention, and it now appears that the air-cooled engine can benefit very considerably from scientifically adopting car type lubrication.

We have been asked for years, "Why do we stick to drip-feed lubrication?" and truly it is difficult to answer. In the light of the double service that oil circulation renders we are almost compelled to adopt it.

Utilising Oil Circulation.

The next point that occurred to the writer was how can we get the most out of this crank case cooling of which we have up till now failed to realise the value?

If it does roughly half our cooling without our even designing for it, how much more can it do in the case of an engine designed from this point of view?

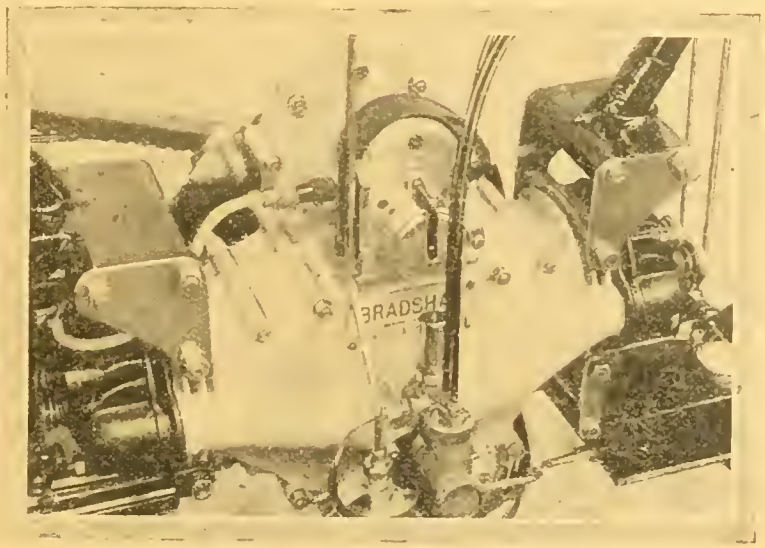
In an engine test observed by the writer the removal of all the fins from the barrel made a difference of only about 12% in the cooling of the engine, but a variation of the quantity of oil that was allowed to splash *inside* the cylinder walls and against the head of the piston made as much as 60% difference to the

The Cooling of Motor Cycle Engines.—

temperature of the cylinder barrels. Later he tried splashing oil on to the outside of the barrels as well (by placing the cylinder completely inside the crank case and circulating oil exactly as in car practice), and the completed results have more than justified the investigations he has made in the past and which have led him to this type of cooling.

Analysing the three items that have to be cooled we have the cylinder head, cylinder barrel, and the piston. The cylinder head for the time being must be cooled in much the same way as at present, plus a little extra care in valve disposition and in exposing the centre of the head as much as possible. The piston (roughly one-third of the combustion area) has always been cooled principally by the oil, and greater care should be given to its design with this object in view.

Both the cylinder head and the piston are, of course, in direct contact with the burning charge throughout the whole of the explosion stroke, whereas the cylinder barrel is half covered and uncovered, therefore it is by no means the difficult problem that might at first be anticipated.



The Bradshaw "oil-cooled" engine, the outcome of the investigations of the author.

Tests on the oil-cooling of the barrel have certainly shown that whilst under very heavy duty the ordinary air-cooled cylinder (when polished for observation purposes) will turn a straw colour and sometimes from that to blue, the oil-cooled cylinder shows no sign whatever of such temperature, however badly treated.

It can here be noted with interest that those engines which are fitted with a baffle to prevent much oil reaching the piston and cylinder walls are deliberately handicapping the cooling of both. The writer has covered many thousands of miles on a car of very high repute so fitted, and the carbon that accumulated on the underside of the piston head within 3,000 miles was sometimes as much as a quarter of an inch, and quite twice as much as on the combustion side of the head.

Carbon under the Piston Head.

Carbon under a piston head can only denote an excessively hot head, and this lowers the efficiency. Similarly, if the oil is made hot enough to turn a considerable quantity of it into carbon there must be a great deal of it brought to a temperature very nearly as high as this, which high temperature must very seriously affect the lubricating properties of this oil. The writer has found that a very large quantity of oil constantly thrown against the underside of the piston will not only keep the carbon away from this surface but from the top of the piston as well, and compared with the usual difficulties of adequately cooling a piston crown, the cooling of a cylinder barrel is simple.

This point of piston cooling naturally brings up the question of pistons in aluminium alloy or cast iron, but it is an item in itself that is long enough to preclude the possibility of investigation here. All that can be said is that Dr. Gibson found that with an aluminium piston of normal design the temperature of the head was between 360° and 450° F., whilst under similar conditions the corresponding cast iron reached a temperature approximately twice as high. It was also found that a piston having a full skirt is very much preferable to one of the slipper type.

Side-by-side Valves Require More Cooling.

From the same source of information as that referred to above, we find that a cast iron cylinder with orthodox side valves requires as much as 30% more cooling surface than does one with overhead valves. Fortunately, however, a cylinder of this type is able to accommodate this amount of increased surface.

In conclusion, the writer submits that in improved design, as regards the cooling by oil of the internal parts of a motor cycle engine, we have an opportunity of considerably greater advancement than the motor cycle engine has enjoyed for many years. He submits, also, that instead of having cooling fins on the cylinder it is preferable in the absence of a well-directed current of air between and through them to pick up this heat by means of the oil, and to spread it all over the flat and very much increased surface of the crank case, and constantly to circulate comparatively cool oil throughout the engine by an ordinary gear pump as in car practice, instead of depending upon a few drops of scorched oil for lubrication.

In an oil-cooled engine of the writer's design, an inspection of the oil after more than an hour all out on Brooklands track has shown this to be quite clear, and almost as when filled up, whereas the ordinary engine with the ordinary hand pump or drip feed shows surplus oil almost like treacle.

Incidentally, it might be mentioned that the maximum temperature the oil ever reached in the oil-cooled engine above referred to was not more than 180° F., and with simple modifications to the oil container it was possible to bring this temperature down to as low as 130° F.

A natural conclusion to be arrived at in connection with the increasing in area of the crank case is the

The Cooling of Motor Cycle Engines.—

inclusion of the gear box and all other details, thereby greatly increasing the cooling surface and avoiding the noisy external bicycle chain; and the writer hopes very shortly to have such an engine on the test bench, on which it is intended to carry out most careful temperature investigations.

Further advancements that naturally arise are the rounding off of all sharp corners and the removal of recesses and crevices, which so rapidly accumulate mud and dust. In fact, the engine can be made up as a suitably-shaped aluminium box, completely smooth externally, with everything (including the valve gear springs, etc., in the case of a side valve engine) running in oil inside. This greatly minimises the necessity of the engine having to be placed so as to enable the air to pass through cooling fins.

Many will question the possibility of preventing this copious lubrication allowing oil to pass the piston rings, but as it is very little more than that used in a car engine, it has so far shown no difficulty.

Finally, and by no means the last advantage to be derived from the inclusion of the cylinder in the crank case, is the complete deadening of the metallic clatter that usually emanates from the valve gear in a resonant air-cooled cylinder.

As already mentioned, the water-cooled cylinder is deadened whilst the air-cooled one has a distinct "ring," but the bolting down of the cylinder by its head directly on to the crank case and leaving the barrel free inside has quite as much deadening effect as has the water and water-jacket, and places the oil-cooled engine in a position to compete with water-cooled engines from the point of view of silence.

TO OBTAIN FIRST-HAND KNOWLEDGE.

Projected Overseas Tour by Prominent British Designer.

OFTEN overseas motor cyclists have suggested to us that the designers of British motor cycles should visit the countries in which their machines are used in order to obtain first-hand knowledge of prevailing conditions.

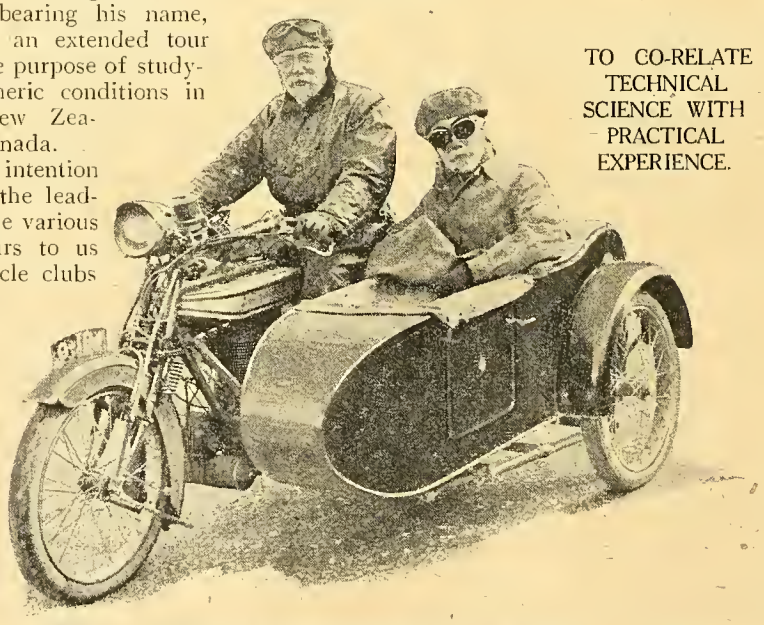
Mr. J. L. Norton, M.I.A.E., managing director of Norton Motors, Ltd., and designer of the well-known machine bearing his name, has decided to make an extended tour later in the year for the purpose of studying road and atmospheric conditions in Africa, Australia, New Zealand, U.S.A., and Canada.

It is Mr. Norton's intention to obtain opinions of the leading motor cyclists in the various countries, and it occurs to us that overseas motor cycle clubs may care to avail themselves of the opportunity to meet the Norton designer and to arrange informal discussions on matters of speed, tune, design, equipment, riding conditions, and, in fact, any subject of mutual interest.

As is well known to our readers, *The Motor Cycle* has always encouraged the interchange of ideas between overseas riders and the movement in this country, and we have prevailed upon Mr. Norton to reserve a certain amount of his time for this purpose.

We invite club secretaries in the countries named to communicate with us, or with Mr. Norton (at the Norton Works, Bracebridge Street, Birmingham), in order that any such proposed meetings may be included in his programme. To assist them in this direction we give below the suggested itinerary, with approximate dates:

End of September.—Departure from England.
First two weeks in November.—Durban and Pietermaritzburg.
Second two weeks in November.—Pretoria, Johannesburg, Bloemfontein, East London, Port Elizabeth, and Cape Town.
First week in December. — Departure from Africa.
December 20th (approx.). — Arrival at Adelaide.
January.—Melbourne, Sydney, and Perth.
End of January.—Departure for Auckland and Wellington.
February. — Christchurch and Dunedin.
March. — Departure for U.S.A.
April.—In U.S.A. and Canada.



TO CO-RELATE TECHNICAL SCIENCE WITH PRACTICAL EXPERIENCE.

Mr. J. L. Norton, who is shortly departing for a tour overseas. In the sidecar is Mr. Norton, sen.

We feel sure that a hearty welcome will be extended to this prominent rider by motor cyclists overseas, as his reputation is as well known abroad as it is in this country, and we anticipate that he will receive so many invitations that he will experience difficulty in fitting them in with a programme determined by the steamer sailings. For this reason we recommend that those clubs which desire to meet Mr. Norton should lose no time in "booking a date."

Mr. Norton will take with him a 4 h.p. outfit. Later on, it is the Norton designer's intention to make a similar trip to India and other eastern countries where motor cycles are used.

T.T. NOTES AND NEWS.

Daily Steamer Service. Visitors' Machines must Comply with the Law.

PRACTISING started at dawn on Tuesday morning last. A goodly number of riders are already on the Island.

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A. E. Wood and H. Poole will be reserve riders for the B.S.A.'s. The B.S.A. racing colours will be green and cream.

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The Ivy stable will be in the charge of H. C. Newman, the well-known pre-war speedman. Howard Newman obtained third position in the 1913 Junior race on an Ivy.

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Last year Douglas Alexander in the Senior race used a small handle-bar screen on his Indian Scout to protect his face from small stones and grit thrown up by other riders. Since that time Easting Windscreens, Ltd., have developed a miniature screen of similar type specially for racing machines. The screen is quite small—about 9 × 6in.—is bound in leather cloth, and is fitted with strong clips to bolt on to the handle-bar. Riders should apply for one of these for practising, and, if desired, a new one will be supplied for the race. The address of Easting Windscreens, Ltd., is 132, Steelhouse Lane, Birmingham.

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As mentioned in last week's issue, thanks to the efforts of the Auto-Cycle Union there is now no doubt that there will be a daily boat service between Liverpool and Douglas for the T.T. practising and races. The idea was prevalent that the Government, through the Ministry of Transport, would only permit sailings on alternate days. The A.C.U. brought pressure to bear upon the I.O.M. Steam Packet Co., who consented to run a daily service if supplies of coal were forthcoming, and the Ministry of Transport, in an interview with Mr. Loughborough, stated that if the I.O.M. Steam Packet Co had difficulties in obtaining fuel they would help them to obtain supplies through the Mines Department. This communication came as a surprise to the people of Douglas, who have been suffering great loss through there being no visitors at Whitsun, when the Island experienced the blackest holiday period since the war.

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Preparations for the T.T. are now well in hand. The timekeepers' box is erected, as also is the greater part of the grandstand and the Club enclosure. The roads are under repair, and the telephones have all been arranged.

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The Isle of Man authorities are very strict this year on such details as inefficient silencers.

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We have received the following letter from one of the competitors, who fell foul of the police last week through not having an adequate silencer:

"I should like to warn competitors, and all visitors who intend bringing their motor cycles to the Island for the T.T. races, to have them fitted with really efficient silencers.

"Long extension pipes, however efficient they may be in practice, will not pass the super-critical men in blue, and no warning or caution is given, but a blue paper arrives in due course. Plain clothes constables are detailed off, as well as the ordinary police, for this special duty, so my advice to all is, 'be careful.'

"Horns, or some suitable means of audible warning, are also very necessary over here, as I believe an offender is to-day £5 the poorer for non-compliance with this law. There is a humorous side, however, and I consider the fine is cheap, by listening to these 'blue gentlemen' explaining how an 'efficient silencer' should be constructed."

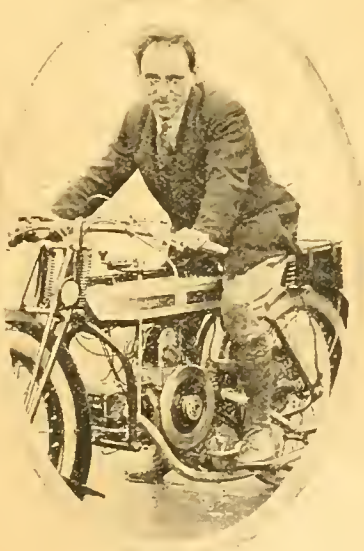
A TRIO OF DOUGLAS ENTRANTS



J. L. Emerson.



Tudor Thompson.



H. Thorpe.

T.T. Notes and News.—

The daily steamer service from Liverpool to Douglas is due to start the day after to-morrow (Saturday), and it is hoped will be continued until after the T.T. races.

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Three cinema firms will be represented on the I.O.M. course.

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The A.J.S. nominated team for the Junior event will consist of H. R. Davies, Eric Williams, and H. F. Harris. G. Kelly, T. Sheard, and O. Wade are riding similar machines, but Chambers and G. Grinton are down for reserves.

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V. Ollson will ride a side-by-side valve 2¾ A.J.S. in the Junior event, and H. R. Davies, with possibly one companion, will take part in the Senior race, in addition to the Junior event.

The string band from the Palace Orchestra will perform during the races.

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Ireland will have at least three representatives in the races and possibly a fourth. T. E. Greene (an ex-Grand Prix winner) will be one of the B.S.A. team, and with previous experience of racing in the Island should prove a more than useful member of the combination. He is already in Ramsey, where the B.S.A. men have their headquarters. J. W. Shaw, of Belfast, who rode last year on a Norton and won the flying kilometre competition on the promenade, will again form one of the Norton team. R. Humphreys, of Dublin, will have a mount on the Velocette, and will form one of the official team. It is understood Chambers, of Belfast, a son of the well-known local agent, W. J. Chambers, has been offered a mount on one of the officially entered A.J.S. machines.

TABULATED LIST OF THE 64 ENTRIES FOR THE JUNIOR T.T. RACE.

32 Four-stroke Singles. 10 Twins. 22 Two-strokes.

	Entrant.	Make and H.P.	No. of Cyl.	Bore and Stroke.	Cubic Capacity.	Driver.	Make of Driving Chain or Belt.	Make of Magneto.	Size of Front Wheel.	Size of Back Wheel.	Make of Tyres.	Make of Carburetter.
				mm.	c.c.				in., mm.	in., mm.		
1	Roberts & Hibbs	2¾ New Scale	1	71 × 88	348	G. Browne	Ren. ch. J.Bull bt	B.T.H.	26×2¼	26×2¼	Avon	Amac
2	A. G. Miller, Ltd.	2¾ Martin	1	70 × 90	346	A. G. Miller	Ren. ch. J.Bull bt	M-L	26×2¼	26×2¼	Hutchinson	Amac
3	F. Aslett Coulson Eng. Co.	2¾ Coulson	1	71 × 88	348	L. Nicholson	Ren. ch. J.Bull bt	E.I.C.	26×2¼	26×2¼	Palmer Cord	Amac
4	Tudor Thompson	2¾ Douglas	2	61 × 60	350	Entrant	Renold chain	E.I.C.	26×2¼	26×2¼	Hutchinson	Amac
5	New Imperial Cycles, Ltd.	2¼ New Imperial	1	64.5 × 76	249	B. Kershaw	Renold chain	E.I.C.	26×2¼	26×2¼	Dunlop	Amac
6	J. Blake & Co.	3 Ivy	1	75 × 79	348	W. H. Kelly	Renold chain	E.I.C.	26×2⅜	26×2⅜	Dunlop	Amac
7	Butterfields, Ltd.	2¼ Levis	1	67 × 70	247	P. Pike	Ren. ch. J.Bull bt	E.I.C.	24×2¼	24×2¼	Hutchinson	Amac
8	The Hobart Cycle Co., Ltd.	2¼ Hobart	1	64.5 × 76	249	G. Savage	Ren. ch. Dun. bt.	C.A.V.	26×2¼	26×2¼	Dunlop	Amac
9	Burney & Blackburne, Ltd.	2¾ Blackburne	1	71 × 88	349	C. W. Fairweather	Renold chain	T.B.	26×2⅜	26×2⅜	Hutchinson	Amac
10	W. J. Green, Ltd.	2¼ Omega	1	64.5 × 76	250	Norman Black	Dunlop belt	C.A.V.	26×2¼	26×2¼	Dunlop	B. & B.
11	A. J. Stevens & Co. (1914), Ltd.	2¾ A.J.S.	1	74 × 81	349	Vivian Olsson	Renold chain	T.B.	26×2¼	26×2¼	Hutchinson	Amac
12	Wooler Motor Cycle Co. (1919), Ltd.	2¾ Wooler	2	60.5 × 60	345	F. A. Longman	John Bull belt	C.A.V.	26×2¼	26×2¼	Palmer	B. & B.
13	Butterfields, Ltd.	2¼ Levis	1	67 × 70	247	A. Milner	Ren. ch. J.Bull bt	E.I.C.	24×2¼	24×2¼	Hutchinson	Amac
14	R. Weatherell	3 R.W. Scout	1	73 × 76	318	Entrant	Cov. ch. Dun. bt.	E.I.C.	26×2¼	26×2¼	Palmer Cord	Amac
15	The Sun Cycle & Fitting Co., Ltd.	2¼ Sun-Vitesse	1	—	—	G. Kubn	Ren. ch. Dun. bt.	T.B.	26×2¼	26×2¼	Dunlop	B. & B.
16	Massey Arran Motor Co., Ltd.	2¾ Massey Arran	1	71 × 88	348	Jack Thomas	—	—	—	—	—	—
17	Douglas Motors, Ltd.	2¾ Douglas	2	61 × 60	350	A. H. Alexander	Renold chain	E.I.C.	26×2¼	26×2¼	Hutchinsoo	Senspra
18	The Hobart Cycle Co., Ltd.	2¼ Hobart	1	64.5 × 76	249	W. J. Lord	Ren. ch. Dun. bt.	C.A.V.	26×2¼	26×2¼	Dunlop	Amac
19	Maudes Motor Mart	3 Ivy	1	75 × 79	348	L. Vicary	Renold chain	E.I.C.	26×2⅜	26×2⅜	Dunlop	Amac
20	New Imperial Cycles, Ltd.	2¾ New Imperial	1	70 × 90	346	L. Horton	Renold chain	E.I.C.	26×2¼	26×2¼	Dunlop	Amac
21	Veloce, Ltd.	2¼ Velocette	1	63 × 80	249	Geo. Denley	Renold chain	C.A.V.	26×2¼	26×2¼	Dunlop	B. & B.
22	The Sun Cycle & Fittings Co., Ltd.	2¼ Sun-Vitesse	1	—	—	B. H. Norris	Ren. ch. Dun. bt.	T.B.	26×2¼	26×2¼	Dunlop	B. & B.
23	Massey Arran Motor Co., Ltd.	2¾ Massey Arran	1	71 × 88	348	J. G. Oates	—	—	—	—	—	—
24	New Imperial Cycles, Ltd.	2¼ New Imperial	1	64.5 × 70	249	D. G. Prentice	Renold chain	E.I.C.	26×2¼	26×2¼	Dunlop	Amac
25	S. A. Newman, Ltd.	3 Ivy	1	75 × 79	348	P. Newman	Renold chain	E.I.C.	26×2⅜	26×2¼	Dunlop	Amac
26	O'Donovan Motors	2¼ Velocette	1	63 × 80	249	R. N. Judd	Coventry chain	C.A.V.	26×2¼	26×2¼	Dunlop	Binks
27	The D. F. & M. Eng. Co., Ltd.	2¼ Diamond	1	65 × 75	249	F. J. Price	Renold chain	C.A.V.	26×2¼	26×2¼	Avon	Amac
28	Butterfields, Ltd.	2¼ Levis	1	67 × 70	247	F. W. Applebee	Ren. ch. J.Bull bt	E.I.C.	24×2¼	24×2¼	Hutchinson	Amac
29	Burney & Blackburne, Ltd.	2¾ Blackburne	1	71 × 88	349	E. Remington	Renold chain	T.B.	26×2⅜	26×2⅜	Hutchinson	Amac
30	J. Joynson	2¾ N.U.T.	2	60 × 61.5	349	Entrant	Ren. ch. Pedley bt	T.B.	26×2¼	26×2¼	Hutchinson	Amac
31	A. G. Miller, Ltd.	2¾ Martin	1	70 × 90	346	T. Eve	Renold chain	M-L	26×2¼	26×2¼	Hutchinson	Amac
32	A. J. Stevens & Co. (1914), Ltd.	2¾ A.J.S.	1	74 × 81	349	G. Kelly	Renold chain	T.B.	26×2¼	Avon	Amac	
33	Alexander & Co.	2¾ Douglas	2	68 × 48	350	J. R. Alexander	Renold chain	E.I.C.	26×2¼	26×2¼	Hutchinson	Senspr.
34	A. H. Haden	2¼ New Comet	1	70 × 76	293	S. F. Haden	Ren. ch. Dun. bt.	C.A.V.	26×2¼	26×2¼	Dunlop	Amac
35	New Imperial Cycles, Ltd.	2¼ New Imperial	1	64.5 × 76	249	J. S. Clayton	Ren. ch. Dun. bt.	E.I.C.	26×2¼	26×2¼	Dunlop	B. & B.
36	The D. F. & M. Eng. Co., Ltd.	2¼ Diamond	1	64.5 × 76	249	S. A. Marks	Renold chain	M-L	26×2¼	26×2¼	Avon	Amac
37	H. G. Hawker	2¾ Hawker	1	65 × 105	348	Entrant	Coventry chain	M-L	26×2¼	26×2¼	Avon	Claude
38	A. J. Stevens & Co., Ltd.	2¾ A.J.S.	1	74 × 81	349	H. F. Harris	Renold chain	T.B.	26×2¼	26×2¼	Avon	Amac
39	Burney & Blackburne, Ltd.	2¾ Blackburne	1	71 × 88	348	R. Carey	Renold chain	T.B.	26×2⅜	26×2⅜	Avon	Amac
40	Holroyd Motors	2¾ Massey Arran	1	71 × 88	348	Jack Holroyd	Renold chain	T.B.	26×2⅜	26×2¼	Hutchinson	Amac
41	F. Boulton	2¾ New Imperial	1	70 × 90	346	Entrant	Renold chain	E.I.C.	26×2¼	26×2¼	Dunlop	B. & B.
42	Eric Longden	2¾ Coulson	2	60 × 61	344	Entrant	Renold chain	E.I.C.	26×2¼	26×2¼	Hutchinson	Amac
43	R. W. Loughton	2¾ N.U.T.	2	60 × 61.5	349	Entrant	Ren. ch. Dun. bt.	T.B.	26×2¼	26×2¼	Hutchinson	Amac
44	Butterfields, Ltd.	2¼ Levis	1	67 × 70	247	R. E. Pugh	Ren. ch. J.Bull bt	E.I.C.	24×2¼	24×2¼	Hutchinson	Amac
45	C. F. Edwards	3 Ivy	1	75 × 79	348	Entrant	Renold chain	E.I.C.	26×2⅜	26×2⅜	Dunlop	Amac
46	C. H. Hopwood	2¼ Levis	1	67 × 70	247	Entrant	Ren. ch. J.Bull bt	E.I.C.	24×2¼	24×2¼	Hutchinson	Amac
47	Douglas Motors, Ltd.	2¾ Douglas	2	60.5 × 60	345	H. Thorpe	Renold chain	E.I.C.	26×2¼	26×2¼	Hutchinson	Senspr
48	Dot Motors	2¾ Dot	1	70 × 90	346	W. Howarth	—	—	—	—	—	—
49	Butterfields, Ltd.	2¼ Levis	1	67 × 70	247	G. S. Davison	Ren. ch. J.Bull bt	E.I.C.	24×2¼	24×2¼	Hutchinson	Amac
51	F. Aslett Coulson Eng. Co.	2¾ Coulson	1	71 × 88	348	H. Petty	Ren. ch. J.Bull bt	E.I.C.	26×2¼	26×2¼	Palmer Cord	Amac
51	Maudes Motor Mart	3 Ivy	1	75 × 79	348	G. N. Norris	Renold chain	E.I.C.	26×2⅜	26×2⅜	Dunlop	Amac
52	A. J. Stevens & Co. (1914), Ltd.	2¾ A.J.S.	1	74 × 81	349	Eric Williams	Renold chain	T.B.	26×2¼	26×2¼	Avon	Amac
53	Braddon Motor & Cycle Depot	2¾ Blackburne	1	71 × 88	348	Frank Wood	Renold chain	T.B.	26×2⅜	26×2⅜	Hutchinson	Amac
54	H. F. Brockbank	2¾ Brock-Bl'kb'e	1	71 × 88	348	Entrant	Renold chain	E.I.C.	26×2¼	26×2¼	Avon	Amac
55	Frank Whitworth, Ltd.	3 Ivy	1	75 × 79	348	Reg. Green	Renold chain	E.I.C.	26×2⅜	26×2⅜	Dunlop	Amac
56	W. G. Harrison	2¼ Velocette	1	63 × 80	249	Entrant	Renold chain	C.A.V.	24×2¼	24×2¼	Dunlop	B. &
57	A. J. Stevens & Co. (1914), Ltd.	2¾ A.J.S.	1	74 × 81	349	O. Wade	Renold chain	T.B.	26×2¼	26×2¼	Avon	Amac
58	Douglas Motors, Ltd.	2¾ Douglas	2	60.5 × 60	345	J. Emerson	Renold chain	E.I.C.	26×2¼	26×2¼	Hutchinson	Senspr
59	A. J. Stevens & Co. (1914), Ltd.	2¾ A.J.S.	1	74 × 81	349	H. R. Davies	Renold chain	T.B.	26×2¼	26×2¼	Avon	Amac
60	A. G. Miller, Ltd.	2¾ Martin	1	64.5 × 76	249	H. Martin	Renold chain	M-L	26×2¼	26×2¼	Hutchinson	Amac
61	Wooler Motor Cycle Co. (1919), Ltd.	2¾ Wooler	2	60.5 × 60	345	S. E. Longman	John Bull belt	C.A.V.	26×2¼	26×2¼	Palmer	B. &
62	A. J. Stevens & Co. (1914), Ltd.	2¾ A.J.S.	1	74 × 81	349	T. M. Sheard	Renold chain	T.B.	26×2¼	26×2¼	Avon	Amac
63	R. Humphreys	2¼ Velocette	1	63 × 80	249	Entrant	Renold chain	C.A.V.	24×2¼	24×2¼	Dunlop	B. &
64	H. P. Lawrence	2¾ New Hudson	1	67 × 70	247	G. W. Jones	Ren. ch. Dun. bt.	T.B.	24×2¼	24×2¼	Dunlop	B. &

TABULATED LIST OF 68 ENTRIES FOR THE SENIOR T.T. RACE.

52 Four-stroke Singles. 9 Four-stroke Twins. 6 Two-stroke Twins. 1 Two-stroke Single.

	Entrant.	Make and H.P.	No. of Cyl.	Bore and Stroke.	Cubic Capacity.	Driver.	Make of Driving Chain or Belt.	Make of Magneto.	Size of Front Wheel.	Size of Back Wheel.	Make of Tyres.	Make of Carburetter.
				mm.	c.c.				in. or mm.	in. or mm.		
1	John Marston, Ltd.	3½ Sunbeam	1	85 × 88	499	De la Hay	Renold chain	M-L	26×2⅜	26×2⅜	Avon	Amac
2	A. J. Stevens & Co. (1914), Ltd.	2⅝ A.J.S.	1	74 × 81	349	H. R. Davies	Renold chain	T.B.	26×2¼	26×2¼	Avon	Amac
3	Triumph Cycle Co., Ltd.	3½ Triumph	1	80.5× 98	498.78	C. Sgonina	Renold chain	B.T.H.	26×2½/3	26×2½/3	Dunlop	Amac
4	Frank Whitworth, Ltd.	3 Ivy	1	75 × 79	348	A. Jones	Renold chain	E.I.C.	26×2⅜	26×2⅜	Dunlop	Amac
5	G. A. Vandervell	3½ Norton	1	79 ×100	490	Entrant	Renold chain	C.A.V.	26×	26×	Avon	Amac
6	Eric Williams, Ltd.	3½ Suabeam	1	85 × 88	499	Entrant	Renold chain	M-L	26×2¾	26×2¾	Avon	Amac
7	Douglas Motors, Ltd.	3½ Douglas	2	68 × 68	494	J. Emerson	Renold chain	E.I.C.	650×65	650×65	Hutchinson	Senspray
8	Norton Motors, Ltd.	3½ Norton	1	79 ×100	490	D. Brown	Renold chain	C.A.V.	26×2½	26×2½	Dunlop	B. & B.
9	John Marston, Ltd.	3½ Sunbeam	1	85 × 88	499	A. Bennett	Renold chain	M-L	26×2¾	26×2¾	Dunlop	Amac
10	Scott Motor Cycle Co., Ltd.	3½ Scott	2	70 × 63.5	486	C. P. Wood	Renold chain	Lucas	26×2½	26×2½	Palmer	Amac
11	B.S.A. Cycles, Ltd.	3½ B.S.A.	1	85 × 88	499	A. E. Taylor	Renold chain	E.I.C.	650×65	650×65	Dunlop	B.S.A.
12	W. H. Wells	3½ Indian	1	79.3×100.8	498.8	H. R. Harveyson	Renold chain	A. Bosch	28×2½	28×2½	Hutchinson	Schebler
13	R. Carey	4 Blackburne	1	85 × 88	499	Entrant	Renold chain	T.B.	26×2¾	26×2½	Avon	Amac
14	Triumph Cycle Co. Ltd.	3½ Triumph	1	80.5× 98	498.78	F. C. Townshend	Renold chain	M-L	26×2½/3	26×2½/3	Dunlop	Amac
15	Scott Motor Cycle Co., Ltd.	3½ Scott	2	70 ×63.5	486	J. W. Moffat	Renold chain	Lucas	26×2½	26×2½	Palmer	Amac
16	J. O. Groves	3½ Rudge	1	85 × 88	499	Entrant	Dunlop belt	C.A.V.	650×65	650×65	Dunlop	Senspray
17	Vivian Olsson	3½ Sunbeam	1	85 × 88	499	Entrant	Renold chain	M-L	26×2½	26×2¾	Hutchinson	Amac
18	A. Pattinson	3½ Triumph	1	80.5× 98	498.78	Entrant	Renold chain	M-L	26×2½/3	26×2½/3	Dunlop	Amac
19	Norton Motors, Ltd.	3½ Norton	1	79 ×100	490	N. C. Schater	Renold chain	C.A.V.	650×65	650×65	Palmer	B. & B.
20	Ilkley Motor Cycle & L.C.C.	3½ Scott	2	70 ×63.5	486	G. Clapham	Renold chain	Lucas	26×2½	26×2½	Palmer	Amac
21	James Cycle Co., Ltd	3½ James	2	64 × 77	496	G. Strange	Renold chain	T.B.	26×2¾	26×2¾	Dunlop	Amac
22	B.S.A. Cycles, Ltd.	3½ B.S.A.	1	85 × 88	499	F. C. North	Renold chain	E.I.C.	650×65	650×65	Dunlop	B.S.A.
23	T. Mallon	3½ Sunbeam	1	85 × 88	499	Entrant	Renold chain	M-L	26×2¾	26×2¾	Dunlop	Amac
24	Norton Motors, Ltd.	3½ Norton	1	79 ×100	490	H. Hassall	Renold chain	C.A.V.	26×2½	26×2½	Avon	B. & B.
25	New Rover Cycle Co., Ltd.	3½ Rover	1	85 × 88	499	R. Elliott	Brampton chain	E.I.C.	26×3	26×3	Dunlop	Amac
26	Scott Motor Cycle Co., Ltd.	3½ Scott	2	70 ×63.5	486	H. Langman	Renold chain	Lucas	26×2½	26×2¾	Palmer	Amac
27	M. Edmunds	3½ Triumph	1	80.5× 98	498.78	Entrant	Renold chain	M-L	26×2½/3	26×2½/3	Dunlop	Amac
28	Scott Motor Cycle Co., Ltd.	3½ Scott	2	70 × 63.5	486	R. W. Stanfield	Renold chain	Lucas	26×2½	26×2½	Palmer	Amac
29	Triumph Cycle Co., Ltd.	3½ Triumph	1	80.5× 98	498.78	G. J. Sheman	Renold chain	B.T.H.	26×2½/3	26×2½/3	Dunlop	Amac
30	John Marston, Ltd.	3½ Sunbeam	1	85 × 88	499	W. R. Brown	Renold chain	M-L	26×2¾	26×2½	Avon	Amac
31	Nortoo Motors, Ltd.	3½ Norton	1	79 ×100	490	J. W. Shaw	Renold chain	C.A.V.	26×2½	26×2½	Avon	Senspray
32	W. H. Wells	3½ Indian	1	79.3×100.8	498.8	H. Le Vack	Renold chain	A. Bosch	28×2½	28×2½	Hutchinson	Schebler
33	Wm. Atkinson & Sons, Ltd.	3½ Sunbeam	1	85 × 88	499	J. Whalley	Renold chain	M-L	26×2¾	26×2¾	Dunlop	Amac
34	Alexander & Co.	3½ Norton	1	79 ×100	490	D. S. Alexander	Renold chain	E.I.C.	26×2¾	26×2½	Hutchinson	Amac
35	A. G. Miller, Ltd.	3½ Martin	2	64 × 77	496	O. M. Baldwin	Renold chain	Bosch	26×2½	26×2½	Hutchinson	Amac
36	Triumph Cycle Co., Ltd.	3½ Triumph	1	80.5× 98	498.78	S. Gill	Renold chain	B.T.H.	26×2½/3	26×2½/3	Dunlop	Amac
37	Norton Motors, Ltd.	3½ Norton	1	79 ×100	490	Victor Horsman	Renold chain	C.A.V.	650×65	650×65	Avon	B. & B.
38	Douglas Motors, Ltd.	3½ Douglas	2	68 × 68	499	H. Thorpe	Renold chain	E.I.C.	650×65	650×65	Hutchinson	Senspray
39	B.S.A. Cycles, Ltd.	3½ B.S.A.	1	85 × 88	499	H. Riddell	Renold chain	M-L	650×65	650×65	Dunlop	B.S.A.
40	A. A. Jackson	3½ Norton	1	79 ×100	490	Entrant	Renold chain	C.A.V.	26×2½	26×2½	Palmer	B. & B.
41	B.S.A. Cycles, Ltd.	3½ B.S.A.	1	85 × 88	499	Gus Kuhn	Renold chain	M-L	650×65	650×65	Dunlop	B.S.A.
42	B.S.A. Cycles, Ltd.	3½ B.S.A.	1	85 × 88	499	T. E. Greene	Renold chain	E.I.C.	650×65	650×65	Dunlop	B.S.A.
43	H. Minton	3½ Norton	1	79 ×100	490	Entrant	Renold chain	C.A.V.	26×2½	26×2½	Avon	Amac
44	W. Hollowell	3½ Norton	1	79 ×100	490	Entrant	Renold chain	C.A.V.	26×2½	26×2½	Avon	B. & B.
45	Douglas Motors, Ltd.	3½ Douglas	2	68 × 68	494	A. H. Alexander	Renold chain	E.I.C.	650×65	650×65	Hutchinson	Senspray
46	G. Sutcliffe	3½ Norton	1	79 ×100	490	Entrant	Renold chain	C.A.V.	26×2½	26×2½	Palmer	Amac
47	Reg. Lucas	3½ Scott	2	70 × 63.5	486	Entrant	Renold chain	T.B.	26×2½	26×2½	—	Amac
48	Triumph Cycle Co., Ltd.	3½ Triumph	1	80.5× 98	498.78	F. G. Edmond	Renold chain	M-L	26×2½/3	26×2½/3	Dunlop	Amac
49	Eric Longden	3½ Coulson	2	64.5× 76	496	Entrant	Renold chain	E.I.C.	26×2½	26×2½	Hutchinson	Amac
50	New Rover Cycle Co., Ltd.	3½ Rover	1	85 × 88	499	F. Collard	Brampton chain	E.I.C.	26×3	26×3	Dunlop	Amac
51	W. H. Wells	3½ Indian	1	79.3×100.8	498.8	J. Malkow	Renold chain	A. Bosch	28×2½	28×2½	Hutchinson	Schebler
52	New Rover Cycle Co., Ltd.	3½ Rover	1	85 × 86	499	W. Brandish, Junr.	Brampton chain	E.I.C.	26×3	26×3	Dunlop	Amac
53	Jack Thomas	3½ Norton	1	79 ×100	490	Entrant	Renold chain	C.A.V.	26×2½	26×2½	—	—
54	R. J. Braid	3½ Triumph	1	80.5× 98	498.78	Entrant	Renold chain	M-L	26×2½/3	26×2½/3	Dunlop	Amac
55	W. Royle	3½ Norton	1	79 ×100	490	Entrant	Renold chain	C.A.V.	26×2½	26×2½	Avon	Amac
56	B.S.A. Cycles, Ltd.	3½ B.S.A.	1	85 ×88	499	T. Simister	Renold chain	M-L	650×65	650×65	Dunlop	B.S.A.
57	James Cycle Co., Ltd.	3½ James	2	64 × 77	496	J. Lidstone	Renold chain	T.B.	26×2¾	26×2¾	Dunlop	Amac
58	James Cycle Co., Ltd.	3½ James	2	64 × 77	496	G. E. Stobart	Renold chain	T.B.	26×2¾	26×2¾	Dunlop	Amac
59	A. J. Stevens & Co. (1914), Ltd.	2⅝ A.J.S.	1	74 × 81	349	O. Wade	Renold chain	T.B.	26×2½	26×2½	Avon	Amac
60	Triumph Cycle Co., Ltd.	3½ Triumph	1	80.5× 98	498.78	J.A.Watson-Bourne	Renold chain	M-L	26×2½/3	26×2½/3	Dunlop	Amac
61	H. B. Mylchreest	3½ Sunbeam	1	85 × 88	499	T. M. Sheard	Renold chain	M-L	26×2¾	26×2¾	—	Amac
62	L. Mitchell	3½ Norton	1	79 ×100	490	Entrant	Renold chain	C.A.V.	26×2½	26×2½	Avon	Amac
63	Tommy Thompson	3½ Douglas	2	68 × 68	494	Entrant	Renold chain	E.I.C.	26×2½	26×2½	Hutchinson	Amac
64	Victor Horsman, Ltd.	3½ Norton	1	79 ×100	490	—	Renold chain	C.A.V.	26×2½	26×2½	Avon	B. & B.
65	W. H. Wells	3½ Indian	1	79.3×100	498	F. W. Dixon	Renold chain	A. Bosch	28×2½	28×2½	Hutchinson	Schebler
66	Burney & Blackburne, Ltd.	4 Blackburne	1	85 × 88	499	E. Remington	Renold chain	T.B.	26×2¾	26×2½	Hutchinson	Amac
67	John Marston, Ltd.	3½ Sunbeam	1	85 × 88	499	G. Dance	Renold chain	M-L	26×2¾	26×2¾	Avon	Amac
68	Burney & Blackburne, Ltd.	4 Blackburne	1	85 × 88	499	E. Smith	Renold chain	T.B.	26×2¾	26×2½	Hutchinson	Amac

TOURIST TROPHY RACE TEAMS, 1921.

JUNIOR RACE.

A.J.S.
H. F. Harris. H. R. Davies.
Eric Williams.

BLACKBURNE.
C. W. Fairweather. R. Carey.
E. Remington. E. Smith, res.

COULSON.
L. Nicholson. Eric Longden.
H. Petty.

DOUGLAS.
A. H. Alexander. H. Thorpe.
J. Emerson.

LEVIS.
P. Pike. A. Milner.
G. S. Davison.

LEVIS (250 c.c. Class).
F. W. Applebee. R. E. Pugh.
C. H. Hopwood.

MASSEY-ARRAN.
Jack Thomas. J. G. Oates.
J. Holroyd.

NEW IMPERIAL.
B. Kershaw. L. Horton.
F. Boulton.

NEW IMPERIAL (250 c.c. Class).
B. Kershaw. J. S. Clayton.
D. G. Prentice.

VELOCETTE (250 c.c. Class).
G. Denley. R. Humphrey.
H. G. Harrison.

SENIOR RACE.

BLACKBURNE.
R. Carey. E. Smith.
E. Remington.

DOUGLAS.
J. Emerson. H. Thorpe.
A. H. Alexander.

INDIAN.
H. Le Vack. J. Malkow.
F. W. Dixon.

JAMES.
G. Strange. J. F. Lidstone.
G. E. Stobart.

NORTON.
D. Brown. J. W. Shaw.
Victor Horsman.

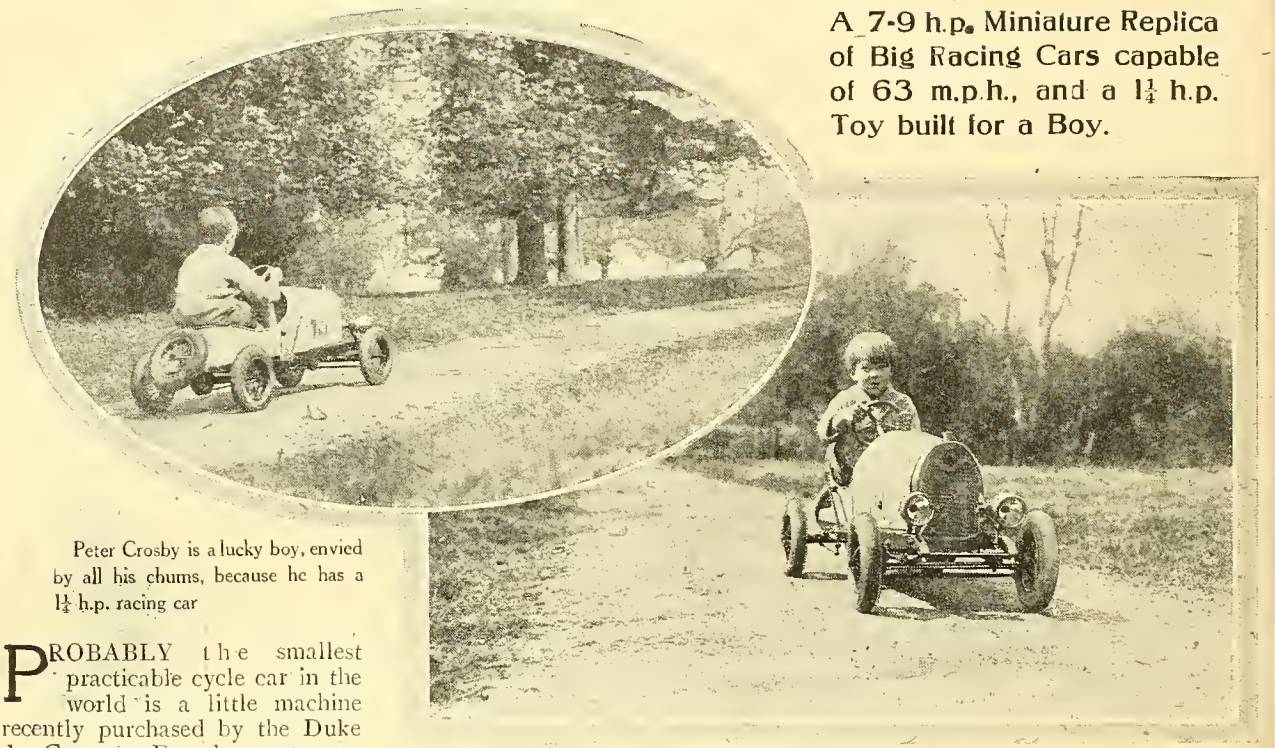
ROVER.
R. Elliott. F. Collard.
W. Brandish, jun.

SCOTT.
C. P. Wood. H. Langman.
R. W. Stanfield.

SUNBEAM.
T. C. de la Hay. W. R. Brown.
G. Dance. A. Bennett, res.

MINIATURE CARS.

A 7-9 h.p. Miniature Replica of Big Racing Cars capable of 63 m.p.h., and a 1¼ h.p. Toy built for a Boy.

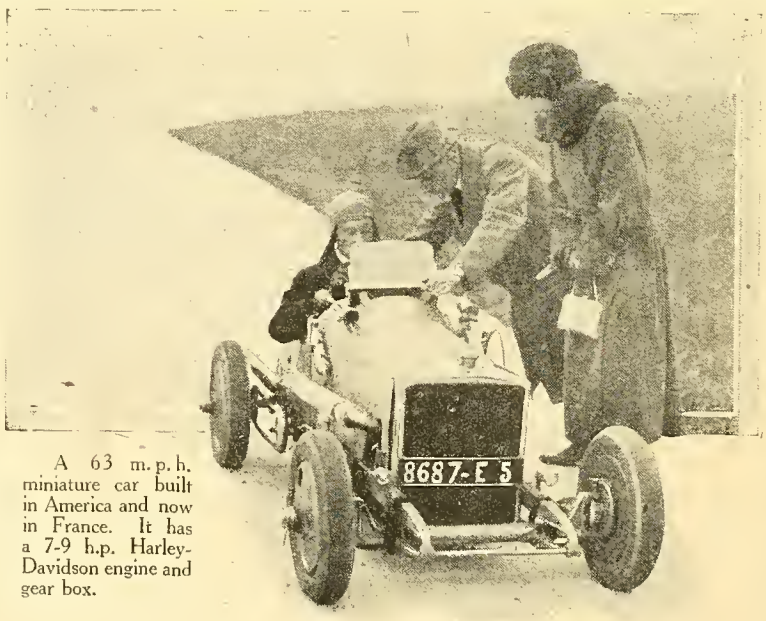


Peter Crosby is a lucky boy, envied by all his chums, because he has a 1¼ h.p. racing car

PROBABLY the smallest practicable cycle car in the world is a little machine recently purchased by the Duke de Caze, a French sportsman, from its maker, Mr. Robert P. Breese. This car, which is a wonderful replica of a racing machine, has a wheelbase of 62in., a track of 37in., and its highest point is only 33in. from the ground.

Although this car immediately attracts attention by reason of its small dimensions, its charm lies in the fact that it is modelled entirely on big car practice, and has a most graceful single-seat racing body. The wheels are detachable wire type, with racing lock nuts, and originally served on a scout aeroplane. They are equipped with 20 × 4in. tyres, which are inflated to a very low pressure.

The engine used is a standard Harley-Davidson, offset in the wood frame. The Harley-Davidson gear box is used, and final drive is by means of side chains. Petrol is carried in the bulbous tail, and an oil tank is mounted on the left-hand side of the chassis; there is a spare wheel, electric lighting from batteries, kick-starter, a windscreen, and a radiator (which looks as if it carried water, but does not). In France the machine runs with car numbers, and it is hardly necessary to say it attracts immense attention and disturbs traffic, for the Paris policemen seem to take a delight in holding it up merely to have an opportunity of examining it at close quarters.



A 63 m.p.h. miniature car built in America and now in France. It has a 7-9 h.p. Harley-Davidson engine and gear box.

The other miniature we illustrate is an elaborate toy built by Mr. F. Gordon Crosby, special artist of *The Motor Cycle* and *The Autocar*, for his boy, who, by the way, grew more quickly than the car, so that by the time it was completed he required one a size larger. The detail work is good, and a photograph minus the passenger might pass easily for a powerful racing car.

A 1¼ h.p. Simplex auxiliary bicycle attachment, with clutch and two-speed gear, forms the power unit which drives the live axle by means of a chain.



Wakefield and District M.C.C.

Park Rash was the venue of a recent sporting hill-climb, which proved a great success. In the solo class G. R. Grundy (3½ Sunbeam) and G. Smith (4 Triumph) made clean ascents, but after a second climb the former was declared the winner. J. Brownhill (8 Sunbeam sc.) was the only sidecarist to get up unassisted.

Standard M.C.C. (Coventry).

Forty competitors turned out for the "tortoise competition" (which included a slow flat race, slow hill-climb, and a starting test). G. Thomas (4 Triumph sc.) and A. Anderton (5-6 Rover sc.) were first and second respectively.

Ilkley M.C. and L.C.C.

Disappointed in being unable to carry out their hill-climb and speed trial on May 21st, the members arranged a trial on somewhat novel lines. It took the form of a paperchase, but instead of dropping paper, the "hares" marked the turnings and cross-roads with dye. They led the competitors a merry chase across the hills between the Wharfe and the Nidd, with three observed hills, two watersplashes and two secret checks. W. Moore, on a 3¾ h.p. Scott, was the winner, with a loss of only four marks. H. W. Sellers (3½ Sunbeam) and G. W. H. Wade (4 Blackburne) tied for the second place, and M. Bowna- (6 L.M.C. sc.) secured the third place.

Southport A.C.

Below are complete tabulated results of the speed trials, briefly referred to last week, which were held on the sands at Southport:

CLASS 1 (275 c.c.), All Members.—1, S. Marks (2¼ Diamond); 2, B. Houlding (2 Matador).

CLASS 2 (275 c.c.), Trade and Expert Barred.—1, D. Burns (2¼ Diamond); 2, W. S. Finlayson (2½ Sirrah).

CLASS 3 (350 c.c.), All Members.—1, S. Marks (2¼ Diamond); 2, B. Houlding (2 Matador).

CLASS 4 (350 c.c.), Trade and Expert Barred.—1, W. Cunningham (2¾ Verus); 2, D. Burns (2¼ Diamond).

CLASS 5 (500 c.c.), All Members.—1, F. Collard (3½ Rover); 2, S. Marks (2¼ Diamond); 3, W. Johnson (3½ Sunbeam).

CLASS 6 (500 c.c.), Trade and Expert Barred.—1, C. Waterhouse (3½ Sunbeam); 2, R. Derbyshire (3½ Norton); 3, W. Cunningham (2¾ Verus).

CLASS 7 (600 c.c.), All Members.—1, J. Whalley (3½ Sunbeam); 2, F. Collard (3½ Rover); 3, S. Marks (2¼ Diamond).

CLASS 8 (600 c.c.), Trade and Expert Barred.—1, C. Waterhouse (3½ Sunbeam); 2, R. Derbyshire (3½ Norton); 3, B. Dewhurst (4 Indian).

CLASS 9 (750 c.c.), All Members.—1, F. Collard (3½ Rover); 2, G. E. Cowley, jun. (3½ Norton); 3, W. Johnson (3½ Sunbeam).

CLASS 10 (750 c.c.), Trade and Expert Barred.—1, C. Waterhouse (3½ Sunbeam); 2, R. Derbyshire (3½ Norton); 3, B. Dewhurst (4 Indian).

CLASS 11 (Unlimited), All Members.—1, P. Barron (7-9 Indian); 2, S. Marks (2¼ Diamond); 3, F. Collard (3½ Rover).

CLASS 12 (Unlimited), Trade and Expert Barred.—1, B. Dewhurst (4 Indian); 2, R. Derbyshire (3½ Norton).

CLASS 15 (Unlimited Passenger), All Members.—1, P. Barron (7-9 Indian sc.); 2, G. E. Cowley (3½ Norton sc.); 3, A. Tinkler (7-9 American X sc.).

CLASS 16 (Unlimited Passenger), Trade and Expert Barred.—1, E. Jones (10 Morgan); 2, A. Slater (7-9 Indian sc.); 3, W. E. Killey (10 Morgan).

Week-end Club Events.

June 2.—Wolverhampton M.C.C. Paperchase.
June 3.—North London M.C.C. Quarterly General Meeting.
June 4.—North West London M.C. London-Coventry-London Trial.
June 4.—West Kent M.C. Half Day Trial.
June 4.—Oxford University M.C. and Oxford M.C. Inter-club Hill-climb.
June 4.—West Birmingham M.C.C. Half Day Reliability Trial.
June 4.—Saltcoats and District M.C.C. Club Run to Turnberry.
June 4.—Leeds and District M.C. Gymkhana.
June 4.—Exeter M.C. and A.C.C. Hill-climb.
June 4.—Kidderminster M.C.C. Social Run.
June 4.—North Wales M.C.C. Speed Guessing Contest.
June 4.—Birmingham M.C.C. Week-end Trial to Llangollen.
June 4.—Essex M.C. Gymkhana.
June 4.—Holwood M.C.C. Club Run.
June 4.—Dewsbury and District M.C.C. Freak Hill-climb.
June 4.—Coventry and Warwickshire M.C. Twenty-four Hours Trial to Torquay and back.
June 4-5.—Wolverhampton Auto Nomads. Week-end Run to Llangollen.
June 5.—Amersham and District M.C.C. Club Run to Worthing.
June 5.—North London M.C.C. Picnic at Longdown.
June 5.—Ilkley M.C. and L.C.C. Hill-climb.
June 5.—Bury and District M.C. Team Trial.
June 5.—Stafford and District M.C.C. Club Run to Warwick.
June 5.—Loughborough and District M.C.C. Meet at Monsal Dale.
June 5.—Wakefield and District M.C.C. Club Run to Gordale Scar.
June 5.—Leeds M.C. Club Run to Morecambe.
June 5.—Newcastle and District M.C. Chase Cup Reliability Trial.
June 5.—Halifax and District M.C.C. Reliability Trial.
June 5.—Stamford and District M.C.C. and Peterborough M.C.C. Joint Speed Trials.
June 5.—Harrogate and District M.C.C. Club Run to Bridlington.
June 5.—Northern M.C. Social Run to Rothbury and Hill-climb.
June 5.—Canterbury and District M.C.C. Club Run to Tunbridge Wells.
June 5.—Eastbourne and District M.C.C. Picnic at Ticehurst.
June 5.—Berwick and District M.C. President's Run.
June 5.—Stockport and District M.C. Speed Trials.
June 5.—Basingstoke and District M.C. and L.C.C. Club Run to Sonning.
June 5.—Woolwich, Plumstead, and District M.C. Club Run to Maidstone and River Trip.
June 8.—Reigate, Redhill, and District M.C.C. Club Run.
June 8.—York and District M.C. Gymkhana.
June 9.—Taunton and District M.C. and L.C.C. and Bridgwater and District M.C. and L.C.C. Joint Hill-climb.
June 9.—Doncaster and District M.C.C. Gymkhana.

A Section devoted to Club Announcements will be found on Supp. xlvii.

Hull M.C.

Complete results are now available of the hill-climb held on the 21st ult., and are as follows:

350 c.c. CLASS.—1, A. E. Tuton (2½ Diamond-Jap), 41s.; 2, Bowie (2¾ Wooler), 43⅘s.; 3, Southern (2¾ Wooler), 46⅖s.

600 c.c. CLASS.—1, W. Padgett (3½ Norton), 32⅘s.; 2, N. Walker (3½ Norton), 34⅗s.; 3, A. E. Tuton (2½ Diamond-Jap), 40⅘s.

750 c.c. CLASS.—1, W. Padgett (3½ Norton), 31⅕s.; 2, N. Walker (3½ Norton), 35⅗s.; 3, G. Thompson (3½ Douglas), 37⅕s.

1,000 c.c. CLASS.—1, P. Walker (8 Excelsior), 30⅘s.; 2, W. Padgett (3½ Norton), 33⅗s.; 3, Barnes (7-9 Harley-Davidson), 34s.

Manchester M.C.

There was a very good attendance of spectators and competitors at the first hill-climb of the year at Booth-Dene on the 22nd ult., and some very keen riding was witnessed. Results, which were worked out on handicap, follow:

SIDECARS (Unlimited).—1, G. E. Cowley (2¾ Dalton sc.); 2, J. Bullough (8 Dot sc.); 3, A. E. Hitchcock (7-9 Harley-Davidson sc.).

SIDECARS (750 c.c.).—1, P. Platt (4 Bradbury sc.); 2, A. E. Winchcombe (6 A.J.S. sc.); 3, C. E. Smith (6 Bradbury sc.).

SOLO (500 c.c.).—1, F. H. Andrews (3½ Norton); 2, G. E. Cowley, jun. (2¾ Dalton); 3, J. H. S. Gardiner (3½ Triumph).

Connaught M.C.C.

With regard to the paragraph appearing on page 656 of last week's issue of *The Motor Cycle* concerning clubs confined to riders of particular makes, the secretary of the Connaught M.C.C. is Mr. G. Woodward, 111, Great Portland Street, London, W.1. Connaught riders who are interested in this club should communicate with him.

North London M.C.C.

On Saturday, 21st ult., the club held an acceleration test on a good stretch of road near Radlett. The results, worked out on the formula

$$\text{Figure of merit} = \frac{\text{Weight} \times \text{gear ratio}}{\text{Time} \times \text{c.c.}}$$

are as under:

SOLOS.

		Time.	Fig. of Merit.
1.	J. D. Sedgwick (3 A.B.C.) ...	6s.	250
2.	R. L. Richardson (3½ Alecto) ...	8s.	235
3.	A. J. F. Beaurain (3½ Sunbeam)	5⅘s.	222
4.	L. P. Walter (4 Triumph) ...	6⅘s.	181

SIDECARS.

1.	R. W. Greaves (4 Norton)	6s.	303
2.	W. A. Hedderson (5-6 James) ...	7⅕s.	296
3.	A. J. Ivison (6 A.J.S.)	8s.	290
4.	H. B. Shutes (8 Matchless) ...	7⅘s.	255

A. J. F. Beaurain, riding a 3½ h.p. Sports Sunbeam, made fastest time of the day.

Birmingham M.C.C.

Owing to an error in timing on Porlock, it has been decided by the committee that no premier award could be given in the Lycett Trophy Trial, held at Whitsuntide. Medals have, therefore, been awarded as follows:

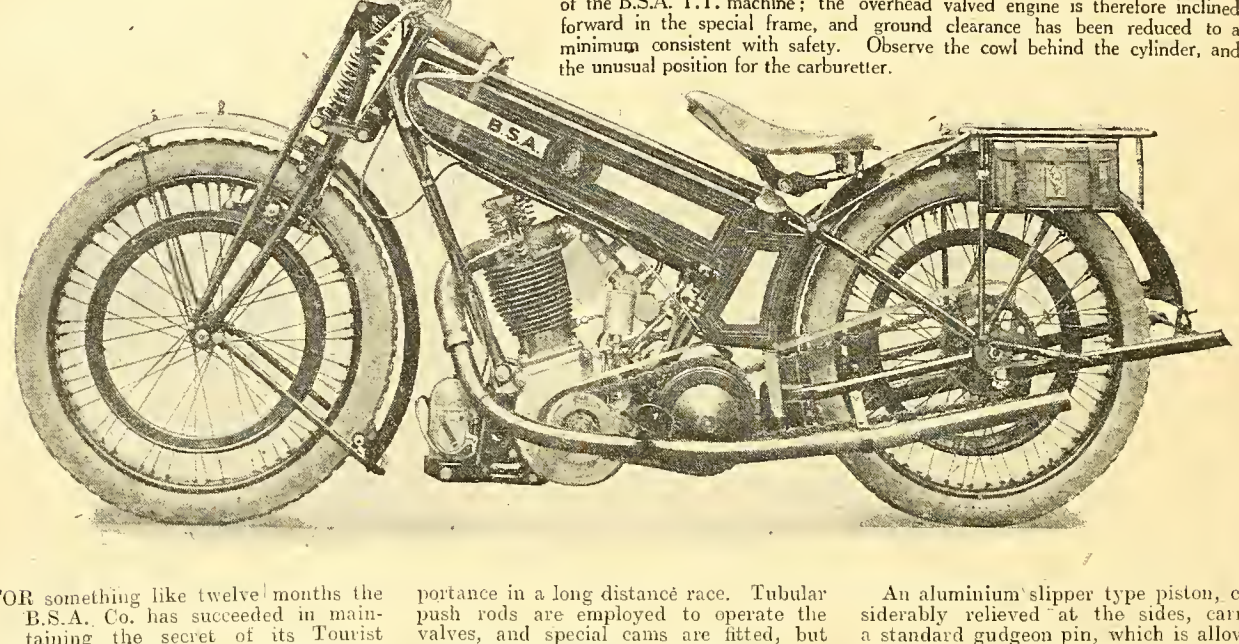
GOLD MEDALS.—R. W. Duke (4 Triumph), C. S. Love (6 A.J.S. sc.), H. V. Collins (2¾ Marloe-Blackburne), T. Stevens (7 James sc.), H. C. Jennens (3½ James), F. W. Giles (7 A.J.S. sc.), Gus Kuhn (2½ Verus), L. Jennings (2¼ Cedos), R. W. Vaughan (5 Massey-Arran sc.), F. C. Parkes (2¼ Sun-V.T.S.), G. Denley (2¼ Velocette), W. L. Handley (2¾ O.K.-Junior), G. J. Baragwanath (3½ Sunbeam), F. Short (5-6 James sc.), R. C. Bennet (2½ Federation), C. F. Hollyoak (2½ Federal), J. R. Fellows (3½ Sunbeam), R. Fellows (3½ Sunbeam), A. W. Thrush (3½ Sunbeam), S. Hall (3½ Sunbeam), B. Bourke (2¼ New Hudson), W. Bell (2¼ New Hudson), C. Richardson (2¾ Armis), R. T. Cooke (4 Triumph), and P. Yates (8-10 New Hudson cycle car).

SILVER MEDALS.—H. R. Fowler (5-6 James sc.), H. Boynton (5-6 James sc.), L. Paynter (3½ Norton), L. H. Perry (10 Morgan cycle car), and F. Whitworth (8-10 Coventry Premier cycle car).

BRONZE MEDALS.—M. Bishop (2½ Sun-V.T.S.) and J. Bacon (3½ Sunbeam sc.).

MOTOR CYCLES FOR THE T.T. RACES.

An Unconventional Three-speed B.S.A. with Overhead Valve Engine; New Imperials for both Classes in the Junior Race; A.J.S., Blackburne, and New Comet Models.



To obtain a low centre of gravity was one of the chief aims of the designer of the B.S.A. T.T. machine; the overhead valved engine is therefore inclined forward in the special frame, and ground clearance has been reduced to a minimum consistent with safety. Observe the cowl behind the cylinder, and the unusual position for the carburetter.

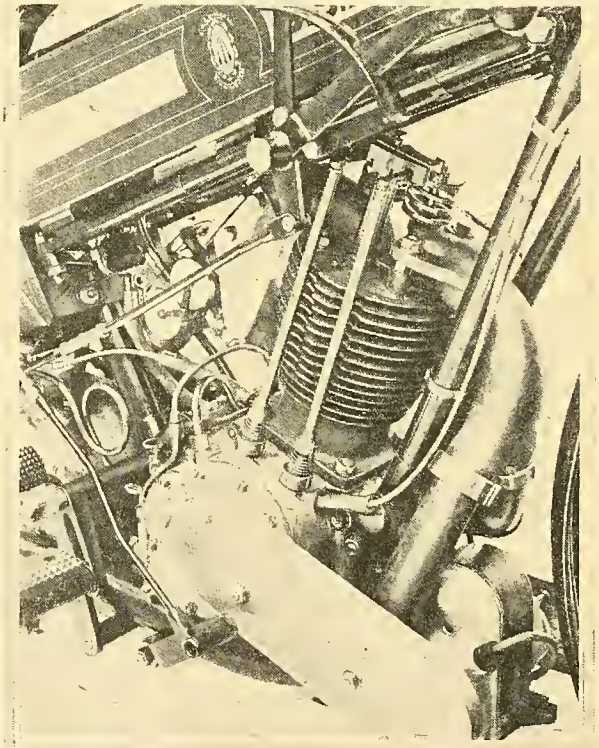
FOR something like twelve months the B.S.A. Co. has succeeded in maintaining the secret of its Tourist Trophy motor cycles. Originally intended for the 1920 event, the machines have been undergoing a long course of trials, and consequently, although the design is distinctly unorthodox in appearance, all the features have been thoroughly tried out.

Both engine and frame have been specially designed for the work in hand; nevertheless, a number of standard parts are employed, and the whole, though unorthodox, is by no means unattractive in appearance.

Having a bore and stroke of 85×88 mm. respectively, the cylinder has a detachable cast iron head, in which are mounted vertical overhead valves. These valves have hollow stems, and the inlet is slightly hollowed in the head. Large diameter valve springs are held by light spring cups, and these in turn are retained by split conical caps internally threaded, which serve the double purpose of acting as tappet adjusters and valve spring cup retainers.

Unusual Valve Gear.

Quite an unusual feature of the overhead valve gear lies in the fact that the normal type of rocker pivot is dispensed with in favour of "knife-edge" bearings working in angular grooves. At first sight, the object of this may not be apparent, but it must be remembered that this method obviates the necessity for lubrication—a matter of no little importance in a long distance race. Tubular push rods are employed to operate the valves, and special cams are fitted, but the timing gear itself is standard.



A close up view of the engine, showing the valve gear, twin exhaust pipes, and foot operation for the oil pump.

An aluminium slipper type piston, considerably relieved at the sides, carries a standard gudgeon pin, which is allowed to float both in the piston bosses and in the small end of the connecting rod. Only one pston ring is fitted, but this combines the function of a pressure retainer with those of an oil scraper, excess lubricant being returned to the inside of the piston *via* a groove and a series of small holes drilled through the piston walls. A standard roller bearing big end and standard crank bearings are used, and, apart from the employment of steel flywheels and an oscillating pump, the lower part of the engine is of normal design.

Mechanical Lubrication.

Oil is delivered to the pressure side of the piston by the mechanical pump, a by-pass being led to the main driving sprocket. It is expected that this system will be sufficient for the needs of the race; but, in case of emergencies, a foot-operated oil pump is connected directly to the crank case.

At the present moment the type of carburetter to be used has not been decided, but a B.S.A. carburetter is now fitted up, and embodies a neat handle-bar-operated jet control. A single large pipe leads the gases away from the exhaust port, but divides into two long tail pipes after clearing the frame members. The whole engine is inclined forward at a slight angle, and is carried extremely low down and well forward in the frame.

Motor Cycles for the T.T. Races—

Supplementary to the oil supply already alluded to, the primary chain receives the benefit of excess oil from the crank case release, and, in addition, the B.S.A. engine-shaft shock absorber helps to relieve the chain of undue stress.

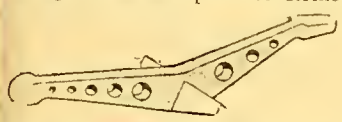


An aluminium slipper piston, having only one ring, is employed on the T.T. B.S.A. The gudgeon pin floats in the small end and piston bosses.

Clutch and three-speed gear box follow standard B.S.A. lines. The gear ratios are, of course, closer together, and are approximately 4.1 to 1, 5.6 to 1, and 8.2 to 1. No kick-starter is fitted, and the final drive is by chain.

A Low Centre of Gravity.

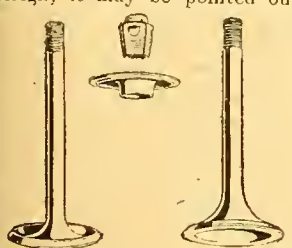
With regard to the frame, every effort has been made to keep the centre of gravity low, so as to ensure steadiness in cornering. The first point to strike the



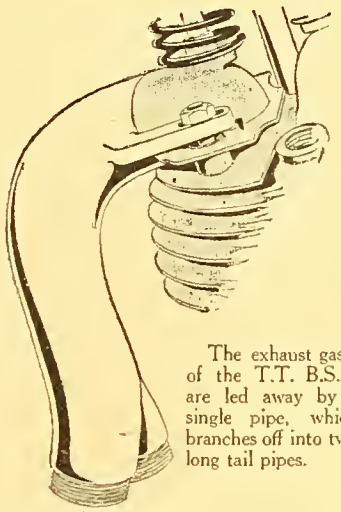
The valve rockers are mounted on knife edge bearings, and all unnecessary weight is removed.

lie lies in the fact that the top tube and ain stays form a line from the head lug the rear hub. A two-gallon petrol nk is mounted on double rails, and the nt down tube is also duplicated from e engine plates to a considerable width ere they join the special head lug. Behind the saddle tube lies a one-llon oil tank, and the special frame nstruction provides a very low but vertheless comfortable saddle position. ndard spring forks, 650×65 mm. nlop tyres and belt rim brakes front d rear complete one of the most prac-al specifications we have yet seen. It ould be mentioned that the rear brake s a parallel movement, and can be erated by a heel pedal on either side the frame; hand operation is supplied the front brake.

As an instance of the thoroughness of design, it may be pointed out that



Exhaust and inlet valves of the T.T. B.S.A. differ considerably, the latter having a hollow head. Both have hollow stems, and the tappet clearance is adjusted by a split conical screwed cap.



The exhaust gases of the T.T. B.S.A. are led away by a single pipe, which branches off into two long tail pipes.

nail-catchers for both wheels form part of the equipment of every machine.

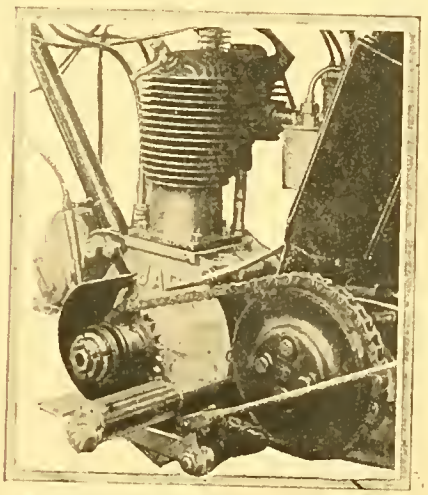
It is perhaps as well, at this stage, to refrain from saying too much as regards performance, but the machine has already proved itself capable of speeds which should be sufficient to win the Island race, and it is safe to say that such other vital features as brakework, reliability, controllability, etc., have at least received their due of attention. It will be a hard matter to pick a winner for the 1921 T.T., but the chances of the B.S.A. are much too good to be neglected. It is of interest to the touring rider also to know that the T.T. B.S.A. is extremely economical as regards fuel consumption, at least at all speeds which are of practical value to the tourist.

NEW IMPERIAL T.T. MODELS.

ALTHOUGH not widely differing from standard practice, the New Imperial machines which have been prepared for the T.T. races show that a considerable amount of care and attention have been bestowed upon their layout to render them suitable for the special conditions under which they will be ridden.

The framework is of special strength, and is yet 10 lb. lighter than that of the standard touring models, this effect being secured by the elimination of malleable castings from the construction. With the exception of the head, all the frame lugs are built up from steel. Sheet steel brackets for the tank and tool-box are also welded to the bottom rail and saddle tube respectively.

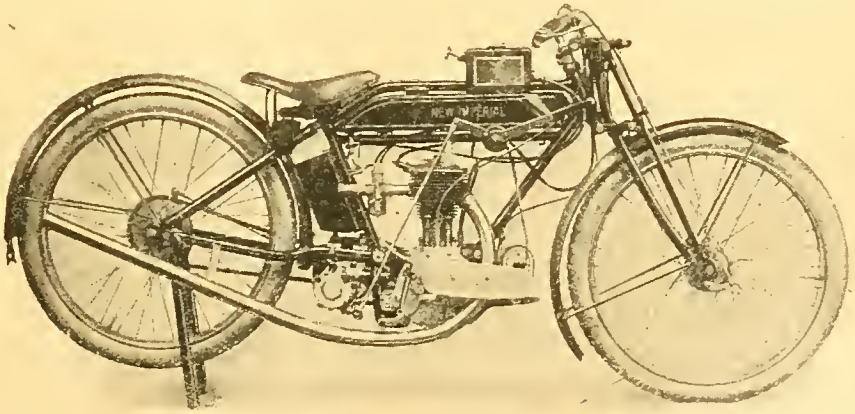
In appearance the machine is exceedingly rakish, the low saddle and flat handle-bars giving an effect of great controllability. Brampton forks are used, and a Webb expanding brake is carried to the front hub. The rear wheel chain sprocket also contains an internal expanding brake, this being operated by pedals on each side of the machine.



Shock absorber on the crankshaft sprocket of the J.A.P.-engined New Imperial; a guard is fitted to prevent stones reaching the transmission, and the release-valve pipe directs oil spray on to the primary chain.

Transmission is by ½×¼in. chains throughout, driving through a New Imperial constant mesh three-speed gear box. A clutch is fitted, but there is no kick-starter, while mounted on the engine-shaft is a shock absorber of the spring-loaded inclined plane type.

Gear changing is effected by means of a long and easily operated lever placed almost horizontally near the forward end of the tank.



Graceful lines and a low saddle position are specially noticeable features of the New Imperial T.T. models. They have three-speed gears and all-chain drive.

Motor Cycles for the T.T. Races.—

In both 250 c.c. and 350 c.c. classes the New Imperial machines are engined by J.A.P. single-cylinder units, and these are of improved design, having large valve caps of aluminium with ten radiating fins thereon. The sparking plug is carried at the rearward side of the inlet port, where the latter joins the cylinder head.

Two oil leads are taken from the special tank carried above the top tube of the frame. In the case of the 350 c.c. machine, both go directly to the crank case; but on the 250 c.c. model one lead passes to the back of the cylinder barrel. One oil lead is fed by gravity through a Best and Lloyd drip feed, while the other is connected to a hand pump. The separate oil tank permits the main tank to be reserved entirely for fuel.

Two features worthy of note in the lubricating arrangements are the crank case release pipes which lead from the timing case—one to the primary transmission chain and one to the inlet valve stem.

Weight distribution on the machine is so good that even with the rider seated there is only a few pounds difference in the loading of either wheel. Incidentally, these are built with heavy spokes, and carry 26×2¼in. tyres.

ROVERS PRACTICALLY STANDARD.

IT is an open secret that the New Rover Co. has been experimenting with an overhead valve engine, but, owing to the short time available for trying out before the Isle of Man races, it has been decided that a more conventional engine shall be used.

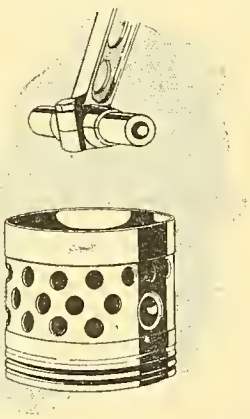
Externally, there is little difference between the T.T. engine and the well-tried 3½ h.p. touring engine, and, except for the addition of a Best oil pump driven from the timing gear spindle and delivering to the side of the cylinder, one might be pardoned for noticing no change.

Internally, however, it is noticeable that considerable lightening of reciprocating parts has taken place. The cast iron piston is liberally drilled, and every ounce of unnecessary metal has been removed. Fixed in the small end of the connecting rod a hollow gudgeon pin floats in bronze bushes firmly held in the piston bosses, the connecting rod itself being lightened by machining and drilling.

Roller Big Ends.

A double row of caged rollers are employed for the big end, and the flywheels have been lightened and reduced in diameter.

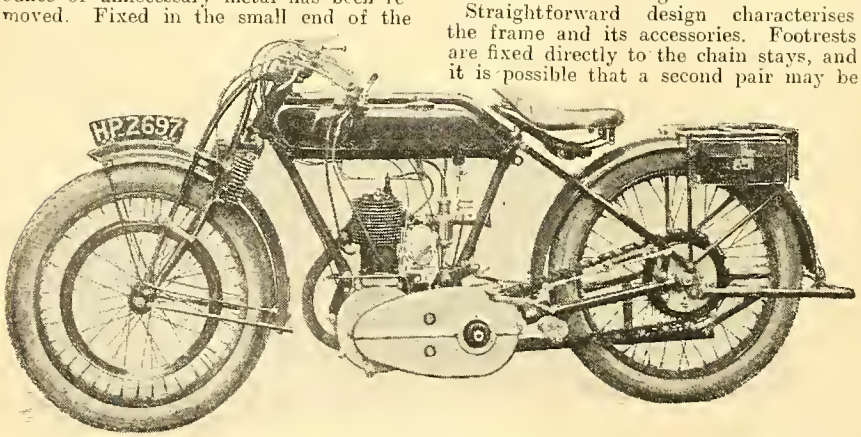
Two ball bearings support the mainshaft on the driving side, but one only is fitted on the timing side. From engine to gear box standard practice is followed, and a Coventry silent chain is used, enclosed in an aluminium case. Clutch and gear box are of normal design, except that the clutch is hand-operated and that the gear ratios will be closer than usual. The ratios proposed are 4.56 to 1, 6.15 to 1, and 8.4 to 1. No kick-starter is fitted. Final transmission is by Brampton spring link chain, which serves also as a shock absorber.



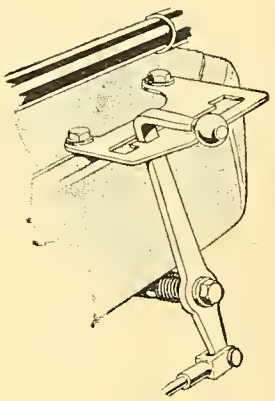
The cast iron piston has two very narrow rings, and is copiously drilled. Fixed in the small end of the drilled connecting rod, the gudgeon pin floats in bronze bushes in the piston.

The frame gives the appearance of unusual height between the cylinder head and tank rail, but the riding position is low, and the space may be accounted for by reason of the fact that provision had been made for the alternative of an overhead valve engine.

Straightforward design characterises the frame and its accessories. Footrests are fixed directly to the chain stays, and it is possible that a second pair may be fitted further back so as to provide a change of position for the rider.



Externally the T.T. Rover differs little from the standard model. A front belt rim brake is fitted, and the kick-starter is omitted.



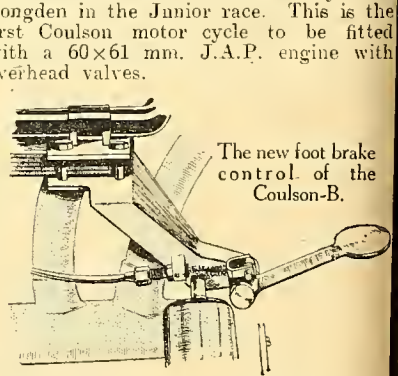
Gate and change speed lever at the front end of the tank of the T.T. Rover.

A pedal on each side of the machine operates an internal-expanding brake within the rear sprocket drum, and a dummy belt rim brake is utilised on the front wheel.

Standard Rover forks, extra large filler caps, and 26×3in. Dunlop tyres are further features of interest. Recent trials have shown that the T.T. Rover is remarkably fast, and especial interest will centre round the return of Rover machines to the world of speed.

A TWIN COULSON FOR THE T.T.

COULSON motor cycles are entered for both races, and last week we were shown the 2¾ h.p. twin-cylinder mount which will be ridden by Eric Longden in the Junior race. This is the first Coulson motor cycle to be fitted with a 60×61 mm. J.A.P. engine with overhead valves.

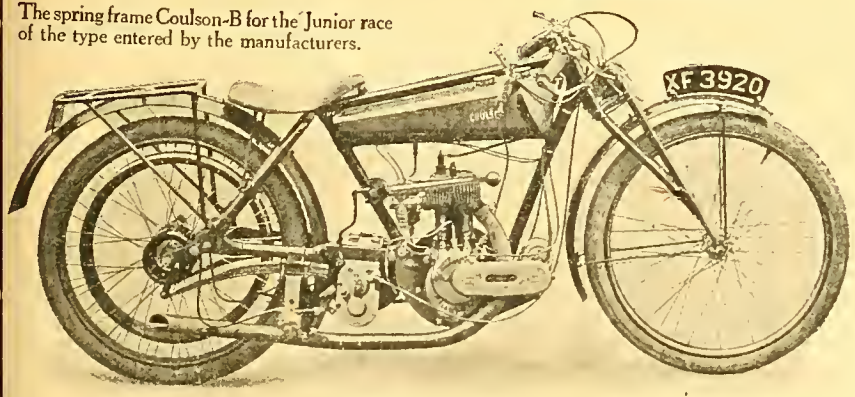


The new foot brake control of the Coulson-B.

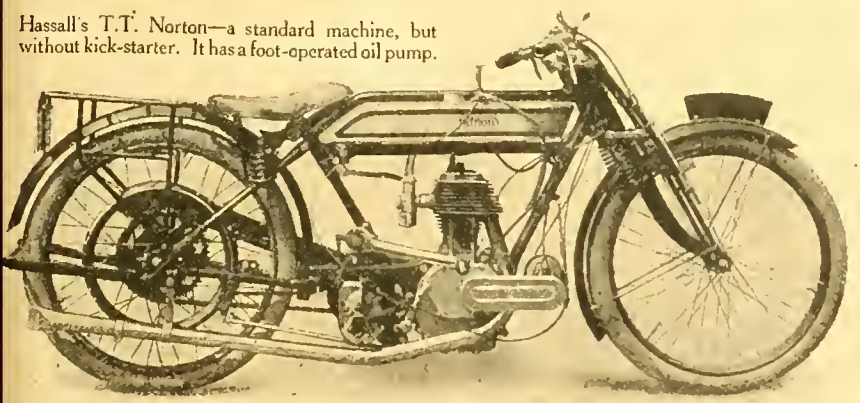
This model has a practically standard Coulson frame strongly built up with butted tubes, and is fitted with a hand-controlled pump-cum-drip feed lubricator worked from the handle-bar. The saddle is fixed directly to the frame, the rider depending on the frame springing only. On the top tube is fitted a tool-box having a cushion on the lid.

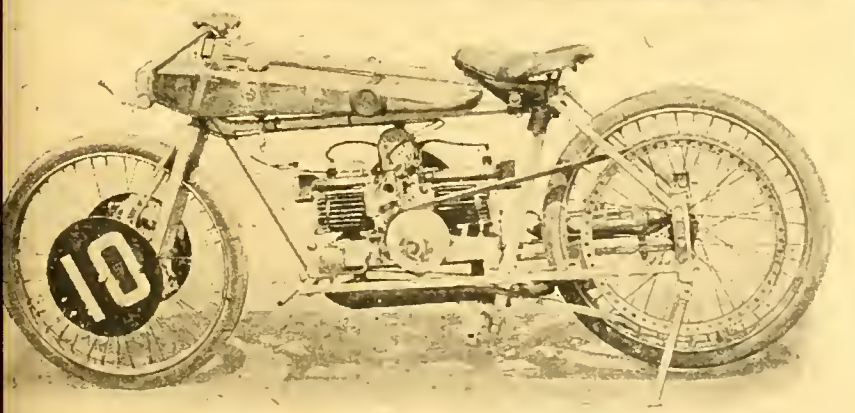
On the occasion of our visit to the Coulson works we also saw the frame of the machine for the Senior race, which is 3in. shorter than the standard and has a Sturmey-Archer two-speed gear box and a special tank holding over two gallons of fuel. This machine will be fitted with the new overhead valve Blackburne engine.

The spring frame Coulson-B for the Junior race of the type entered by the manufacturers.

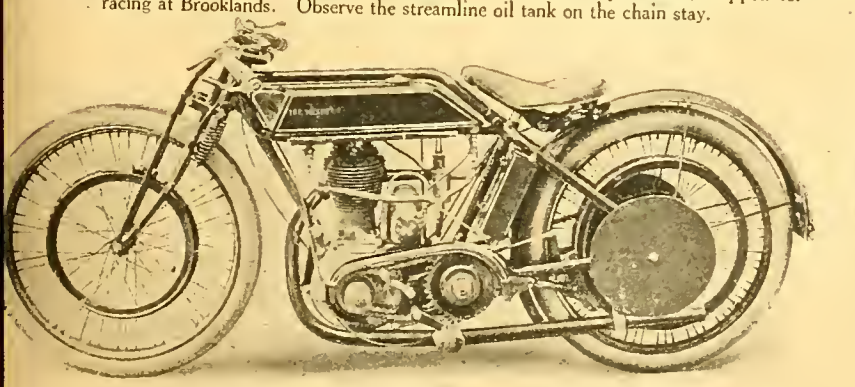


Hassall's T.T. Norton—a standard machine, but without kick-starter. It has a foot-operated oil pump.





One of the few spring frame mounts in the Junior T.T. The 2¾ h.p. Wooler, stripped for racing at Brooklands. Observe the streamline oil tank on the chain stay.



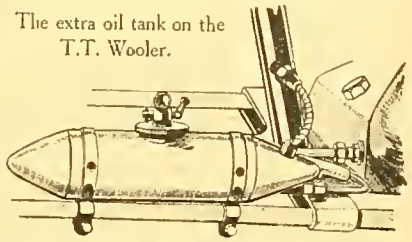
Reg. Brown's mount for the Senior event with the front guard removed for a Brooklands race. Two petrol supply pipes with rubber connections are fitted.

WOOLER MODIFICATIONS.

FEW modifications have been made in the T.T. Wooler, and with the exception of a special circular oil tank located on the rear fork, the machine represents the standard sporting model for 1922.

A new combustion head has been fitted which provides a larger inlet and exhaust port area. The external appearance is similar to the old model so far as its shape is concerned; a new metal, known as Haywards' Alloy, however, is used for the casting.

The extra oil tank on the T.T. Wooler.

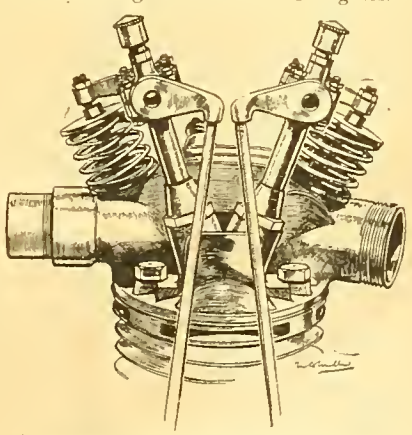


The exhaust valve lifter is now in front of the magneto and timing case, and has been provided with a guide which eliminates the possibility of the control binding. A small flexible pipe from the base of the saddle tube directs the surplus oil from the engine back to the tank before it is conducted by another pipe to the oil sump in the crank case. This improvement greatly facilitates the flow of the lubricant.

It will be remembered that the oil is carried by a roller chain from the sump over the timing pinions, and the surplus is forced by the crank case pressure into the frame tube beneath the tank and thence down the saddle tube.

THE OVERHEAD VALVE BLACKBURNES.

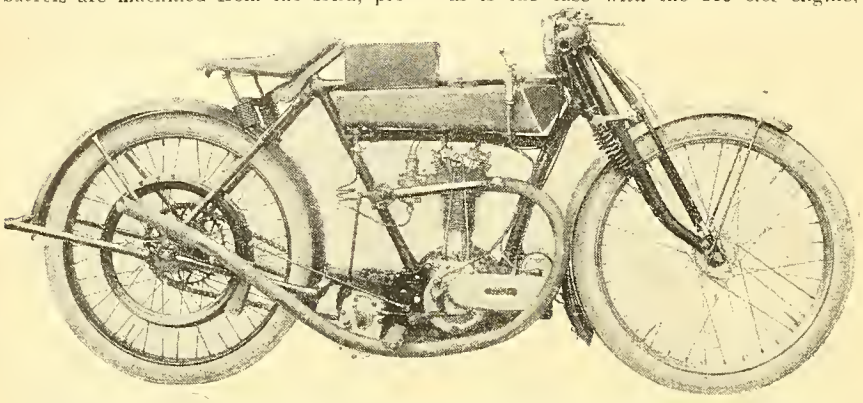
LAST year side-by-side valve Blackburnes came near to winning the Senior race. They were placed second and third, and in consequence many will watch with special interest the performance this year of the new engines. It is interesting that Messrs. Burney and Blackburne are among the entrants using overhead valve engines.



Arrangement of the overhead valve gear on the Junior T.T. Blackburne engine.

Motor Cycles for the T.T. Race.—

There are no startling features visible in the 500 c.c. power unit, but the work has been particularly well carried out, and the finish is excellent. The cylinder barrels are machined from the solid, pro-



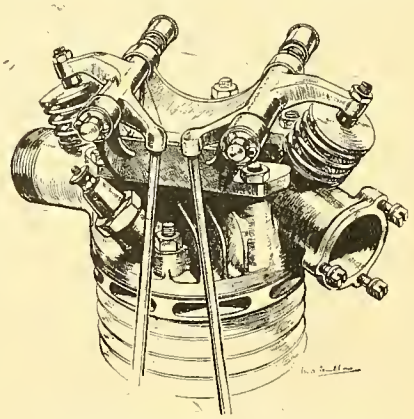
The new 2¾ h.p. T.T. Blackburne, fitted with steel cylinder barrel and overhead valves. The engine sprocket is on the outside of the flywheel.

ducing uniformity and are of particularly attractive appearance. Following Blackburne practice, the cylinder head is detachable, and on the top of it is bolted the casting carrying the rockers which actuate the valves. The radiating fins on the head run diagonally across, and not fore and aft, as in the case of the smaller model. Adjustable tappets on the rocker ends are fitted, and the valves are each provided with a double spring.

Viewed from the flywheel side, it will be noticed that this engine has a smaller flywheel than the standard, and large grease cups are provided to lubricate the valve rocker spindles. The cylinder dimensions are the same as in the standard engines, *i.e.*, 85×88 mm. = 499 c.c. capacity.

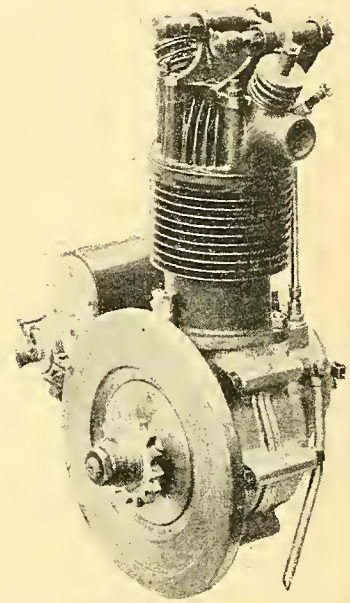
In the Junior Race.

Our illustrations show that the cylinder head of the 2¾ h.p. model (71×88 mm. = 348 c.c.) is of a design somewhat differing from the 3½ h.p. type. The rocker spindles run in split bearings, hardened steel on hardened steel, and consequently can be adjusted. These bearings are attached to pillars screwed into the lugs on the head, and receive lubricant from grease cups placed on the top, and not, as is the case with the 500 c.c. engine, at the side. The tappets are adjustable, and double valve springs are supplied to each valve, as with the 3½ h.p. engine.



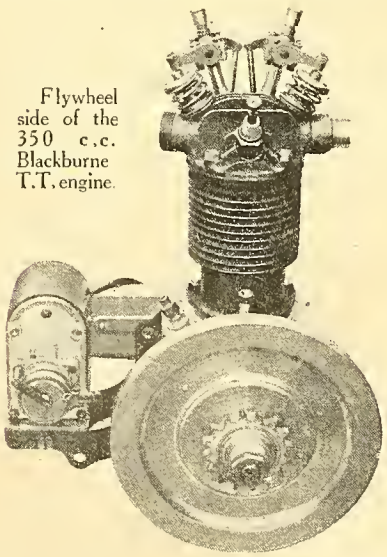
Overhead valve gear of the Blackburne engine for the Senior race. The radiating fins on the head run diagonally across in contrast to the practice on the smaller engine, on which the fins are arranged "fore and aft."

As a contrast to the larger pattern, it may be mentioned that the radiating fins run fore and aft, and, as in the large engine, a lighter type of flywheel is fitted. A transmission shock absorber is fitted to the rear wheel, consisting of blocks of rubber on the sprocket impinging upon vanes in the hub, similar in pattern to those used on the Enfield machines, which is adequate in absorbing all undue stresses with chain transmission.



A smaller flywheel is fitted on the Senior Blackburne engine than on the standard power unit, which has the same bore and stroke—85 × 88 mm. respectively.

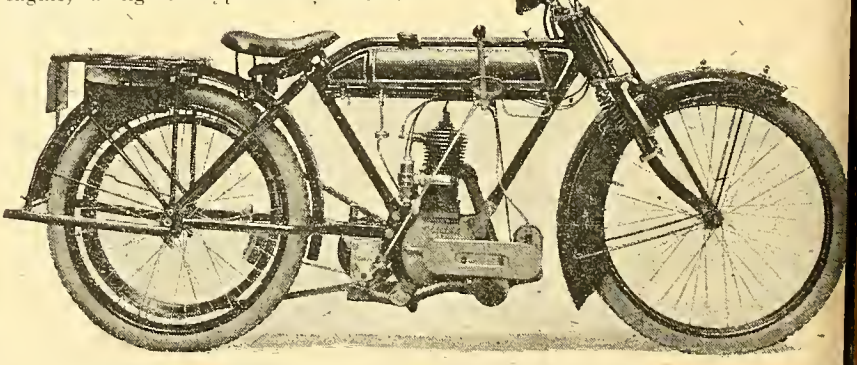
The frames are more or less standard, except that the tank tube is curved, so that there is clearance for the overhead valve gear, which, incidentally, has been kept as low as possible.



Flywheel side of the 350 c.c. Blackburne T.T. engine.

NEW COMET FOR THE JUNIOR RACE.

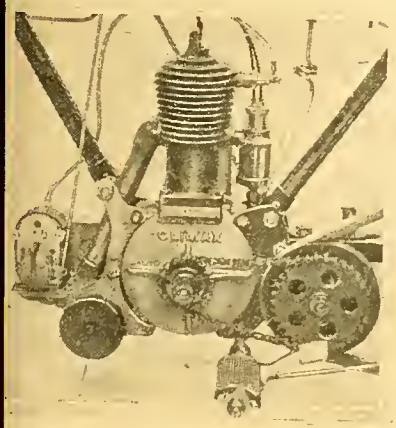
ONE of the features of last year's race was the consistent manner in which the 2½ h.p. New Comet two-stroke lapped the course. It was not "out to win" for its very young rider who deputised at the last moment was under in-



A neat machine, absolutely similar to the standard New Comet production models is entered in the Junior race. It performed well last year.

Motor Cycles for the T.T. Race.—
tructions to abstain from heroics and o demonstrate rather that a standard nodel lightweight could survive the race t a creditable speed.

The Climax engine (70×76 mm. =292 c.c.) s unique amongst marketed two-strokes in aving inside flywheels, and its staying ower was shown at Brooklands not long go in successful attempts on the long istance lightweight sidecar records.

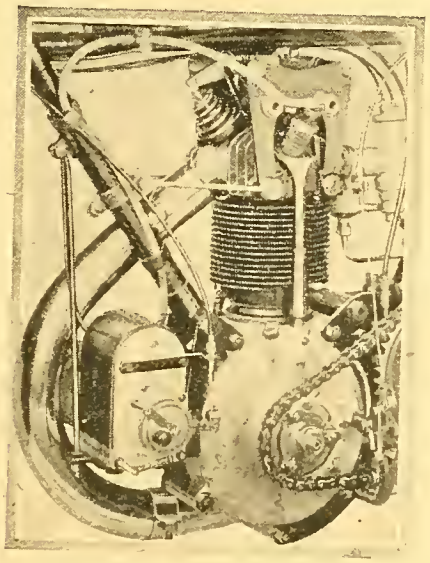


2½ h.p. Climax two-stroke engine in the New Comet; it has a built-up crankshaft and inside flywheels.

New Comet T.T. machines are identical th the standard models sold to the blic; they have similar engines, frame d fittings, and as made they are appre-bly lighter than the minimum weight quired of machines entered in the T.T. es, and may thus have to carry ballast less it is decided to use a three-speed ar. At the moment of writing, how-er, the standard two-speed box is on machine.

EATURES OF THE A.J.S

ERHAPS one of the most fancied chances for the Junior event is the A.J.S. team. For the 1920 race firm had had but little time to get overhead valve engine in trim, but er a year's experience on road and ck, little weaknesses have been elimi-ed, and the machine has been martened up" considerably. H. R. ries' hour and two-hour records on



Deep radiating fins and machined cylinder ribs are outstanding features of the T.T. A.J.S.

Brooklands last week will also do much to make the A.J.S. a favourite.

The overhead valve engine, having a bore and stroke of 74×81 mm. respectively, is retained for the forthcoming race, but has been modified in detail. A new cylinder head with improved cooling is fitted, the head being held down by a steel strap as before. Vertical ribs of considerable depth are used, and even the valve guides have ribs machined on them.

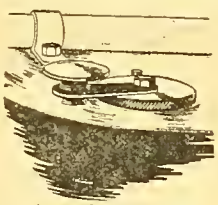
Quite an unusual amount of care has been expended on the manufacture of the cylinder, the fins of which are rough-turned and ground. Both cylinder and head are then copper-plated, and finally blacked. Four very narrow rings are fitted to the light steel piston, the piston itself being machined all over both inside and out. A very light hollow gudgeon pin serves to connect the piston to an extremely sturdy H section connecting rod.

Plain Bearings.

With the exception of the double row roller big end, plain bearings are employed throughout the engine, the crank axles and pin being attached to light steel flywheels, which have ample clearance in the crank case.

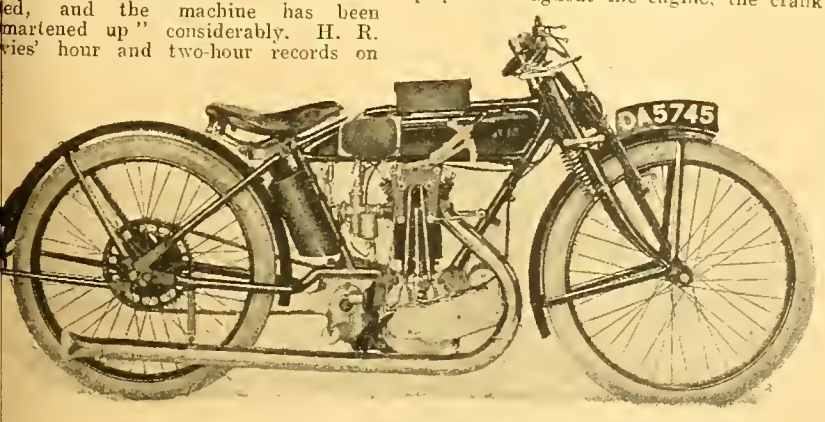
Lubrication is effected by a foot-operated pump, which delivers oil to the cylinder from a tank behind the saddle tube, the main tank being a container for fuel only, and an Amac carburetter fitted with a special extra air valve supplies the mixture.

Transmission is by ½×¼in. chain throughout, the crank case release pipe serving to lubricate the primary chain. A standard clutch and three-speed gear box (but without kick-starter) supplies the necessary ratios, which are approximately 4⅞ to 1, 6 to 1, and 9¼ to 1.



A novel type of filler cap fitted to the A.J.S. mounts.

Fitted with Druid forks, the frame is very neat and light, and we are informed that the steering is as near perfection as possible. It is noticeable that all large diameter bolts are hollow, and every effort has been made to keep the machine light. The actual weight with petrol and oil amounts to only 188 lb. Braking is provided by a foot-operated internal expanding rear brake and a stirrup brake on the front wheel rim, and the equipment includes 26×2½in. Avon tyres.



the 1921 T.T. A.J.S. has very pleasing lines. It is very similar to last year's model, but has been lightened and smartened up considerably.

3 h.p. IVY THREE-SPEED TWO-STROKE.

LAST year the 75×79 mm. (348 c.c.) Ivy engine was represented in the Isle of Man, and acquitted itself creditably, despite ill-luck with broken tank fittings and petrol pipe. Before reaching the public, however, the same engine made some excellent performances on the Old Wyche road at Malvern, making twenty-five non-stop ascents of the famous 1 in 2.9 hill solo, and fifteen climbs with sidecar. We ourselves have subjected these engines to some gruelling tests, and have found them to stand up to indefinite hard driving. All this being so, it is not surprising that the seven machines prepared for this year's races are equipped with absolutely standard engines.

Handle-bar Operated Oil Pump.

The machines throughout are absolutely on standard lines, the tanks alone being slightly larger than those used ordinarily, and a handle-bar operation being adopted for the plunger of the Best and Lloyd drip-feed pump. Profiting by previous experience, special precautions have been made to secure the tank, which, in addition to the normal top rail clips, is steadied beneath by a flat strip of spring steel, enclosed in a leather sheath.

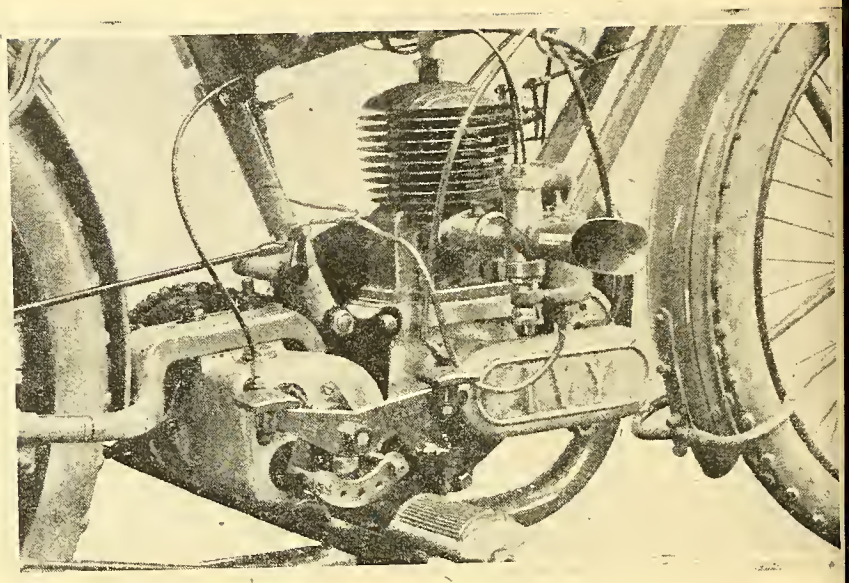
Chain transmission throughout is employed, and an Enfield shock absorber is used in the back hub. Special Sturmey-Archer three-speed boxes, with clutch, but less kick-starter, are fitted to all the machines except one. The exception is equipped with a new Moss three-speed gear box, made by the famous gear specialists, the Moss Gear Co., Ltd., of

Motor Cycles for the T.T. Race.—

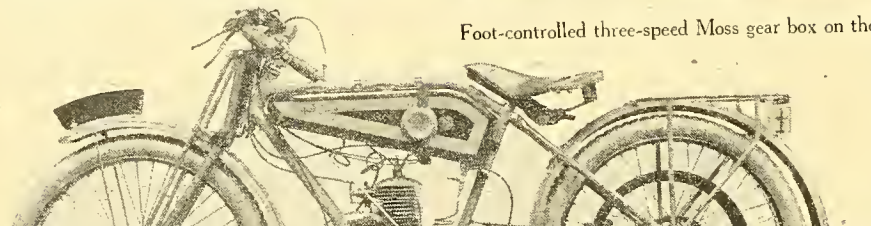
Birmingham. On this particular gear the operation is by rocking pedal, so that the rider does not need to remove his hands from the handle-bars under any circumstances. An alternative form of hand control may be fitted if desired, but for racing purposes the foot operation has undoubted advantages.

Two brakes are fitted on the Ivy machines, one operating on the inside and one on the outside of a dummy belt drum on the back wheel. Both brakes are worked by heel pedals fitted below, but clear of, the footrests. The gear ratios are at present 4, 5¼, and 6½ to 1, with 26×2⅜in. tyres.

In the Island the Ivy stable will be in the charge of Howard C. Newman, so well known in pre-war speed events as "Ivy" Newman. His tuning abilities which gave him prominence then will be devoted to all the Ivy machines, which may be expected to make a consistent performance. A noteworthy feature of these machines is that nothing has been scamped; they are fitted with front stands and carriers, and the finish is excellent.



Foot-controlled three-speed Moss gear box on the 3 h.p. Ivy which will be ridden by N. Norris.



3 h.p. Ivy machine, with chain drive and three-speed gear, for the Junior T.T. The engine will pull a 4 to 1 top gear.

NEW T.T. LIGHTWEIGHT BREAKS RECORDS.

Success of the 350 c.c. o.h.v. A.J.S.

AT Brooklands on Tuesday, the 24th ult., H. R. Davies, on a 2¾ h.p. T.T. A.J.S. (very similar to the machines described elsewhere in this issue), successfully raised the hour record in the 350 c.c. class to 66 miles 162 yards. This record has been held since November, 1920, by Tudor Thomson, who covered 63 miles 696 yards on a 2¾ h.p. Douglas.

The A.J.S. was also successful in lowering the class times over the fifty and hundred miles distances and in beating the two-hour record, averaging a 3-4 m.p.h. greater speed than the previous bests.

G. E. Stanley (2¾ Singer) has held the fifty miles record, and Hugh Mason (2¾ N.U.T.-Jap) the hundred miles and two-hour records, both since July, 1913.

Added merit attaches to Davies's performances on account of the fact that his ride was made with a dented (steel) piston, caused by a valve breakage the day before.

A tabulated list of these world's records (subject to confirmation by the A.C.U. and F.I.C.M.) follows:

H. R. Davies mounted on the machine with which he broke the 50 and 100 miles and one and two hours records on Tuesday of last week.

Records set up by H. R. Davies on 2¾ h.p. A.J.S. at Brooklands on May 24th.

CLASS B (350 c.c.).

One Hundred Miles.—Time, 1h. 32m. 45.6s.=64.68 m.p.h. (104.09 km.p.h.)

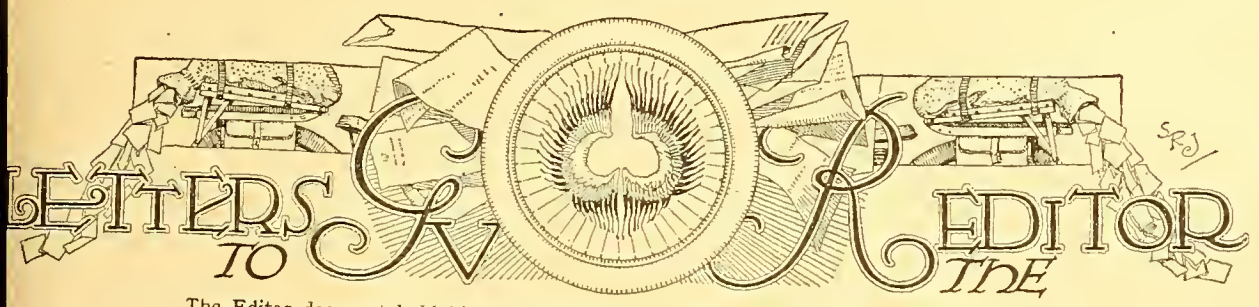
Fifty Miles.—Time, 45m. 6.8s.; average speed, 66.49 m.p.h. (107.02 km.p.h.)

Two Hours.—Distance covered, 130 miles 1,054 yards; average speed, 65.5 m.p.h. (105.08 km.p.h.).

One Hour.—Distance covered, 66 miles 162 yards; average speed, 66.1 m.p.h. (106.36 km.p.h.).

THE INTERNATIONAL SIX DAYS TRIAL.

INTEREST will soon be centred around the International Six Days Trial starting from Geneva on August 1st. Certain competitors are becoming rather disturbed regarding the motoring laws in Switzerland, which are known to be severe. We think, however, we may trust to the sporting feelings of the Swiss populace and the care and organisation of the Swiss M.C.U.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

NTEREST IN A SILENT CYCLE CAR.

Sir,—I saw the procession to Edinburgh on Friday, May 3th, going up Digswell Hill (beyond Hatfield). One cycle ar was noticeably quieter than the others. The exhaust was ell silenced and low. I think it was one of the larger ree-wheelers. The sound had none of the noisy sewing achine rattle, but was more like a good car.

What car was this? I suggest this query is of general terest, and trust that it will be answered by your readers.

St. Albans. SINCE 1895.

robably our correspondent has in mind one of the three-wheelers which has a four-cylinder engine?—ED.]

ARAGE CHARGES.

Sir,—Whilst passing through Carlisle this Whitsuntide, I n my machine into a garage for a gallon and a half of trol. I arranged to leave my machine for a few minutes hilst I had a little refreshment at a café three minutes' lk from the garage. Upon returning some forty or forty-e minutes later, I was presented with my bill: "Petrol, 3d.; garage charges, 6d." What next?

Keighley. REFLEXER.

lthough we ventilate this correspondent's grievance, we do not quite agree that the charge was excessive. It may be so, but most motor cyclists are accustomed to paying for storing their mounts for short periods!—ED.]

OM A MECHANICAL ENGINEER'S POINT OF VIEW.

Sir,—Referring to the letter of Mr. A. J. Hobdell *re* using rnal bearings for motor cycle hubs, in my opinion, the ef reason that they are not adopted is the fact that a great ny motor cycle designers, or should I say assemblers, have the necessary technical engineering knowledge to design table hubs. Especially is this lack of knowledge shown en it comes to designing a two-stroke lightweight machine. When I first entered the engineering profession after finish-my technical education, I desired to enter the production e of the motor cycle industry. My late engineering master ised me not to do so, as motor cycle design was not ineering—more a case of fancy and fashion. That, I am uid, is the general opinion of engineers.

Designers want to draw two wheels on their drawing rds, plan out various ways of connecting these two wheels ether, regardless of previous design and production thods, using the front wheel to steer with and the back el for propelling the machine. Study each part from an ineering design point of view, leaving the question of earance till the last. It is easier to make a properly gned machine handsome looking than to make a handsome ing machine into one of good design.

s there not another form of final drive suitable for a or cycle, namely, crank and connecting rod? I suppose system wants too much designing knowledge as against or chain drive? Whoever hears of a car having a ken propeller-shaft? And yet look at the number of cases broken chains one hears about.

n my opinion, motor cycles have still a long way to go ore they reach anything like final general design, and cially the present-day two-stroke, two-speed lightweight. one make and one has practically seen the lot—a colossal mple of sheer blind copying. DRAUGHTSMAN.

anchester.

nk and connecting rods have been tried on motor cycles. e think if "Draughtsman" attempted to design a motor cle with such a transmission he would discover many stacles.—ED.]

RETAINING OIL ON THE MAGNETO CHAIN.

Sir,—Will you permit me to ask if any of your readers possessing Villiers engines can give me the benefit of their experience in the following matter?

I have an Excelsior fitted with a 1920 Villiers engine, and I notice that towards the end of a run of any length, the magneto chain rattles unmusically in its aluminium casing.

On the casing being removed I invariably find that the chain is "bone dry," and, in addition, that several links are "stuck together."

Lately, I have been in the habit of oiling the chain profusely before starting out on a run, but the result is invariably the same. I should like to know if any of your readers have had similar experiences, and can tell me how the trouble may be obviated, or whether it is necessary to go to the length of removing the casing before every long journey.

I may say that the chain is not at all slack.

J. L. WILLOUGHBY.

CASTOR OIL FOR MOTOR CYCLE LUBRICATION.

Sir,—I observed in the run from London to Edinburgh that many of the machines smelt strongly at the exhaust of castor oil, and I should be pleased through your valuable space to learn what advantage the riders gained by using this oil. My own experience tends to prove that there can have been no advantage unless the sump was emptied very often, say every twenty miles or so.

While in the Air Force I carried out a considerable number of tests with a 90 h.p., eight-cylinder V type, air-cooled engine. The engine I fitted up on the bench with a standard propeller, and my tests were carried out with the object of ascertaining whether castor oil retained its lubricating properties over a period, when compared with a mineral oil of approximately the same viscosity. The first test was with castor oil, and into the sump I placed twenty-five pints. After warming the engine up I tested for the maximum revolutions, and also the length of time the engine kept them up without dropping. When the revolutions decreased they were shut down to 250 per minute, and kept at that for threequarters of an hour. Full revolutions were taken again. The sump was then emptied and twenty-five pints of best mineral oil placed in, the tests were repeated, and the following observations made:

(1.) The mineral oil at high revolutions broke down the revolutions before the castor.

(2.) The castor oil gave very poor revolutions after the threequarters of an hour, while the mineral gave nearly the same.

The castor oil in the sump was examined after the test and found to be gritty, very dirty, and not far short of rancid. From this, my conclusions were, that as the oil is insoluble in petrol, and has a high flash point, it was very good for the cylinder walls until it began to fail in its lubricating properties, so that it should be useful for short high speed work, but bad for long distance touring, unless the sump is emptied very often. No doubt a great many competitors did empty their sump, but I am interested in those that did not. W. A. BOOTH.

[Pure castor oil, as our correspondent says, is only suitable for sprint work. Wakefield's Castrol oil, on the other hand, is an entirely different proposition, although it smells very like castor, and is the favourite of many competition riders for all classes of riding. Possibly our correspondent has confused the two lubricants.—ED.]

SATISFACTORY ROAD SERVICE.

Sir,—Having recently noticed in your valuable periodical disparaging letters regarding the A.A. and M.U., I would like to draw your readers' attention to my recent experience of the A.A. road service.

On a recent Saturday I was motor cycling through North Lancashire, and this particular afternoon was an extraordinarily wet one. When a few miles from the nearest town my machine broke down. After vain efforts to trace the trouble myself, to my great relief one of the A.A. roadside mechanical outfits bore down upon me. In a very efficient manner the trouble was then traced to the magneto. There was no available shelter from the pouring rain, which added very considerably to the difficulty of putting the matter right; but this work was, nevertheless, uncomplainingly and thoroughly accomplished.

I might mention that this A.A. outfit was returning after being already on duty during the London-Edinburgh run.

Anfield. J.C.

PERFORMANCES OF NEW MACHINES.

Sir,—On reading your article under the heading, "The Performance of a Stock Machine," my attention was attracted by the statement that owners taking delivery of new machines should observe the following operations: "Dismantle and clean carburetter, examine plugs and adjust points, and examine contact breaker points and chains to see that spring links are correctly fitted." Surely such a procedure as this should be unnecessary with the present-day highly-developed and highly-priced machine.

When the price of an outfit runs up as high as £200, the buyer expects these things done before the machine leaves the works. That they are not done, I know to be true.

Very few machines will tick over in neutral absolutely steadily and evenly, yet a few minutes spent in attending to adjustment of plug and contact points immediately effect a big improvement. I have known new machines delivered with fluff, etc., blocking petrol pipes and carburetters; carriers, mudguards, etc., tacked on finger-tight. Such experiences lead one to wonder whether many machines do more than two or three miles on test. Petrol consumption seems to receive little attention also from the test department.

These are all small details, but when a purchaser has paid a fancy price for his machine, he expects it "ready to ride away," as so often advertised, in proper tune—not in any old condition. The buyer of a car does not expect to have to look over engine and transmission to make sure that all adjustments are correct, so why should a motor cyclist? W.G.

Wolverhampton.

PRIVATE OWNERS AND MACHINE-SMASHING TRIALS.

Sir,—I should like to enquire whether the Arbuthnot Trophy Trial this year is likely to resemble last year's as regards "road" surfaces. I personally was unable to compete, but on seeing the state of some of the machines afterwards I was thankful I did not, for the simple reason that I am not a millionaire. Judging from descriptions, the crank case of my machine (a Zenith, which, as is well known, has a smallish road clearance) would certainly have been damaged, if not completely ruined. One Zenith rider, I remember, had to stop a gash in his crank case with a cork. The majority of riders broke something.

Although this may be very enterprising for those who are well off, it makes the Naval officer (who usually is not) think twice before entering for the trial.

By all means make the course stiff. Introduce really bad hills with loose surface and difficult hairpin bends. Let the roads be bad and give a healthy minimum average speed. There is no need to let us off the inevitable watersplash; we are used to that!

The whole point seems to me to differentiate between roads (second, third, or even fourth class) and a collection of rocks and boulders. The latter are probably of much more use to geologists than to motor cyclists.

What do other N.O.'s think on this subject? K 15.

London.

["K 15" voices the plaint of amateurs generally regarding most trials. On the other hand "a healthy minimum speed" is unfortunately illegal at present.—ED.]

LUCAS AERO DYNAMOS.

Sir,—Our attention has been called to an advertisement appearing in your issue dated May 19th, in which Lucas aero dynamos, etc., ex surplus Government stores, are offered as being suitable for motor car or motor cycle lighting.

We have to point out that these dynamos are not suitable for use on motor cars or motor cycles, and that we cannot accept any responsibility in connection with them when so used.

Lucas aero dynamos are of a special pattern, originally manufactured by us for the Government for use on aircraft, and they were so designed that most of the energy was used for heating airmen's clothing, etc., and only a small portion of the output was available for charging the battery.

Even with the dynamo running at a speed of not less than 6,500 revolutions, although 20 ampères were passing into the resistances, only a maximum of 4 ampères was obtained for battery charging.

Obviously, it will be quite impossible to obtain an output of 20 ampères without the machine being specially cooled, as it was when fitted to an aeroplane, and for ordinary motor car or motor cycle work the dynamo would become dangerously hot, and the whole of the windings burn out.

We ask you to give this letter publicity in your columns in order that your readers may be made fully aware of the fact that we do not accept any responsibility whatever in connection with these dynamos when used on motor cars or motor cycles. JOSEPH LUCAS, LTD.

SIDECARS SUITABLE FOR DISABLED DRIVERS.

Sir,—With reference to the letter signed "1914-1919" in last week's issue, we have lately been consulted by an officer in very much the same predicament as the writer of this letter. He had purchased a Royal Enfield sidecar outfit, but had lost his right leg at the hip. We fitted both a right-hand and left-foot control to the rear brake, working independently or both together, and he now finds no difficulty at all in controlling the machine. The conversion took two days to do and cost about £3. It employs direct lever action and no Bowden wires. THE EXETER GARAGE CO.

Exeter.

ANOTHER CLAIMANT TO THE HONOUR OF "THE FIRST SIDECAR."

Sir,—An article entitled "The First Sidecar," in a recent issue, has revived memories of my 2 h.p. leviathan, its trailer with open basketwork body, and the days when petrol was 8d. per gallon.

The accuracy of your historical data concerning Mr. Graham's patent and its subsequent exploitation by Components, Ltd., is not in question, but the history of the sidecar starts at an earlier date than is mentioned in your article.

It was, I believe, in the spring of 1902, that I submitted to Messrs. Mills and Fulford, Ltd., of Coventry, proposals and designs for a trailer body to be carried at the side of the bicycle in such a manner that the latter might bank at any desired angle, as is now done with the modern flexible sidecar. Messrs. Mills and Fulford constructed a carriage to my designs, and, after tests, reported that the steering of the outfit was faulty. The characteristic of flexibility was therefore discarded.

Application was then made for a master patent, but all efforts were frustrated by the publication of the humorous drawing referred to in your article. Prior to forwarding designs to Messrs. Mills and Fulford, I was advised to seek the opinion of the editor of a motoring journal (not *The Motor Cycle*), who admitted the novelty of the idea, and suggested giving it a practical trial. A few weeks later, while the experimental sidecar was undergoing tests, the journal published the aforesaid humorous drawing, which depicted Edwin taking advantage of the close proximity afforded by the sidecar to embrace his Angelina *en route*.

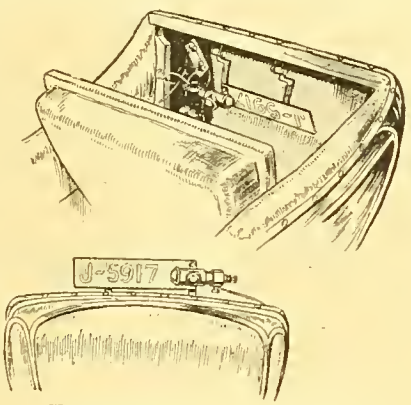
It transpired subsequently that a firm at Staines and another in U.S.A. were experimenting on similar lines at about the same time, so that it is difficult to say where, when, and by whom the first sidecar was devised; but to Messrs. Mills and Fulford should certainly be given credit for producing the first sidecar in marketable form.

One cannot but note with satisfaction that, after nearly twenty years, this pioneer firm, to whom sidecarists owe so much, maintains its position in the face of wider competition.

E. E. WALLINGTON BUTT.

PROTECTING THE REAR LAMP.

Sir,—I am sending two illustrations, which may interest some of your readers, showing the back number plate with electric lamp of my sidecar outfit. The plate when not required for night riding is swung inside the back locker. I think the following may be claimed for this idea: Breakage of bulbs reduced to a minimum. No loose cables to carrier frame. No unsightly numbers painted on panel or plate attached. Clean number plate. I do not know who the the makers are, but the best lamp I know of is the "Nytelyte," which suits the position splendidly. E.W.S.



These two sketches show clearly the plan adopted by "E.W.S." to insulate and protect his rear lamp.

Durham.

[While this plan has much to commend it, the position of the rear lamp does not comply with the strict letter of the law.—ED.]

SAFETY IN HILL-CLIMBS.

Sir,—In view of the several accidents that have taken place at recent hill-climbs, may I be allowed to make a suggestion or two to the various promoters and also to the A.C.U.

The first is that programmes should be limited in the number of entrants. It almost invariably happens that where the programme is a long one interest declines, and spectators begin to stroll about the course, and others to move their machines or cars about the course, as witness the exciting incident of the Crouch at Stile Cop on a recent Saturday, where nothing but the most superbly fine driving and nerve of Cocker averted what could otherwise hardly have failed to be a bad smash. I would suggest that programmes may be curtailed without hardship to anyone if the 750 and 1,000 c.c. or unlimited classes be cancelled where there are not at least five entrants for each class which are too large in capacity for the preceding classes. Usually the big capacity classes are composed of the same men and machines that competed in the smaller classes. Also, I see no reason why open and amateur classes of like capacity should not be run together, or, at any rate, consecutively, without a pause for the previous class to return down the hill. Provided the open class is run off first, this would also tend to prevent the same special machine being ridden by different men (*i.e.*, amateurs and professional) in their different classes.

It cannot be too strongly impresesd upon spectators, and also competitors (who are not faultless in this respect), how great is the danger of putting their machines on the road side, particularly near bends, and too close to the finishing line. It is not merely the fact of the machine being on the roadside, but the fact that it obstructs the view of the open road for the competitor that creates the danger, and has been the cause of so many accidents. I would also suggest to the A.C.U. that the rule applying to the T.T. regarding compulsory wearing of helmets be applied to all open speed events.

I am not an alarmist, but certainly think every precaution for safety should be taken, particularly as the lay press is beginning to ask, "Why should such dangerous sport be allowed on the public roads?"

Greater care, also, appears necessary in the choice of hills for competition. Speeds are so far in excess of those of but a short time ago, that conditions of curve and surface, width and other features of a hill that pre-war would be considered safe, may to-day be highly dangerous, and no open event should be held without the hill being first inspected and passed by an official of the A.C.U. properly qualified by experience, and who should determine the position of the finishing line with a view to a safe pull up.

JAS. L. NORTON.

IS THERE OVER-DEVELOPMENT?

Sir,—In your leading article in the May 12th issue, I notice that, while you naturally applaud the development of the motor cycle, which has taken place, you do not mention "over-development."

I certainly think that there is to-day a tendency to over-elaboration of our mounts. On my 1921 outfit I carry four dummy belt rims for the front brake (one on each and spare wheels), only one rim being in use at a time. Naturally, the cost of supplying and fitting these four rims is included in the purchase price.

Again, why fit the rear wheel with internal expanding brake?

On my machine the limit of cable adjustment has been reached in 1,000 miles, and, on dismantling, I found the brake to be a beautiful and expensive piece of work—in fact, there is only one thing wrong with it, it will not stop the machine. Surely the old rod and shoe rear brake is simple, effective, and cheap; and, in any case, I would rather rely on a steel rod for braking than on a wire cable.

Further, as I wanted a spare wheel carrier, I wrote for one to the makers of my outfit, and was told that this was incorporated in the luggage grid: price £4 10s. My friend, who required a spare wheel carrier for his Ford, obtained one for 6s. 6d.

I certainly think that the tendency of modern design should be towards simpler and cheaper fitments.

A departure. As I intend visiting the Yorkshire coast this summer, will one of your local readers kindly say if it is convenient to cross the river at Barton-on-Humber with a sidecar outfit (week days and Sundays)? OUIDON.

Brixton, S.W.2.

SUMMARY OF CORRESPONDENCE.

A Plumstead reader sends us a snapshot, unfortunately not suitable for reproduction, of a bridge, just beyond Outwell, not far from Wisbech, on which there is a warning that speed must be reduced to 2 m.p.h. whilst crossing. His only comment in sending us the photograph is "Herewith a sample of 'things we meet'"—and as the road seems very safe the description is very apt.

"Fairplay" complains that recently, having occasion to replace the coils of his lighting and generating set, he wrote the firm which represents the machine and the firm which represents the makers of the generator for quotations. From the former came a *pro forma* invoice for £2 12s. 1d., and from the latter a reply quoting £4 nett.

Mr. H. Lidington calls attention to the possibility of Sturmey-Archer clutch spring screws working loose when hidden in chain cases.

"L.R.S.," in the course of an expression of great satisfaction with his 1921 P. and M., comments on the greater speed of this year's model as compared with R.A.F. and earlier types.

BOOKS AND MAPS FOR MOTOR CYCLISTS

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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects. ROUTES.—By special arrangement with the Automobile Association and Motor Union, readers of "The Motor Cycle" desiring routes may enjoy the benefit of the Road Service Department of that organisation. Queries should be addressed to the Editor in the ordinary way (enclosing a 2d. stamp), and will be dealt with by the A.A. and M.U., who are regularly in receipt of reports from their representatives all over the country as to the existing state of the roads in any particular locality.

CONVERTING A STARTER MAGNETO.

Having just purchased a magneto which has been used for aeroplane work, I want to fit it to a single-cylinder machine. The slip ring has two cams directly opposite each other. Would it be best to remove one of the cams or fit a seven-teeth sprocket (fourteen-teeth on timing)? If I remove cam, are any other alterations necessary?—H.W.D.

It is immaterial which cam you remove from the contact breaker, so long as you take one away. Run the magneto at half-engine speed, *i.e.*, use the same size sprocket on the armature as on the camshaft.

HEAT AND WATERPROOF DOPE WANTED.

(1.) Can you recommend a good dope which will stand heat and water, and yet give a bright finish with some degree of permanence? The beauty of my machine is not exactly accentuated by the presence of a somewhat bulky silencer covered with brown rust. (2.) What, in your opinion, should be the maximum speed attainable on a standard 3½ h.p. Rudge Multi in good tune? (3.) Possibly I use too high a ratio. What is usual for the Rudge engine?—E.H.B.

(1.) We do not know of any enamel or paint which will preserve its appearance permanently when subjected to heat and water. Probably the best thing to do is to blacklead the silencer frequently. (2.) 55 to 60 m.p.h. (3.) On the level you will probably get the best speed results with a gear of about 4¼ to 1.

MR. PUNCH'S ADVICE!

Will a Dixie magneto for a twin engine supply current for lighting purposes—that is, if it is mounted separately to the one now on the machine?—P.H.

It is quite possible that anyone experienced in the construction of simple electrical apparatus could devise a means of converting a Dixie magneto into a lighting generator, but it is impossible for us to give instructions on such an involved question in the short space at our disposal here. In any case, the conversion would be of an experimental nature, and might not be altogether successful; therefore, it would be preferable to buy a dynamo specially designed and manufactured for motor cycle lighting.

MAXIMUM SPARK ADVANCE.

To what extent would it be safe to advance the ignition on a Villiers engine with flywheel magneto? As the timing rod can move through an angle of 90°, this means that on full advance the spark occurs 35 mm. before T.D.C. This seems to me excessive, though the engine takes it nearly all at about 25 m.p.h., though not when all out.—RI 9333.

If the spark is timed to occur on top dead centre when the control is fully retarded, it should be possible to advance it from 27° to 30° without any detriment to the engine.

PISTON CLEARANCES.

In fitting aluminium pistons to an 8 h.p. air-cooled J.A.P. engine, bore 3.375in., what clearance should be allowed, *i.e.*, what diameter must the new pistons be? The existing cast iron pistons are 3.366, which makes a total clearance of .009. Is this not excessive for cast iron?—J.C.

It is impossible to give you definite figures, as everything depends upon the design of the piston. With cast iron pistons in your engine the clearances should be from .005 to .007. A clearance of .009 is certainly rather large. Aluminium pistons, if designed for maximum cooling efficiency rather than for reduction of weight, might be designed to run with about the same clearances as cast iron provided the castings were annealed.

A QUESTION OF SIDECAR WHEEL SIZE

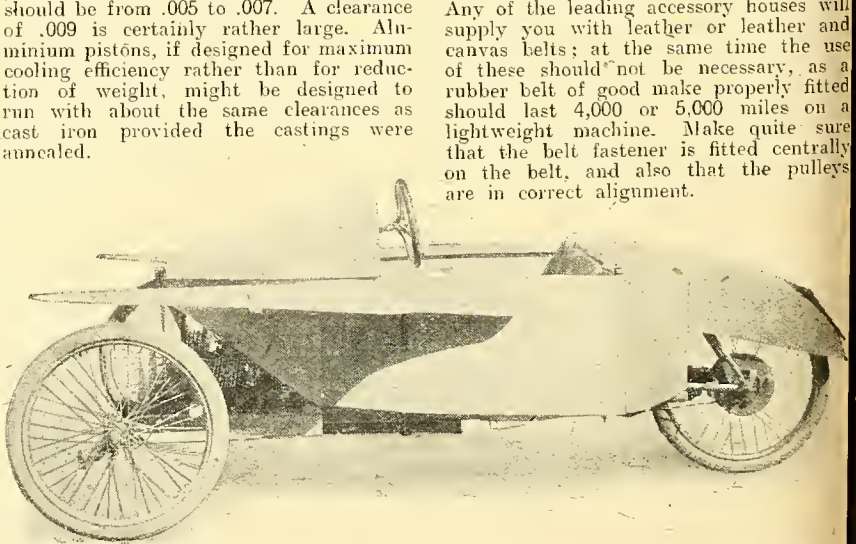
(1.) Is a 1914 two-speed 7·9 h.p. Indian suitable for sidecar work? (2.) What would be the effect on the running, steering, etc., with sidecar with 26×2⅜ tyre, the machine's tyre being 28×3? Will it cause machine to run to one side, as the sidecar wheel would have to travel faster than the 28in. wheels on level?—J.W.W.

(1.) The machine is quite suitable for sidecar work, although, of course, its hill-climbing powers will not be so great as those of a modern three-speed model. (2.) If the sidecar is properly attached with the wheel vertical and in correct alignment, the smaller tyre will not cause any appreciable ill-effect in the running; as a matter of fact, a 28×3 tyre can be fitted to a 26×2⅜ rim provided there is sufficient clearance beneath the mud-guard.

BELT TROUBLE

I have a 2¾ h.p. four-stroke machine, and have had endless troubles with broken belts; rubber belts seem to be useless for the present day roads. Can very strong leather belts be obtained now?—L.E.

Any of the leading accessory houses will supply you with leather or leather and canvas belts; at the same time the use of these should not be necessary, as a rubber belt of good make properly fitted should last 4,000 or 5,000 miles on a lightweight machine. Make quite sure that the belt fastener is fitted centrally on the belt, and also that the pulleys are in correct alignment.



An experimental cycle car constructed by the Foster Instrument Co., of Letchworth, for the purpose of testing a 4½ h.p. flat twin Levis engine. The nucleus of the machine is a 1912 F.N. motor cycle, of which the clutch, two-speed gear, and shaft transmission have been retained

AN OBSOLETE MODEL

The connecting rod of my 3½ h.p. Minerva motor cycle has broken. Where can I have it replaced?—B.S.

Minerva motor cycles ceased to be manufactured about eleven or twelve years ago, and it will be very difficult to obtain a new connecting rod. You might be able to get a second-hand one, however, by advertising your requirements; it would be a most expensive proceeding to have a new one machined from a hand-made forging.

WORN MAIN BEARINGS.

A 1910 single gear Triumph which I ride has developed a noise in the crank case, on the pulley side I think. It is a knocking sound, with a distinct ring to it, and only occurs when the engine is running fast on the level or downhill; I cannot notice it when the engine is pulling hard. I have just had the connecting rod rebushed (both ends), and the piston rings renewed. I cured it once by putting a leather washer behind each ball bearing in the crank case, but the cure was only temporary. I am inclined to think that the fault is in the ball bearings, and yet they both are a good push fit in the crank case.—A.H.T.

It appears that the ball races themselves are somewhat worn, or that the one on the pulley side is too loose a fit in the crank case. We assume, of course, that you have made quite sure that the pulley is not loose on the main shaft, and that there is not an excessive amount of end play on the shaft.

A TRANSMISSION KNOCK.

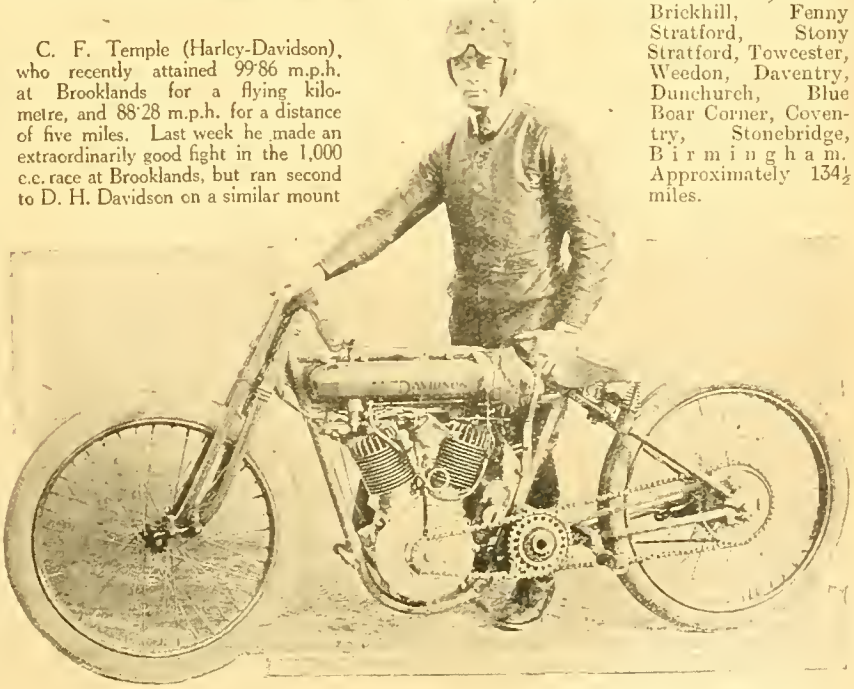
My 2½ h.p. two-stroke had developed a loud knocking sound. Thinking that the big end was worn, I took down the clutch, pulley, and crank case cover, and was about to take down the big end when a mechanic told me that it did not need rebushing, because there was only a little side play, so I put back the parts I had taken down. Engaging low gear, the machine started easily, but on trying to start it a second time I found that the machine could be wheeled in low gear as easily as if in neutral. I then tried to start it in top gear, and it started easily; and, changing down to low gear, I found it would run, although it pulled badly, but on no account will it start in low gear, and the knocking sound is worse than ever.—E.C.

Your description of the trouble is not at all clear, but we should imagine that the dogs of the low gear are only partially in mesh, and that they come out of engagement when you attempt to start the engine by pushing the machine along in low gear. Provided that the dog clutches are not damaged, it is merely a matter for adjustment of the gear control mechanism, but as you do not state the make of gear box we cannot tell you what to do. We would strongly recommend that you allow a reliable motor cycle mechanic to examine the machine, as you may do a considerable amount of damage if you use it for any length of time in its present state.

Important Dates.

Tues., June 14th—Junior T.T. Race.
Thurs. June 16th—Senior T.T. Race.
Sat., June 18th—North-Western Centre A.C.U. Open Speed Trials.
Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup.
Fri., July 1st, and Sat., July 2nd—Arbuthnot Trophy Trial.
Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.
Sat., July 2nd—500 Mile Race at Brooklands for the Miller Gold Cup.
Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials.
Sat., July 9th—St. Andrews Speed Trials.
Sat., July 9th—Cardiff M.C.C. and associated clubs Open Hill Climb.
Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.
Sat., July 16th—Ilkley M.C. and L.C.C. Open Reliability Trial.
Sat., July 23rd—East Midland Centre A.C.U. Open Speed Trials.
Sun., July 24th—Motor Cycle Grand Prix Race in France.
Sat., July 30th—Newcastle and District M.C. Open Speed Trials.
Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.
Mon., Aug. 1st to Sat., Aug. 6th—Anglo-Dutch Reliability Trial.
Sat., Aug. 6th—B.M.C.R.C. Open Brooklands Meeting.
Sat. Aug. 6th—North Wales M.C.C. Open Reliability Trial.
Fri. Aug. 12th—Motor Cycle Grand Prix in Belgium.
Sat., Aug. 13th—Cumberland M.C.C. Open Reliability Trial.
Sat. Aug. 20th—Western Centre A.C.U. Open Speed Trials.
Thurs. Aug. 25th—Ystalyfera and Carmarthen M.C.C. Open Speed Trials.
Mon., Aug. 29th, to Sat., Sept. 3rd—A.C.U. Six Days Trial.
Sat., Sept. 17th—Grand Prix Race for Cyclo Cars.

C. F. Temple (Harley-Davidson), who recently attained 99·86 m.p.h. at Brooklands for a flying kilometre, and 88·28 m.p.h. for a distance of five miles. Last week he made an extraordinarily good fight in the 1,000 c.c. race at Brooklands, but ran second to D. H. Davidson on a similar mount



EXPERIENCES WANTED.

"C.W.P." (Herne Hill).—7 h.p. A.J.S. and 8 h.p. Clyno, specially regarding consumption (oil and petrol), climbing, and speed.

"J.E.M." (Harrow).—5 h.p. Sporting Zenith, petrol consumption, ease of starting, and use of Gradua gear.

RECOMMENDED ROUTES.

SHEFFIELD TO SCARBOROUGH.—W.H.

Sheffield, Rotherham, Doncaster, Wentbridge, Ferrybridge, Aberford, Wetherby, Long Marston, Rufforth, York, Malton, Rillington, Sherburn, Ganton, Seamer, Scarborough. Approximately 106 miles.

HITCHIN TO WOODBRIDGE.—W.S.

Hitchin, Stevenage, Walton, Hertford, Ware, Standon Station, Little Hadham, Bishop's Stortford, Dunmow, Rayne, Braintree, Coggleshall, Marks Tey, Colchester, Stratford St. Mary, Capel St. Mary, Copdock, Washbrook, Ipswich, Martlesham, Woodbridge. Approximately 88½ miles.

WEMBLY TO MANCHESTER.—E.A.C.

Wembly, Harrow and Wealdstone Station, Bushey Heath, Elstree, Radlett, St. Albans, Dunstable, Hockliffe, Woburn, Newport Pagnell, Gayhurst, Stoke Goldington, Hackleton, Northampton, Kingsthorpe, Brixworth, Market Harborough, Kibworth, Oadby, Leicester, Loughborough, Hathern, Kegworth, Shardlow, Derby, Belper, Matlock, Rowsley, Bakewell, Buxton, Fernilee, (edge of) Taxall, Whaley Bridge, Disley, High Lane Station, Stockport, Levenshulme, Manchester. Approximately 183½ miles.

SALFORDS TO BIRMINGHAM.—A.H.T.

Salfords, Reigate, Burgh Heath, Ewell, Surbiton, Kingston-on-Thames, Richmond, Kew, Kew Bridge Station, Ealing Common, Alperton Station, Harrow and Wealdstone Station, Bushey Heath, Elstree, Radlett, St. Albans, Redbourn, Markyate, Dunstable, Hockliffe, Little Brickhill, Fenny Stratford, Stony Stratford, Towcester, Weedon, Daventry, Dunchurch, Blue Boar Corner, Coventry, Stonebridge, Birmingham. Approximately 134½ miles.



Current Chat

Times to Light Lamps.

June	2nd	... ...	9.36 p.m.
,,	4th	... ...	9.38 ,,
,,	6th	... ...	9.40 ,,
,,	8th	... ...	9.42 ,,

Burying the Hatchet.

Peace now reigns in Belgium, and the Motor Cycle Union of Liège has become affiliated to the Belgian Motor Cyclists' Federation, which is the A.C.U. of Belgium.

Forewarned is Forearmed.

Motor cyclists in the Wanstead district are warned by a reader, who signs himself "A Victim," of great police activity in that locality. Our correspondent states that two special constables are stationed at the Eagle, Snaresbrook, examining brakes and number plates, etc. Sinn Fein activities in London and the number of burglaries around Wanstead are also commented upon by "A Victim."

An Air Force Reunion.

So many airmen are motor cyclists that we make no apologies for publication of the following announcement:

"The annual reunion dinner of the Independent Air Force will be held at the Hotel Cecil on Monday, June 20th, at 7.30 for 8 p.m. All officers of Army troops and other attached units are invited. The Chief of the Air Staff, Air-Marshal Sir H. M. Trenchard, Bart., K.C.B., D.S.O., A.D.C., will take the chair, and Wing-Commander H.R.H. the Duke of York, K.G., has graciously signified his intention of being present."

I.O.M. Car Road Races in 1922.

Next year, for the first time since the war, there will be Tourist Trophy races for cars in the Isle of Man. Two races are certain, *i.e.*, classes for cars of 2,500-3,000 c.c., and not exceeding 1,500 c.c. respectively; and, if the authorities sanction a third day's racing, it will be reserved for the 1,100 c.c. class (in which case the 1,500 c.c. class will have a minimum limit of 1,100 c.c.).

Competing cars in both the big races must have *engines of not fewer than four working cylinders*, which, in conjunction with minimum capacity and weight clauses, means that the super-efficient twin-engined cycle car is effectively barred from competing for either the Tourist Trophy or the "Fifteen Hundred" Trophy.

Entries at ordinary fees (£75 per car) close on December 31st, but late entries at £100 per car may be accepted until March 31st, 1922.

Another Race in France.

What is known as the Grand Prix de France, organised by the Moto Cycle Club de France, over the Circuit de Provins, which has taken the place of the Circuit de Fontainebleau, will be held on June 26th.

This is not to be confounded with the Grand Prix of the Union Motocycliste de France, which will be held at Le Mans on July 23rd, for which a number of British entries have already been received.

The former race will be open to motor bicycles, sidecar outfits, and two-seated cycle cars. Entries close at ordinary fees on June 10th, and should be sent to the Moto Cycle Club de France, 81, Avenue de la Grande Armée, Paris, France. Entries cost 250 francs.

We have a few entry forms in *The Motor Cycle* offices, 20, Tudor Street, London, E.C.4, which we shall be happy to send to any motor cyclists who are interested.

THE MOTOR CYCLE

T.T. & SUMMER NUMBER

Will be published on

THURSDAY, JUNE 16th.

Published on the day of the Senior Race, it will form a comprehensive guide to the blue riband of the motor cycle world, including the latest news from the course, details of the competing machines, and practice lap times.

THURSDAY, 4d.

Special Features.

MOTOR CYCLES FOR THE T.T.
A FOUR VALVE ENGINE.
WEEK END EVENTS.

Belt Drive.

Since the Rudge Co. introduced its chain drive models, there have been rumours current regarding the abandonment of the well-known Multi models. These rumours are entirely without foundation.

Open Speed Trial at Westcliff.

On Thursday, July 7th, joint open speed trials will be held by the Essex M.C. and the Essex County and Southend A.C. at Westcliff-on-Sea. Full particulars and entry forms for this important event are now available, and may be obtained from Mr. Ernest J. Bass, 40, Chancery Lane, London, W.C.2. ('Phone: Museum 2234.)

Speeds through Winchcombe.

Probably no village in England figures more on the route cards of big motor cycle trials than Winchcombe, and, the streets being narrow, it is particularly dangerous on Saturdays (the favourite day for trials), when, of course, the school-children are on holiday. Mr. H. W. Barker, secretary of the local Traders' Association, asks us, on behalf of that body, to give publicity to the above, and appeals to motor cyclists to drive with great caution through the town. We feel sure that our readers—trials riders or otherwise—will comply with the request.

A Permanent Trap in Welwyn.

Owing to complaints made with regard to motor vehicles driving through the village of Welwyn, which lies north of Hatfield on the Great North Road, the Chief Constable of Hertfordshire is placing a permanent control, and intends to prosecute motorists against whom a *prima facie* case of driving to the common danger is established.

We greatly admire the sportsmanlike attitude of Colonel Law, the Chief Constable of the County of Hertfordshire, in bringing this fact to our notice. He states: "I am satisfied that in many cases the offences are due more to thoughtlessness than to wilful disregard of the law; and, as I am anxious that only the careless and inconsiderate drivers shall be prosecuted, I shall be glad if you will give the matter publicity."

Stile Kop.

We hear that it has been decided by the authorities concerned not to grant permission for future hill-climbs on Stile Kop, near Rugeley. It is considered that modern motor cycles are too fast for the hill.

The Five Hundred Mile Race.

Supplementary regulations for the 500-mile race at Brooklands on July 2nd are now available from the secretary of the B.M.C.R.C., The Mill House, Warlingham, Surrey. Entries, with racing colours, cost £2 12s.

The Price of Petrol.

The drop of sixpence in the price of petrol last week came as a disappointment to those who expected the fall to be a shilling; but 2s. 6d. petrol may yet be available before the year is out. Present prices are: No. 1, 2s. 11½d.; No. 2, 2s. 9½d.; aviation 3s. 3½d.; and benzole, 3s. 5½d. Thus for the first time we see petrol substantially cheaper than benzole. Notwithstanding, those who prefer the home-produced fuel will still continue to use it, as there must be a further reduction in the price of petrol before it really becomes appreciably cheaper in miles per gallon.

A Sporting Trial Midst the Surrey Hills.

Owing to the clashing of other important events, only a small number started for the Mellano Cup Trial of the New Surbiton and District M.C.C. on Saturday, the results of which follow:

MELLANO CUP (50 gns.), for Best Non-stop Performance.—W. G. Boyer (3½ Norton), total error, 15s.

COULSON CUP (12 gns.) for Best Performance of any Lightweight up to 350 c.c.—F. E. Salter (2¾ Zenith), total error, 50s.

SILVER MEDALS (for a Non-stop Run, and for the loss of not more than 5 marks): C. Michaelis (6 Zenith), E. L. Showell (5-6 Martinsyde), W. A. Hobbs (8 Zenith), H. F. Edwards (2¾ Coulson-B), P. R. Dowson (2¾ Hawker), T. O. M. Sopwith (2¾ Hawker), R. B. Clark (2¾ Coulson-B), W. J. Kelly (3½ Norton), W. Julian (7-9 Harley-Davidson sc.), and L. Bachalier (6 A.J.S. sc.).

BRONZE MEDALS (for the loss of not more than 15 marks): J. P. Marvin (8 Broogh Superior sc.), F. J. P. Dioney (3 A.B.C.), J. S. Bennett (2½ Metro-Tyler), and C. Crossthwaite (3½ Duzmo).

Screw Road.

A party of Pwllheli motor cyclists last week visited the corkscrew hill known as Screw Road. D. Thomas, on a 4¼ h.p. B.S.A., claims the honour of being the first Welshman to make a clean ascent. We understand that several hundred spectators from the surrounding districts witnessed the event.

Challenge to North-western Clubs.

Stockport and District M.C.C. desire to challenge any motor club affiliated to the North-Western Centre A.C.U. to a reliability trial for the Reynold Inter-club Challenge Trophy. Particulars may be obtained from Mr. E. S. Abram, 226, Manchester Road, Heaton Chapel, Stockport.

Lost Licence Holders and Number Plates.

A lost licence holder and number plate epidemic has set in. The Rev. E. G. Bird, chaplain R.N., R.N. Barracks, Devonport, has lost his licence holder near Ringwood; a trade number plate, mark HK 0148, has been lost by Lambs, of Walthamstow, between Malvern and London; and W. Jackson, jun., of 101, Greenfield Road, Denton's Green, St. Helens, is minus his combined rear plate and lamp, No. DJ 1043.

Record Public Interest in a Trial.

Several thousand spectators assembled at the start of the Newcastle and District M.C.'s all night run to Edinburgh and back on May 21st and 22nd. There were seventy-two starters, including two ladies—Miss Usher and Miss Bessie Gibson—both mounted on N.U.T. machines. Hugh Mason was also riding. Competitors used sealed watches. The Baker Challenge Trophy and specially engraved gold medal was taken by J. B. Bainbridge; whilst G. H. White, J. L. Murray, J. L. Travers, J. G. Friars, A. A. Adams, R. Astbury, and D. Hall qualified for gold medals. The two ladies were among the thirty-four silver medallists.

Twelve-hour Open Event at Glasgow.

A twelve-hour open trial will be held by the Glasgow M.C.C. on June 12th over a route including Rest and be Thankful in a non-stop section. Particulars may be obtained from Mr. J. F. Balharrie, 20, Renfield Street, Glasgow.

Motor Cycle Union of Ireland.

The annual general meeting of the Southern Centre of the Motor Cycle Union of Ireland was held on Friday last under the chairmanship of Mr. T. J. Dunphy. The report and financial statement was presented by Mr. P. Grimes. It showed a substantial balance in hand and was adopted. The new officers for 1921 were elected as follows: President, Mr. T. J. Dunphy; vice-presidents, the presidents of the Cork and District, Dublin and District, and Leicester Motor Cycle Clubs; hon. secretary and treasurer, Mr. P. Grimes; hon. auditors, Messrs. D. Doolin and F. H. Draper; representative of members, Mr. T. W. Murphy.

Sangster Cup Trial Results.

Official results of the Birmingham M.C.C. Whitsun Trial from Land's-End to Birmingham have now been announced. The premier award, the Sangster Cup, has been won by F. Short (5-6 James sc.), the gold and silver medals being awarded as follows:

GOLD MEDALS.

CLASS A (250 c.c. solo).—R. C. Bennett (2½ Federation), Gus Kühn (2½ Verus), B. Bourke (2¼ New Hudson), W. Bell (2¼ New Hudson), and G. Denley (2¼ Velocette).

CLASS B (250 to 350 c.c. solo).—C. F. Hollyoak (2½ Federal), H. V. Collins (2¾ Marloe-Blackburne), C. L. Sprosen (2½ Connaught), F. C. Parkes (2½ Sun-V.T.S.), W. L. Handley (2¾ O.K. Junior), and J. W. Parkes (2½ Sun-V.T.S.).

CLASS C (350 to 560 c.c. solo).—R. W. Duke (4 Triumph), J. R. Follows (3½ Sunbeam), S. Hall (3½ Sunbeam), R. Fellows (3½ Sunbeam), G. J. Baragwanath (3½ Sunbeam), A. W. Thrush (3½ Sunbeam), and L. Paynter (3½ Norton).

CLASSES D, E, F, and G, merged into one class (solos above 560 c.c. and passenger machines up to 1,100 c.c.).—H. Boynton (5-6 James sc.), T. Short (5-6 James sc.), T. Stevens (7 James sc.), E. J. Neal (8 Matchless sc.), F. W. Giles (7 A.J.S. sc.), H. B. Denley (10 Rhode cycle car),

SILVER MEDALS.

H. C. Jennens (3½ James), R. T. Cooke (4 Triumph), and J. Bacon (3½ Sunbeam sc.).

KEEN INTER-CLUB HILL-CLIMB IN OXFORDSHIRE.



J. W. Tolladay, who rode a well-tuned Velocette at the Oxford M.C.C. Hill-climb. He won two classes, and put up faster time than many higher-powered machines.

INTER-CLUB rivalry is evidently very keen in some parts of the country, for a recent challenge by the Banbury M.C. to the Oxford M.C. attracted an entry of seventy in the motor cycle and sidecars alone for the resulting hill-climb, which was held under ideal conditions at Irondown Hill, near Deddington, on Saturday. Results on time of the motor cycle, sidecar, and cycle car classes follow:

CLASS 4 (1,000 c.c. Solo).—1, A. D. Cruikshank (3½ Norton), Oxford, 36⅘s.; 2, L. B. Askew (7-9 Indian), Banbury, 37⅖s.; 3, R. J. Pigott (4 Norton), Oxford, 39s.

CLASS 5 (600 c.c. Sidecars).—1, N. V. Young (4 Triumph sc.), Oxford, 56⅗s.

CLASS 6 (Unlimited Sidecars).—1, L. Avery (7-9 Harley-Davidson sc.), Oxford, 43⅗s.; 2, E. A. Thornitt (8 Acme sc.), Banbury, 48s.; 3, S. J. Avery (7-9 Harley-Davidson sc.), Oxford, 48⅗s.

CLASS 7 (1,100 c.c. Cycle Cars).—1, G. L. Hawkins (G.N.), Oxford, 45⅕s.; 2, F. E. Wootten (10 Morgan), Oxford, 55⅕s.

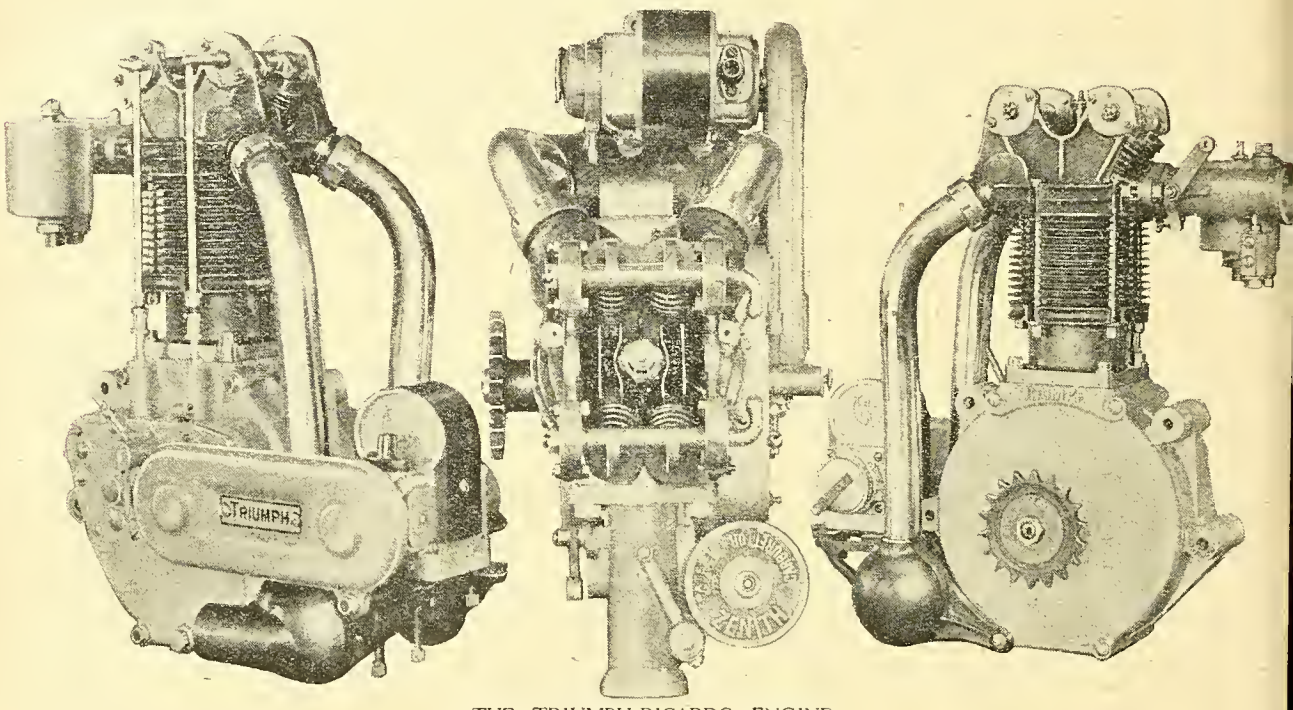
CLASS 1 (250 c.c. Solo) on Time.—1, J. W. Tolladay (2¼ Velocette), Oxford, 41⅗s.; 2, E. A. Thornitt (2¼ Levis), Banbury, 44⅘s.; 3, H. S. Askew (2¼ Cedos), Banbury, 48s.

CLASS 2 (350 c.c. Solo).—1, J. W. Tolladay (2¼ Velocette), Oxford, 42⅗s.; 2, E. A. Thornitt (2¼ Levis), Banbury, 45s.; 3, H. S. Askew (2¼ Cedos), Banbury, 47⅗s.

CLASS 3 (600 c.c. Solo).—1, A. D. Cruikshank (3½ Norton), Oxford, 36⅗s.; 2, H. S. Askew (3½ Rover), Banbury, 38⅗s.; 3, J. W. Tolladay (2¼ Velocette), Oxford, 41⅗s.

A FOUR-VALVE ENGINE FOR THE T.T.

First Illustrated Description of the New Triumph-Ricardo Single-cylinder Engine of 80.5 × 98 mm A "Mystery" Mount which accomplished 60 m.p.h. on Low Gear at Brooklands.

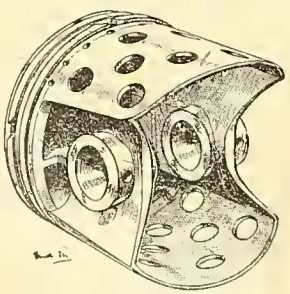


Timing gear side. THE TRIUMPH-RICARDO ENGINE Plan view. Driving side

EVER since it was first known that the Triumph Cycle Co. had nominated a team for the 1921 Senior Tourist Trophy, an air of mystery has surrounded the entry. For some years past the 550 c.c. 4 h.p. engine has been the main production of the Coventry factory, and, since this type is too large to comply with the A.C.U. limits, considerable public interest has been evinced in the design of the new 500 c.c. mount.

We are now for the first time able to lift the veil, and disclose perhaps the most interesting machine which has ever left this world-famous factory.

The present engine, so far as the cylinder and valve gear and parts above the crank case are concerned, has been entirely redesigned by Ricardo and Co., Ltd., under the supervision of Mr. H. R. Ricardo. The modifications comprise ideas which embody the most up-to-date internal combustion engine practice.

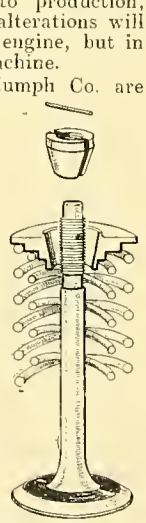


Complete with gudgeon pin and rings, this aluminium piston weighs only 14 ozs

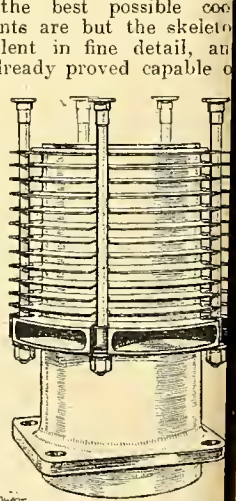
It must be understod that the engine is still in the experimental stage, and that, before it is put into production, several further important alterations will be made, not only in the engine, but in other vital parts of the machine.

We gather that the Triumph Co. are entering the new engine as their second string, with a view to obtaining such valuable information as only a prolonged road race can provide, and that the Senior T.T. will form part of the strenuous road test to which all new Triumph models are subjected before being offered to the public.

Attention has been concentrated in this design upon obtaining and maintaining the greatest b.h.p. and speed revolution from an engine of given size, and to this end every detail has been shaped. Thus we find a machined steel cylinder to avoid warping through uneven thickness of metal; an aluminium piston to reduc reciprocating mass and to ensure tha heat can flow away from the vital places multiple overhead valves of light recipr cating weight, seating in a special cyli der head approximately hemispherical i shape for efficiency, and so constructe as to provide the best possible coo ing. These points are but the skeleto of a design opulent in fine detail, an one which has already proved capable o remarkable performances from the angle of view of sheer efficiency. Having said that in the complete machine this engine drives a special two-speed gear box through an enclosed $\frac{1}{4} \times \frac{5}{16}$in. chain and Triumph clutch and shock absorber, and that the final drive is by chain on the right-hand side, we can now proceed to deal with the all-absorbing details, which are superbly carried out and merit



The valves have 30° seats and two concentric springs A split taper collar is used to locate the spring cup



The detachable head is held by five equally spaced bolts, secured to a double bottom rib on the cylinder barrel

Four-valve Engine for the T.T.—

areful individual consideration, since ney are the outcome of some of the ost able brains in the country, and show onsiderable originality as compared with ccepted motor cycle practice.

Four Valves.

Commencing with the cylinder design, he detachable head is spigoted on to a eel cylinder, a plain ground joint being sed for retaining compression. Five ng bolts secure the head to the two west cylinder fins, which are milled out the solid in such a manner as to form gs at equally spaced intervals.

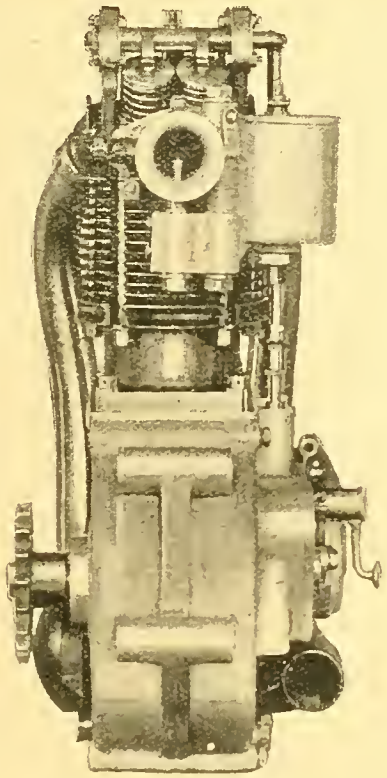
At first sight, it may provoke surprise at the lowest ribs are utilised as a point head attachment, but a little thought ill show that by the employment of this ethod, unequal masses of metal are oided on the hottest portion of the arrel.

Three circumferential ribs surround the se of the head, the remainder being sposed vertically. Two inlet and two haust valves are arranged in pairs at proximately 90° to each other, the rmer being contained in a common port. hile the latter are separately housed d the ports lead outwards to correspond- g exhaust pipes. The sparking plug is cated in the centre of the head.

Four drilled set pins screwing into steel ashes secure the cylinder to the crank se, this method being employed to save ting the cylinder clear of the crank se studs, and thus allowing either the ad alone or the cylinder and head as a it to be removed with the engine *in u.* .45% carbon steel is used as a linder material, and the bore is ground t to 80.5 mm.

Light Reciprocating Parts.

With the exception of the fact that e crank case has a flat base forming a all oil sump, the crank case may be ssed over without comment, but it is eresting to observe that the flywheels ve been slightly decreased in overall ameter, so as to increase crank case arance and thus reduce oil friction.



Rear view of the new engine, showing the pair of inclined inlet valves.

A standard Triumph double row roller bearing is employed for the big end, and the connecting rod is of H section somewhat wider than that fitted to previous standard models. The small end is bushed with phosphor bronze, and the 17 mm. hollow gudgeon pin is allowed to float in both small end and piston bosses, being located endways by spring rings.

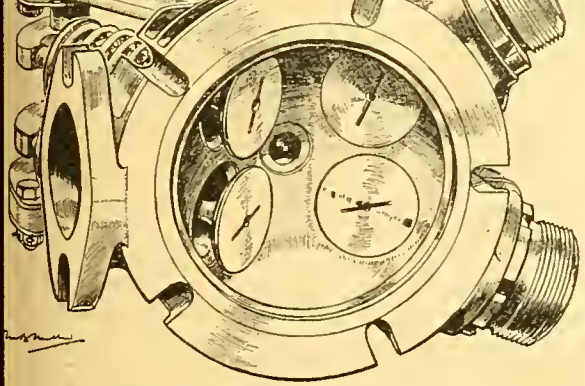
A very light aluminium Ricardo slipper piston, having two narrow rings, is used, and the gudgeon pin bosses are supported close to the centre to enable a light pin to be employed. The piston, complete with rings and gudgeon pin, weighs but fourteen ounces, while the complete reciprocating weight amounts to only nineteen ounces.

In connection with the silencing arrangements, it may be mentioned that brake tests have shown no loss of power up to 4,300 r.p.m., with expansion box and tail pipe in position.

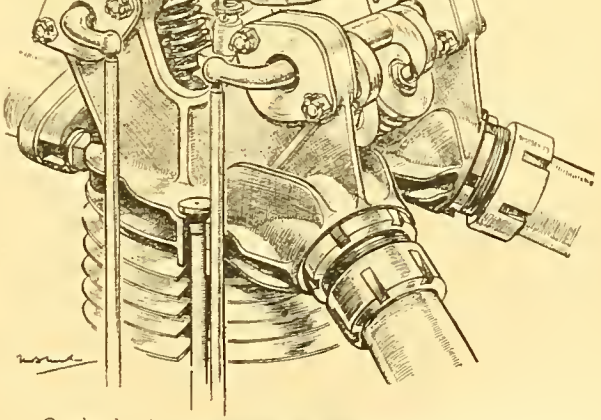
Perhaps the most interesting feature of this unconventional engine lies in the valve gear. Primarily, it may be stated that a light rocker is interposed between each cam and tappet, and long ball-ended push-rods with adjustments at the lower ends are used to convey the motion to the one-piece nickel chrome rockers, which are carried in dustproof ball bearings housed in an extension of the head casting. Each valve, of 3% nickel steel (case-hardened), is returned by two concentric springs of only 25 lb. total tension, when the valve is seated. Separate cast iron valve guides are used; the spring cups are retained by split taper collars screwed on the stem and pinned.

Masked Inlet Valves.

Masked inlet valves on the Ricardo system are employed for the first time on motor cycles, so that their salient features may require explanation. The valve heads are sunk below the level of the cylinder head, so that the first portion of the opening and the last part of the closing action are practically ineffective. By means of special cams the valves may be gently started and gently seated, though the effective opening and closing is sudden in each case. In this connection, it may be mentioned that the valve gear is noticeably quiet in action. Several types of carburetter, both automatic and two-lever, are being used for experimental purposes, but all are of considerably larger bore than that of standard motor cycle instruments, and specially large diameter petrol pipes are employed. It has been found, however, as a result of careful experiment, that an Amac carburetter gives the most satisfactory results on this engine.

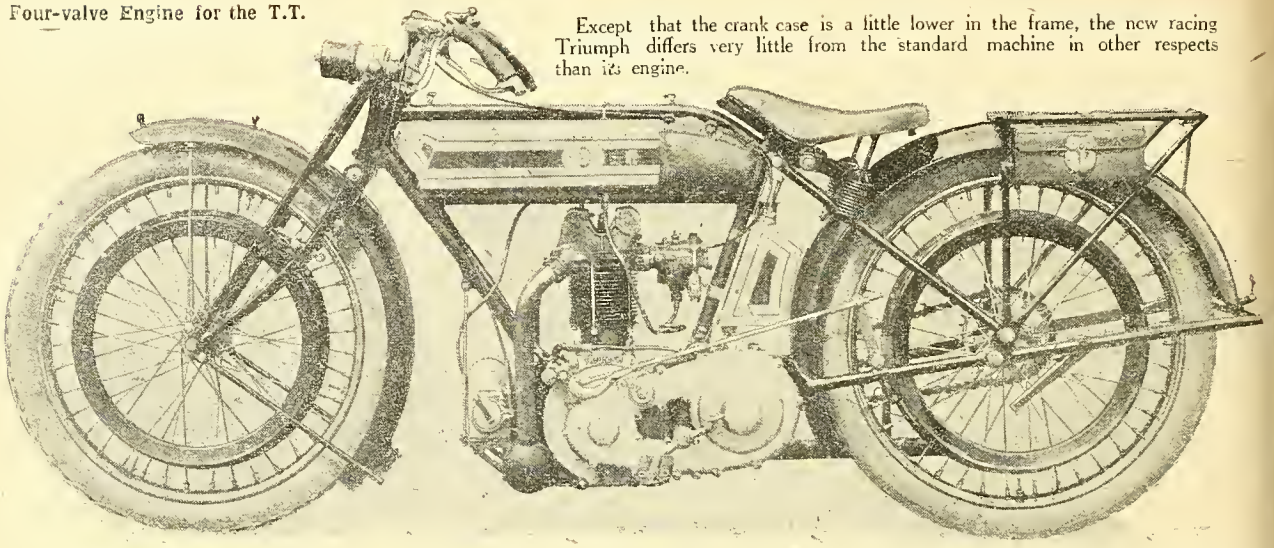


Detachable head, showing face joint and inlet valves raised. The inlet valves are slightly recessed into the head in accordance with Mr. Ricardo's patent.



Overhead valve arrangement showing the ball bearing rocker arms and double exhaust pipes.

A Four-valve Engine for the T.T.



Except that the crank case is a little lower in the frame, the new racing Triumph differs very little from the standard machine in other respects than its engine.

Splash Lubrication.

No special system of lubrication is fitted, except for the fact that a very neat method of positive foot operation has been designed to force oil from a half-gallon tank, located behind the saddle tube, to the crank case.

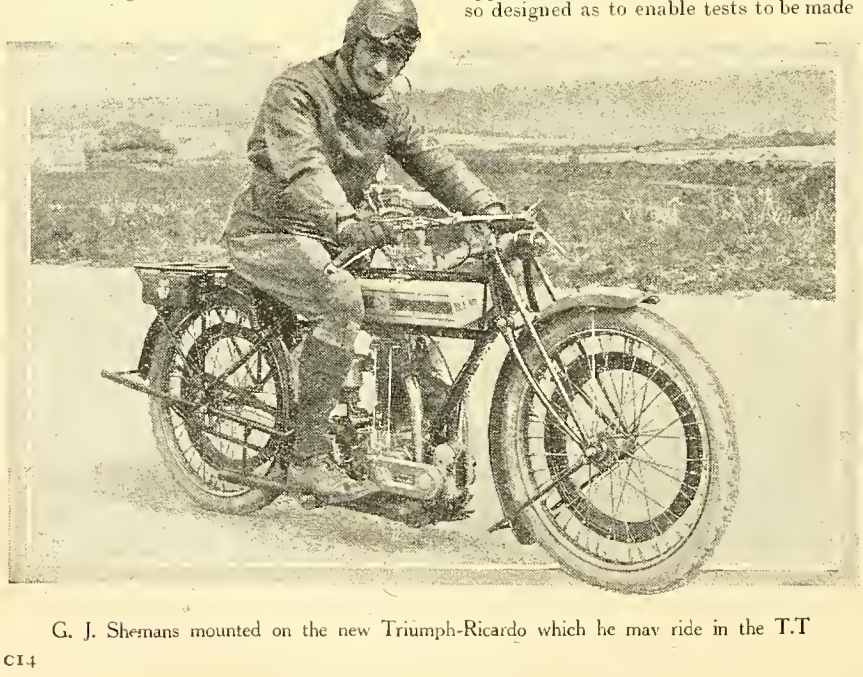
After being subjected to prolonged bench tests of a most searching character, the first engine was taken to Brooklands, where it created something of a stir. We were permitted to observe certain tests, which proved most interesting.

During these trials, a lap of Brooklands was attempted on the low gear ratio of 5.6 to 1, and from a standing start an average speed of 60 m.p.h. was accomplished for a complete lap, equivalent in engine revolutions to about 4,400 r.p.m., or with slip allowance to 4,600 r.p.m. At the conclusion of the lap the engine was reasonably cool, and showed no signs of distress. The machine on which this trial was accomplished was in full touring trim, with mudguards, silencer, chain case, stands, carrier, etc., and was ridden by G. J. Shemans.

We are informed that since this time over a hundred laps at Brooklands have been covered at speeds varying between 65 and 79 m.p.h. Although these speeds appear highly creditable for a new machine, we understand that the designers are not satisfied that the maximum speed has yet been obtained. Their opinion is based upon the fact that figures from the testing works of the Ricardo Co. indicate that over 20 b.h.p. has been obtained which should certainly produce a higher maximum performance.

One is at first inclined to doubt the accuracy of such a high maximum horsepower from so small a cylinder, but we may state that we have personally had the opportunity of examining the testing apparatus, and we can affirm that it is so designed as to enable tests to be made with a degree of accuracy which is not obtainable with the type of testing gear ordinarily used.

Three of these machines will be in the Senior race ridden by G. J. Shemans, Stanley Gill, and C. Sgonina, in addition to six of the "side-by-side" type, which also has an entirely new engine. We propose to describe the more standard mount in our next issue.



G. J. Shemans mounted on the new Triumph-Ricardo which he may ride in the T.T

NEXT SATURDAY'S POOR CHILDREN'S OUTING.

Thirty Sidecars Wanted for a Charitable Work in London.

A NUMBER of sidecars are still wanted for the Poor Children's Outing next Saturday, when a member of the General Committee of the A.C.U. will entertain a party of the younger generation at his home in Hertfordshire.

Motor cyclists in the London district are invited to give a day and the services of themselves and their sidecars for this charitable work, and we feel sure that the response will provide sufficient vehicles to transport the children to the home of their host, as, at some time or another, most drivers have seen the look of envy which poor children bestow upon those children fortunate enough to have a father with a sidecar.

Regarding Saturday's trip, Mr. Loughborough, secretary of the A.C.U., writes:

"I happen to know that the children will be provided with a most enjoyable and beneficial afternoon's entertainment, and I feel sure that our members will appreciate that, by providing the necessary transport, the Union is assisting in a charitable work, the value of which is almost inestimable. Several parties of children will be entertained, and it is proposed that the first party shall visit their benefactors' home on Saturday, June 4th.

"It would seem quite practicable for members of the Union all over the country to assist occasionally in similar undertakings, and I should at any time be only too pleased to give what assistance is possible to further any such good work.

"Members who are able to give their services and the use of their sidecar machines on Saturday, June 4th, should communicate with me as early as possible in order that the necessary detail arrangements may be made."

Fifty or sixty children will be entertained on Saturday, and the venue is Kingsley Hall, Botolph Road (off Devon's Road), Bow, at 9.30 a.m.

OAKAMOOR HILL-CLIMB.

Nearly 100 Entries in A.C.U. East Midland Centre Contest. Fast Times by Lightweights.



At the summit of Oakamoor Hill, the venue of the East Midland Open A.C.U. Hill-climb last Saturday. A Wooler rider crossing the finishing line.

OAKAMOOR Hill was again the scene of a hill-climb last Saturday, organised by the East Midland Centre of the A.C.U. With an entry of ninety, the organising committee was none too satisfied, but recognised that the proximity of the T.T. drew many possible entrants in other directions.

The weather was fine at the start, with a gusty wind, and a goodly crowd had assembled to witness the start, which was timed for 2 p.m. There were many most praiseworthy ascents of the measured half-mile, and certainly excellent judgment was called for, since three gradual bends, which in pre-war days could be taken "all out," now demand caution with faster machines. As usual, Norton exponents were to the fore, notably Harold Petty (of Leicester) and H. Palin (of Derby).

Petty's machine was apparently the fleetest on the hill, for he had to cut out at least twice, and yet succeeded in accomplishing fastest time in 32s. = 56.25 m.p.h. Palin adopted a different method of cornering, for he controlled speed entirely by the throttle in contradistinction to Petty, who used his valve lifter.

Then there was a stripped P. and M. in the capable hands of G. M. Townsend: and if any doubts of the speed of a P. and M. lurks in motor cyclists' minds, Townsend's times of 33⅘s. and 34⅕s. should certainly dispel them. In short, it was an eye-opening performance, particularly as Townsend's best time was recorded on a wet course, for, sad to relate, it poured with rain for half-an-hour halfway through the classes, and sent many home wet through, for there was little shelter. Stevenson (flat twin Brough), Seal (Indian), and Vale, Andrews, and Child (Nortons) were also conspicuous for outstanding performances in the bigger classes.

Fleet 250 c.c. Mounts.

Among the lightweights no more popular and clever rider among youngsters has been seen than A. Palin (son of the Norton exponent). Palin, jun., was astride a Levis with Enfield gear, tuned to perfection. He shot off the mark like greased lightning, and took his corners fearlessly. Though he looks but a child, his age was officially given as fourteen. Another surprise packet was a 2 h.p. Matador machine of 247 c.c., ridden by Bert Houlding. The engine has two overhead valves arranged obliquely, and proved itself in good enough fettle to account for three classes, though it only appeared in two of them. For a tiny mount 35⅘s. represented a very sporting and creditable performance. J. V. Prestwich was there with a 249 c.c. side-by-side valve chain-driven J.A.P., of the 6,000 r.p.m. order. Though geared too high to get off the mark rapidly, he made up for lost time with a vengeance on the flatter stretch near the finishing tape, recording 38s. on two occasions. The results were promptly announced by K. S. Topping *via* a megaphone after the times had been clocked by J. Simmonds and A. Hodgkinson, and the details are subjoined:

The Results.

SILVER CUP (for fastest time of the day).—H. Petty (3½ Norton), 32s.

GOLD MEDAL (for fastest Derby Club resident).—H. Palin (3½ Norton), 33⅕s.

GOLD MEDAL (for fastest time by Lincoln Club member).—J. R. Sylvester (2½ Velocette), 43⅕s.

One award for the Nottingham Club member making "the fastest time on formula solo" remained in doubt, as no provision was made for formula awards. May we suggest that "the best figure of merit on time" was intended?

CLASS 9 (open solo motor cycles up to 250 c.c.).—B. Houlding (2 Matador), 36⅕s.; A. Palin (2¼ Levis), 38⅖s.; and J. V. Prestwich (2 J.A.P.), 39⅕s.

CLASS 10 (open solo motor cycles up to 300 c.c.).—B. Houlding (2 Matador), 36⅕s.; J. V. Prestwich (2 J.A.P.), 38s.; and A. Palin (2¼ Levis), 38⅕s.

CLASS 11 (open solo motor cycles up to 350 c.c.).—A. Palin (2¼ Levis) and J. V. Prestwich (2 J.A.P.), 38s.; and J. M. Heath (2¾ J.A.P.), 38⅕s. On running off the tie Prestwich improved his time to 36⅕s., Palin taking 37⅕s.

CLASS 12 (open solo motor cycles up to 500 c.c.).—H. Petty (3½ Norton), 32⅖s.; G. M. Townsend (3½ P. and M.), 34⅖s.; and H. Palin (3½ Norton), 34⅕s.

CLASS 13 (open solo motor cycles up to 650 c.c.).—H. Petty (3½ Norton), 33⅖s.; H. Palin (3½ Norton), 34s.; and T. B. G. Vale (3½ Norton), 34⅘s.

CLASS 14 (open solo motor cycles of unlimited c.c.).—H. Petty (3½ Norton), 32s.; S. Seal (7-9 Indian), 34⅖s.; and T. B. G. Vale (3½ Norton), 34⅘s.

CLASS 15 (experts barred, solo motor cycles up to 250 c.c.).—A. Palin (2¼ Levis), 37s.; B. Houlding (2 Matador), 39s.; and G. T. Povey (2¼ Velocette), 41⅖s.

CLASS 16 (experts barred, solo motor cycles up to 300 c.c.).—A. Palin (2¼ Levis).

CLASS 17 (experts barred, solo motor cycles up to 350 c.c.).—J. M. Heath (2¾ J.A.P.), 39⅖s.; A. Palin (2¼ Levis), 40⅖s.; and W. F. Norris (2¾ H.B.), 43⅖s.

CLASS 18 (experts barred, solo motor cycles up to 500 c.c.).—H. Palin (3½ Norton), 33⅖s.; G. M. Townsend (3½ P. and M.), 34⅖s.; and G. Child (3½ Norton), 35s.

CLASS 19 (experts barred, solo motor cycles up to 650 c.c.).—H. Palin (3½ Norton), 33⅖s.; G. M. Townsend (3½ P. and M.), 33⅗s.; and G. Child (3½ Norton), 34⅖s.

CLASS 20 (experts barred, solo motor cycles of unlimited c.c.).—H. Palin (3½ Norton), 33⅖s.; G. Child (3½ Norton), 34s.; and F. W. Stevenson (3½ Brough) and A. Rider (Indian Scout), 34⅖s.

All the sidecar classes were cancelled before the event, due to insufficient support.

HANDICAPPING A PAPER-CHASE.

AN innovation was introduced by the North London M.C.C., which "handicapped" their paperchase on Saturday, from Elstree to Little Gaddesden. Sidecars under 500 c.c. had ten minutes' start, sidecars over 500 c.c., and solos under 350 c.c., five minutes' start, and solos over 350 c.c. were scratch. In spite of the hares having threequarters of an hour start, they were caught by D. H. Williams (4 Indian), who started scratch, after about sixteen miles—an excellent performance. G. Bartlett (2¾ Coulson B), 5m. start, was a very close second, and proved the handicapping to be fairly accurate. A very excellent tea was enjoyed at the famous Bridgewater Arms Hotel, Little Gaddesden. Next day a trial hill-climb was held on Kop Hill for the inter-club climb versus the North-West London M.C.C.

THURSDAY. JUNE 16th.

THE MOTOR CYCLE

T.T. AND SUMMER NUMBER

Special Articles. Guide to the T.T.

C19

95 COMPETITORS AT YORKSHIRE HILL-CLIMB.

Harrogate and District M.C.C. hold a Successful Centre Event on Otley Chevin.

ON Saturday a highly successful hill-climb was organised by the Harrogate and District M.C.C., this being the first climb held in the Centre under the new system.

The organisation was good, the weather proved kind, and the spectators who lined the hill in thousands were fairly tractable, although at times they encroached on the course.

The only serious fault was the state of the road surface which, in places, had been badly cut up during the previous week. Three riders fell, and one, L. A. Runton, riding an A.B.C., was rather badly cut and shaken.

Only two of the ninety-five competitors failed to turn up for their numbers, although for various reasons some few more did not face the starters.

The results are as follows, the special prize awards being subject to confirmation :

350 c.c. SOLO.—*Amateurs:* 1 and special, B. B. Bointon (2¾ Coulson-B.), 1m. 10⅘s. *Trade:* 1 and special, B. Parkinson (2¾ Douglas), 56⅘s.; 2, N. Woolley (2¾ Beaumont), 1m. 8s.; 3, W. R. Brooks (2¾ Blackburne), 1m. 12⅘s.

560 c.c. SOLO.—*Amateurs:* 1 and special, L. Padley (3½ Norton), 41⅘s.; 2, E. Searle (3½ Sunbeam), 42⅘s.; 3, G. A. Nunneley (3¾ Scott), 1m. 16⅘s. *Trade:* 1 and special, R. T. Cawthorne (3½ Norton), 41⅘s.; 2, F. Reynard (3½ Sunbeam) and J. E. Clayham (4 Triumph), 45⅘s., tied.



Although over sixty years old, T. W. Monkhouse, who holds many pedal cycle records, made a very creditable performance on his Triumph.

750 c.c. SOLO.—*Amateurs:* 1, L. Padley (3½ Norton), 41⅘s.; 2, E. Searle (3½ Sunbeam), 43⅘s.; 3, G. A. Nunneley (4 Indian Scout), 1m. 5⅘s. *Trade:* 1, F. Reynard (3½ Sunbeam), 42⅘s.; 2, J. E. Clayburn (4 Triumph), 45s.; 3, W. Backhouse (4 Triumph), 48⅘s.

UNLIMITED SOLO.—*Amateur:* W. H. Rodes (7-9 Indian), 38⅘s., the only one to start. *Trade:* 1 and special, F. W. Dixon (7-9 Harley-Davidson), 35⅘s., fastest time of the day; 2, F. Reynard (3½ Sunbeam), 41⅘s.; 3, P. Barron (7-9 Indian), 43s.

560 c.c. PASSENGER MACHINES.—*Amateur:* 1, L. Padley (3½ Norton sc.), 1m. 2⅘s.; 2, R. Brown (3½ Norton sc.), 1m. 3⅘s.; 3, T. Monkhouse (4 Triumph sc.), 1m. 31⅘s. *Trade:* 1, R. T. Cawthorne (3½ Norton sc.), 54⅘s.; 2, G. Hill (3¾ Scott sc.), 1m. 18⅘s.; 3, W. E. Grange (3½ Norton sc.), 2m. 17⅘s.

750 c.c. PASSENGER MACHINES.—*Amateur:* 1 and special, L. Padley (3½ Norton sc.), 57⅘s.; 2, R. Brown (3½ Norton sc.), 1m. 0⅘s.; 3, W. Wells (3½ Norton sc.), 1m. 14⅘s. *Trade:* 1 and special, R. T. Cawthorne (3½ Norton sc.), 48⅘s.; 2, G. Hill (3¾ Scott sc.), 1m. 14s.; 3, W. E. Grange (6 Bradbury sc.), 1m. 24⅘s.

UNLIMITED PASSENGER MACHINES.—*Amateurs:* 1, N. Longfield (7-9 Indian sc.), 51s.; 2, L. Padley (3½ Norton sc.), 57s.; 3, R. Brown (3½ Norton sc.), 1m. 0⅘s. *Trade:* 1 and special, F. W. Dixon (7-9 Harley-Davidson sc.), 42⅘s.; 2, R. T. Cawthorne (3½ Norton sc.), 47s.; 3, P. Baron (7-9 Indian sc.), 49⅘s.

A special prize is awarded to Miss Monkhouse, who made the fastest ascent on a passenger machine (lady drivers only). She rode a Triumph, and her time was 1m. 34⅘s.

Consolation prizes to Mrs. Watts and G. A. Reed.

SPECIAL CLUB PRIZES.—*Amateur:* G. A. Nunneley. *Trade:* W. E. Grange.



A successful New Imperial rider, E. J. Anderson, taking a corner at the Essex County and Southend A.C. Hill-climb at Thundersley Church Hill last Saturday.

ESSEX COUNTY & SOUTHEND A.C. HILL-CLIMB.

FROM the motor cyclist's point of view, the hill-climb organised by the Essex County and Southend A.C. at Thundersley Church Hill, Essex, was not so interesting as it might have been had the entries been more numerous in proportion to the cars. Nevertheless, some good speeds were witnessed and creditable performances recorded, notably those of E. J. Anderson on a 2½ h.p. New Imperial, who secured first place in the first three events. The results are as follows :

350 c.c. (Touring).—1, E. J. Anderson (2½ New Imperial), 23⅘s.; 2, E. C. Baldwin (2¾ Douglas), 28⅘s.; 3, R. C. Barnes (2¾ Douglas), 30s.

350 c.c. (Sports).—1, E. J. Anderson (2½ New Imperial), 24⅘s.; 2, F. R. Cotgrove (2¾ Wooler), 29⅘s.; 3, R. Weatherell (3 R.W. Scout), 31s.

600 c.c. (Touring).—1, E. J. Anderson (2½ New Imperial), 26s.; 2, R. O. Coneher (3½ Sunbeam), 28⅘s.; 3, B. A. Bennett (3½ P. and M.), 29s.

600 c.c. (Sports).—F. Jeffery (3½ P. and M.) and A. J. Turnbull (4 Triumph), 28s., tied for first place; 2, F. R. Cotgrove (2¾ Wooler), 28⅘s.

UNLIMITED (Members).—1, A. L. Turnbull (4 Triumph), 29⅘s.; 2, F. R. Cotgrove (2¾ Wooler), 29⅘s.; 3, R. W. Weatherell (3 R.W. Scout), 30⅘s.

SIDECARS (600 c.c. and Unlimited).—1, S. D. T. Croneen (7-9 Harley-Davidson), 32s.; 2, H. G. Stewart (4 Triumph), 34⅘s.; 3, H. G. Stewart (8 Zenith), 42s.

THE CLUB CHAMPIONSHIP FOR 1921.

The Fourteenth Inter-club Team Trial for "The Motor Cycle" Cup.

By nominating a team for the M.C.C. Team Trials on Saturday, June 25th, the clubs of this country have a chance of winning the Club Championship for the year. Entries, which close on Saturday next, will be limited to thirty teams.



The Motor Cycle Challenge Cup for the Club Championship. At the present time both the M.C.C. and the Coventry and Warwickshire M.C. own two shares. Last year it was won by the Leicester and District M.C.

FOR the fourteenth year the M.C.C. will organise the Inter-club Team Trial for the Challenge Cup presented by the proprietors of this journal. The competition is between club teams for what has long been established the club championship of the year.

Each team consists of six riders, three driving motor bicycles and three passenger machines, such as sidecars or three-wheeled cycle cars. A passenger must be carried. The joint weight of passenger and driver must not be less than twenty stone.

The course is 100 miles in extent, which will be covered non-stop three times in succession. Sufficient fuel and oil must be carried for the complete journey. Competitors may replenish from a metal receptacle carried with them provided the replenishment is effected by the *driver* while the machine is in motion. Fuel and oil must be carried from the start, and must not be taken up after starting.

Each lap must be covered at a speed of between 17 and 20 m.p.h. Each rider may, therefore, set his own time within the limits for the first circuit, and should aim at repeating this exactly on each subsequent occasion.

Improved Regulations.

Should more than one team complete the course intact, the order of merit shall be determined by consistent running on the three circuits. If no team completes the course, the number of miles accomplished by each rider of each team without stoppage will be added together, and the team scoring the highest mileage will be accounted to be the winner.

The rules are practically the same as they were last year, but there will be one or two important additions. *Entries will be limited to thirty teams*, so that there is not too much congestion on the course, and the first thirty teams sending in their names will be accepted, while any subsequent applications will have to be refused.

A new rule is that concerning the carrying of numbers by competitors who have had an involuntary stop. If a rider has to stop for any other reason than the exigencies of traffic he is counted as having retired, and must remove his number plates at once and leave the course as soon as possible. Considerable trouble and confusion was caused to officials last year by competitors continuing to ride round after having stopped, and this year, under the new rule, any competitor who has experienced a stop and passes the timekeeper still wearing his numbers will involve disqualification for himself and his whole team as well.

Starting Order.

The following will be the order of starting: first, the Leicester and District M.C.C. (who won the cup last year); second, the Surbiton and District M.C.C. (second last year); third, the Worcester and District M.C.C. (third last year). All these teams made non-stop runs in 1920. They will be followed by the Coventry M.C.C., who made the next best time, and then by other clubs.

Every team must supply two observers.

The judges will be Captain Geoffrey Smith, M.B.E. (representing the donors), Mr. L. A. Baddeley (representing the Motor Cycling Club), and a judge nominated by the A.C.U. Mr. W. Cooper will be chief marshal.

Entries cost £3 3s. per team, and, as stated before, close on June 4th. They should be sent to Mr. Southcomb May, 34, Gower Place, London, W.C.1.

Below we give in tabular form a brief history of the Club Championship Trials:

DATE.	NO. OF TEAMS COMPETING.	CHAMPION CLUB.
1904	5	Coventry M.C.
1906	5	Motor Cycling Club.
1907	5	Coventry M.C.
1908	9	Coventry M.C.
*1909	17	Motor Cycling Club.
1910	18	Coventry and Warwickshire M.C.
1911	20	Derby and District M.C.C.
1912	25	Nottingham and District M.C.C.
1913	41	Sheffield and Hallamshire M.C.C.
1914	31	Motor Cycling Club.
1919	15	Coventry and Warwickshire M.C.
1920	28	Leicester and District M.C.C.

* In 1908 the Coventry M.C. won the first cup outright, and the proprietors of *The Motor Cycle* presented a second trophy, in which the Coventry and Warwickshire M.C. and the Motor Cycling Club each holds two shares.

VICTORY WORTH EARNING.

"WHAT would the American riders and promoters think if they were compelled to follow the English system? If we were one-quarter as thorough in organising our runs and checking up on the competitors as they are over there, we might have some cause to feel that there was more work than fun in it, at least for the officials.

"The English system has much to recommend it despite the extra work involved. When the results of one of their reliability runs are published, they mean something. The winner knows he has earned his medal and so does everyone else. This is so well understood that, our correspondent declares, the winning of one or two of the prominent events of the year is sure to mean the commercial success of the winning machine, even though it may be a comparatively newcomer in the field."—*Motor Cycle and Bicycle*, New York.

AN INTER-CLUB HILL-CLIMB.

The Wallington and District M.C. and L.C.C. v. The Public Schools M.C.C.



C. M. Bowen (Norton) awaiting the word to go in the inter-club hill-climb between the Wallington and District M.C. and Light Car Club and the Public Schools M.C.C.

FREQUENT heavy showers delayed the start of the inter-club hill-climb, arranged between the Wallington and Public Schools Clubs.

Breaks in the continuity of the programme were also occasioned by traffic on the hill. The events were run off on time only; three marks being awarded to each club for a first place, two for a second, and three for a third, while the competitor who made the fastest time of the day scored an extra three marks for his club. Competitors were given a flying start, and the timing was arranged by field telephone, which after a few minutes' timing worked faultlessly throughout the competition. The time-keeper was Mr. F. T. Bidlake.

CLASS 1 (not exceeding 275 c.c.).—1, J. S. Worters (2¼ Velocette), 49s., Public Schools M.C.C., 3 points; 2, E. S. Campbell-Cooper (2¼ Cedos), 1m. 4s., Wallington M.C. and L.C.C., 2; 3, H. Symonds (2½ Cedos), 1m. 21s., Wallington, 1.

Symonds's stand fell down after the start and caused him some trouble and delay.

CLASS 2 (not exceeding 350 c.c.).—1, A. A. Prestwich (2¾ Dot-Jap), 27s., Public Schools M.C.C., 3 points; 2, H. Symonds (2¼ Cedos), 50s., Wallington M.C. and L.C.C., 2; 3, G. H. Symonds (2½ Levis), 1m. 10s., Wallington M.C. and L.C.C., 1.

The last-named rider, who finished third, failed in Class 1. Prestwich arrived without mudguards, but was allowed to start on fitting one to the front wheel.

CLASS 3 (for motor bicycles not exceeding 500 c.c.).—1, B. S. Allen (3½ Norton), 31⅘s., Wallington M.C. and L.C.C., 3 points; 2, W. H. Sheraton (3½ Norton), 32s., Wallington M.C. and L.C.C., 2; 3, A. N. A. Hewett (3½ Sunbeam), 32⅘s., Wallington M.C. and L.C.C., 1.

CLASS 4 (not exceeding 750 c.c.).—1, A. N. A. Hewett (3½ Sunbeam), 31s., Wallington M.C. and L.C.C., 3 points; 2, B. S. Allen (3½ Norton), 31⅘s., Wallington M.C. and L.C.C., 2; 3, C. Volk (3½ Sunbeam), 31⅘s., Wallington M.C. and L.C.C., 1.

Hewett scored an extra three points for his club by making the fastest time of the day. Charlesworth, riding a Zenith for the Public Schools Club, would have probably gained a place but lost time by closing his throttle accidentally just before crossing the finishing line. Dobson (3½ Norton), Wallington M.C. and L.C.C., fell on the lower portion of the hill.

CLASS 5 (not exceeding 1,000 c.c.).—1, A. N. A. Hewett (3½ Sunbeam), 31⅘s., Wallington M.C. and L.C.C., 3 points; 2 (tie), W. H. Sheraton (3½ Norton), 32s., Wallington M.C. and L.C.C., 2 points, C. Volk (3½ Sunbeam), 32s., Wallington M.C. and L.C.C., 1; 4, R. C. Charlesworth (6 Zenith), 32⅘s., Public Schools M.C.C.

CLASS 6 (sidecar outfits not exceeding 1,000 c.c.).—1, B. S. Allen (3½ Norton sc.), 39⅘s., Wallington M.C. and L.C.C., 3 points; 2, R. C. Charlesworth (6 Zenith sc.), 42s., Public Schools M.C.C., 2.

It will be seen that the Wallington Club won easily, gaining thirty points and four events, while the Public Schools M.C.C. only gained the first two events and a second in the last.

WESTERN M.C.C. (GLASGOW).

UNDER the auspices of the Western M.C.C., a very interesting team trial was held on the 21st ult. for the "John Bull" Trophy, held by the Edinburgh M.C.C. Starting at Amulree Hotel, competitors had to ascend the hill of that name, thence *via* Kenmore and Aberfeldy back to the starting point, covering this circuit twice non-stop. Chief interest centred in the ascent of Amulree, and very few failed to climb this famous hill. Excellent ascents were made by A. J. C. Lindsay (Scott Squirrel) and D. S. Alexander (3½ Norton). J. W. Adamson, who used to make fine climbs of Amulree in the single-geared days, also made a good ascent on a 4 h.p. Triumph. In the sidecar class Mrs. Bell (7 A.J.S. sc.) gave a finished display, while Downie (on a similar combination) was also good. G. Hope Wilson (7-9 Indian sc.) made a fast ascent, as did R. S. Macrae (7-9 Harley sc.). Several Norton sidecars also made good climbs.

The winners turned out to be the Falkirk M.C.C. team, consisting of W. Sinclair (3½ Norton), T. Climie (6 A.J.S.), Mrs. D. Bell (7 A.J.S. sc.), and A. Neilson (7 A.J.S.), with a total mileage of 207½. The second team was Western M.C.C. No. 2: T. McCreadie (3½ Sunbeam), A. D. S. Barr (3 Barr and Stroud), R. Brown (7 A.J.S. sc.), and M. Fraser (7 A.J.S. sc.); mileage 202½.

OPEN SPEED TRIALS AT MORECAMBE.

VISITORS to Morecambe this month will have an opportunity of witnessing some high speeds on the promenade, for the North-Western Centre A.C.U. is organising its open speed trials to take place on the 18th, the Saturday following the T.T. races. There will be six classes for solo machines, and five for sidecars, and one each for three-wheel and four-wheel cycle cars. Each class will be in two sections. General and expert barred. The first event is due to start at 11 a.m.

Several very important trophies are offered for competition, including the Reliance Speed Challenge Cup, at present held by G. Dance; the Baxter Memorial Cup for the best performance by a private owner member of the Liverpool M.C. residing within fifty miles of Liverpool. In each class there will be three prizes provided there are fifteen entries.

Entries close on Tuesday morning next, and should be sent to J. H. Place, 8, Dugdale Road, Burnley.

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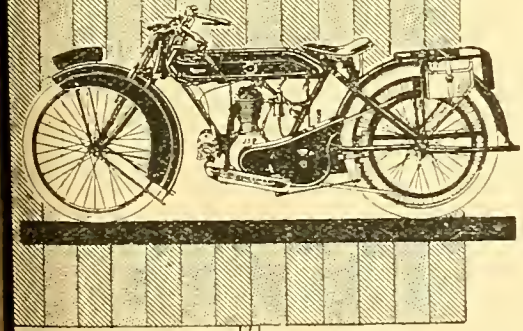
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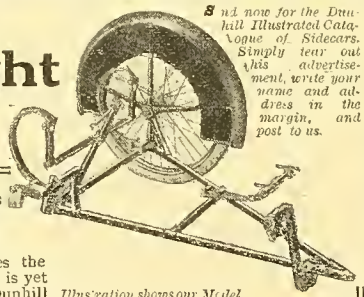
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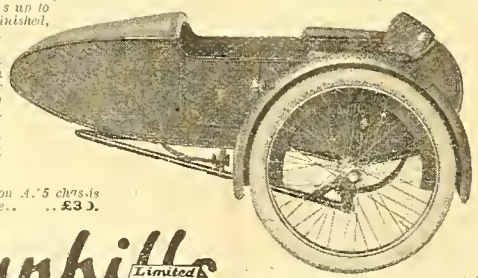
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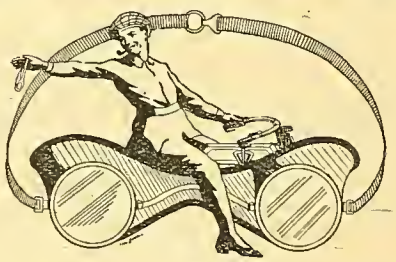
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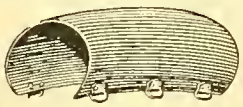
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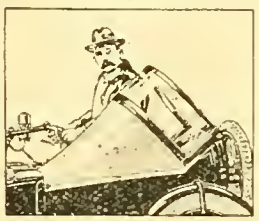
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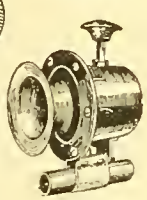


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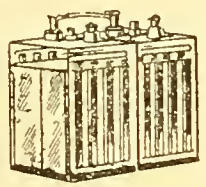


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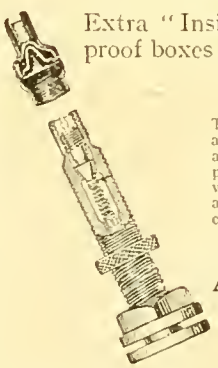
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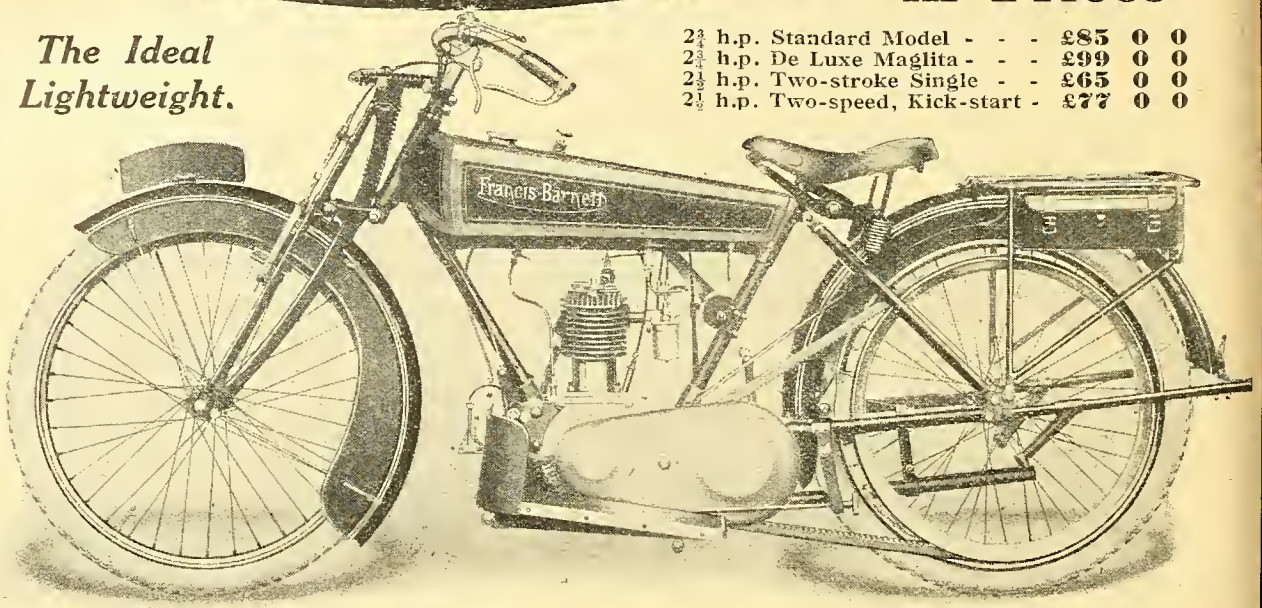
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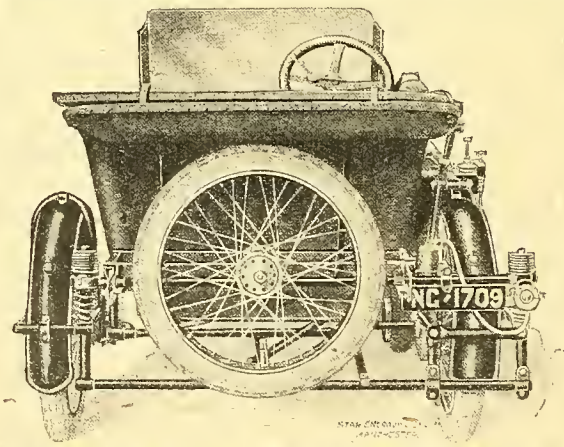
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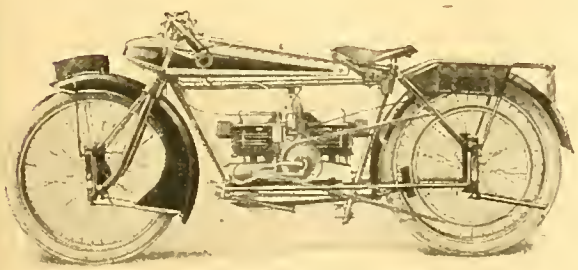
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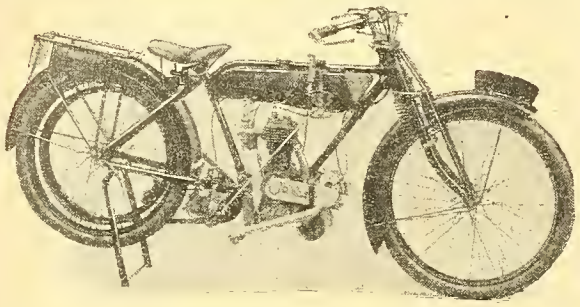
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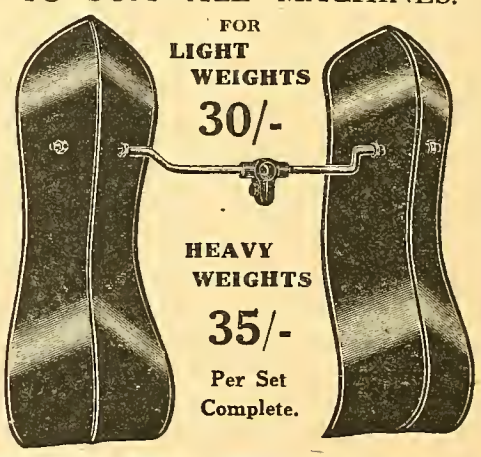
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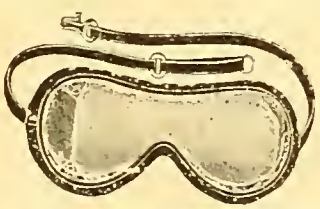
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B.S.A.'s, all models, in stock; new 4½h.p., all chain, and No. 3 sidecar, £149; 6-7h.p. twin and No. 1 sidecar, £175.—114, Brixton Hill. [2205

1920 4½h.p. B.S.A., little used, Fallolite lamp and cylinder, Cowey horn, mudshields, all tools, etc.; £95.—Pomings, Jewry St. Winchester. [1426

B.S.A. All-chain Combination, 4½h.p., 1920 model, mileage 4,300, condition excellent; £105, or near offer.—29, Lismore Rd., Croydon. [X2965

4¼h.p. B.S.A. 1917 Combination, all-chain, excellent condition, wind screen, luggage carrier, little used; £97.—L. Hope, 25, Essex Rd., Basingstoke. [1347

FRANK WHITWORTH, Ltd., of Birmingham, have several excellent B.S.A. machines and combinations at very moderate prices; write for details. [2901

B.S.A. 1920 4½h.p., all-chain, Watsonian R34 sidecar, fully equipped, numerous spares, excellent condition, tax paid; £115.—15, Jacksons Lane, Highgate. [1662

B.S.A. Combination, 1919, Canoelet sidecar, 3in. tyres, Binks, hand control clutch, lamps and generator; 85 gns.—Hicks, 32, Lena Gardens, Hammersmith. [2418

B.S.A. 1920 Model H Combination, complete with Lucas Magdyno lighting set and Easting screen; £115.—P. J. Evans, 81-91, John Bright St., Birmingham. [1788

B.S.A. Singles and Twins, early deliveries, fitted with any model Sandum sidecars; B.S.A. twin and dual sidecar in stock.—Sandum Sidecars, 336, Gray's Inn Rd., W.C.1. [0541

B.S.A. Combination, 4½h.p., countershaft, 3-speed, all-chain, kick start, lamps, speedometer, tax, insurance, etc.; £65; bargain.—Seen, 35, Freegrove Rd., Holloway, N.7. [1783

B.S.A. 1917 Chain Combination, wind screen, speedometer, lamps, etc., new spare tyre, tube, valve, perfect condition; £105.—Denmark, Victoria Park, Cambridge. [1879

B.S.A. 1920 4½h.p., Sandum sidecar, hand and foot clutches, fully equipped, indistinguishable from new; £130.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2921

B.S.A. 4½h.p., complete with special coachbuilt sidecar, brand new, just delivered from the works, Model H, £126; Model K, £123.—P. J. Evans, 81-91, John Bright St., Birmingham. [1787

B.S.A. Model K, low mileage, B.S.A. sidecar, almost new, Ea-ting spares, insurance, dynamo lighting, requires adjustment; £120.—Gattlands, Melville Av., Croydon.—'Phone: 719; evenings. [2388

B.S.A. 1915 Combination, 3-speed countershaft, 1920 cylinder and piston, machine just overhauled, fully equipped, very powerful machine; £85; tax paid.—T. E. Leigh, Tarvin, nr. Chester. [2349

B.S.A. 6-7h.p. Twin, Model A, with B.S.A. No. 1 sidecar, in stock; immediate delivery at makers' price, £175; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [1674

IMMEDIATE Delivery of any B.S.A. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0501

B.S.A. 1921.—All models in stock; your present machine can be taken as part payment; extended payment terms arranged if desired.—Authorised agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0065

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—B.S.A. K2, new 1921 models, just delivered, £107; Model H2, all-chain, £110; 6-7h.p. twin combination, standard, £175; immediate delivery from stock; cash, easy terms, or exchange. [2339

1914 4h.p. B.S.A. Combination, B.S.A. 2-speed, F.E., clutch, hand and foot control, waterproof Bosch, B. and B. carburetter, overhauled, perfect, tax paid, all lamps and tools; £46.—J. Wells, Jun., 7, Albara Terrace, Saddlebow Rd., King's Lynn. 2153

B.S.A., nearly new 1915 4½h.p. chain drive combination, 3-speed, clutch, K.S., hood, screen, child's seat, Cowey speedometer, pillion, licence, insurance; £135; exchange for late 5-6h.p. Ariel, Douglas, Zenith, or Enfield combination; London.—Box 4,376, c/o *The Motor Cycle*. [1800

B.S.A.—A motor cycle worthy of its name is the B.S.A. We have always in stock at least three models, Model K, Model H, and 6-7h.p. twin; immediate delivery; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0379

Calthorpe.

CALTHORPE-J.A.P. 2¾h.p., 1916, lamps, horn, Whall saddle, tax paid; £38.—Percival, Northcourt Av., Reading. [1354

1920 2¾h.p. Calthorpe-Jap, Enfield 2-speed, tree engine, mileage 300, perfect; 60 gns.—Holdsworth, 29, Leeds Rd., Harrogate. [X2953

CALTHORPE 1920, 2-stroke, Enfield gear, hardly used, as new; reasonable offer.—26, Bemersfield Rd., Acton Green, W.4. [2229

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MOTOR CYCLES FOR SALE.

Calthorpe.

2½h.p. 2-speed Calthorpe Junior, tax paid, good condition, ride away; £26, or near offer; after 6.—Fox, 301, Hornsey Rd., N.19. [1372

CALTHORPE-J.A.P., 1915, 2¾h.p., 4-stroke, 2-speed, excellent condition, accessories, licence for 1921; £36.—Keary, 2, Auriol Rd., W.14. [1340

4½h.p. Calthorpe-Precision, C.B. sidecar, 3-speed, clutch, Bosch, Amac, K.S., lamps, mechanical horn, tax paid 1922; 55 gns.; any trial.—Bradley, Desborough, Northants. [1419

1920 Calthorpe-Jap 2¾h.p., chain drive, Enfield 2-speed, all on, excellent condition, tax paid; £58; seen by appointment.—101, Woodwarde Rd., East Dulwich, S.E.22. [1812

3h.p. Twin Calthorpe, fast, 30/- tax, lamps, speedometer, spares, 2-speed Enfield gear, new chains, successful competition machine; trial given; £48.—Harrison, 41, The Grove, Hammersmith, W.6. [1612

CALTHORPE 1921 Combination, actually in stock for immediate delivery; cash or deferred terms place your orders with the Calthorpe specialists. Burlington Motors, Ltd., Clapham Common, S.W.4 'Phone: Brixton 2417. [0509

CALTHORPE 1921 Models.—Delivery from stock 2¾h.p. J.A.P., 2-speed, Enfield gear, 70 gns.; 3h.p. 2-speed 2-stroke; 60 gns.; extended terms one-quarter deposit and 12 monthly payments.—Authorised agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0070

Cedos.

E. KICKHAM for Cedos, sole agent for Bristol and district.—Stokes Croft, Bristol. [3357

Chater-Lea.

CHATER-LEA 8h.p. Combination, Model 10; £160; catalogue on request.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. [1854

3½h.p. Chater-Lea, licensed, 3 speeds, clutch, Bosch, B. and B., electric lighting, horn; £28; ride away.—21, Hitherfield Rd., Streatham, S.W.16. [X2909

CHATER-LEA 1914 4h.p., B.S.A. 2-speed, sidecar, excellent running order; £39.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2253

CHATER-LEA 6-8h.p., 3-speed, handle start, handsome 2-seater coach sidecar, turnout like new, stored for 3 years; £65; great bargain.—44, Whyteville Rd., Upton Lane, Forest Gate. [2009

CHATER-LEA New Model No. 10 Sidecar Combination, 8h.p., 3-speed, the best value on the market £160. Have you seen it? Write for leaflet.—Chater Lea, Ltd., Banner St., London, E.C.1. [3142

CHATER-LEA 8h.p. Special Combination, delivered Aug., 1920, not used since Jan., total mileage 620, luxurious sidecar, Kempshall oversize tyres, speedometer, all accessories, owner giving up through ill-health; £120; trial with pleasure. Write, or 'phone Gerrard 5131.—Edis, 11, Broad St., Bloomsbury, W.C.2. [1488

Chater-Lea-Jap

CHATER-LEA-J.A.P. Combination, 4h.p., with lamps, in good condition, tax paid; £55; view after 6 p.m.—Charlbury, over Coldrey, London Rd., Norbury. [1601

CHATER-LEA-J.A.P. Coachbuilt Combination, 5-6h.p., countershaft and kick starter, Bosch, Benspray, excellent running condition; first reasonable offer; owner buying new.—20, Kingscliff Gardens, Southfields. [1852

Chater-Lea-Villiers.

CHATER-LEA, Villiers engine, 1920, lamps, tools, horn, condition as new; £49, tax paid.—14, Devonshire Rd., Forest Hill, S.E.13. [1601

1921 2¾h.p. Chater-Lea-Villiers, 2-speed, Palmer tyres, complete with lamps, horn, tools, and licence, absolutely new; £50; first cash secures.—Hill, 3, Bedford Rd., West Ealing. [2346

Clyno.

1918 6h.p. Clyno Combination, repainted, excellent condition; £100.—Green, 2, Howard Rd., Morpeth. [2038

1920 Clyno Lightweight, all on, excellent condition, footrest for lady passenger; £53.—117, Harrow Rd., Leicester. [2068

1921 Clyno 8h.p. 3-speed Spring Frame Combination, guaranteed as new, very small mileage; £200.—Marshallsay, Baker, Chickerell, Weymouth. [0622

CLYNO 2-stroke, Dec., 1919, all accessories, perfect mechanical condition; £50, or near offer.—Strathyre, Taylor Rd., Wallington, Surrey. [1989

CLYNO Combination, 6h.p., 3-speed, clutch, K.S., spare wheel, lamps, tax paid, splendid condition throughout; £110.—Tiller, Coxbill, Lymington, Hants. [1977

5h.p. Clyno Combination, 3-speed countershaft, K.S., clutch, spare wheel, new tyres, accessories, tax paid; bargain, £65; after 6.—7, Cumberland Av., Park Royal. [1374

CLYNO Lightweight, 1920, very little used, lamps, mechanical horn; 50 gns.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., New Bond St., W.1. [0511

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1921 4 h.p. **DOUGLAS** Combination	£170	0
1921 8 h.p. **MATCHLESS** Combination	£205	0
1921 8 h.p. **NEW IMPERIAL** Combination	£186	18
1921 2¾ h.p. 2-speed **DOUGLAS**	£85	0
1921 2¾ h.p. 3-sp. **DOUGLAS,** with clutch	£108	0
1921 4 h.p. **TRIUMPH,** Model H.	£115	0
1920 5-6 h.p. **JAMES** Combination	£175	0
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1920 2-stroke **DIAMOND**	£45	0
1921 2-speed 2-stroke **LEVIS**	£63	0
1920 2¾ h.p. 2-speed **NEW IMPERIAL,** with clutch	£78	0
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1920 3½ h.p. **LEA-FRANCIS**	£115	0
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We have a few **NEW IMPERIALS,** 1921 models in every other detail, but fitted with 1920 engines.

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2¾ h.p., 2-speed, clutch, and kick-start..	£79	0
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1920 4 h.p. twin **HARLEY-DAVIDSON,** all accessories	£105	0
1919 **A.J.S.** Combination, dynamo lighting, speedometer	£140	0
1921 **SCOTT,** all accessories	£125	0
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1919 **P. & M.** Combination, all accessories	£100	0
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CLYNO Late 1920 2½h.p., 2-speed, clutch, speedo meter, fully equipped, perfect condition, lo mileage; trial; £55, or exchange combination.—2 Bath St., S.E.1. [181

1921 8h.p. Clyno, latest spring frame model, sidec complete, apron, screen, spare wheel, not ridde cost £250. accept £160 quick sale.—Box 4,381, *The Motor Cycle*. [227

CLYNO Lightweight, new March, 1921, lamp Klaxon, tax paid, insurance; £60, or exchang with cash higher power or combination.—Write, 1 Quadrant Rd., N.1. [20

CLYNO Lightweight, 2-speed, clutch (Jan., 1920 horn, tools, spares, tax, insurance; £48, or e change 1919 Triumph combination, cash adjustment Cookson, Bradford St., Bolton. [147

CLYNO Combination, 5-6h.p., interchangeable wheel Lucas lamps, mechanical horn, new licence, Cam wind screen, hood, in good condition; £75; any eve inging after 6.—Phillips, 104, Brandon St., York S Walworth Rd. [23

CLYNO Combination, 8h.p. J.A.P., 1918, 3-spe countershaft, all enclosed chain, privately owne as new, detachable wheels, new tyres, entirely ove hauled, very fast, exceptionally comfortable sideca electric lighting; £110.—Taylor, 3, Mount St., Londo W. Tel.: 162 Mayfair. [18

MISS E. DOOLEY.—1916-17 5-6h.p. Clynos, W. models, K.S., clutch, renovated, £65 each, wi new mag. and carburetter. I have 8 of these left, b plenty of machines as above. Please look to my adv tisement under Miscellaneous for Clyno spares, et etc.—Please apply for the above to Miss E. Dooley, 3 Killyon Rd., Clapham, S.W.8. [23

CLYNO 5-6h.p. Combination, 1916-17 models, built, replated, enamelled grey or black, 3 speed kick start, foot clutch, new carburetters, magneto interchangeable wheels, sidecars rebuilt, painted to choi as new; solo £75, combinations £90; deferred payment arranged.—Hearn Bros., 117, Loughborough Park Bri ton, S.W.9. 'Phone: Brixton 2888. [90

Connaught.

PICKERING, Shrewsbury.—Connaughts in stoc prices from £47/10. [19

2¾h.p. Connaught, 3 speeds, clutch, lamps, license £30.—Shaw, Park St., Wellington Salop. [X29

CONNAUGHT 1920 2½-3h.p., 2 speeds, clutch, K. Lucas lamps and horn, tax paid, perfect; £45 Blyth, Oriel College, Oxford. [13

CONNAUGHT 2¾h.p., 1920, 2-speed, clutch and kic starter, appearance as new, 26in. wheels; £58/1 9, Earlshall Rd., Eltham, S.E. [14

Coulson.

PICKERING, Shrewsbury.—West Shropshire agent Coulson; exchanges. [19

COULSON B 1921 Models in Stock.—Sole Wiltshi Agents, Wessex Motors, Ltd., 60, Catherine S Salisbury. 'Phone: 72. [50

F.O.C.H for Coulson-B's; exchanges or easy p ments arranged.—5, Heath St., Hampstead (ne Hampstead Tube Station). [17

COULSON B.—Sole concessionnaires London and Southern counties.—London Motors, 61, Holbo Viaduct, London, E.C.1. [22

1921 Coulson 4h.p., done 400 miles; cost £131; goi for £100, bargain.—Haynes, 28, Church S Greenwich. 'Phone: 1330. [15

COULSON B 4h.p., 1920, shop-soiled, as make specification, at bargain price of £100 for ca only.—Mebes, 156, Gt. Portland St., W.1. 'Phon Langham 2230. [15

NEW 1921 2¾h.p. and 4h.p. Coulson B, 3-spe kick starter; list prices, £117/10 and £126; stock; exchanges entertained. — Bambers', Eastba St., Southport. Tel.: 607. [87

COULSON B.—Most successful of all spring fra machines. We can supply any model from stoc cash or deferred payments; also few shop-soiled on ve favourable terms.—London Motors, 61, Holborn V duct, London, E.C.1. [22

COULSON B 4h.p.; 120 gns.; an ideal solo or sid car mount, as low and handy as a Levis; in stoc Sole agents for Leeds and 15 miles radius, excludi Bradford, The Headingley Motor and Engineering C Ltd., 18, St. Michael's Lane, Leeds 'Phone: Hea ingley 480 [04

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Douglas.

DOUGLAS 1921 All-on Models.—Delivery from stock; 2¾h.p. 2-speed, £85; exchanges or extended yment terms.—Authorised agents, Elce and Co., -16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: venue 5548. [0069

DOUGLAS 1914 2¾h.p., 2-speed, C.A.V. mag., D.R. bars, footboards, lamps, Klaxon, tools and spares, iginal enamel, tank unscratched, long exhaust; £38; change.—1, Albert Cottages, Marlborough Rd., Old ent Rd., S.E.1. [1434

918 2¾h.p. T.T. Douglas, 2-speed, makers' colours, original enamel and transfers, Amac, Thomsonnett, heavy Dunlops, lamps, accessories, licence, unatched, new condition; thorough trial; £55.—63, don Rd., Brixton. [2236

'75.—4h.p. Douglas Combinations, all late models, and guaranteed in first-class running order, reinted and re-enamelled makers' colours; approval ainst cash and carriage.—Langford's, 37, Crickleood Broadway, N.W.2. [2413

DOUGLAS Combination, special Streamlort sidecar, Binks, 3 lamps, 2 horns, speedometer, screen, legelds, good tyres, spare valves, belt, tyre, tax paid, eadid condition, not W.D.; bargain, £85.—15, rset Rd., Wimbledon, London. [1819

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3h.p. Douglas Motor Cycle, 1913 machine, 1915 4 cylinders, Binks 3-jet carburetter, leg guards, enne shield, new spare belt, unused retreaded tyre, new ire valves and sundry other parts, Flexiplus fittings valve guides, lamps, etc.; price £50.—Can be seen Lynstead," Spencer Rd., East Molesey. [1428

DOUGLAS Motor Cycle, 2-speed, late model, thoroughly overhauled and renovated by us; £45; npare our prices. We have the largest stock of h.p. Douglase in the South; that is why we can l at this ridiculous price; the trade supplied.—lina Garage, New Park Rd., Brixton Hill, S.W.2. hone: Streatham 40. [1216

919 4h.p. Douglas Combination, just thoroughly overhauled, enamelled, plated, at cost of £34, ince shown, Swan underslung sidecar, Easting screen l set tools, spare belt and chain, lamps, Klaxon, tax d, fully insured, not ridden since overhaul, written arantee given; £120. After 7 or by appointment.—rdene, Norwich Rd., Thornton Heath. [1435

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DUZMO 1921 Models now Available; write, 'phone, or call for full particulars of all models of their eptionally fast 3½h.p. o.h.v. machines; trade enuiries invited.—Distributing agents, Ballard's Motors, d., 92, Gloucester Rd., S.W.7. 'Phone: Kens. 6312 [9910

Edmund.

NEW Edmund-Jap, 2-speed, complete, mileage 150; £60, cost £100.—Wilsdon, Northmoor, Oxford re. [1872

Enfield.

ULIANS of Reading have 1921 Enfields in stock [0478

3h.p. Royal Enfield, m.v., mag., etc.; £17/10.—4 Madison, Littleover, Derby. [X2200

NFIELD Lightweight, new; what offers?—177, Westminster Bridge Rd., S.E.1. [2331

h.p. Enfield Twin, 2-speed, kick, all on, for piano; sell; offers.—97, Barcombe Av., Streatham. [1913

HEFFIELD Agent for Royal Enfields, all model in stock.—J. A Stacey, 12, Ecclesall Rd. [0573

NEW 1921 Enfield Combinations in stock; list price —Bounds' Garage, 223, High Rd., Kilburn, N.W [1670

h.p. Enfield Combination, licence paid; £80.—Taylor, 112, New King's Rd., Fulham, S.W.6. [2380

h.p. Enfield, 1918, 2-speed, kick start, all on; £55; tax paid.—R.N.P., 1, Burston Rd., Putney, W.15. [2189

NFIELD 2½-3h.p. Twin, Bosch, Amac, good tyres; £30, or offer.—Gardiner, 51, Chipstead St., Fulham. [2098

NFIELD 2¼h.p., 2-stroke, 2-speed, 1921, in stock, £65; kick-starter £5 extra.—Rivett, 236, High Rd., Lytonstone. [1451

NFIELD Combination, 8h.p. J.A.P. engine, Lucas Magdyno, new, unregistered; £173.—Eveson, Wolcote, Stourbridge. [1585

NEW 1921 Enfield Combination, 8h.p., in stock; list price £160.—Fowler and Brigden, 130, Euston Rd., W.1. Museum 4827. [0621

NFIELD 1921 Brand New 8h.p. Combination, just arrived from works; £160.—Eagles and Co., 275 gh St., Acton, London. [2021

NFIELD Combination, all accessories, excellent condition, tax paid; £110.—Hines, 75, Marchnt Rd., Wallington, Surrey. [1860

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NEW 1921 8h.p. Enfield Combination, in stock; list price £160; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [8740

1921 8h.p. Enfield Combination, dynamo model; £182; and 8h.p. standard model, £160.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0341

1921 Enfield Combination, dynamo lighting, discs, electric horn, spares, etc., cost over £200, low milenge; sacrifice £155.—2, Hazel St., Warrington. [X2952

1920 Enfield 8h.p. Combination (special), Eastings, thoroughly equipped, spares; any freak tests; £155.—Write R. G. Steele, Enfield Test Shed, Redditch. [X2871

1921 Enfield, 8h.p., double-seated sidecar, Magdyno lighting, etc., new, under 100 miles, tax paid; cost £196; what offers?—6, Clifton Park Rd., Bristol [1978

1917 6h.p. Enfield Combination, lamps (electric), horn, tax paid, speedometer, hood, screen, good lot; £100.—Banister, 7, Gibson Sq., London, N.1. [2192

6h.p. Enfield Combination, fully equipped, tax paid; £75; viewed between 9 a.m. and 6 p.m., or appointment.—Homewood, 20, Sussex Rd., Holloway, N.7. [1893

1914 5-6h.p. Enfield Combination, just been overhauled, new Enfield gears fitted, frame enamelled and tank painted; £65.—Robson, 35, Clifton Rd., Darlington. [1379

ROYAL ENFIELD 1916 3h.p., kick start, 2-speed, Amac carburetter, excellent running order; £50.—Rev. Lamplugh, Clayhanger Rectory, Bampton, Devon. [2277

ENFIELD Combination, 6h.p., 1917, Lucas dynamo lighting, hood, screen, splendid condition; any trial; no offers, £100.—61, Grantham Rd., Sparkbrook, Birmingham. [X2908

1921 Enfield Combination, dynamo lighting, with or without dynamo; in stock; immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

ENFIELD Combination, 8h.p., 1920, complete with Lucas Magdyno lighting set, perfect condition throughout; £145.—P. J. Evans, 81-91, John Bright St., Birmingham. [1789

ENFIELD 2¼h.p. 2-stroke, 1921, fully equipped, lamps, horn, etc., tax paid, perfect condition; best offer over £60.—Forest Gate Hotel Garage, Tylney Rd., Forest Gate. [1642

ENFIELD 2-stroke, 2-speed, 1921, just delivered, speedometer, lamps, horn, fully insured, licence paid; cost £81, what offers?—50, Forest Drive West, Leytonstone, E.11. [1877

1921 2¼h.p. Royal Enfield, 2 speeds and kick starter, latest model, been exactly 54 miles only, equal brand new; £60.—Walbro Motor Cycle Co., Saffron Walden, Essex. [1739

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Royal Enfield models from stock, combinations and lightweights, from £65; supplied on our easiest of easy payment system. [2342

ENFIELD 1920 8h.p. Combination, Magdyno, Easting screen, Lucas electric horn, spares, tax paid, small mileage; bargain, £147/10.—Smith, 430, Coventry Rd., Small Heath, Birmingham. [1659

1918 8h.p. Royal Enfield, sidecar just overhauled, all lamps, horn, etc., excellent condition; sell £95, or exchange A.B.C., Norton, Harley, 4h.p. Zenith, etc.—Blunt, Crowell Farm, Pulborough. [1888

ENFIELD 1916 6h.p. Combination, lamp set, bulb horn, excellent appearance and mechanical condition; £85.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9552

ROYAL ENFIELD 6h.p. Combination, 1917, speedometer, electric light, wind screen, 3in. tyres (Dunlop and Palmer), excellent condition; £125.—Baylis, 222, Cranbrook Rd., Ilford, Essex. [2379

ENFIELD 1921 Brand New 8h.p. Combination, just arrived from works, in stock for immediate delivery; no waiting; ready to drive away; £160.—Wilkins, Simpson, opposite Olympia, London. [1679

ENFIELD 2¾h.p. Twin, 1912-13, 2-speed, clutch, all-chain, tyres very good, Bosch, Amac, very good condition, fast and reliable; £24, first cheque secures.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. [1724

1920 8h.p. Enfield Combination, Magdyno lighting, Easting wind screen, small mileage, spares, new tyres, tubes, etc., tax paid, condition like new; price £155.—Durkin, Eldon Grove, West Hartlepool. [1597

ENFIELD 3h.p. Twin, 1920, 3,000 miles, good condition, all-chain, mechanical lubrication, 120 m.p.g., electric lighting, Tan-Sad, 2-speed, tax and insurance 1921 paid; £67.—Newell, Cleve Hall, Denmark Hill, S.E. [1360

LATE 1920 8h.p. Enfield Combination, P.H. lighting set, Lucas horn, new condition throughout, original tyres, mileage under 1,000; will ride 50 miles, first reasonable offer accepted.—Hodson, Clothier, Bloxwich. Tel.: 12. [X2888

ENFIELD 2¼h.p. 2-stroke, 2-speed, brand new 1921 model, just arrived from works, in stock for immediate delivery; no waiting; ready to drive away; £65. Easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [1678

MOTOR CYCLES FOR SALE.

Enfield.

ROYAL ENFIELD Combination, electric lighting, hood, screen, ridden few hundred miles only, indistinguishable from new in appearance and condition; price £155.—Smith, Hainault Works, Chadwell Heath. 'Phone: Ilford 330. [1481

ROYAL ENFIELD Combination, 1920, Magdyno model, wind screen, etc., 8h.p. J.A.P. engine, splendid condition; £135.—Richmond Park Garage, 110, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Putney 2622. [2306

ENFIELD 1921.—All models for immediate delivery; your present machine can be taken as part payment; our extended payment terms are also at your disposal.—Authorised agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

ENFIELDS.—The cheapest twin on the road. We are North London agents, and can supply from stock standard models £160, electric £182, cash, or deferred payments. All spares in stock. Trade supplied.—Jones' Garage, Muswell Hill, and at Woodside Parade, N. Finchley. [0380

ENFIELD 6h.p. Combination, 1915, standard sidecar, P. and H. lamps, Lucas horn, handle-bar mirror, tax paid for year, in almost new condition, enamel practically unscratched, original tool kit and roll, original tyre on front wheel, mileage very small indeed, and is a really exceptional turnout, disc wheels, end extremely smart; £82/10; guaranteed perfect.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. [1723

Excelsior.

EXCELSIOR 3½h.p., Bosch, B. and B., adjustable pulley, lamps, horn, etc., tax paid, ride away; £25.—43, Ritherdon Rd., Balham. [1688

EXCELSIOR-J.A.P. 2¾h.p., 1919, 2-speed countershaft gear, kick starter, hand-controlled clutch, all accessories; £45, tax paid.—Eagles and Co., 275, High St., Acton, London. [2019

BRAND New 1921 2¼h.p. Excelsior, Sturmey-Archer, 2 speeds, kick starter and clutch, leg shields and footboards, shop-soiled; £63.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [1741

Fafnir.

FAFNIR 3½h.p., 2-speed, free, disc, lamps, horn, tax paid, sporty model; £28/10, offers.—Brown, 13, Stanley Rd., Bromley, Kent. [1414

F.N.

4-CYL. F.N., 2-speed, good order, tax paid; £28.—Hall, 146, Bathurst Gardens, Kensal Rise, N.W. [1917

F.N. Combinations in stock, reduced price £188, call for a trial run.—Grimes and Co., 18, Bruton Place, Bond St., W. Mayfair 4792. [6071

F.N. 2¼h.p., mag., 2 speed, countershaft, shaft drive, disc wheels, dropped frame, engine wants repairing; must sell, sacrifice 19 gns.—1, Ebner St., Wandsworth (Town Station). [2352

IMMEDIATE Delivery of any F.N. Model; cash or deferred payments, book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0500

F.N. 7h.p., late model coachbuilt combination, 3-speed clutch, mechanical lubrication, electric light, hood, screen, etc., spares, tax paid, exceptionally smart appearance; £150.—To be seen and tried, 5, Addison Av., Holland Park, W.11. [1325

1921 4-cyl. F.N. Combination, in excellent condition, having only run 2,000 miles, fitted with new P. and H. head lamp, tail lamp, coachbuilt sidecar, with hood and screen, Klaxon horn, kick starter, 3-speed gear box, and clutch; price £160.—The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W. [9823

Francis-Barnett.

JULIANS of Reading have 1921 Francis-Barnett in stock [0479

1920 2¾h.p. Francis-Barnett, exceptionally good J.A.P. engine, Sturmey-Archer, 2 speeds and kick starter and clutch P. and H. lamp sets, and tax paid, in really new condition and appearance; £65.—Heady, 85, High St., Saffron Walden, Essex. [1730

Harley-Davidson.

HARLEY, 1919, T.T.; £97, or exchange A.B.C.—16, Copley Park, Streatham. [2072

SHEFFIELD Agent for Harley-Davidsons; from £120.—Stacey, 12, Ecclesall Rd. [0577

PICKERING, Shrewsbury.—Shropshire agent Harley-Davidson; exchanges arranged. [1965

HARLEY Solo, as new throughout, tax paid, fully equipped; £115.—'Phone: 1663 Kingston. [2085

HARLEY 7-9h.p., 1916, electric, C.B. sidecar, tools, licence, any trial; £105.—H. Yernold, Huntingdon.

LATE 1916 Harley Combination, fully equipped; £105.—770, Stratford Rd., Sparkhill, Birmingham. [1587

1919 Harley Combination, electric lighting, tax paid; £95.—Exchange, 64, Church St., Edgware Rd. [2372



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Harley-Davidson.

HARLEY-DAVIDSON, 1920, brand new, 4h.p. Sport Model; bargain, £120.—Fleming, Amblecote Garage, Stourbridge. [9230

1920 Harley Combination, electric model, horn, speedometer, new condition; £155.—G. Wallis, Constitutional Club, Hull. [141

HARLEY 1920 Electric C.B. Combination, £2 extras, 1921 paid, perfect, nice; £147/10.—54 Coval Rd., Mortlake. [X297

HARLEY-DAVIDSON Combination, 7-9h.p., electric model; good bargain, £95.—4, Casterton St., Hackney Station, London. [164

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', Southport, Lancashire. Tel.: 607 [500

1919 Harley Combination, luxurious sidecar, full equipped, under 5,000, condition as new; £16 —Wiker, 28, Thornton Av., Chiswick. [190

HARLEY, 1919, and Canoelet M.M.4 sidecar, absolutely as new, luxuriously equipped, licensed £135.—132, High Rd., East Finchley. [X294

HARLEY-DAVIDSON Combination, 1920, brand new, 7-9h.p. electric lighting; bargain, £195.—Fleming, Amblecote Garage, Stourbridge. [922

LATE 1919 Harley-Davidson Combination, disc, perfect, beautifully equipped; £110.—24, Ballio Rd., Oxford Gardens, North Kensington. [213

1919 Harley-Davidson Combination, 7-9h.p., everything, tyres, etc., as new, fully equipped; a trial; £125.—Kimberley, Park Av., Worthing. [134

1918 7-9h.p. Harley-Davidson Combination, 3 speed K.S., Easting, like new throughout; £120.—Hancope Motors, 10, Park Rd., West Dulwich, S.E.21. [X296

BARGAIN; brand new 1921 Harley-Davidson 4h. flat twin, speedometer, kick starter, list pric £160; sacrifice for £125.—Reynolds, Waterbeach. [230

LATE 1920 Harley-Davidson De Luxe Combinatio original tyres, disc, equipped regardless; £15 —24, Balliol Rd., Oxford Gardens, North Kensingto [212

HARLEY-DAVIDSON 4h.p. Flat Twin, done le than 100 miles; £105 for quick sale; owner boug car.—Reply, V.D., 143, High St., Notting Hill Ga W.8. [177

1919 Harley Combination, overhauled, re-enamelle and plated, accumulator lighting, screen, spee ometer, etc., tax paid; £145.—29, Herbert Rd., Wo wich. [189

HARLEY-DAVIDSON 7-9h.p., T.I., 1915, C.B. sid car, just overhauled and repainted; £90, or ne or 2¼h.p. Douglas taken half payment.—Cobham Hou Burnham Market. [16

HARLEY-DAVIDSON 1920 7-9h.p. Combinatio electric lighting, all accessories, small mileag good as new, tax paid; £175.—13, Woodberry Dow Finsbury Park, N. [18

1919 Harley Combination, not W.D., Tan-Sad, d solved acetylene lighting, hood, screen, leg shield many spares, new condition; £150.—Taylor, 2 Mitcham Rd., Tooting. [18

HARLEY-DAVIDSON 1920 4h.p. Model, Sw sporting sidecar, electric lighting, good conditio as new; £185.—Parker's, Bradshawgate, Bolton; a 245, Deansgate, Manchester. [X29

HARLEY-DAVIDSON, L17, January, 1918, electr Millford bulbous hack sidecar, hood, screen, ju overhauled, new chains, many spares, ride awa £140.—Mount Lodge, Lincoln. [X30

LATE 1920 Harley-Davidson, electric combinatio speedometer, horn, wind screen, hood, compl tools, splendid condition; accept £170; Morgan want Grand, Coalville, Leicestershire. [14

HARLEY-DAVIDSON (Nov., 1919) Combinatio new condition, hood, wind screen, speedomet lamps, etc.; owner bought car; £160.—Wilson, 28 Regent St., London. 'Phone: Mayfair 6666. [21

1919 Harley-Davidson 7-9h.p. and new twin Mi Fulford sidecar, accumulator electric lighti mechanical horn, licence paid, new condition and pearance; £150.—Herbert Robinson, Ltd., 32-35, Gr St., Cambridge. Tel.: 995. T.A.: Bicycles. [95

HARLEY-DAVIDSON Combination, 1920, electri model, Brook's cantilever saddle, Easting Ro wind screen, absolutely splendid machine; £155 Richmond Park Garage, 110, Upper Richmond R East Sheen, S.W.14. 'Phone: Putney 2622. [23

HARLEY-DAVIDSON 1919 Combination, 7-9h fitted new high-grade coachbuilt sidecar, j overhauled and re-enamelled, a very handsome out and a bargain; £120.—Hill, 1, Chichester Mews, C chester Rd., Paddington, near Royal Oak Station (Me [16

1920 4h.p. Flat Twin Harley-Davidson, lamps h and tail, acetylene and electric, mechanical ho all tools; this machine was delivered new in Aug., 19 and is still in new condition throughout; price £1 tax paid.—The Motorists' Advisory Agency, Ltd., Wigmore St., W. [23

MOTOR CYCLES FOR SALE.

Lea-Francis.

9[16] Lea-Francis, 2-speed, clutch, 3½h.p. twin J.A.P., tax paid; £45.—Exchange, 64, Church , Edgware Rd. [2373

EA-FRANCIS 1921 3½h.p. Twin, shop-soiled; £100. Clifford Wilson Mfg. Co., 177, Westminster dge Rd., S.E.1. Hop 210. [2330

EA-FRANCIS Combination, 1917, 3½h.p. twin, 3-speed, clutch, K.S., speedometer, excellent condi-; £68.—30, Wellington Rd., Charlton, S.E.7. [2170

EA-FRANCIS 1920 4h.p., twin J.A.P., 2-speed, kick start, clutch, tax paid, cost £135, perfect condi-; great bargain, £80.—113, Greenvale Rd., Eltham, [1552

EA-FRANCIS (Nov., 1914), Canoelet sidecar, splendid order throughout, lamps, tools, spare in and sprocket; £75.—Dr. Evans, Beckington. h. [2040

EA-FRANCIS 3½h.p. Twin, 3-speed, clutch, kick start, original enamel, in excellent condition.— land, Brae-Side, Buxton Old Rd., Macclesfield, shire. [8495

9[15] Lea-Francis, 3½h.p. twin J.A.P., 2-speed, clutch, kick starter, electric lamps, splendid lition; £65, or offer.—Cates, 15, St. Pancras, hester. [2291

EA-FRANCIS 1920 3½h.p., with Gloria sidecar, M.A.G. engine, just overhauled, a bargain, licence ; £95 for quick sale.—Barker, Grocer, 32, Lynd-t Rd., Burnley. [2090

EA-FRANCIS 1920.—Three shop-soiled models, as makers' specification, at bargain prices of 0 each for cash only.—Mehes, 156, Gt. Portland W.1. 'Phone: Langham 2230. [1573

Levis.

VIS, Levis, Levis.

NTLEMAN'S Popular Model, £60; lady's Popu-lar Model, £60; Model S, 2-speed, hand-controlled h, £68; immediate delivery. Levis specialists and distributers for London and district. Spare parts ed; repairs undertaken.—Vivian Hardie and Lane, 24, Woodstock St. (off Oxford St.), Bond St., [0384

LIANS of Reading have all Levis models in stock. [0483

N GUY, Weymouth.—Levis 1921 models in stock; £60. [0554

VIS always in stock.—John Aldrich and Co., Diss, Norfolk. [0631

VIS Popular, as new, must sell; £31.—136, Dal-mally Rd., Croydon. [1922

VIS 2½h.p. 2-speed; £30, sound.—Apply, 381a, Uxbridge Rd., Acton, W.3. [1979

VIS, 1921, 2-speed, H.B. clutch; £68; from stock.—Gibb, Gloucester, [0442

5 Levis, perfect condition, tax paid; £30.—5, Downman Rd., Well Hall, S.E.9. [1373

VIS Motor Cycle, new December last, little used, licensed to Dec. 31st.; £45.—G. Hyde, Motting-S.E.9. 'Phone: Lee Green 500. [1944

Sale, 1920 2¼h.p. Levis, new condition, with speedometer and all complete; price £55.—F. more, Cycle Agent, Oxford. [1562

0 Levis Popular 2¼h.p., excellent condition in every respect, lamps, footboards, etc.; £50.—33, ood Rd., Woodford, E.18. [1703

VIS.—Sole Walsall agents; special exchange and deferred payment terms; immediate delivery.— s', Walsall Garage, Walsall. [2423

VIS 2¾h.p. 2-speed, engine overhauled by makers, epainted Levis colours, tax paid; best offer s.—Norris, Talbot, Mere, Wilts. [1455

AND New 1921 2¼h.p. Levis, 2 speeds and lutch, in stock at £68.—Walbro Motor Cycle igh St., Saffron Walden. 'Phone: 45. [1742

Stock, 1921 Levis, £60. Good wine needs no ush. Nuff sed.—Sole agents, The Headingley and Engineering Co., Ltd., 18, St. Michael's Leeds. 'Phone: Headingley 480. [0494

L.M.C.

C., 3½h.p., 1920, 3-speed, clutch, kick starter, as makers' specifications, shop-soiled only; at a price of £85 for cash only.—See below.

C., 4½h.p., 1920, 3-speed, clutch, kick starter, itted Hendersnn B1 sidecar, apron, lamps, etc.; 0; exceptional bargain for cash only. — See

C., 6h.p., 1920 suspension frame model, Hen-lerson B1 sidecar, apron, screen, speedometer, as new, done under 200 miles; £125 for cash See below.

C., 6h.p., 1920, 3 speeds, clutch, kick starter, s makers' specifications, shop-soiled only; at price of £105 for cash only; also suspension model, £10 extra.—Mehes, 156, Gt. Portland 1. 'Phone: Langham 2230. [1572

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Lincoln-Elk.

4¼h.p. Lincoln-Elk Combination, 2-speed, clutch, kick start, good Dunlops, in excellent order; £42/10.—Miller, 151, Kingston Rd., Teddington. [1339

4¼h.p. Lincoln-Elk, 2-speed, kick start, new condition, licensed for sidecar; cost £70; best over £40; exchanges.—10, Plover St., Hackney Wick. [2043

Marlow.

MARLOW-VILLIERS 1921 Brand New 2¾h.p., fly-wheel mag., beautiful machine, only £50; also Levis 1920, very little used, with all accessories and tax paid; £50.—Carey, Old Botley, Oxford. [1478

Martin.

MARTINS.—Immediate delivery from stock.—Gilard Motor Agency, 209, Rutherglen Rd., Glasgow [8541

Martinsyde.

19[20] Martinsyde Combination, fully equipped; 129 gns.—23, Brockenhurst Gardens, Mill Hill. [1537

MARTINSYDE Combination, 1920, brand new, 6h.p. twin; bargain, £150.—Fleming, Ambleeote Garage, Stourbridge. [9231

MARTINSYDE Combination, standard £160, de luxe £215; catalogue on request.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. [1855

Matchless.

MATCHLESS.

19[21] Combinations, any model from stock or in few days. Gradual payments can now be arranged. Every outfit personally tested by the Matchless specialists. Spares of all dates in stock.—J. Tassell, Bloomfield Rd., Plumstead. [5374

£174.—Matchless Combinations.

19[20] Brand New H2 Models offered at this price owing to cancelled export order, spare wheel and tyre 8 gns. extra, screen £2/12; makers' full guarantee —Tassell, Ja. Bloomfield Rd., Plumstead. [5793

JULIANS of Reading have all Matchless models in stock. [0480

PICKERING, Shrewsbury.—Agent for Matchless; dynamo model in stock. [1954

MATCHLESS 1921 Combination, M.A.G.; £205, from stock.—Gibb, Gloucester. [0443

MATCHLESS, J.A.P. engine, few parts missing; £17. —Edwardes, 277, Camberwell Rd., S.E. [2176

MATCHLESS Vic. Combination, fine condition, licence; £120.—8, Bidborough St., King's Cross. [2383

19[20] Matchless Combination, shop-soiled only, tax paid; £180.—Wright's Garage, Saffron Walden. Tel.: 16. [2304

MATCHLESS 1920 H Electric C.B. Combination, £20 extras, 1921 paid, perfect; £150.—54, Coval Rd., Mortlake. [X2972

MATCHLESS Combination, 1914, 7-9h.p. J.A.P. engine, good order; £60.—On view Surrey Motors, Ltd., High St., Sutton. [1349

MATCHLESS Victory Model, lamps, horn, Tan-Sad, tools, spare tyres; any trial.—33, Gt. Windmill St., Haymarket, London. [1338

19[21] Matchless, Magdyno lighting, brand new, unused, unregistered; owner must sell; £188.—41, Madrid Rd., Barnes, S.W. [8928

MATCHLESS Combinations, new, in stock, from £174; 1921 models, £205.—Sheffield Agent, J. A. Stacey, 12, Ecclesall Rd. [0574

MATCHLESS 1920 8h.p. Combination, dynamo lighting, speedometer, spare wheel, etc., perfect; £150. —J.S., 38, Kingsley Rd., Palmer's Green, N.13. [9357

19[20] Matchless, Magdyno, completely equipped, unscratched; exchange for Triumph or lightweight and cash.—90, Crofton Park Rd., S.E.4. [2028

MATCHLESS, 1918, completely equipped, insured 12 months, tax paid, perfect condition; £125.—Call or write, Welland, Hill-side, Egerton Rd., South Norwood. [1446

MATCHLESS, late 1920, Model H2, dynamo lighting, fully equipped and as new, buying car; after 5 p.m.; £195.—85, West End Rd., Southall, Middlesex. [1999

MATCHLESS-M.A.G. Combination, 3 Lucas lighting sets, wind screen, speedometer, exceptionally fast and silent; £110 lowest.—Reeds, 160, Hartfield Rd., Wimbledon. [2409

MATCHLESS, Matchless, Matchless.—Latest 1921 model 8h.p. combination, for immediate delivery. —Vivian Hardie, and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0418

MATCHLESS, late 1920, M.A.G. engine, electric light, spare wheel, etc., specially tuned, winner of several golds, just overhauled; £165.—Nott, 50, Clapham Rd., S.W. [1815

MATCHLESS Combination, 8B model, M.A.G., economical, all-chain drive, clutch, kick start, speedometer, tax paid; £100.—Gold, 244, Vauxhall Bridge Rd., Victoria. [2000

MOTOR CYCLES FOR SALE.

Matchless.

8h.p. Matchless Combination, V.S. 2-speed, re-enamelled, overhauled, new electric lighting set; cheap; offers wanted.—Payne, 4, Merchiston Rd., Catford. 'Phone: London Wall 623. [1967

MATCHLESS Combination, 8B model, M.A.G., just re-enamelled and rebushed by makers, splendid condition; any trial; £120.—Connell, 41, Vernham Rd., Plumstead Common. [1988

1920-21 Matchless M.A.G. Combination, Lucas lighting, horn, speedometer, screen, spare wheel, absolutely brand new, licence paid, cost £227; £160.—294, Kennington Park Rd., S.E.11. [1914

MATCHLESS 1920 Combination, 8h.p. M.A.G., dynamo, hood, screen, spare wheel and tyre; £150. —Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., Bond St., W.1. Mayfair 6559. [2260

LATE 1920 H Model 8h.p. Matchless Combination, M.A.G. engine, Magdyno, spare interchangeable wheel, etc., as new, guaranteed perfect condition.—Write Vicar, 1, Marlborough Rd., Plymouth. [2213

MATCHLESS, Matchless, Matchless.—Greenwich: 'Phone: 751. The leading agent, Sam E. Clapham. Every client recommends another, hence record sales every week of this popular combination.

OUR Matchless Service, night or day, is unequalled. That's why we score. Secret of our success, satisfied clients. Pass your order along. Immediate delivery single-seater, 2-seater, or trade outfits. Make it a Matchless. You will have no cause to regret if the agent is Sam E. Clapham, of Greenwich, always at your service. Note address.—Write, 'phone, or call on Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [2258

F.O.C.H. have a 1920 Matchless combination, Magdyno, small mileage, fully equipped, hood, screen, spare wheel, luggage grid, tax paid; £175.—5, Heath St., Hampstead (near Hampstead Tube Station). [1748

MATCHLESS Model H2 Combination, equipped with Lucas lamps, brand new, £187; would exchange for 1920 model and cash.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2245

MATCHLESS 1921 Models, immediate delivery, with or without Magdyno lighting; no waiting; in stock ready to drive away; at lowest nett prices; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [1681

4½h.p. Matchless, 3-speed, clutch, and coach sidecar, any reasonable offer; new 710×90 Michelin covers, R.U. £4/12, S.T. £4/8; tubes, 15/-; Sankey wheels, £2/15; carriage paid.—F. Bonner, 1, Bridgeway, Wembley. [2290

MATCHLESS, Model H, dynamo lighting, spare wheel, screen, speedometer, fully licensed and in absolutely perfect condition, done 2,000 miles, any trial; £170, or near offer; owner bought car.—Hill, 3, Bedford Rd., West Ealing. [2348

MATCHLESS Model H Combination, hood, screen, Tan-sad, Klaxon, leg shields, step, electric and acetylene lighting, all spares, very little used, perfect condition, tax paid; £150; seen evenings after 6.—14, Westville Rd., Thames Ditton. [1971

MATCHLESS 1920 Standard Combination, Lucas Magdyno, Eastlig wind screen, horn, speedometer, Binks carburetter, 70 m.p.g., tyres unpunctured, mileage 1,500, spares, tools, cost £250, perfect condition; £175.—116, Maida Vale, W., by appointment. [1974

MATCHLESS 8B., with 2-seater Montgomery sidecar and back rest for third passenger, electric side and rear and acetylene head lamps, spare parts, covers, and tubes, tax paid, excellent condition; £110.—J.W.H., The Haven, St. James's Rd., Sutton, Surrey. [1326

MATCHLESS 1921.—Delivery from stock of this famous combination; your present machine can be taken as part payment; our extended payment terms are also at your disposal.—Authorised City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0067

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock, for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0381

1921 Matchless M.A.G., Outfit, 2-seater body, Bluemel rear screen, Lucas Magdyno, electric lamps and horn, handle-bar watch, speedometer, spare wheel and tyre, spring cushion on carrier, hood, leg shields, sidecar step, luggage grid, tools, etc., tax paid, fully insured to February, 1922, perfect condition; photographs sent; £200.—Box 651, c/o *The Motor Cycle*. [X2869

Maxim.

MAXIM-DALM, Dec., 1920, 3h.p., 2-stroke, absolutely new, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, £52; ditto with clutch, kick start, £58/10.—224, Pentonville Rd., London, N.1. [4292

Metro.

1920 Metro-Tyler, beautiful condition, all accessories; £45. — 163, Davenport Rd., Catford, S.E.6. [2027

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Minerva.

MINERVA 3½h.p., m.o.v., good tyres, runs s[plendidly], licensed; £13/15.—1, Ebner St., W[orth].

Monarch.

1920 Monarch-Villiers 2-stroke, 2-speed, X.P., tax paid, lamps, horn, etc.; any test or in[spection], practically new; £47.—371, Earlsfield [Rd.], London, S.W.

Motosacoche.

MOTOSACOCHE Lightweight, excellent cond[ition], several new parts; £10 cash.—34, Mallinson [Rd.], Clapham Junction.

New Hudson.

JULIANS of Reading have all New Hudson mod[els in] stock.

2¼h.p. New Hudson, lamps, horn, pump, first[-class] condition; any trial; £38.—"Fairholme," Co[ck] Newbury.

6h.p. Twin New Hudson 1916 Combination, tho[roughly] order and condition, any trial; £85.—52, C[hurch] church St., Ipswich.

NEW HUDSON Motor Cycle, fitted with new 2-[speed] gear box; bargain, £23.—Edwardes, 277, Ca[mber]well Rd., S.E.

TWIN New Hudson, sidecar, 3-speed, good [condi]tion, lamps, Klaxon, tax; 60 gns.—Black [Lion] Bourne End, Bucks.

2¾h.p. New Hudson 4-stroke, 3 speeds, clutch, [kick] starter, good condition, tax paid.—Mache[sney] Priory Park Rd., Kilburn.

NEW HUDSON Combination, 1914, 3½h.p., 2-[speed] excellent condition, 2 tyres new, complete [with] accessories; £75.—7, Norwood Rd., Herne Hill, S[.E.]

NEW HUDSON 2-stroke, 1915, just overhaule[d and] finished, and made as new by New Hu[dson] £45.—Best and Lloyd, Ltd., Handsworth, Bi[rm]ham.

NEW HUDSON, 4h.p., countershaft, 3-speed, 2-[seater] sidecar, fully equipped, licensed, guarante[ed] new both mechanically and appearance; £100. [1] High Rd., East Finchley.

NEW HUDSON, 4h.p. J.A.P., 3 speeds, c[lutch] equipped, licensed, splendid solo or s[idecar] machine; 38 gns.—Clapham Motors, High St., [Clap]ham. 'Phone: Latchmere 4290.

1915 New Hudson Combination, electric lig[hting] hood, screen, tools, spare belts tubes, accum[ulator] overhauled, 2 new tyres.—Spalding, Redholm, Colleg[e] Dulwich, S.E. Tel.: Sydenham 639.

NEW HUDSON 1916 4h.p., 3 speeds, counte[r] clutch, kick start, fully equipped, unuse[d] years, just overhauled by makers, perfect throu[ghout] deposit.—Box 4,360, c/o *The Motor Cycle*.

NEW HUDSON 4h.p., 1915, 3-speed, clutch, [Dun]cum-belt, countershaft, aluminium foot [boards] lamps, horn, etc., new appearance, very fast, [in] top condition; bargain, £49/10; first cheque se[cures] Andrews, Yoxford, Suffolk.

NEW HUDSON Lightweights, all models, on [view]—Popular, 50 gns.; de luxe, 65 gns.; Ace, 7[5] Spares for 2¼h.p., 3½h.p., and 6h.p. machines st[ock]. Catalogues and any information by return.—[New] Hudson Depot, 45, Gray's Inn Rd., Holborn.

New Imperial.

8h.p. New Imperial, new; £96.—Box 4,382, c/o *Motor Cycle*.

NEW IMPERIAL Agents.—Lightweights and [all] parts in stock.—Crow Bros., Guildford.

1916 2¾h.p. Imperial-Jap, 2-speed, lamps; [new] licence paid.—1, Bellingham Terrace, Ca[mden] [Town].

1916 New Imperial-Jap 2¾h.p., 2-speed, ex[cellent] licensed, any trial; £37.—174, High St., T[ooting].

1920 (Dec.) New Imperial 2¾h.p., 2-speed, ex[cellent] condition, as new; £55.—M., The Grange, [Ne]Finchley, N.3.

1920 New Imperial, 2 speeds, complete with [lamps] and horn, good condition; £57.—Box C, 70 [Fleet] St., Highgate.

1921 New Imperial Lightweight, countershaf[t], kick starter, 250 miles only; £73/10.—C[ycle] Motories, Horton St., Halifax.

LATE 1919 2¾h.p. New Imperial-Jap, 2 [speed], licence paid, fully equipped, and perfect [order]; £53.—Mayes, 32, Chatham St., Leicester.

1917 2¾h.p. New Imperial-Jap, 2-speed, K.S. [Model], used, equal to new, expert examination we[lcome], tax paid; 49 gns.—Roselea, Blenheim Rd., St. [John's] Wood.

1920 New Imperial-Jap Combination, fully e[quipped], only run 1,200 miles, perfect condition, [all] insurance paid; cost £200, sell £140.—Macintosh, [Ltd.], Hill, Cambridge.

1920-21 New Imperial, 6h.p. J.A.P., de lux[e] bination, electric light, wind screen, et[c.], fect condition, tyres as new; £155.—45, Ca[rlton] Gardens, Barnes.

MOTOR CYCLES FOR SALE.

Rex.

'X Combination 1914, 3-speed, chain drive, electric lighting, all accessories and spares, recently com- y renovated; £65.—Cope and Sons, Upper Hagley Birmingham. [1363

p. Rex, 3 speeds, hand clutch, 1920 coachbuilt side- car, hood, screen, luggage grid, tyres good, me- ically perfect; £75, or exchange lower power.— ey, Rugby. [X3048

p. Rex Combination, fully equipped, £29 spent re- cently, splendid machine for hard work; any trial; tax paid; owner bought car.—Chilton, back 62, Rd., Bristol. [X2985

'X Late 1914 8h.p. Twin Combination, 2-seater C.B., well sprung sidecar, splendid condition all , tax paid, ready for immediate use, any trial ; £65.—Stumpson, 7, Phineas Pett Rd., Eltham. [1456

'X 1914 5-6h.p. Twin, 2-speed, clutch, footboards, lamps, etc., Bosch waterproof mag., perfect run- order, smart appearance, speedy, tax paid, owner abroad; real bargain, £46 10; first cheque secures. drews, Yoxford, Suffolk. [1384

'X 1914 8h.p. C.B. Combination, 2-seater sidecar, 3-speed countershaft, clutch, kick start, all chain , Bosch, new Binks, Pillion seat, lamps and horn, running order, thoroughly overhauled; trial 4 up; —152, Peckham Park Rd., S.E. [1778

Rex-Jap.

p. Rex-Jap Motor Cycle, in perfect going order; exchange less power, countershaft preferred.—B. low, Allington, Grantham. [2287

p. Combination, Rex-Jap, easy fitting Premier side- car, screen, F.R.S. lamps, Lucas horn, mirror, lometer, Pillion, 3-speed box, clutch, Bosch; bargain, or exchange cash and lightweight.—16, Eastover, gwater. [1519

Roc.

OC 4h.p., 3-speed gear, clutch, excellent order, £18, less front tyre; sidecar, £7.—69, Gloucester Camden Town. [2004

Rover.

'LIANS of Reading have 75 m.p.h. Rover model in stock. [0585

p. Rover Machine, unridden; £95.—Box 4,383, c/o *The Motor Cycle.* [2274

5h.p. Rover, 1919, with Grindlay sidecar; £120. —Bartan, 35, Queen Victoria Rd., Coventry. [X2936

OVER Twin Combination, new; £148 10; exchange considered.—Eveson, Wollescote, Stourbridge. [1533

14 Rover 3-speed Coachbuilt Combination; £52/10.—Shaw, Jeweller, Wellington Salop. [X2989

5.—1914 3½h.p. Rover, 3-speed clutch, splendid running order.—King, Egrove Farm, Oxford. [X2980

20 3½h.p. Rover Combination, fully equipped, tax paid, practically new; £120.—114, Brixton [2202

OVER 3½h.p., 3-speed hub, wicker sidecar, over- handled, every accessory; £50.—16, Loudon Rd., ey Downs. [1625

19 Rover Combination, fully equipped, screen, luggage grid, magnificent outfit; £36.—37, gton Rd., Surbiton. [1876

MBINATION, Rover, 1921, only done 300 miles, electric lighting, tax paid; £130; offer.—Crimes, Bruton Place, Bond St., W.1. [2332

VER Combination, 1919, mileage 634, 5-6h.p. J.A.P. engine, speedometer, lamps, horn, Easting, s.—14, Devonshire Rd., Forest Hill, S.E.13. [1602

19 T.T. 3½h.p. Rover, now fitted N.S.U. gear, clutch. Flying Middleton sidecar; critical inspec. invited; £65.—44, Finchley Rd., Westcliff-on-Sea. [1624

VER 3½h.p. Combination, c.b. sidecar, 3 speeds, K.S., lamps, horn, and accessories, perfect con- just overhauled; nearest £70.—Collins, Fore St., w. [1324

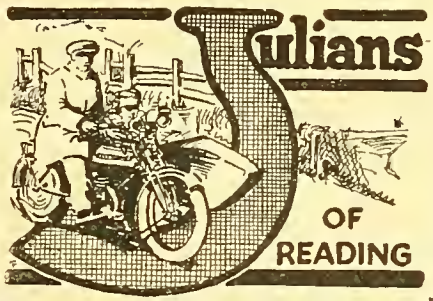
VER, 3½h.p., 1920 touring model, 3 speeds, clutch, kick starter, shop-soiled only, as makers' fications; at bargain price of £100 for cash only. below.

VER, T.T., Philipson pulley, shop-soiled only, as per makers' specifications; at bargain price of for cash only; 1920 model.—Mehes, 156, Gt nd St., W.1. 'Phone: Langham 2230. [1574

VER 5-6h.p. Combination, like new, 3-speed counter-shaft, kick starter, hand and foot clutch, unpunctured; best offer.—7, Hampton St., Wol- S.E.17. [1687

ANK WHITWORTH, Ltd., of Birmingham, re- commends the chain drive 3-speed 3½h.p. Rover 15 as one of the best value machines in the trade. ery from stock. [X2897

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1921	**LEVIS**.....	£60
1921	**LEVIS**, two-speed..	£68
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Rover.

HOLLIDAY Bros. have three 1920 (July) 3½h.p. Rover combinations for sale; what offers?— Holliday Bros., 20, Queen St., Hammersmith, W.6. 'Phone: Hammersmith 1944. [1768

ROVER, 3½h.p., late countershaft model, £65; or with Millford sidecar, £82.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, S.W.2 (½ minute from Brixton Skating Rink). [1722

ROVER 1921 Model, 3-speed countershaft, 3½h.p., all-chain drive, all accessories, ridden about 100 miles; £95.—Richmond Park Garage, 110, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Putney 2622. [2307

Royal Ruby.

PICKERING, Shrewsbury.—Agent for Royal Ruby; exchanges arranged. [1957

ROYAL RUBY Sports Model; 80 gns.; in stock.— John Aldrich and Co., Diss. [0630

1920 Royal Ruby Combination, guaranteed perfect, as new; £135.—179, Torridon Rd., Catford. [1466

1919 2¾h.p. Royal Ruby, fully equipped, tax paid; £40.—Garage, Ellenborough Motor Works, Ellenborough Rd., Wood Green, N.22. [1416

ROYAL RUBY 1920 8h.p. Combination, tax paid, full insurance; any trial; fully equipped; exchange lower power, or sell £150.—Daniels, Loughton, Bletchley, Bucks. [1336

Rudge.

3½h.p. Rudge Multi, 1921, brand new, unused; £79. —Box 4,379, c/o *The Motor Cycle.* [2270

RUDGE Multi 5-6h.p. C.B. Combination, 1920, all on.—Lee Newman, Portland St., Brighton. [1533

1921 Rudge Multi; £85.—Morriss and Co., Ltd., 139, Finchley Rd., Swiss Cottage, N.W.3. [1498

RUDGE, I.O.M., late 1919, splendid condition, full equipment; £67.—Rayner, 1, Baker St., Sheffield. [X2951

RUDGE Multi, excellent condition, fully equipped, mileage 11,000.—Jackson, Electricity Works, Llandudno. [1656

RUDGE Multi, 3½h.p., overhauled, in perfect condition throughout; £45.—Gray's Garage, Watford. [2152

RUDGE Multi, 1914, excellent condition, lamps, fast; bargain, £45.—Latham, 114, Junction Rd. Highgate. [1924

1914 Rudge Multi, perfect order, speedometer, Lucas lamps; £46; tax paid.—25, Park Av., Golders Green. [1377

1920 Rudge Multi 3½h.p. I.O.M.; £65; seen after 6.30 or Saturday afternoon.—41, Cavendish Rd., Bronderbury, N.W. [2397

1920 Rudge Multi, 3½h.p., perfect condition, mileage 500; £65 cash, no offers.—C. Gibson, 19, Queen's Gate, S.W. [1851

1921 I.O.M. Rudge and Sporting Sidecar, complete, lamps, etc., tax paid; bargain, £100.—Norris, Talbot, Mere, Wilts. [1454

RUDGE Multi, late 1919, fully equipped, like new, registered; £65; wanted, lightweight.—Bergholt, High St., Harpenden. [1713

RUDGE, hand clutch, new belt, lamps, good tyres, thoroughly overhauled, tax paid; £33.—6, Bolden St., St. Johns, Deptford. [1323

1920 Rudge Multi Combination, 5-6h.p., electric lighting, speedometer, Easting wind screen; £95.—6, Bulganak Rd., Thornton Heath. [1661

RUDGE 1916 3½h.p., variable gear, sloping tank, thoroughly good order; £45; any trial given.—Snodgrass, 18, Junction Rd., Brentwood. [1799

RUDGE Multi Combination, 1915, 3½h.p., excellent condition, little used, fully equipped; £68.—5, Harold Rd., Upper Norwood, S.E.19. [2079

£45, no offers.—1913 Rudge, Mahon gear, cane Cancelet sidecar, Cameo, perfect condition.—Smith, 36, Frederick Place, Plumstead, S.E.18. [1600

LATE 1920 Rudge Multi, 3½h.p., sloping tank, roadster, with pedal starter, fully equipped, tax paid; £65, or nearest.—F. Ward, 13, Pond Rd., Egham. [1500

RUDGE, 1915, 3½h.p., solo machine, absolutely perfect, equipped, licensed; 28 gns.—Clapham Motors, High St., Clapham. 'Phone: Latchmere 4290. [2147

RUDGE Multi 3½h.p., T.T., pedal starter, brand new; immediate delivery from stock at makers' latest reduced price, £85.—Wilkins, Simpson, opposite Olympia, London. [1675

3½h.p. Rudge Multi Combination, black and gold finish, fully equipped, tax paid, in daily use, real good outfit, private owner; £65.—Harris, Bloomfield Rd., Harpenden, Herts. [1480

CLUTCH Model Rudge Multi Motor Cycle for Sale, excellent condition, 3½h.p.; £45, or exchange lighter 2¾h.p. cycle.—Harold Scott, Providence Rd., Yiewsley, Middlesex. [1546

RUDGE Multi, I.O.M. T.T., 1920, clutch model, pedal starter, lamps and generator, original tyres, mileage 1,000, sidecar tax paid; £65.—Hicks, 32, Lena Gardens, Hammersmith. [2419

MOTOR CYCLES FOR SALE.

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1920 Rudge Multi 3½h.p., T.T., I.O.M., with Cancelet Minor sidecar, in perfect condition, mileage about 1,000, tax paid; any trial; £85.—Shorrock, 6, Victoria St., Morecambe. [1900

1920 I.O.M. Rudge Multi, 1in. belt, large Miller lamp set, Klaxon, knee-grips, all tools, year's licence paid, perfect order; £69.—Groves, 10, St. Simon's Av., Putney. 'Phone: Putney 1162. [1666

Scott.

SCOTT, 1910, mechanically perfect, tax, and all on; offers.—Sowerby, Beelsby, Grimsby. [1537

1920 Scott Combination, hardly used, as new; price £110.—8a, Lower Grosvenor Place, S.W.1. [1516

SCOTT 1915 Combination, good condition throughout; £60.—19, Victoria Parade, Muswell Hill. [1895

SCOTT Motor Cycle, mirror, adjustments required; £30 to clear.—19, Streatley Rd., Kilburn. [2062

SCOTT 3¾h.p., 1921, from stock, £130; or with Watsonian sidecar, £152/10.—Gibb, Gloucester. [0445

1914 Scott Combination, just thoroughly overhauled, tyres and appearance excellent; £75, or offer.—Gurney, Burnham-on-Sea. [1483

SCOTT, 1914, 2 speeds, with sidecar, good running order, but needs a little attention; £52/10.—Hole, 129, Park Lane, Carshalton. [2187

1919 Scott Combination, small mileage, spares, lamps, horn, good condition, tax paid; bargain, £100.—Staite, Radford, Leamington. [X2538

SCOTT 3¾h.p., overhaul by makers for 1920 season costing over £45, complete new lamps and hooter, tax paid; £85.—10, Somersby St., Grimsby. [2067

1920½ Scott, lamps, horn, tax paid, Degory, done about 500 miles, £80; also Binks carburetter, £2/2.—Doody, Castle Foregate, Shrewsbury. [1471

SCOTT Combination, good condition and appearance, all accessories, Amac automatic, spares; £50, or near offer.—Seal, 14, Woodend, Sutton, Surrey. [1786

SPORTING T.T. Scott, late model, lamps, good tyres, discs, long exhaust; real bargain, guaranteed perfect, £45, tax paid.—89, East Hill, Wandsworth. [2049

SCOTT Combination, 1915-16, gears and engine thoroughly overhauled new Palmer tyres; any trial; £70.—E. Cheesman 9, Wilson St., York Rd., Wandsworth. [2357

1920 Scott, complete with everything, mileage 1,100, enamel good, just overhauled by makers, climb anything; £85.—H. Foxcroft, 86, Beaconsfield St., Bolton. [1894

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4 'Phone: Brixton 2417. [0510

SCOTT 1920 3¾h.p., excellent condition, complete toolkit, Lucas lamps, Ace discs, 3in. Palmer cords, horn, etc., licence paid, little used; bargain at 80 gns. 9, Monument Rd., Wigan. [2088

SCOTT 1920½ Combination, semi-T.T. bars, Binks carburetter, lamps, horn, tools, Cowey trip speedometer, Euk easy starter, Easting wind screen, Tan-Sad pillion, long exhaust, handle-bar muffs, tax for year, perfect condition; owner taken pride in machine, but has car on order; seen Brighton; £135.—Box 4,386, c/o *The Motor Cycle*. [2278

Singer.

SINGER, 3½h.p., clutch model, any trial; £28.—132, High Rd., East Finchley. [X2947

1914 2½h.p. T.T. Singer, 2-speed, fast, reliable; £24/10.—Shaw, Park St., Wellington Salop. [X2988

SINGER 2½h.p., good order, fast, recently enamelled, fully equipped, registered; £28; seen week-end.—Foard, Joyce Green Hospital, Dartford. [1623

McINTOSH'S Racing Singer, 275 c.c., capable of over 60 miles per hour, 2-speed gear; £45.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. Hampstead 2767. [0609

SINGER 4½h.p. Coachbuilt Combination, 2-speed countershaft, kick start, clutch, speedometer, lamps, horn, hood, wind screen, re-enamelled; bargain, £67.—54, Killieser Av., Streatham Hill, S.W.2. Day Hop. 121. [1849

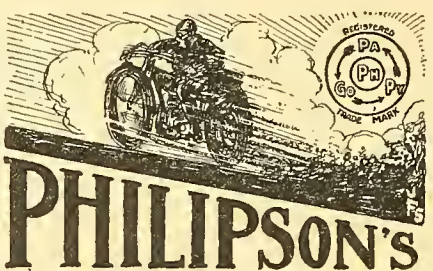
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1921 2¼h.p. Sparkbrook 2-stroke, the ideal lightweight, at an ideal price, new; £64. — The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W. [9822

SPARKBROOK 1920 2½h.p., 2-speeds, as makers' specification, shop-soiled only; three of these at the bargain price of £50 each for cash only.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [1575

Standard.

2¾h.p. British Standard, 2-stroke, 2-speed, discs and horn, tax paid; £58.—Whitley, Belmont Crescent, Swindon. [1535



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1921 Sun-Vitesse, 2-speed, lamps, horn, lic paid, as new; nearest £70 secures. — P Canon St., Taunton. [

SUN-VILLIERS 2½h.p., splendid condition, used, recently overhauled; must sell; accept £3 all on.—46, Inchmery Rd., Catford, S.E.6. [

SUN-J.A.P. 6h.p. Twin Combination, late 191 speeds, kick start, C.B. sidecar, just overha complete, licence paid, sacrifice through death; £ Fairhurst, behind 68, Standishgate, Wigan. [

Sunbeam.

E. KICKHAM for Sunbeam, sole agent for B and district.—Stokes Croft, Bristol. [

SUNBEAM 1921 3½h.p., immediate delivery; price.—Wiggins and Sons, Romsey, Hants. [

1921 3½h.p. Sunbeam, unused, with Dunhills sp sidecar; £160.—Coffin, Holwell, Sherborne. [

1916 3½h.p. Sunbeam and accessories, as new; —Bounds' Garage, 223, High Rd., Kilburn, [

GIFT.—1916 Sunbeam combination, 3½h.p., order, sound; £95.—Potts, Biddulph, Cong [

SPORTING Sunbeam in Stock, 145 gns.; sta 3½h.p. Sunbeam, 148 gns.—Cross, Agent, R ham. [X

1919 Sunbeam Combination, 8h.p., electric lig tax, insurance; £180.—Wright, 2, Park Rugby. [X

3½h.p. Sunbeam, late 1920, complete, like new, car, lamps, wind screen; £160.—Watts, Rose Lydney.

2¾h.p. Sunbeam, fully equipped, Tan-sad, tax guaranteed as new.—Write, Dyke, Tol- Milborne Port.

WAUCHOPE'S, 9, Shoe Lane, London, E. 3½h.p Sunbeam, new 1921, just delivered: £155/8; easy terms.

SUNBEAM 3½h.p. Combination, 1916, electric ing, speedometer, new lamps; £95.—Harriso Eccleston Sq., S.W.1.

SUNBEAM 3½h.p., 1914, re-enamelled; best £78; evenings.—120, Marlborough Flats, V St., Chelsea, S.W.3. [

1915 6h.p. Sunbeam Combination, equipped, ta splendid condition; given away at £88.— den, Maybell Av., Blackpool.

1919 3½h.p. Sunbeam, lamps, horn, tax paid condition, ride 60 miles to purchaser; £ Fortunegate Rd., Harlesden, N.W.

SUNBEAM 3½h.p. Combination, all accessorie and insurance paid, perfect; any trial; Mason, 39, Palewell Park, East Sheen.

1921 3½h.p. Sunbeam Combination in stock mediate delivery; makers' list price.—J. and Co., 52-54, Hampstead Rd., N.W.1.

SUNBEAM 8h.p. Combination; delivery here works; would take Triumph or other good in part.—Bunting's Exchange, Wealdstone.

1921 Sunbeam, biggest Lucas lamps, Klaxo March, mileage 700, everything perfect, to March, 1922; £145, offers.—81, Manor Lan S.E.

1920 Sunbeam Combination, 3½h.p., Easting screen, lamps, Cowey speedometer, horn, lent running order; £140.—2a, Bickenhall Ma W.

1920 (July) Sunbeam 3½h.p., mileage unde tyres unworn, stored since Aug., tax paid, bargain, £125.—Lowden, Risedale Cross, Bar Furness.

LATE 1920 8h.p. Sunbeam De Luxe Combi original tyres, lavishly equipped, unscra £170. — 24, Balliol Rd., Oxford Gardens, Kensington.

SUNBEAM 1915 3½h.p. Model, with sidecar plete with all accessories, excellent con £110.—Parker's, Bradshawgate, Bolton; also 245, gate, Manchester.

3½h.p. Sunbeam Combination, 1916, splendid tion, Easting, speedometer, lamps, separate ators, spares.—Noakes, 1, Gloucester Villa, Uni Farnborough, Hants.

SUNBEAM, late model 1919 T.T., 1921 piston, new rings, gudgeon, long exhaust, order, B. and B. carburetter, lamps, Klaxon a horn, new Dunlops, all tools and quantity of best offer over £110.—16, Durham Rd., Wimbl

SUNBEAM 1916 3½h.p. and Skiff Sidecar lamp set, horn, mirror, speedometer, sc sidecar, licence paid, guaranteed mechanically and good appearance; £105.—Herbert Robinson 32-35, Green St., Cambridge. Tel.: 995. Bicycles.

8 h.p. (1921, March) Sunbeam Combination Magdyno lighting set and electric horn, horn, Cowey (trip) speedometer, spare wheel apron, screen, tax, tools, spares, luggage carrier changeable wheels; £275.—V.D., 11, The Col Russell Sq., London, W.C.1.

MOTOR CYCLES FOR SALE.

Wall.

2 1h.p. Wall, 2-stroke, 2-speed countershaft, tax paid, condition and appearance as new, all on; £40. Cable, 89, Grundy St., Poplar, E.14. [2368

Weatherby.

19 21 Weatherby Scout, 3h.p., 2-speed, 2-stroke, as new; £65; cost £78.—C., Roslyn, Neitherby Rd., E.23. [9209

Wilkin.

19 20 Wilkin 4h.p., all-chain, perfect condition, all on; any trial; £90, or nearest offer.—Boothroyd, Shrybergh, Rotherham. [2089

Williamson.

WILLIAMSON, 8h.p. w.c. Douglas engine, coach-built sidecar, hood, screen, lamp, tax paid, everything; £65, including full insurance (recently paid), must sell, had nervous breakdown.—Hudson, 2, Essex Grove, Upper Norwood, London. [1824

WILLIAMSON 8h.p., water-cooled, Douglas engine, coachbuilt sidecar, D.A. lighting, just been thoroughly overhauled by Horley Motor Co., tax paid, splendid condition, buying car; £100, no offers.—50, St. Alban's Av., Bedford Park, W. 1364 Chiswick. [1482

WILLIAMSON 8h.p. Water-cooled Combination for sale, Douglas engine, Bosch mag., 2-speed and E., electric lighting, in perfect order, very fast; 98 complete, or nearest reasonable offer, for quick le; can be seen by appointment.—1, Kynance Place, Gloucester Rd., S.W.7. 'Phone: Western 4491. [9603

Wolf.

WOLF, 2¼h.p., new tyres, Bosch mag., perfect; £15. —17, Heaton Rd., Mitcham. [2077

19 19 2¾h.p. Wolf-Jap, 2-speed, clutch, mileage 1,900, all on; £46.—33, Holmes Rd., N.1. [1691

WOLF.—Sole agents for London, South of Thames and district. We are now fixing sub-agencies and invite enquiries.—Burlington Motors, Ltd., South side, Clapham Common, S.W.4. 'Phone: Brixton 317. [0503

Wooler

8 GNS.—1920 Wooler, splendid condition, fast, insured £85, aluminium footboards, lamps, horn, toolkit, set engine spares, tax paid.—9, Leinster Av., East Sheen, S.W. [2201

WOOLER Standard Models in stock, with accessories, 85 gns.; chain-driven, 100 gns.: the smartest and most comfy machine on the road.—Hunting's Exchange, Wealdstone. [2293

WOOLER 2¾h.p. Tourist Model, 1920, shop-soiled only, lamps, Cowey horn, at the bargain price £87/10 for cash only.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [1576

9 20 Wooler 2¾h.p. Flat Twin, tools, electric lighting, Cowey horn, speedometer, licence, aluminium footboards, many spares, special gears, in perfect condition; what offers—23, Muresfield Gardens, Hampstead, N.W.3. [X2889

Zenith.

JULIANS of Reading have Zenith 1921 5h.p. in stock. [0482

JOHN GUY, Weymouth.—Zenith agent, early delivery of all models. [0556

J. C. PICKERING, Shrewsbury.—Zeniths from stock; exchanges arranged. [1959

ZENITH Motors, Ltd., Hampton Court.—1920 shop-soiled 8h.p. models, from £108. [9215

9 15 4h.p. Zenith Combination, as new, all on; £75.—Flat 17, 122, Southampton Row, W.C.1. [1811

-8h.p. Zenith, 1919, small mileage, perfect condition; £78.—Castle, 2e, Portman Mansions, Baker St., W. [1514

9 13 Zenith Combination, 6h.p., good condition; £75, or near offer.—Write Walker, Glenlyn, West Wickham. [1439

h.p. Zenith 1920 Sporting, lamps, licence, etc., excellent running order; £85.—Benson, 9, Carlyle Rd., Cambridge. [2168

9 21 8h.p. Zenith Model H, clutch, K. starter; £152. —Morriss and Co., Ltd., 139, Finchley Rd., Miss Cottage, N.W.3. [1494

M.O.C.H. for Zenith.—New and second-hand machines in stock.—5, Heath St., Hampstead (near Hampstead Tube Station). [1746

ZENITH Combination (new), 8h.p., clutch, kick starter, accessories; £165.—Maitland, Hill Cottage, Ormuile Park, Cobham, Surrey. [1651

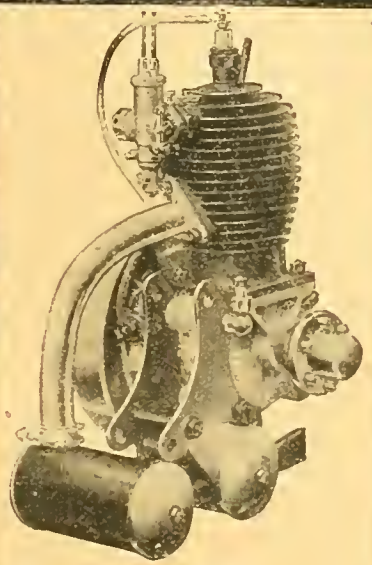
ZENITH 1920 8h.p. Sports Model, cannelet sidecar, speedometer, accessories; £120.—Brookman and Co., 5, St. Albans Rd., Watford. [1555

8h.p. Zenith, sports model, Swan sporting sidecar, electric lights, Cowey speedometer, all in good order; £130.—Heather, London Rd., Bromley. [1610

ZENITH 8h.p. Sports, 1920, mileage under 1,000, speedometer, horn, licence; £105; consider light part.—44, Denvers Rd., Hornsey, N.8. [1969

ZENITH-GRADUA 1914 6h.p. J.A.P., overhauled Swan sidecar, luggage grid; £72; tax paid.—Eagles and Co., 275, High St., Acton, London. [2022

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Zenith.

19 19 (December) 8h.p. Countershaft Zenith and Millford Sidecar, completely equipped, mileage under 3,000; 135 gns.—Clark, Trinity Hall, Cambridge. [1972

8 h.p. Sporting Zenith, 1920 model, bought March, 1921, mileage 1,500, perfect condition, lamps, etc.; price £100.—Guinness, Houndless Water, Haslemere. [9336

19 20 8h.p. Zenith, Swan sidecar, disc wheels, beautiful condition, scarcely used; cost £220, accept £155.—12, Birchwood Mansions, Muswell Hill, N.10. [9071

FOR Sale, Zenith motor cycle, November, 1919, not done above 1,000 miles, 5h.p., clutch model. Apply, Varley, Haresfinch House, St. Helens, Lancs. [2412

ZENITH 5-6h.p., countershaft, kick starter, clutch, Swan sporting sidecar, wind screen, speedometer, fully equipped; £90, or offer.—99, Salterford Rd., Tooting. [2367

ZENITH 1920 8h.p. Clutch Model Combination all accessories, tax paid, splendid condition; gift, £130; exchange A.B.C.—121, North Side, Clapham Common, S.W. [1916

ZENITH 6h.p. C.B. Combination, K.S., all accessories, splendid condition, any trial; £72; lightweight part exchange.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E 3155. [1926

ZENITH-GRADUA 6h.p. Combination, very smart outfit, absolutely fully equipped, Montgomery sidecar, tax paid, any trial; price 90 gns.—Garaged and can be seen at 74, Brighton Rd., Surbiton. [1910

ZENITH 1912 4h.p. and Middleton Sidecar, licence, insurance, spare tyre, etc., excellent mechanical condition, good for beginner; £60.—7, Scarboro' Rd., Upper Tollington Park, Stroud Green, N.4. [2003

HERE It Is.—90 bore o.h.v. super sporting 1919 Zenith, winner many races and fastest times of day, Zenith carburetter, only wants seeing; bargain, £89. —4, Lauedown Crescent, Malvern. [X2903

ZENITH 1915 8h.p. Countershaft Combination, re-enamelled, plated, electric, acetylene, Ensting, discs, speedometer, separate front cylinder oiling; 115 gns.; exchange w.c. Morgan.—Highdene, Ridgeway, Enfield. [1649

ZENITH 6h.p. Combination 1915, condition excellent, new tyres and belt, electric light, J.A.P. engine; price £80; would exchange for lightweight with cash adjustment.—Mason, 9, Leamington Park, Acton, W. [1395

ZENITH 1920 6h.p. Sporting Combination, Lucas head, rear, and sidecar lamps, Cowey speedometer, knee-grips, Ace disc wheels, luggage grid, equal to new; £160.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X2925

ZENITH 1921 8h.p. Combination, just delivered, licensed, twin filament electric lighting, electric horn, special sprung rear seat with air cushion, tools, spares, etc.; cost £212, accept £190.—252, St. Ann's Rd., Tottenham, London. [1878

THE Zenith Service Depot at 89, Wigmore St., is in a position to supply new 1920 models at greatly reduced prices, and, although the Whitsun holidays have greatly reduced our stock, we have still 1 or 2 machines left for immediate delivery.

8h.p. and 6h.p. Countershaft Models, with kick starter and clutch, price £116; 8h.p. and 6h.p. standard models, £110; 5h.p. sporting model, £96.

WE can give immediate delivery of all 1921 models, and for one week we are making a special offer of one 1921 5h.p. sporting model, slightly shop-soiled, at £123 complete, with all accessories, lamps, horn, speedometer, licence holder.

THE Zenith Service Depot can supply any spare part for models from 1911 upwards, and any part not in stock can be supplied within 24 hours.

SECOND-HAND, privately-owned machines for sale at reasonable prices, all of which have been examined before being offered for sale. Pay the depot a call to-day and tak advantage of the low-priced machines offered.—'Phone: Mayfair 5598.—The Zenith Service Depot, The Motorists' Advisory Agency, Ltd., 89, Wigmore St., W. [9824

19 19 8h.p. Zenith Clutch Model, car C.A.V. dynamo lighting, 3 lamps, large electric Appelo horn, Watford speedometer, disc wheels all round, special large tank, large fillers, special mudguards, knee grips, large Henderson sidecar with special chassis, screen, storm apron, petrol can carrier; combination cost over £320; will accept £185 for quick sale; outfit guaranteed faultless and absolutely unscratched, mileage 4,000; any trial or examination.—Wallis, 23, Hartington Grove, Cambridge. [8738

JULY 1919 8h.p. Clutch Model Zenith and Swan sidecar, thoroughly overhauled and renovated, and in perfect condition throughout, unused retread on sidecar, spare extra heavy Dunlop retread for future use, all tyres interchangeable, Palmers, spare Dunlop belt, 2 spare tubes, Miller, Klaxon, aluminium side and tail, pair Brooks high gaiters, tax and licence paid, the machine has not been ridden since the end of last year, sole reason for selling ill-health; £130, or close. —Seen Brainsby's Garage, Peterborough. [1904

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Ladies' Motor Cycles.

LADY'S Motor Cycle, 2¾h.p. J.A.P., 2-speed, kick start; first £25 secures.—Sturdy, 98, Tynemouth Rd., Newcastle. [1645

£37.—Late 1913 lady's Douglas, 2-speed, good tyres, perfect engine, lamps; any trial.—Millard, Abbey Rd., Belvedere. [2058

AS a Lady's Motor Cycle, the Ivy is It.—Send for details from the Midland agents, Frank Whitworth, Ltd., Birmingham. [X2898

LADY'S Campion-Villiers 2½h.p., 2-speed, Bosch mag., excellent condition; £45, first comer.—Johnston, 173, Shaftesbury Av., W.C.2. [1490

DOUGLAS, lady's, 2-speed, just overhauled by makers at cost of £26, and as new, tax paid; £45, or nearest offer.—Jones, Bredenbury, Worcester. [1403

BRAND New 1921 2½h.p. Lady's Excelsior, Villiers, Sturmey-Archer 2 speeds, kick starter and clutch, shop-soiled; £60.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [1736

Miscellaneous.

LIGHTWEIGHT Motor Cycle, excellent condition: bargain, £26.—31, Linnell Rd., Camberwell. [1334

WANDSWORTH Motor Exchange, London's leading motor cycle exchange, for real cheap machines.—Below.

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WANDSWORTH.—Red Indian, 7h.p., twin, mag., 2 speeds, runs splendidly; 39 gns.—Below.

WANDSWORTH.—Red Indian, 7h.p. twin, 2 speeds, spring frame; bargain, 49 gns.—Below.

WANDSWORTH.—Rex 5h.p. twin, mag., 2 speeds, dropped frame; only 32 gns.—Below.

WANDSWORTH.—Rex, with coachbuilt sidecar, 5h.p. twin, mag., 2 speeds; 49 gns.—Below.

WANDSWORTH.—Rudge, 3½h.p., mag., 2 speeds, F.E., kick, runs well; 36 gns.—Below.

WANDSWORTH.—F.N. 5-6h.p. 4-cyl., waterproof Bosch, multi clutch, runs beautifully; 38 gns.—Below.

WANDSWORTH.—Douglas 2¾h.p. twin, Bosch, 2 speeds, runs well; special, 29 gns.—Below.

WANDSWORTH.—Humber, 3½h.p., mag., 2 speeds, handle starting, fine tyres; 35 gns.—Below.

WANDSWORTH.—1920 New Ryder-Jap, 2¾h.p., 2 speeds, nearly new; offers.—Below.

WANDSWORTH.—O.K., 2½h.p., mag., 2 speeds, nice little machine; bargain, 38 gns.—Below.

WANDSWORTH.—T.D.C. de Luxe, 2½h.p., mag., 2 speeds, nice runabout machine; 39 gns.—Below.

WANDSWORTH.—F.N., fine coachbuilt combination, 5-6h.p., 4-cyl., waterproof Bosch, 2 speeds, clutch, lamps; 59 gns.—Below.

WANDSWORTH.—Bat-Jap, beautiful coachbuilt combination, 8h.p. twin, spring frame; 65 gns.—Below.

WANDSWORTH.—Quadrant 1920 coachbuilt combination, 4½h.p., 3 speeds, almost new; 95 gns.—Below.

WANDSWORTH.—P. and M. 1918 nearly new coachbuilt combination, well fitted, unscratched; 85 gns.—Below.

WANDSWORTH.—P. and M. 1918 coachbuilt combination, 3½h.p., 2 speeds, kick, renovated; 79 gns.—Below.

WANDSWORTH.—Magnificent red Indian coachbuilt combination, 3 speeds, speedometer, lamps; 95 gns.—Below.

WANDSWORTH.—Premier splendid coachbuilt combination, 3½h.p., 3 speeds, beautiful condition; 52 gns.—Below.

WANDSWORTH.—Humber coachbuilt combination, 3½h.p., mag., 2 speeds; very cheap, 46 gns.—Below.

WANDSWORTH.—Humber coachbuilt combination, 3½h.p., mag., 2 speeds, lamps; clearance, 49 gns.—Below.

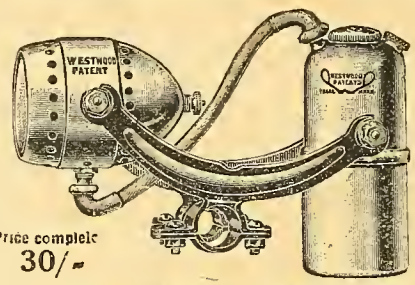
WANDSWORTH.—Kerry-Abingdon, 3½h.p., mag., spring forks, runs splendidly; only 27 gns.—Below.

WANDSWORTH Exchanges.—Wandsworth Motor Exchange, Ebner St., Wandsworth (Town Station). 'Phone: Latchmere 4686. [2354

1913 4h.p. Motor Cycle, 2-speed, Bosch, Amac, good going order; bargain, £26.—Randall, Cheamside, Worcester Park. [1518

MATCHLESS, Indian, Rex, Triumph, Brown combinations or solos; best offers; reason, serious accident to owner.—Taylor, 637, Seven Sisters Rd., Tottenham. [1603

A.J.S. Combination, late 1920, lamp, horn, spare wheel, guaranteed perfect condition; £150, or nearest offer; also Douglas 2¾h.p., 1916, W.D. model, overhauled, perfect condition; £55, or nearest offer.—R. Hilliard and Sons, Ltd., Main St., Killarney, Ireland. [1424



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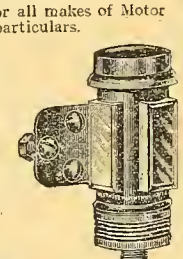
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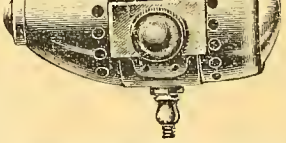
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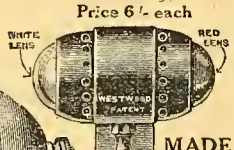


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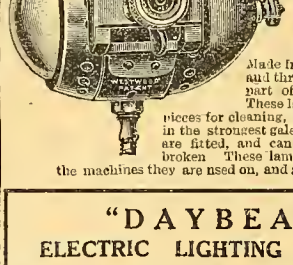
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BARGAINS.—G.W.K. 1915 car, detachable wh £185/10; 3½h.p. Ariel, free engine, accesso £35/10; 1914 P. and M., £45/10; 1920 Scott, £87/ 1920 O.K., £35/10.—Booths' Motories, Halifax.

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ALLBER Garage, Thornsett Rd., Earlsfield, Lon S.W. (opp. Earlsfield Station, L.S.W.R.). 'Pho Latchmere 4388. Exchanges and easy terms arran

ALLBER.—Douglas, 1916, sports model, 2¾h.p speeds, aluminium disc wheels, good t elaborately fitted with accessories, absolutely posh, paid; £55.

ALLBER.—Bradbury, 4h.p., semi-T.T., long pi exhaust, new tyres, lamps, etc., black and finish, as new, tax paid; £45.

ALLBER.—Zenith, 90 bore, sports model, new and belt, all on, tax paid, good order, ex tionally fast; £55.

ALLBER.—Metro-Tyler, 1920, sports model, 3 2-stroke, 2 speeds, discs, new tyre, enamelled all on, tax paid; £45.

ALLBER.—Alecto, 1921, 3½h.p., 2-stroke, Bur 2-speed, all lamps, etc., tax paid, absolutel new; £50.

ALLBER.—Chater-Lea-Precision, 3½h.p., 2-st 1920 model, all on, as new, tax paid; £37/1

ALLBER.—Royal Ruby, 1920, 3½h.p., 2-stroke, little used, as new, tax paid; £42.

ALLBER.—Radco, 2½h.p., 2-stroke, 2 speeds, lamps, tax paid, in splendid order; £34.

ALLBER.—Triumph combination, 1918, 3-sp clutch, kick starter, new tyres, all lamps, t etc., very smart; bargain, £75.

ALLBER.—Clyno-Jap combination, 1919, 8h.p speeds, clutch, kick starter, 28in. wheels, de seater body, condition as new throughout; £115.

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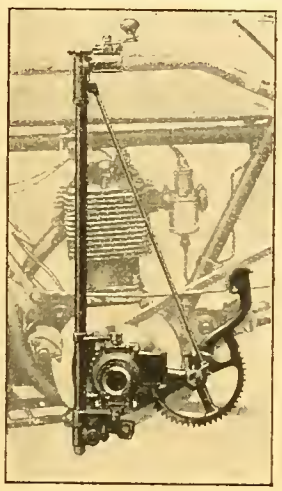
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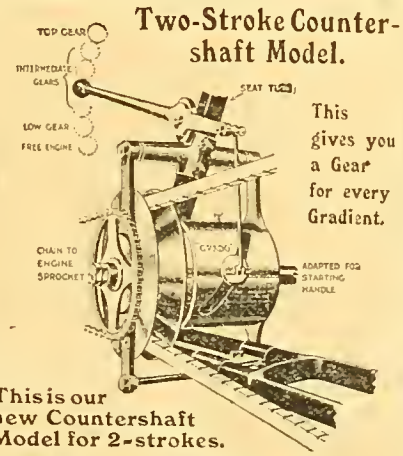
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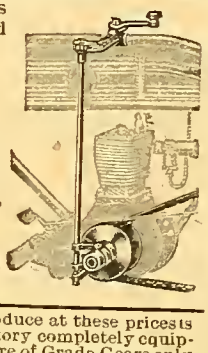
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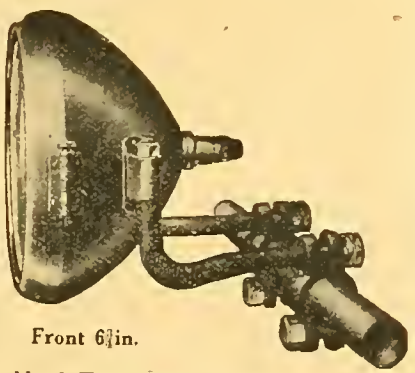
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4 volt type ..	..	£6 10 0
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'ASTRA' DYNAMOS are SIMPLE, RELIABLE, EFFICIENT, and can be run at high speeds without danger of burning out or damaging the accumulator.



Front 6¼in.

No. 1 Type Motor Cycle Head Lamp.

Price **63**/- nickel finish, with bulb and bracket.

This lamp, which is also suitable for light car work, is beautifully finished and scientifically designed so that a perfect focussing adjustment is obtained.

We can offer excellent Trade Terms for this Lamp.

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Astra Dynamo Co.,

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Telephone: Victoria 7545

IGNITION APPLIANCES.

UNSATISFACTORY Magnetos should be replaced by a Boulton, £5/10 each; immediate dispatch; special discount to the trade. A few shop-soiled to clear at lower prices.—Boulton Magnetos, Ltd., Oldhall St., Welcerhampton. [6458

MAGNETOS.—Thomson-Bennett, clock or anti-clockwise, 42°, 45°, 50°, 55°, 180°, 50/-; for single-cyl. engines, 4-stroke 45/-, 2-stroke 40/-. All above have variable ignition, and are new, waterproof, and guaranteed. No waiting. Write for illustration and further particulars.—Super Power Co., 81, North Side, Clapham, S.W.4. [1918

RUNBAKEN Repair Services.—Dynamos, magnetos, and starters. Huge stocks of spare parts and a modern plant enable us to make a thorough and efficient repair to every make and type. Pack in a strong box, enclose instructions, and address to The Runbaken Magneto Co., Ltd., 115, Gt. Portland St., London, W. 'Phone: Mayfair 3586). North of England: Derby St., Cheetham, Manchester ('Phone: City 8266). [0257

MAGNETO and Engineering Co. Special Lines.—Thomson-Bennet magnetos, singles and twins, waterproof type, any degree, 42, 45, 48, 50, 55, 60, and 180 £2/15 each, postage 1/6, ready to fit on Douglas, P. and M., Triumphs, Harleys, J.A.P., etc.; state your engine; we can supply by return. We fully guarantee these machines in every way, being suitable for any type of motor cycle, variable ignition. Terms, cash with order. Satisfaction or money refunded.—Below.

C.A.V. Magnetos, singles and twins, ideal magnetos for lightweights, variable ignition, and beautifully constructed; £2/15 each; postage 1/6.—Below.

MAGNETO and Engineering Co's Plugs: K.L.G. type, £7; F8 Lodge Aero at 2/6; tested, fully guaranteed as new, bored; finest value on the market.

SPARES: Contact screws, Bosch pattern, platinum iridium, 10/6; Thomson-Bennet and C.A.V. spares in stock; write for list; lowest possible prices.—Magneto and Engineering Co.

TRADE and Export enquiries special attention.—Dept. B., Magneto and Engineering Co., Cromwell House, Fulwood Place, High Holborn, W.C.1. Tel.: Chancery 7054-7055. [2376

THE Magneto Repairing and Winding Co. (established 1912), contractors to H.M. Government, and officially appointed by the R.A.C. Magneto repairs of every description; all repairs at lowest possible prices, and strictly guaranteed. We can mostly return them within 24 hours. We have several new and second-hand single and 2-cyl. magnetos in stock, all guaranteed.—The Magneto Repairing and Winding Co., 78, Hampstead Rd., Euston, London, N.W.1. 'Phone: Museum 1158. T.A.: Kumagnelec, Eusroad, London. [6015

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REPAIRS of every description from 2/6.—Phœnix Tyre Repairing Co.—Below.

BURSTS, cuts, and broken beads repaired from 2/6. —Below.

15/6 is the Cost of Retreading your old tyre.—Below.

EXTRA Heavy Ribbed, studded, or ribbed pattern tread.—Below.

HAND your Tyres for retreading or repairs into post office to-day addressed to Phœnix Tyre Repairing Co., 224, Sherlock St., Birmingham. [X2943

25% Off Best Make of Tyres, new stock.—Pitts, of Redditch. Tel.: 91. [X9325

H. EMANUEL, Tyre Factor.—See my bargains in displayed advertisement columns. [0235

BASTONE'S for Covers and Tubes, no better or cheaper house. See displayed advert. [9916

MOTOR Cycle Tyres on Easy Terms, standard makes; list post free.—J. G. Graves, Ltd., Sheffield. [0589

500 MOTOR Cycle Covers, all sizes, soiled only, heavy 25/-, light 15/-; approval anywhere. —Alltyres, 81, Dale End, Birmingham. [7433

A FEW Real Bargains for Scottish readers, surplus Government, etc., covers and tubes. Write for list. —McArthur Hill, 47, Carrick St., Glasgow. [6290

MOTOR Cycle Tyres, 26×2½, fit 2¼ rims, 3-ribbed, heavy; 35/- each; exceptional value; approval against cash.—Alltyres, 81, Dale End, Birmingham. [2221

650×65 Clincher de Luxe Extra Heavy, unused, 42/-, original 80/9; 650×65 Oylers heavy, 38/6, original cost 65/-.—64, Bishopsgate, London. [0618

TYRES.

MISS DOOLEY.—26×2½ new Macintosh and Spencer-Moulton tyres 30/- each.—Below.

MISS DOOLEY.—26×2¼, 2⅜, and 2½ Dunlop retread tyres, as new; approval against cash; special quotations to the trade for minimum of 50; price 17/6 each.—Below

MISS DOOLEY.—700×65, 650×65, 26×2¾, prices £2/5, £2, and £1/10 respectively.—Below.

MISS DOOLEY.—700×80 Avon square tread, new, 50/- each.—Below.

MISS DOOLEY.—28×3 inner tubes, Dunlop, new, 5/- each, plus carriage.—Below.

MISS DOOLEY.—28×3 inner tubes, 5/- each; also 26×3, new.—Below.

MISS DOOLEY.—650×65 Rom tyres, new, 36/- each.—Below.

MISS DOOLEY.—26×3 Dunlop retreads, 25/- each. —Below.

MISS DOOLEY.—700×65 Dunlop new tyres, 35/- each.—Below.

MISS DOOLEY.—700×80 Avon and Spencer-Moulton new tyres, 45/-.—Below.

MISS DOOLEY.—820×135 oversize for 820×120 Dunlop, etc., new, £5; Dunlop tubes for same, 16/-.—Below.

MISS DOOLEY.—28×3 new tyres, Wood-Milne, Spencer-Moulton, Mackintosh, etc.; 25/- each, plus carriage.

PLEASE apply for all the above to Miss E. Dooley, 33, Killyon Rd., Clapham, S.W.8. [2334

R. D. VARTY, Thundersley, Essex, for tyres, all new, unused, clearance, guaranteed value and satisfaction or money returned, compare the prices.

R. D. VARTY.—Dunlop studded, 26×2¼, 2⅜, 28 ×3, 37/6; Palmer cord same price.

R. D. VARTY.—Wood-Milne tyres, 26×2⅜, 28×3, 28/-; 650×65, 32/-; 700×80, 43/-; 28×2½, 32/-; combination studded, 26×2¼, 48/-; 28×3, 56/-; 650×65, 52/-; 700×80, 53/-.

R. D. VARTY.—Clincher de luxe extra heavy, 26 ×2¼, 2⅜, 33/-; Kempshall anti-skid, 26×2¼, 28×3, 34/-.

R. D. VARTY for tubes, all guaranteed perfect 26×2¼, 2½, Palmer, Avon, Hutchinson, etc., 6/-; 28×3, 7/-; butt-end, 1/3 extra.

R. D. VARTY will send any of the above on approval against cash.—Don't delay, post your order now to R. D. Varty, Thundersley, Essex. [1312

DUNLOP Sidecar Tyres, new, covers 26×2½ 20/-, 28×3 27/6; tubes, 26×2¼ 8/-, 26×2½ 9/-, 28×3 10/-; postage 1/-.—Clayton, 135, Huddersfield Rd., Stalybridge. [1427

TWO New Palmer Cord Tyres, 700×75, 35/- each; three new Palmer tubes, 700×75, 7/6 each; will separate or offer for lot.—Williams, 24, Stockwell Green, London, S.W. [1782

ECONOMIC Tyre Co.—Special offer of Wood-Milne Keygrip covers, new and in perfect condition, at 50% off list prices. All goods carriage paid, on approval against remittance.

ECONOMIC.—Wood-Milne 24×2 heavy, 23/9; 26×2 heavy, 25/-; extra heavy, 30/-.

ECONOMIC.—Wood-Milne 26×2¼ heavy, 26/10; extra heavy, 34/-; 26×2⅜ heavy, 28/4; extra heavy, 34/3.

ECONOMIC.—Wood-Milne 26×2½×2¼ heavy, 30/-; extra heavy, 35/-; 26×2½ extra heavy, 36/1.

ECONOMIC.—Wood-Milne 26×2½ O.S. extra heavy, 36/1; 26×3×2½ heavy, 32/-; extra heavy, 41/-.

ECONOMIC.—Wood-Milne 28×2½ heavy, 32/4; extra heavy, 40/4; 700×80 heavy, 43/6; extra heavy, 46/6.

ECONOMIC.—The following are all W.D. clearance, new, and in perfect condition. Compare our prices.

ECONOMIC.—Avon Sunstone 26×2¼, 33/-; Bates special heavy, 33/-; Dunlop heavy R.S., 35/-; Clincher De Luxe extra heavy, 33/9; Beldam combination, 35/-.

ECONOMIC.—Hutchinson T.T. 26×2⅜, 35/-; Passenger, 36/-; Clincher De Luxe extra heavy, 34/6; Beldam extra heavy, 32/6; Bates special heavy, 36/6; Dunlop heavy, 37/6.

ECONOMIC.—Fully guaranteed Dunlop rubber-stud, 24×2 26/3; 26×2, 28/9; 26×2¼, 30/-.

ECONOMIC Tyre Co., 314, New Cross Rd., S.E.14 (near Town Hall). 'Phone: New Cross 1393. [6786

BURST Motor Cycle Tyres, chafed beads remoulded, made perfect, tube vulcanising, butt-ends fitted, retreading; send for list.—Melton Mowbray Rubber Works, Melton Mowbray. [0347

BARGAINS.—New Tyres, Dunlop extra heavy, 26×2⅜, 28 francs; Dunlop, Bates, Palmer, Clincher heavy, all sizes, 23 francs.; 820×120 £5; motor and motor cycle tubes and spares in stock.—Couter, 9, Bd, Gambetta, Calais, France. [2356

KEMPSHALL Non-skid, also Hutchinson T.T., 28×2½, brand new, at a remarkable figure; 35/- each; special prices for quantities over 6; carriage free; greatest bargains in tyres.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0259

WE DON'T SPECULATE— WE CALCULATE

Does your Tyre Repair Man calculate to your advantage?
When your cover or tube comes to us we immediately calculate the cost of repair, and, if we are not CERTAIN that it will pay YOU for the amount you are asked to spend, WE TELL YOU SO FRANKLY. That is our policy

RETREADING.

26 x 2	.. 20/-	26 x 2½	.. 22/-
26 x 2¼	.. 20/-	26 x 3	.. 25/-
26 x 2⅜	.. 21/-	28 x 3	.. 30/-

Note—The old tread is completely stripped off and new rubber built up just as in a new cover. We do not fit a ready cured band.

REPAIRS.

We execute all cover and tube repairs. No job is too small or too large, provided the article is worth the cost.

New Butts fitted ..	**6/-** pair
New Section fitted ..	**3/-** ,,
New Valves and Seats	**2/6** ,,

On receipt of article we immediately send you full report and estimate. We pay return carriage. Terms: CASH AGAINST PRO FORMA.

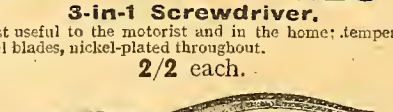
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We stock every accessory and tool for either car or motor cycle. Send for our list, or let us quote you for your requirements.

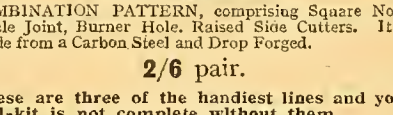
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CHEAPEST HOUSE IN THE TRADE
Three Special Lines.



Motor Cycle Box Spanner Set.
Six Sizes, $\frac{1}{8}$ x $\frac{3}{16}$, $\frac{1}{4}$ x $\frac{5}{16}$, $\frac{3}{8}$ x $\frac{7}{16}$ inch.
2/6 per Set.



3-in-1 Screwdriver.
Most useful to the motorist and in the home; tempered steel blades, nickel-plated throughout.
2/2 each.



Cutting Pliers.
COMBINATION PATTERN, comprising Square Nose, Circle Joint, Burner Hole. Raised Side Cutters. It is made from a Carbon Steel and Drop Forged.
2/6 pair.

These are three of the handiest lines and your tool-kit is not complete without them. Postage extra.

Note our only Address—
Y.V.C. (1919) LTD.,
'Phone: 23565. **201, North St., LEEDS.**

TYRES.

28×3in. New Rom Combination Covers, £3; 2½in. new Avon Sunstones, 39/-; 26×2⅜ Clinchers, 35/-; 650×65 Hutchinson combination cov £3; quantity of new covers, various sizes, from 20/ Murray's, 37a, Charles St., Hatton Garden, Holb [X2

NEW Dunlop and Bates Tubes, W.D., 26×2¼ 26×2⅜, 5/- each; new Beldam clearance cov all sizes, 30/- each, except 28×3 40/-, 650×65 4 and 700×80 50/- each; 700×80 new Wood-Milne squ tread covers, guaranteed, 50/- each.—Homerton Rub Works, Brocksby's Walk, Homerton, E.9. [0

CROYDON Motor Tyres, Ltd.—New Clincher cl ance endless tubes, not W.D. or perished, 26 6/3, 26×2¼ 6/6, 26×2½×2¼ 7/3, 700×80 8/6; free against remittance; Wood-Milne Keygrip cov all sizes, 3 and 4-ply, at half prices.—Croydon Mo Tyres, Ltd., 53a, London Rd., Croydon. [4

26×2½ New Beaded Covers, 24/-; new best qua tubes, 24×2¼, 5/-; 26×2, 6/-; 26×2¼, 6 26×2½, 7/6; 26×2½×2¼, 8/-; 26×3, 9/-; 700× 9/6; 750×75, 10/-; 28×3, 10/6; new rubber he 6ft. 2in.×1in., 10/6; 15in. inflators, 2/3; sent proval, carriage paid receipt remittance.—Palm Garage, Tooting, S.W. [2

CENTRAL Garage, Thornton Heath.—Brand Wood-Milne Keygrip covers. Cheapest house the trade; satisfaction guaranteed. 26×2¼, 26 extra heavy 32/6; 26×2⅜, 27/6, E.H. 33/-; 26×2 2½, 30/-, E.H. 35/-; 26×2½, 34/-, E.H. 36/-; 26× 2½, 32/-, E.H. 40/-; 28×3, 27/6, E.H. 30/-; 650× 32/6, E.H. 37/6; 700×80, 40/-, E.H. 45/-; tubes —Below.

CENTRAL Garage, Thornton Heath.—Special brand new extra heavy Wood-Milne covers, each; approval willingly; listed at 87/-.—London Thornton Heath. [2

LIGHT Car and Motor Cycle Engineering Co.—Spe prices of Wood-Milne Keygrip covers, brand and perfect condition; all goods carriage paid on proval against remittance. Wood-Milne 26×2¼, hea 26/10; 26×2⅜ Clincher de Luxe, heavy, 32/-; 26× heavy, 30/-; 26×2½ extra heavy, 36/-. Tubes, hr new Dunlop, Avon, Moseley, from 5/6, in makers' ca —Light Car and Motor Cycle Engineering Co., 26, T Hill, S.W.2. (Half minute from Brixton Skating Rin [1

TANKS.

B.S.A. Tanks, in good condition; 18/-.—Marble A Motor Exchange, 135, Edgware Rd., W.2. [1

TANKS, makers' colours; list.—Exeter Engineer Co., Sternhall Lane, Peckham, S.E.15. 'Phon New Cross 1778. [2

TANKS Renovated, makers' colours, transfers 12 —Whitworth Motor Renovating Co., 90a, Pershe St., Birmingham. [1

TANKS Re-enamelled to Pattern. High-class w only.—D. Jenkins and Sons, 6, Richard St., kinson St., Deansgate, Manchester. Established years. [3

TANKS Repaired, re-enamelled; partition leaks dents, drip feeds fitted, etc.; re-enamelling, mak colours, finish, and transfers guaranteed; prompt turn.—Park Works, 1a, Paradise Rd., Green La Highbury, London. [X2

TANKS of every description replaced, repaired, re-enamelled at our own works; all kinds fittings stocked; quick service and reasonable char —Send postage for illustrated price list to A. Gre Water St., Chapel St., Salford, Manchester. Te 2191 Central. [0

BELTS.

500 Brand New 1in. Belts, 6ft. 6in. leng Dunlop, Pedley, etc.; 12/- each.—Mai Arch Motor Exchange, 135, Edgware Rd., W. [1

BEST make of Belting, all lengths in 1in. at foot; 2-piece ⅞in. 1/9, ¾in. 1/6, on appro against cash.—Pitts, of Redditch. Tel.: 91. [X9

BELTS.—Clincher rubber, unused, ¾in. 7ft. 11/3, 1¼in. 7ft. 19/3; leather belt, 8ft. 6in. ⅞ 19/-; belt fasteners, 9d. and 1/- each.—64, Bish gate, London. [0

BRAND New Belts, ¾in., 6ft. 6in., 12/6; ⅞in., length, 1/9 per ft.; 1in. 8ft. 6in., 17/6; Ped Dunlop, and Clipper.—Central Garage, London Thornton Heath. [2

LARGE Quantity of New Belts, not clearan Clipper, 9ft.×1in., 22/- each; 8ft. 6in. ditto, each; surplus by leading makers, ⅞in., any leng 2/1 a foot; special offer of 6ft. 6in. of ⅞in. at each, ¾in. ditto, 12/6.—H. Emanuel, Tyre Factor, Belgrade Rd., N.16. Stores: 37a, Balls Pond Dalston, N.1. 'Phone: Dalston 3161. [0

INSURANCE.

MOTOR Cycle Insurance at Economical Premium See below.

FULL Policy up to 2¾h.p. £3/10, 4½h.p. £4, 6 £4/10, 10h.p. £5/10.—See below.

PUBLIC Liability Only, unlimited indemnity, £1/7/6.—See below.

FULL Particulars will be forwarded on receipt postcard stating make, h.p., and value.

L. ALDRIDGE and Co., Ltd., 23, Bucklersbu E.C.4. Branches at Brighton (56, East S Manchester (10, South Parade, Deansgate), Marg (6, Cecil Sq.). [5

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ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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Subscription Rates: Home, 23s. 10d.; Canada, 23s. 10d.; other countries abroad, 28s. 2d. per annum.

The T.T. and the Grand Prix.

NEXT week's Tourist Trophy Races in the Isle of Man promise to provide the finest motor cycle races in history. With the trade supporting the event once again, the best riders in the country nominated as jockeys, twenty-two lightweights, and forty-three mediumweights in the Junior event on Tuesday, and sixty-eight in the Senior race on Thursday, the event attains increased importance. Enthusiasm already runs high, as many competitors are showing up conspicuously in practice on the Island. In each event there are two and four-strokes and single and twin-cylinder machines, but no four-cylinder or radial engined mounts appear. The single-cylinder predominates in Junior and Senior Races. On each race day, for the benefit of the thousands of motor cyclists who cannot witness the event, *The Motor Cycle* has again arranged for a series of telegrams to be despatched throughout the country, showing the leading positions at the end of each lap.

Undoubtedly, many of the machines which will compete are capable of speeds greatly in excess of those accomplished on the Manx course hitherto, and the contests promise to reveal to the world at large some of the results of the close attention paid to engine design during the war.

It is unfortunate that the races are not of a more international character. It would have been extremely interesting to have seen the latest British and American machines in a strenuous race, such as the Tourist Trophy, with the post-war productions of France, Holland, Belgium, Italy, and Switzerland.

On the 24th of next month, however, an opportunity will present itself for British motor cyclists to witness some of the Tourist Trophy machines in competition with the pick of the French motor cycle industry in the Grand Prix race. The comparative speeds of the British representatives in the Isle of Man and on the French course at Le Mans will provide data upon which the productions of the nations may be judged.

For the convenience of motor cyclists in this country desiring to attend Le Mans, *The Motor Cycle* has purchased a number of tickets for reserved seats in the grandstand, and has also a carefully compiled and classified list of hotels near Le Mans. *The Autocar* is rendering similar service to its readers for the great car race on the following day.

Only a limited number of tickets have been allocated to this and our sister journal, and those desiring to take advantage of the convenience should communicate with the Editor of either journal on the matter, which is referred to on page 703.

The Anglo-Dutch Trial.

THE Anglo-Dutch trial, which this year will be held in this country, occupies a unique position as an international contest. It is not a team trial in the generally accepted meaning of the term; it is a contest between a single team picked from the best riders in Holland and another representing Great Britain. Last year the Dutch team was the winner in its own country. Although the trial is in the hands of the Auto Cycle Union, the contest is not to be regarded as being between the A.C.U. and the Netherlands Club; it should be looked upon as a national affair—Great Britain versus Holland.

The formation of the British team is now in progress, and it is highly desirable that the Auto Cycle Union has in its possession a list of Great Britain's best riders who are available to compete. Many riders who are qualified to represent their country are so modest that they shrink from making applications themselves and, to overcome this difficulty, we suggest that club secretaries nominate them. We have sufficient material in this country to form a large number of excellent teams, and to form the British "fifteen" will not be an easy task. Nevertheless, too many names will be better than too few—and the more qualified men nominated, the greater will be the honour to those selected.

An Index to the advertisements in this issue will be found on the page facing the back cover.



OCCASIONAL COMMENTS

By "IXION"

An Anniversary.

THE files of *The Autocar* record that in the last week of May, 1896, the first all-British motor cycle left the Humber works, and was tested at the Nunhead Grounds. No technical details are recorded—perhaps Messrs. Humber can supply a photograph? The machine was equipped with a Pennington engine, a power unit which was then a subject of great controversy. Its inventor claimed that it would burn paraffin without the aid of a carburetter, the oil being vaporised by a preliminary spark, after which a second spark exploded the resultant vapour. The machine reached a speed of nearly 40 m.p.h. at its *début*, though the reporter admits that it called for a little further tuning. As the Pennington cycle engine was air-cooled and finless, one imagines that after about half a lap the engine was on the verge of seizure!

Carrying Spare Bulbs.

I RECENTLY pointed out the absolute necessity of carrying spare bulbs when an electric lighting set is in use, and of a strong container in which such fragile spares will be safe. The Lucas people inform me that they now list a convenient metal canister, price 4s. 6d., which will carry one large and three small bulbs. A Leicester engineer writes that he has constructed a light metal case to bolt to the underside of a Brooks saddle. The latter notion seems rather sound. We don't want to carry such gadgets in our pockets. There is no room for them in our already overcrowded toolbags. The average handle-bar is pretty well loaded up with accessories. A permanent position on the frame, and preferably one of not too obtrusive a character, seems just to fit the case. One reader actually puts them in the peak of his cap, but I am precipitated over my handle-bar too frequently to risk such a position.

Close Ratio Gear Boxes.

MR. L. W. E. HARTLEY is a funny fellow. He is evidently something of a speed-merchant in his solo work, and presumably does not go in for the freak hill competitions, as he clamours for a gear box with "close" ratios; but he remains perfectly oblivious to the fact that there is already lots of choice in that line. To commence with, if he is indissolubly wedded to chain drive, I have no doubt that the Sturmey-Archer people and other gear makers would supply him with one of their special T.T. boxes, in which such a series as 4, 6, and 8 are obtainable. If he is not an out-and-out chain man what is the matter with the Rudge Multi and Zenith Gradua, which have survived because close-ratio men are still numerous? If he combines an occasional excursion into freak hill country with a love of burning up quiet highways, there are several four-speed boxes on the market, of which the best known is probably the always delightful A.B.C. In his general principles Mr. Hartley is dead right. There is nothing nicer than a dry day, a good road, and a gear (preferably of the belt type) which allows your willing engine to rev. at its pet speed, irrespective of load variations.

Some Nerve.

MYSELF a timid and imaginative rider, I was horrified by my inspection of the machines in the paddock at the last B.M.C.R.C. meet. One merchant calmly started out to chase 70 m.p.h. with a speedometer drive in position—geared off the front hub. Another was wooing the goddess of speed with a front brake all there. Bold men these, my masters!

Two Brakes on One Rim.

I ASK for information. Comparatively few riders enjoy much experience of a braking system which is not uncommon nowadays, viz., two shoes operating respectively on the inside and outside of one and the same belt rim. My own experience testify that the combination is not too good. What you make on the swings, you lose on the roundabouts, so to speak. I am rather a thick-head. All the good things you see in these columns are cribbed from somebody. I do not see any reason why this brake system should not work; but I have not found that it does. Can somebody please explain?

The Wizard of Shoreham.

THE name of Mr. H. R. Ricardo commands such respect in the technical world that the rivals of the Triumph Co. will feel very anxious until the end of lap one in the Senior T.T., and even the Triumph inclination to regard their side-by-side valve engines as their first string has by no means allayed the general nervousness. Mr. Ricardo is one of the most

Ixion's "MOTOR CYCLE REMINISCENCES" have lately been published in book form, price 6s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

Occasional Comments.—

patient and ingenious research workers in the sphere of internal combustion engines. In his laboratory at Shoreham no guesswork is permitted. The most laborious and expensive tests are made to settle every doubtful item in connection with compression ratios, valve design, piston design, the shape of combustion chambers, the qualities of various fuels, and the like. Occasionally he purchases a standard proprietary engine, conducts sundry experiments with it, and later on indicates to its indignant designer how a few modifications will give a marked increase in horse-power with a marked decrease in consumption. More often he may be found busy on some weird test unit of his own construction, so constructed that almost every factor of design is adjustable, whilst every aspect of its performance is meticulously recorded by a battery of instruments. No bigger or more experienced brain has ever concentrated on the design of a motor cycle engine; and no matter how the Triumph-Ricardo unit fares in the T.T., it should ultimately form the basis of a very delightful 'bus.

The Manx B.S.A.

IN one respect the B.S.A. has the vantage over all the other new machines for the T.T. Its rivals may have specially designed engines; the B.S.A. has a specially designed frame. Those of us who have seen the Scott take its corners at speed in the Island recognise how the road-holding qualities of the machine give an engine its chance. I believe I am right in saying that the Scott has never yet won a race at Brooklands, but no 'bus is more dreaded in the T.T., and its competitors will be nervous on June 16th till all the Scotts are down and out. Its frame gives the engine—which is not a type lending itself to gigantic p.m.—a splendid chance to outpace machines which would leave it on Brooklands. The B.S.A. designers have wisely taken these facts to heart; and their new racer is obviously designed to be worthy of their new engine, and to hold the road at the fantastic speeds of which the latter is capable. Victory in the 1921 T.T. may well be a matter of seconds between half a dozen men; and the rider who has a road-holding 'bus beneath him will profit accordingly. Low centre of gravity and a frame which simply can't whip are great matters on these occasions.

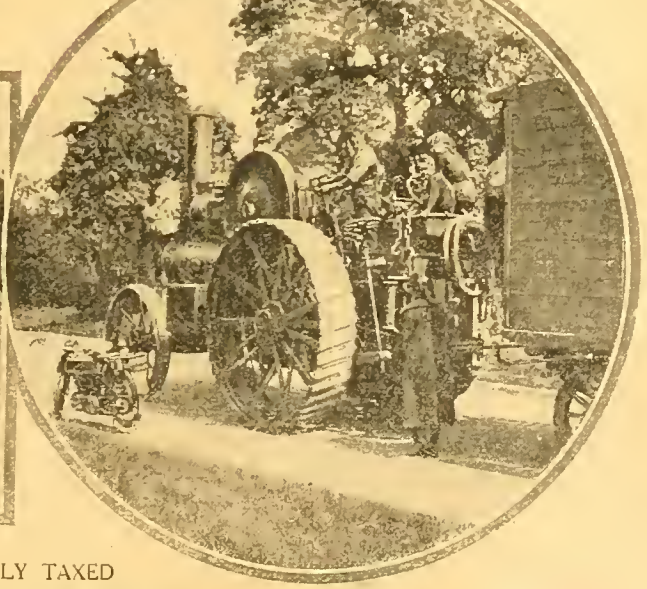
Where is the Rudge?

THE absence of the Rudge is one of the great disappointments of this year's race. I say "absence," for though I have not overlooked J. O. Groves's entry, the factory is evidently lying low. We all love the racing Rudge. In the years when the American entry used to depress patriots, the Rudge would suddenly make a meteoric entry with a team of comparatively unknown men, and either mop up the field in the most masterful fashion or at least threaten to do so. They seemed to have an inexhaustible supply of crack youngsters, and their "spotter" was a bigger expert in his line than the team-builder of any First League soccer club. Mr. Holroyd tells me that since the price of the Rudge Multi was pulled down to £85, the firm have had no time to devote to racing. Anyhow, if the Rudge "comes back" in 1922 it will find its old feats are not forgotten in the Island.

Other Absentees.

IT is also a vast pity that another talented designer will be unrepresented in the T.T. I refer to Granville Bradshaw. Last year Sopwiths were far too busy supplying eager customers, who would pay any premium in June, 1920, to get delivery. Then the bottom fell out of the market, and so we shall never have the chance to see a team of A.B.C. engines, tuned up by Emerson, screaming round the Manx course. This year we scarcely hoped for the new oil-cooled Bradshaw-Zenith to be ready in time. Perhaps, next year . . . ?





WHY PRIVATE MOTORISTS ARE HEAVILY TAXED

In a few minutes a heavy tractor, which is subject to an annual tax of £28, will do damage to the roads which costs hundreds of pounds to repair. Here is shown a newly-made road between Stafford and Rugeley with a deep furrow cut into it. A reader who photographed it reports that the furrow was, in places, sufficiently deep to unseat a solo rider, and that he followed the trail for several miles before overtaking the monster that had caused the damage—a heavy steam tractor towing a train of circus vans.

Road Tests of New Models

THE 3 h.p. IVY SIDECAR.

IT is not so very long ago that motor cyclists were accused of cruelty to machinery if they attached a sidecar to a 500 c.c. motor cycle. The introduction of the change speed gear, however, soon showed the popular 3½ h.p. sidecar to be a go-anywhere mount. Then the lightweight came into its own as a solo mount, and, as it is man's nature to pine for company, it was not long before he discovered that these small machines were capable of propelling a sidecar. This led to all kinds of adaptations—some entirely unsuitable and unfair to the manufacturers of the motor cycles, but it revealed the interest in small, light, economical and low priced outfits, and for several years certain makers of two-stroke lightweights have offered models specially built for light sidecar work. Among these Messrs. S. A. Newman, the manufacturers of the Ivy motor cycle, have given the proposition real consideration.

The result is the Ivy model K, which has been designed throughout as a sidecar outfit, the sidecar lugs being integral with the frame, and the chassis specially designed for the machine. In addition, all-chain transmission forms part of its specification, an important point considering that most outfits of this character depend upon a ¾in. belt.

True the sidecar body is small, but it cannot be confused with the more usual slipper type of the "sporting" category. In fact, except for its size, the Ivy and sidecar may be said to resemble some of the big twin outfits, and there is ample room for a passenger of the average size.

One's first impression of the machine is that it is a neat little toy, but even the "big twin" sidecarist loses the "toy" idea after a road trial. Engine size does not entirely govern average speeds, and while the great reserve of the big twin and even the 4 h.p. single is absent with a machine of the Ivy class, the man who usually "cruises" on his journeys, rather than makes them a series of speed bursts, finds that the average speed possible is very little below that at which more powerful machines are used.

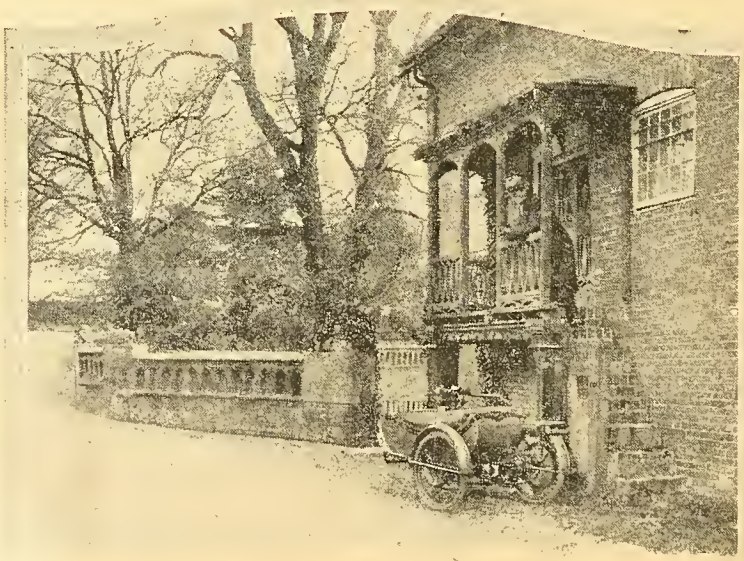
The present writer regularly does a certain twenty mile circuit, with his wife in the sidecar. The machine usually in commission is an 8 h.p. twin, but sometimes



SPECIFICATION.

ENGINE: Ivy 75 × 79 mm. (348 c.c.)

LUBRICATION: Drip.	*GEAR BOX: Sturmey 2-sp.*
MAGNETO: E.I.C.	*TRANSMISSION: Chain*
CARBURETTER: B. & B.	*WHEELS: 26 × 2.*
FRAME: Rigid.	*FORKS: Ivy.*
WEIGHT: 185 lb.	*PRICE: £110 with sidecar.*



Due to its light weight, the speed of the Ivy sidecar is practically as high as that at which the average sidecarist usually tours—in fact, in many ways the machine approximates in performance to that of most pre-war "3½" sidecar outfits.

Road Tests of New Models.—

a 4 h.p. single-cylinder outfit is used. These journeys are evening jaunts for pleasure, and the speeds are set accordingly. It may convey an idea of the capabilities of the Ivy to know that this little outfit has covered the same journey in the same time as the larger machines, and the gear changes have been no more frequent. The route is over give and take ground of the typical Warwickshire nature, and includes two hills which even the big twin will not take on "top" unless the speed is kept up. On these rises the Ivy engine maintained its power, and without any attempt to "rush them," reached the summits on top gear, *i.e.*, 6½ to 1, in good style.

Ideal for Moderate Speeds.

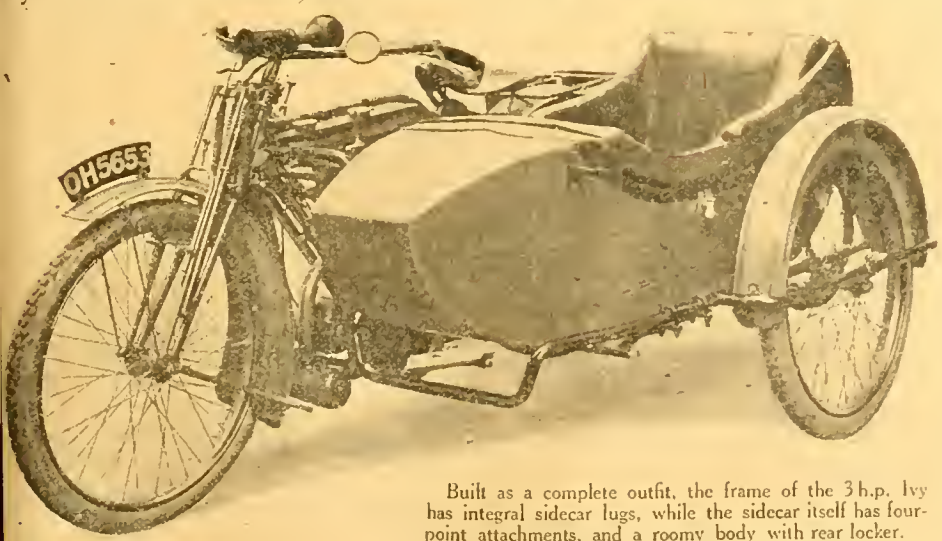
From this it may be deduced that any one who requires a machine for cruising the Ivy may be regarded as quite suitable. It is when speeds above 30 m.p.h. are required, or it is necessary to have a family sidecar, that larger engines become necessary. Up to the speed mentioned the Ivy sidecar is all that can be desired. The "big twin" man feels that he is demanding too much from the little engine, but it seems to like it. The only criticism we have to make has regard to running light. The particular Ivy we tried had not the slow tick over nor the silence one obtains with a big twin—in fact, it is noisiest when running on light loads, when there is a certain amount of four-stroking, with consequent louder exhaust. Under way, however, the exhaust note is no louder than the average machine, and is certainly less unpleasant than some four-strokes—in fact, the hum of the Ivy engine is almost musical.

At no time is engine vibration at all noticeable: its smooth running, indeed, reminded us of a well balanced flat twin.

A Real Double-purpose Mount.

It makes a useful dual-purpose mount, for by detaching the sidecar, it becomes a solo machine capable of scaling mountains, or a long week-end run at speed.

So far as the riding position is concerned, while most comfortable for sidecar driving, a little lower saddle would be a distinct advantage when the machine is used as a solo mount. It is, of course, impossible for a motor cycle to be offered with various size frames, as is the practice with pedal cycles, and therefore a compromise which will suit both short and tall riders is a necessity. In some cases the compromise slightly favours the tall rider: in others the short rider has the advantage. The Ivy is an example in which the tall rider is more favoured.



Built as a complete outfit, the frame of the 3 h.p. Ivy has integral sidecar lugs, while the sidecar itself has four-point attachments, and a roomy body with rear locker.

Altogether, the Ivy sidecar outfit impressed us as no other machine has done, and left us with a desire to own a similar vehicle. We feel sure that a greater degree of silence when running light could be obtained by a change of jet size, for a sister Ivy, but ridden solo, recently in our hands, was everything that could be desired in this respect.

Finally, it is comfortable to drive. Most light sidecars are prone to throw one about on indifferent roads. The Ivy runs as sedately as machines of twice its weight.

SECRETS OF POWER.

OFTEN it is, perhaps recklessly, stated by people who do not know, that cars of well-known make which do well in races at Brooklands, for example, are quite unlike the standard models, and that considerable alterations in design are introduced. The remarks of a number of racing enthusiasts who have favoured *The Autocar* with their views and experiences, however, tend rather to disprove this notion. Indeed, it would appear that with the exception of special racing cars built for special events, such as the Grand Prix or the Tourist Trophy races, the astonishing performances obtained at Brooklands race meetings are due very much more to painstaking attention to the perfection of details than to anything else. That this attention to detail cannot be given to standard models is due simply to the fact that it involves an immense amount of individual hand work, which if it were applied to each and every standard touring car before it left the works, would greatly increase the price at which the car could be sold to the public.

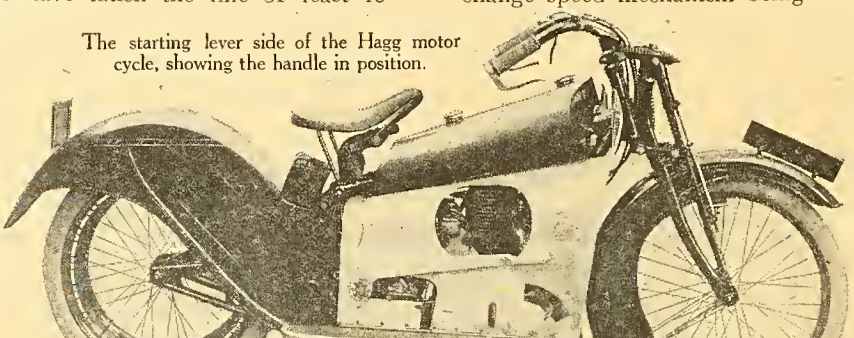
Nevertheless, the racing practice of to-day becomes the standard practice of to-morrow, for when racing shows that certain features are desirable, the attention of works engineers becomes concentrated upon commercial workshop processes which will give results equivalent to those obtained by hand work, but at a more reasonable cost.

IS DESIGN STAGNATING?

Some Unconventional Motor Cycles which go to Show the Trend of Modern Design.

THE fact that fully 90% of the world's motor cycles follow a common practice may be explained by two reasons: either conventional design has been proved by time to be right, or the majority of makers have taken the line of least resistance and been guided by the more or less successful efforts of the pioneers.

It has often been remarked that the development of the motor cycle industry has been somewhat akin to a game of follow-my-leader. This is true to a certain extent.



The starting lever side of the Hagg motor cycle, showing the handle in position.

There is, however, another side to the question. While many will say that the present-day motor cycle is nothing but a machine evolved from the pedal cycle, and its engine only a slightly modified form of the types of twenty years ago, these same critics are usually the first to condemn a machine *because it is unconventional*. Any article differing from accepted ideas must be unconventional.

A careful consideration of motor cycles produced since the war will show that, far from design stagnating, there is every evidence that long-existing ideals are gradually materialising. Take, for example, the Pullin motor cycle with its pressed steel frame and enclosed mechanism, the Beardmore-Precision, with its combined tank and frame construction; the Reynolds runabout; and the many spring frame machines now available.

We have before us particulars of several recently introduced designs of striking originality. All of them differ in some respect from what may be described as conventional practice.

Hiding the Mechanism.

The Hagg motor cycle represents a type of which in later years we may see a great deal, *i.e.*, the machine which has its mechanism concealed as it is on a car.

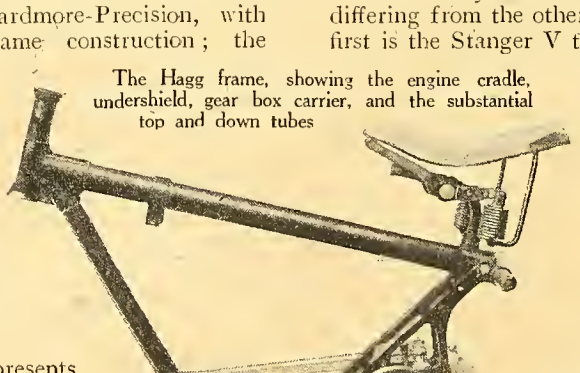
We published the first description of the Hagg some twelve months ago; since then, however, several alterations have been made not only in its construction, but as regards its manufacture. The Hagg is now actually on the market, and is being manufactured in the village of Park Street, near St. Albans, by Messrs. Tayler and Haytor.

A glance at the accompanying illustration will show the construction of the novel frame, the top tube of which is 2in. in diameter and the down tube 1½in. A Burman two-speed gear box is foot-operated, the change speed mechanism being hung on to a channel steel bracket extending from the after end of the top tube to the engine cradle.

The rear wheel is carried in a separate channel steel frame, and the rear mudguard, which is naturally suitably constructed for the purpose, is sufficiently sturdy to serve as support for an auxiliary seat behind the driver.

On a motor cycle of this character the problem of obtaining accessibility is difficult of solution, but the Hagg design overcomes this by hinging the two shields.

The 350 c.c. Precision engine has an undershield which forms part of the frame.



The Hagg frame, showing the engine cradle, undershield, gear box carrier, and the substantial top and down tubes

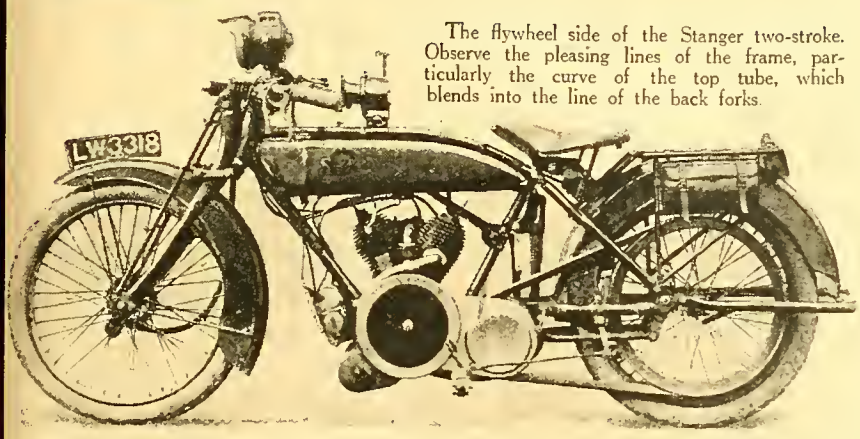
Two Twin Two-strokes.

Multi-cylinder two-stroke engines, with the exception of the Scott, are somewhat of a rarity, and therefore come into the category of machines that depart from the conventional. We are able to illustrate two new motor cycles having this type of engine, each differing from the other and also from the Scott. The first is the Stanger V twin, which was exhibited at the 1919 Olympia Show, and which is now on the market. It possesses several novel features of design; the cylinders (70 × 70 mm. 538 c.c.) are set at 45° which, with cranks set at 135°, gives even firing. There are two separate crank chambers, and their castings are divided horizontally.

Not the least interesting portion of the machine is the frame which has particularly graceful lines. The rear portion, including the gear box bracket, and the greater part of the chain stays, is a channel steel stamping. The rear wheel is carried by bell cranks pivoted at the rear of the chain stays, a stirrup extending to the lower extremity of a vertical leaf spring mounted on the saddle tube controlling their movement.

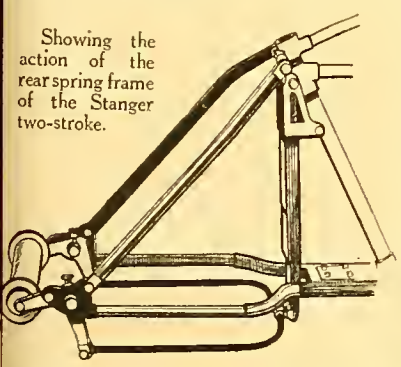
The Stanger is made by the Stanger Engine Co., 13, Steele Road, Tottenham, London, N.17.

Is Design Stagnating?—



The flywheel side of the Stanger two-stroke. Observe the pleasing lines of the frame, particularly the curve of the top tube, which blends into the line of the back forks.

It was on the occasion of the M.C.C.'s trial last autumn that we first saw the interesting B. and D. motor cycle, the motive power of which is a 4¼ h.p. Levis flat twin two-stroke engine, mounted in a duplex frame. In designing the machine, Mr. W. Burnside, B.Sc., aimed chiefly at simplicity, efficiency, and light weight combined with strength. The machine has been well tested on the road, runs smoothly, gives ample power, and an excellent turn of speed, despite the fact that the engine has not been specially tuned. The acceleration is claimed to be particularly good, and the hill-climbing powers are excellent. The drive is by chain to a Burman two-speed gear box incorporating clutch and kick-starter, and thence by belt to the rear wheel. Lubrication is by drip feed to the main bearings. The tyres are 650 × 65 mm.



Showing the action of the rear spring frame of the Stanger two-stroke.

This machine, which was built by Mr. W. Burnside and Mr. R. C. H. Darby, Cotleigh, West Wickham, Kent, was originally designed to be placed on the market, but Mr. Burnside has been forced to abandon his idea owing to quite exterior causes.

A New U.S.A. Flat Twin.

Another motor cycle which differs from general practice is the American flat twin lightweight. First, it is a chain-driven single-geared machine, and secondly, the camshaft, which is also the transmission countershaft, rotates at a speed of 1 to 6 of the crankshaft.

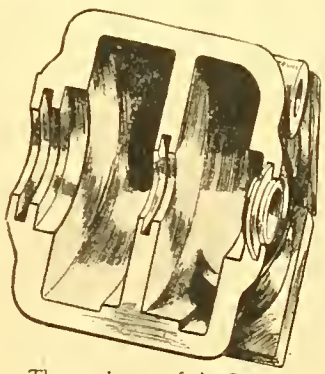
A multi-disc clutch is fitted at the extreme off side of the countershaft, and the final drive is by chain, only a slight further reduction in the gear ratio being necessary. No gear box is fitted. Also, driven by the cam and countershaft, a slow speed mechanical oil pump delivers oil at intervals to the main bearings. A hand pump is provided for emergency use only.

It is unusual on an American machine, but none the less satisfactory, to find that a British carburetter has been adopted as standard. 120 to 140 m.p.g. is claimed from the instrument in question—a Cox-Atmos—which, as the engine has a capacity of 348 c.c. (58 × 66 mm.), is rather remarkable.

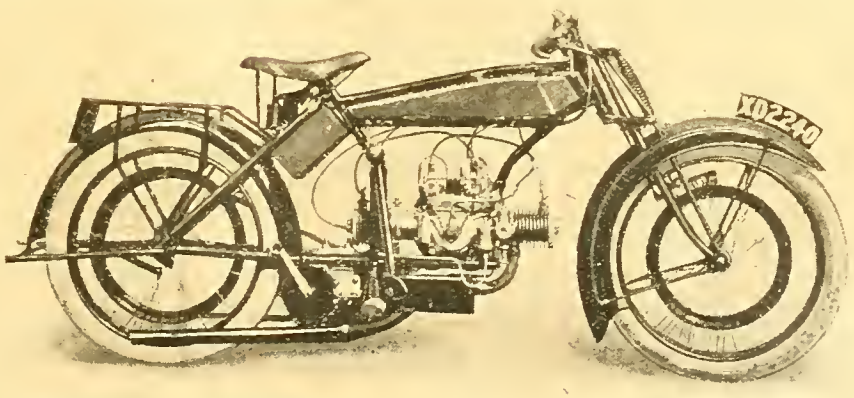
All the frame parts and the front forks, which follow the usual American practice, are sturdily constructed. The weight of the machine is only 195 lb. The manufacturers are the American Motor Cycle Manufacturing Co., Louisville, Kentucky.

Internal Expanding Front Brakes.

As regards minor details of motor cycles, no part has received so much adverse criticism as the stirrup type front brake. Several manufacturers are now discarding this type in favour of contracting band brakes, and also by abandoning the front brake altogether, two brakes being fitted on the rear wheel. It is, therefore, not surprising that, although only on the market a few months, the Webb front hub and brake (illustrated overleaf) has already been adopted by a number of manufacturers, including the makers of the Velocette and Francis-Barnett. The brake part works on a simple cam-operated internal expanding ring, and is controlled by Bowden wire from the handle-bar. It is strongly made and well finished. H. C. Webb and Co., Ltd., Century Works, Aston Brook Street, Birmingham, are the makers.



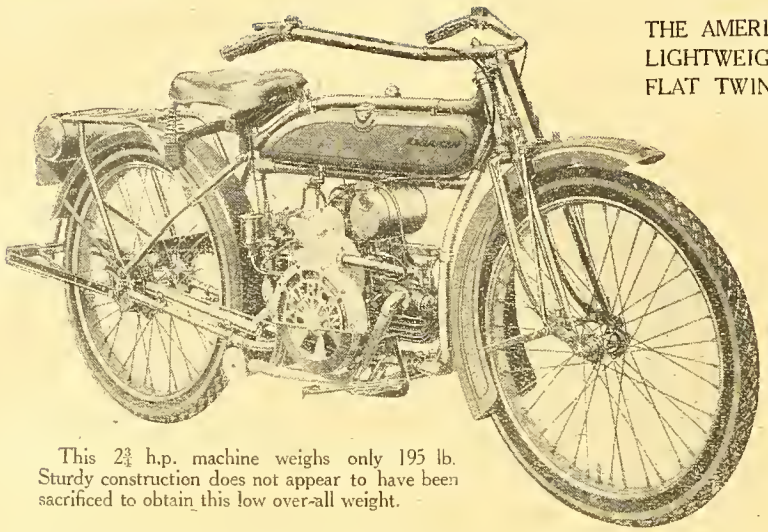
The crank case of the Stanger V twin two-stroke engine.



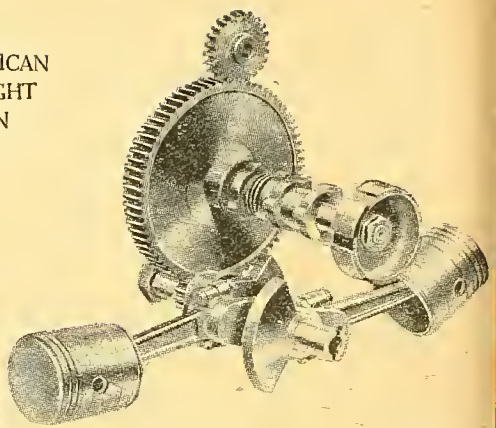
Kick-starter side of the B. and D. motor cycle, showing single chain drive for the two magnetos.

Is Design Stagnating?—

THE AMERICAN LIGHTWEIGHT FLAT TWIN

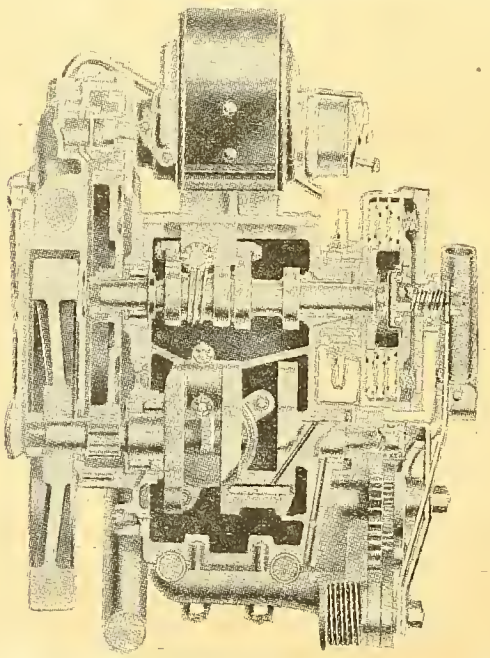


This 2¾ h.p. machine weighs only 195 lb. Sturdy construction does not appear to have been sacrificed to obtain this low over-all weight.



Pistons, connecting rods, crankshaft, and the combined timing and transmission gear of the American flat twin engine, well illustrating the simplicity of this unorthodox design

Everything considered, it is not fair to say that motor cycle design is stagnating, even on the evidence provided by the examples of new designs quoted here. There are many others which, for various reasons, we are unable to describe at the present time. One is a new twin with the engine set across the frame; a second has for its object the same general idea as the Pullin and the Hagg, *i.e.*, to ensure cleanliness to the driver;



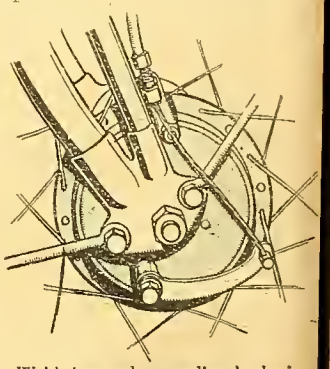
A "slow moving" camshaft on the American flat twin Cross section, showing the low speed mechanical oil pump and the oil grooves to the chief bearings, also the dry plate clutch and kick-starter operating mechanism

a third is a four-cylinder sidecar machine which, we are told, gives over 80 m.p.g.

Motor cycle design is not stagnating, but the present time is unpropitious for the introduction to a cautious market of anything of which the advantages have not been proved.

We are a conservative people, and the pioneer has tremendous resistance to overcome in introducing anything which differs greatly from the "usual." Abroad the same prejudice against unconventionality in design does not exist, and consequently there have been many new types of motor cycles produced on the Continent.

Notwithstanding, the British motor cyclist is open to be convinced, and any manufacturer of an unusual type of machine has only to enter the reliability trials to prove any good points he may claim for his product. The present-day motor cyclist will not step back, however. If, by purchasing an unconventional machine, he can obtain a decided advantage, he will consider it provided it will give general satisfactory performance in every other respect. In other words, unconventionality must be justified and its justification proved



Webb internal expanding brake in the front hub.

NEXT THURSDAY!

THE MOTOR CYCLE

T.T. AND SUMMER NUMBER

Special articles and illustrations of world-wide interest to every motor cyclist, whether soloist, sidecarist, tourist, competition rider or racer, are in preparation.

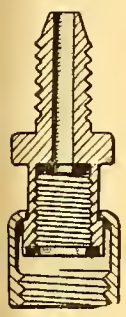
On sale on the day of the Senior T.T. Race, it will form a comprehensive guide to the blue riband of the motor cycle world, including the latest news from the course, details of the competing machines and practice lap times.

THURSDAY, JUNE 16th.

SOME NOTES ON TYRE VALVES.

A Little Fitment Often Neglected, yet Fulfilling an Important Function.

IT is seldom that one is troubled with leaky tyre valves, yet this fault can, on occasion, be a source of much annoyance. A slow leak at the valve sometimes takes a lot of finding, for it has a habit of disappearing when under test. There are three types of valve to be found on motor cycle tyres: the pin valve, more often used on cars; the cycle valve, perhaps the commonest of all; and the Schrader or American type valve.

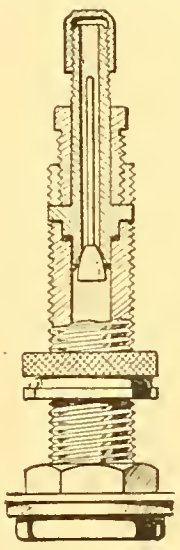


Adapter enabling a motor cycle pump to be used with the Schrader valve.

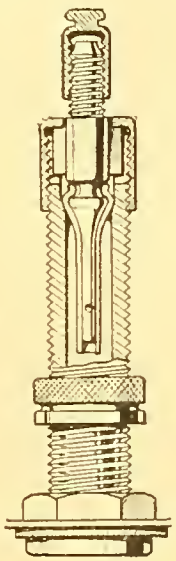
The first is now only found on a few motor cycle tubes of Continental origin, and so may be dismissed in a few words. Briefly, it consists of a pin with a rubber head, the head being held on its seating by the pressure within the tyre. This valve gives good results provided that the air pressure is kept reasonably high, but is apt to leak during the process of inflation, or if the tyre is partially deflated. To obtain the best results it is only necessary to keep the valve head and seat scrupulously clean.

The normal cycle valve, wherein a rubber tube covers a hole in the central member, and thus acts as a non-return valve, is well known to all cyclists and motor cyclists; it gives excellent results in practice, and spare rubbers are easy to carry and easy to fit. Cleanliness is essential, and the outer part of the tube should be well covered with French chalk so as to prevent sticking. If, however, the tube should stick to the body—a not uncommon occurrence—the heat of a match held against the outer metal body will free the tube in a few seconds.

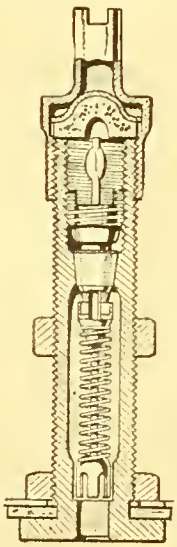
Becoming increasingly popular is the Schrader valve, in which a narrow fibre valve is held up to its seating by a light coil spring, assisted, of course, by the pressure in the tyre. The whole valve and seating are easily detachable and instantly replaceable, since the outer end of the valve cap is formed in such a manner as to act as a removing tool. The valve itself is carried on a pin, and has a peculiar advantage in that the pressure in the tyre may be accurately tested by means of a Schrader pressure gauge. This gauge, when screwed on in place of the pump connection, raises the valve from its seat, and allows the air pressure in the tube to act on the internal mechanism of the indicator. It is not generally realised that the normal pressure gauge attached to the pump registers the pressure on the downward stroke of the pump, and this may be appreciably higher than that in the tube. Few motor cyclists worry about tyre pressure, and most are content to judge the correct inflation by eye or feel, but correct inflation undoubtedly prolongs the life of a tyre and increases the comfort of the rider.



The pin type of tyre valve.



Type of cycle valve now commonly in use.



Section of the Schrader valve.

Standard cycle pump connections are not suitable for the Schrader valve, but a simple adapter, suitable for either Schrader or cycle tyre valves, is now obtainable, and the thread of the Schrader outer body will fit standard car pump connections—a feature which is most useful when a garage foot pump is handy.

THE MOTOR CYCLE GRAND PRIX.

Arrangements whereby Readers of "The Motor Cycle" may Obtain a Limited Number of Reserved Seats in the Grandstand to view the Classic French Race.

ON Sunday, July 24th, the classic French Grand Prix race for motor cycles will be won and lost, and it would appear that the event will be a great success. Anticipating this, *The Motor Cycle* has made arrangements with the organisers for a section of the main grandstand to be reserved for our readers.

The positions secured give a good view of the main score board and of the course. The price of the seats is 10 francs each, but as the number is limited, application should be made as early as possible to the Editor, *The Motor Cycle*, 20, Tudor Street, E.C.4, or Hertford Street, Coventry.

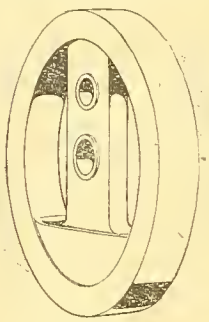
By these arrangements readers of *The Motor Cycle* are not only assured of some of the best positions in the grandstands, but they are saved the trouble of having to write and transmit money aboard or to purchase tickets at the last moment.

As regards hotel accommodation, visitors from England are advised to stay in the towns and villages adjacent to Le Mans, and, by the courtesy of the Automobile Club de l'Ouest de la France, a list has been secured of all the hotels within easy motoring distance of Le Mans in which accommodation is at present available. These lists are obtainable on request to the Editor.

THE SIDE-BY-SIDE VALVE T.T. TRIUMPH.

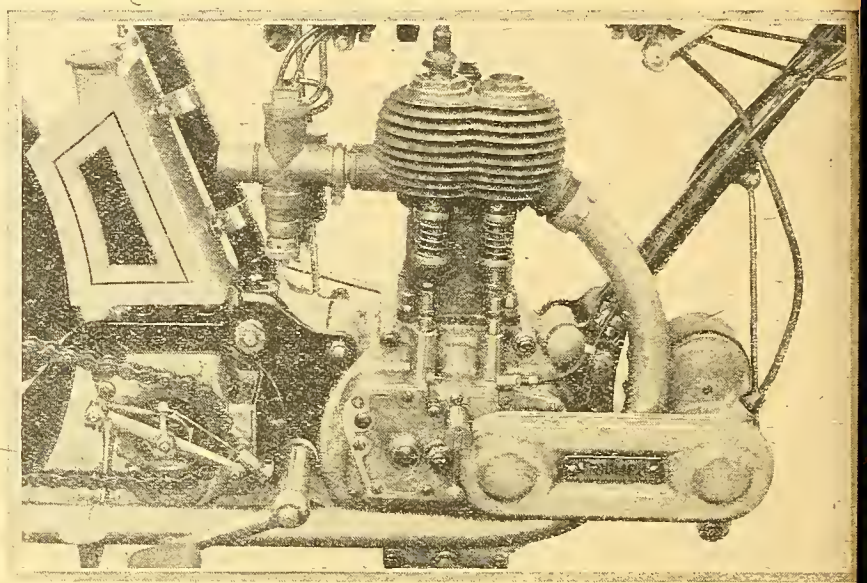
A Long-stroke Sports Model of 498 c.c., with 80 5 × 98 mm. Engine.

AS mentioned last week, the Triumph Co. will use two different types of engine in the Senior event. Both these engines will be mounted in similar frames, and outwardly the side-valve models closely resemble the Triumph-Ricardo o.h.v. machines described in the last issue. We are now able to give particulars of the new 500 c.c. side-by-side valve engine.



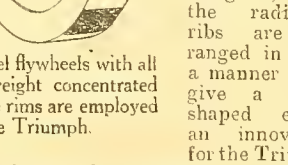
Steel flywheels with all the weight concentrated in the rims are employed on the Triumph.

Having a bore of 80.5 mm. and a stroke of 98 mm., the cylinder is a particularly clean and neat casting. The valve ports are well designed, and the radiating ribs are arranged in such a manner as to give a pear-shaped effect, an innovation for the Triumph Co., and one which immensely improves the appearance of the engine.



At first glance there is much in the Triumph T.T. engine similar to the standard 4 h.p. unit; closer scrutiny, however, reveals considerable external differences, especially in the disposition of the radiating fins. Very neat, also, is the auxiliary heel gear-change pedal.

A light cast iron piston with a considerable "waist" carries two rings and a light hollow gudgeon pin. On standard lines, the H section connecting rod is



A steel roller is interposed between each cam and the light channel steel rocker arm.

somewhat stiffer than usual, and is fitted with a roller bearing big end.

All the weight is concentrated in the rims of the steel flywheels, the centre web being cut away everywhere except for the balance weights and a bar to carry the mainshaft and crank pin.

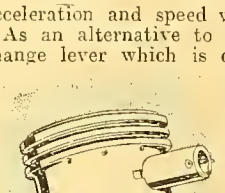
In addition to a flat base crank case, which contains a small oil sump, the timing gear is new, two separate camshafts being employed with a rocker arm interposed between the cams and tappets. These rockers are milled out to a channel section, and a hardened steel roller takes the thrust of the cam in order to reduce friction. The Triumph decompressor is retained for starting purposes, and a B.T.H. or M-L magneto will be used. Mixture is supplied by the new T.T. Amac carburetter.

Two-speed Gear.

Transmission is by $\frac{5}{8} \times \frac{1}{4}$in. roller chain throughout, the front chain being entirely enclosed in an oiltight aluminium casting.

The Triumph will be one of the few machines in the Senior T.T. which will be fitted with only two speeds, but the two-speed box is an excellent piece of work, and, assisted by a plate clutch and a modified form of the Triumph spring drive, it is expected that the necessary acceleration and speed will be obtained.

As an alternative to the normal gear change lever which is carried well forward of the tank, a foot-change mechanism has been designed, but for the race the Triumph team will retain the hand control.



Two piston rings and a waist of considerable depth are features of the T.T. Triumph pistons.

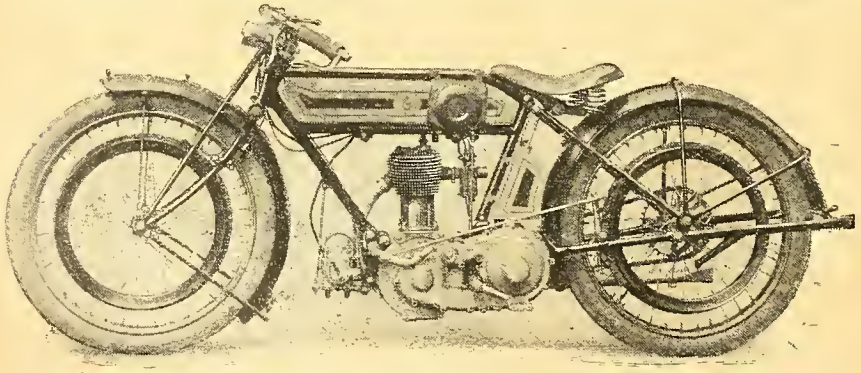
Only detail modifications have been carried out in the frame, which follows standard lines except for the absence of a carrier. A large tank for fuel only is fitted, as oil is carried in a subsidiary tank placed behind the saddle tube, the supply being controlled by a pedal-operated oil pump.

It is expected that gear ratios of 4.22 and 5.9 to 1 respectively will be used, but as 26×3in. Dunlop Magnum tyres are fitted, these gears are actually higher than is apparent at a glance.



The valve heads of the T.T. Triumph are somewhat recessed.

Not only does the design promise great efficiency, but as is usual with Triumph productions, the whole machine is pleasing to the eye.

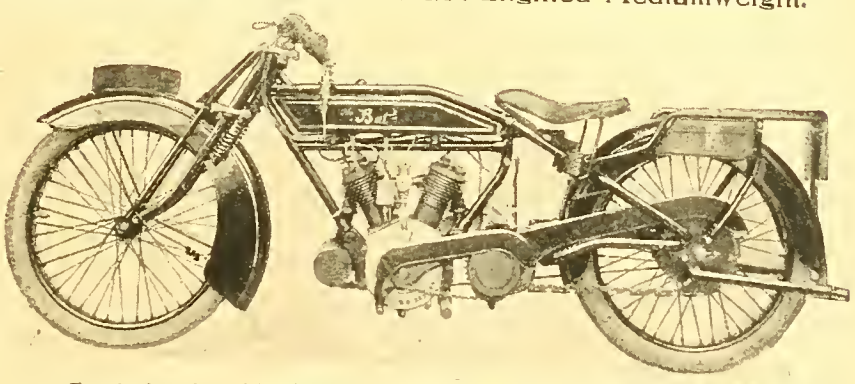


Well-balanced and extremely rideable looking, the T.T. Triumph has been designed just as carefully from the rider's as from the engineering point of view. For example, the oil-bath chain case is neatly cut away, and allows the foot-rests to be set well back and low down—the ideal of most speed men

A SPORTING MEDIUMWEIGHT TWIN.

Makers of the Big Twin Bat Sidecar Outfit introduce a J.A.P. Engined Mediumweight.

A SIGNIFICANT deviation from the well-known design of the Bat motor cycle has been made in the production of a 4 h.p. V-twin sporting machine, the specification of which does not strive to introduce many startling modifications, but constitutes a soundly constructed machine which would appeal to the sporting rider. A remarkably low frame, and, consequently, low riding position, has been obtained, whilst the appearance of the new model, where a continuous line from the head to the rear wheel centre has been carefully arranged, is most attractive.



Even in these days of big flat twins and four-cylinder machines the new sporting Bat has an unusually long wheelbase. The resultant low, rakish appearance, however, certainly gives one an impression of commendable speed possibilities. Noteworthy also is the very extensive mudguarding.

In the 500 c.c. Class.

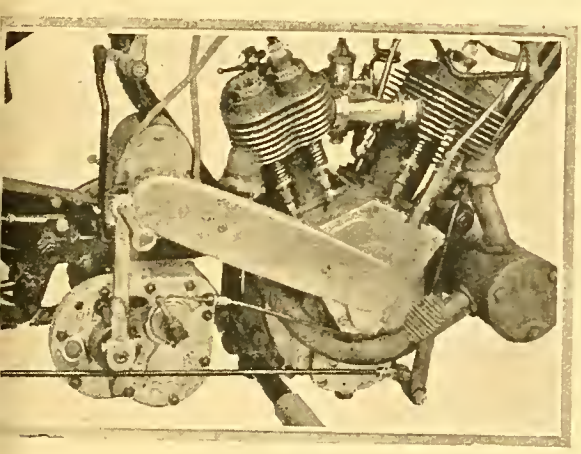
The 50° J.A.P. engine (64.5×70 mm. = 496 c.c.) is snugly housed beneath a wide tank, and, although the saddle height is only 29in. and the crank case clearance as much as 5in., the cylinders can be easily removed. A neat location for the Lucas magneto will be observed in the illustration of the engine unit.

A three-speed Sturmey-Archer gear box, clutch, and kick starter, is a standard fitting, but the Bat gate change, as supplied on the 8 h.p. model, is also installed here. The arrangement of the frame tubes follows standard practice with the exception of the lower rear fork member, which is bent upwards towards the wheel centre. This unusual construction is necessitated in order to provide adequate clearance for the chain, which is a $\frac{5}{8} \times \frac{3}{8}$in. Brampton of the spring link type. The braking is identical with the sidecar machine, external expanding and internal contracting brake bands being located on the off side of the rear wheel and operated by left and right pedals respectively. A straight tube pattern footrest is located at a convenient distance behind the brake pedals. The mudguarding is good, large valances being fitted both at the front and rear, whilst two independent stands support the mudguards. The gear ratios are essentially suitable for a sporting model, being approximately 4, 7, and 12 to 1.

An Amac two-lever carburetter is fitted, while a Lycett saddle and Druid forks are standard. If required, however, the Bat pattern forks may be substituted.

It is contemplated entering this machine for a number of forthcoming trials, when its performance will be noted with interest.

The price of this machine, which is sold by the Bat Motor Manufacturing Co. (1914), Ltd., Kingswood Road, Penge, London, S.E., is £120 less lighting outfit.

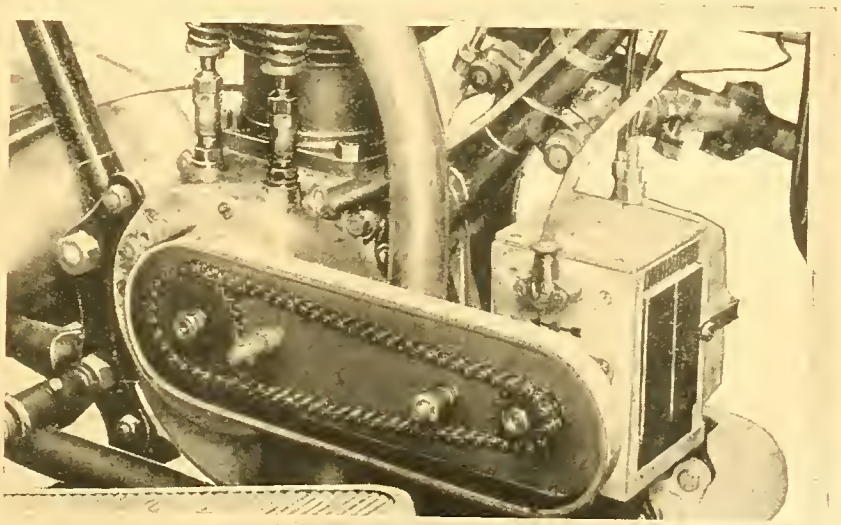


The neat location for the magneto is apparent here, and also the clean external appearance of the timing and magneto chain covers.

CHAIN FOR SUBSIDIARY DRIVES.

MANY lighting sets now being placed upon the market depend upon a dynamo or a combined generator and magneto which requires to be driven at engine speed.

Many preliminary difficulties have been overcome by the use of .8 mm. pitch duplex roller chain made by the Coventry Chain, Ltd., and the illustration shows the drive to an M-L Maglita on a 4½ h.p. S.A. used by a member of *The Motor Cycle* staff. As may be seen, the standard chain case comfortably accommodates a 24-tooth sprocket driving one of the twelve teeth on the armature. The duplex chain virtually consists of two miniature parallel chains with common rivets, and the sprockets are very wide with groove turned out to allow room for the central plates of the chain. Owing to the small pitch and the width of the chain, an exceedingly smooth, quiet drive is obtained which is specially suitable for the particular purpose of driving electrical apparatus.



Duplex roller chain, made by the Coventry Chain Co., driving an M-L Maglita.

SIDECARS FOR DISABLED DRIVERS.

Rally at Richmond Park on Saturday.

IT is rather appropriate that just when so many of our readers are discussing "sidecars for disabled drivers" there should be a disabled drivers' rally at Richmond Park (Star and Garter Gate) at 2.30 p.m. on Saturday. This rally is being organised by the "Disabled" Society (under the auspices of the British Legion), and is intended to show that, with a suitably adapted arrangement of controls, or often with standard unaltered machines, motoring for the disabled is perfectly safe, both for the driver and the general public.

As may be gathered from the selection of letters given below from our readers, mostly in answer to a query a fortnight ago, there are many sidecarists who find that the loss of a leg does not debar them from their favourite pastime.

It should be noted, too, that these are but a small selection from the great number of letters that have reached us on this subject.

A Suggested Club.

There is no doubt, therefore, that the sidecar will be much in evidence at Saturday's rally, although, of course, it is open to any type of motor vehicle.

Those who would like to attend should send their names to the secretary, the "Disabled" Society, 48, Grosvenor Square, London, W.1. Incidentally, it is desired to discuss the possibilities of forming a disabled drivers' club.

The letters following will be more particularly interesting to those of our readers who are disabled but who have not yet plucked up courage to take up, or to resume, motor cycling on account of their disability. They are mainly from riders who have lost a leg, but, in one case, further information is asked regarding the lot of the one-armed rider.

Mr. Bryan Jefferys, who gained a silver medal in the recent London-Edinburgh run, gives "1914-1919" (our previous correspondent) the benefit of his experience as under:

"I would like to assure '1914-1919' that he need have no fears as to the possibility of riding almost any make of sidecar. I am suffering exactly the same disability, viz., amputation of right leg above the knee, but have done a tremendous amount of riding, in competitions and otherwise, since I lost my leg in France in 1916. Just as an example, I would mention that in the five days which ended on Whit-Monday I covered just over 1,000 miles (including the London-Edinburgh of 400 miles almost on end). As a matter of fact, I have lately been using an ordinary 'peg leg' on account of its extreme lightness and consequent comfort (no shoulder straps), but an ordinary artificial leg is little different when riding. Personally, I have found the 4 h.p. Norton and sidecar ideal. There is nothing to alter, as it has a left foot brake as standard and the clutch is hand operated. I am rather long in the leg, and found it more comfortable to lower the footboards, and have something just to keep the foot from shaking off the latter. Nothing else but standard equipment is necessary. The Norton is such an easy starter that there is no difficulty whatever on that score. It is simplicity itself, and unfailingly reliable.

"In conclusion, I would again like to assure '1914-1919' that he need have no fears whatever, and if there are any further points he is doubtful about I should be only too pleased to help in any way I can."

Some more hints are given by "A.B." (Wolverhampton), who finds an A.J.S. machine very suitable:

Some Experiences of our Readers.

"The writer, too, has lost his right leg, and finds that the A.J.S. is very suitable, as the rear brake is on the left side, and that a strap over the footboards keeps the artificial leg safely on the footboards. A pad, however, over the knee of the artificial leg is essential, as the rubbing will quickly wear through one's clothes."

That even a fairly old outfit may be converted without much trouble is illustrated by the experiences of Mr. K. Knights:

"I have lost my leg (left one) almost at the hip, and have been driving a sidecar outfit for over two years, so perhaps my experience may help '1914-1919.'

"In the first place he should not attempt to ride solo. (I did, once only!)

"I purchased an old (1912) Humber and sidecar with the Humber Roc two-speed gear and handle starting.

"The high gear pedal being on the left side, I fastened a long hammer shaft to it and operated it with my hand. I fastened a foot rest to the sidecar chassis so that my wooden foot is held securely and cannot vibrate off. It is essential to see that excessive vibration does not shift the leg so that the knee fouls the handle-bar when turning a left-hand corner. (I have experienced this.) So it is safer to raise the handle-bars to give a good clearance. A well-sprung saddle is also essential, since only one leg is capable of absorbing road shocks. I am at present using a Brooks 500 saddle with a back rest. Great care must be taken in adjusting the saddle for height, distance from footboards, and angle of tilt, but this can only be found out by experimenting for each individual case, otherwise '1914-1919' will soon ache and feel tired.

"I think '1914-1919' will find he is at a greater advantage than I am, since he will not have laboriously to lift his wooden leg over the saddle (incidentally knocking the passenger's hat off), and stow it away between the sidecar and cycle, but can sit on the machine and arrange his wooden leg at his leisure. There are plenty of cycles which only have one pedal control, and this can generally be shifted to either side to suit circumstances.

"I certainly believe a one-legged man can as safely control a sidecar as any one else."

A One-armed Solo Rider.

"Maimed" (Coatbridge) wishes to get in touch with a one-armed solo rider, whom he saw recently in Argyll Street, Glasgow. For our part we should certainly recommend our correspondent and others in similar circumstances to take up sidecarring as distinct from solo riding. At the same time there is no reason why a one-armed rider should not get a good deal of enjoyment out of a suitably altered solo lightweight with perfect safety, provided he keeps well away from such traffic-haunted spots as Argyll Street, Glasgow. "Maimed" writes:

"As an expert cyclist, but minus the left arm, and a constant reader of *The Motor Cycle*, I desire to get a lightweight motor cycle (not cycle attachments).

"My friends, however, argue that I would never be able to control the present-day lightweight on account of its weight and power.

"Is there any reader of *The Motor Cycle* similarly handicapped who could give his experiences?

"That driving is possible for a man minus the arm I proved while in Glasgow the other day by seeing a young man (minus the arm) driving a motor cycle through the thickest of Argyll Street traffic with perfect confidence and ease. In fact, no man with both arms could have done any better, and the majority would have thought twice before attempting to do so, especially as there seemed to be no clutch or free engine.

"The machine seemed to be a two-stroke with two-speed gear, and had a red tank with special handle-bar and gear controls."



A New Adjustable Spanner.

MADE in 3in., 4in., and 6in. sizes, the Steelforge adjustable spanner is the product of B.S.A. Tools, Ltd., and will be marketed by Messrs. Burton, Griffiths and Co., Ltd. We have before us a 4in. sample, which fully sustains the high reputation of its manufacturers. The spanner is solidly constructed and well finished throughout; the square section adjusting thread

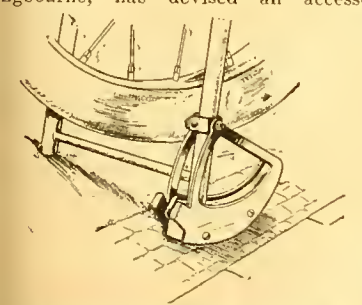


The Steelforge adjustable spanner.

s in keeping with the robust construction. Motor cyclists in search of an adjustable spanner that is well up to its work might do worse than get into touch with the concessionnaires at Ludgate Square, Ludgate Hill, London, E.C.4.

Lengthening the Stand.

MANY riders who use their motor cycles for town work must have experienced some difficulty when leaving their mounts on the stand if the road is considerably cambered. Often the slope is such that the machine scarcely more than balances, and the vibration of heavy traffic may be sufficient to cause a fall. To obviate this difficulty, Mr. P. W. Wollard, of Valenciennes Road, Sittingbourne, has devised an accessory

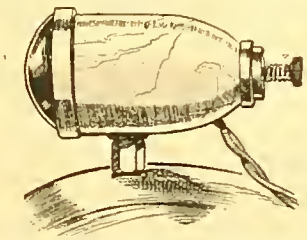


A device for lengthening the stand to suit the camber of the road.

which alters the length of one stand leg the required amount. Briefly, this consists of a segment of increasing depth, attached by radial arms to the stand. Normally this is clipped up to the leg of the stand, and is out of action, but can be dropped when desired to extend the leg from ¼in. to 1½in. Our illustration is self-explanatory, but it should be pointed out that beyond the spring clip there are no catches, ratchets, etc., to wear or get out of order.

Small Electric Lamp.

UNDER the mark of "Aladdin," a neat set of lamps is manufactured by Mr. H. W. Moreton, 11, Portland Place, Brighton. The electric sidecar lamp illustrated is suitable for use as an auxiliary head lamp, and is provided with a mudguard fixing. A turn switch is located at the rear of the lamp, which

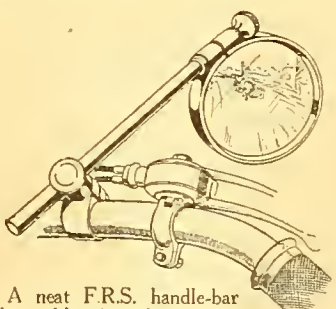


A single screw holds the Aladdin electric lamp on the sidecar mudguard.

is finished in either polished aluminium or nickel-plate. An electric rear lamp is also manufactured, and is equipped with the same type of switch, but has a bracket suitable for fixing to the rear number plate. The third product is similar to the electric rear lamp, but is provided with an acetylene burner.

A Universal Mirror.

EASILY adapted to any required position, the new F.R.S. handle-bar mirror is a very neat piece of work The glass is carried in a frame similar to that of the firm's already popular licence card holder, and this is mounted on a long plated support. An unobtrusive but firm clip secures the support to the handle-bar, and the device can be



A neat F.R.S. handle-bar mirror with universal mounting.

arranged to suit all requirements. If necessary, the glass may be dismounted and reversed so as to be carried in a convenient position below the bar. This accessory is marketed at the price of 9s. by F.R.S. Lamps, Beam Works, Vere Street, Birmingham.

A Juvenile Sidecar Seat.

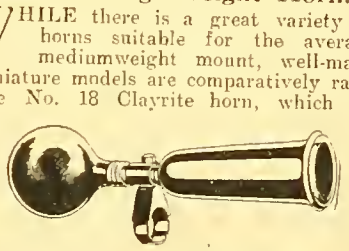
MOST sidecar owners at some period in their careers endeavour to squeeze in an extra passenger, usually a child. To meet this contingency, a folding seat, such as the Sambrook, is invaluable. In this particular instance, the seat is supported on a brass column, which screws into a socket permanently bolted or screwed to the floor. It only weighs 13 oz., and, as the back folds down, it occupies very little space when not in use. The manufacturer is Mr. John A. Sambrook, 1c, Whitby Road, Ellesmere Port.



A useful child's sidecar seat; the Sambrook.

Another Lightweight Horn.

WHILE there is a great variety of horns suitable for the average mediumweight mount, well-made miniature models are comparatively rare. The No. 18 Clayrite horn, which we

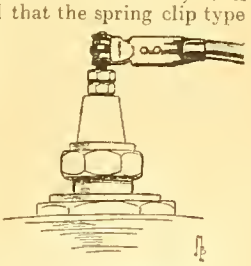


Simplicity in this new No. 18 Clayrite horn is helped both by the clean outline and the single-nut fastening.

illustrate, should, therefore, have a ready sale. It is a well-made, simple, and efficient replica of the larger Clayrite range, and is sold at 17s. 6d. The makers are Clayton-Wright, Ltd., Great Hampton Street, Birmingham.

Quick Action H.T. Terminal.

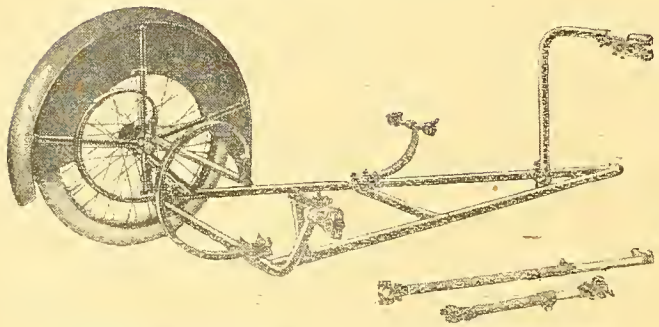
TERMINAL screws are the easiest things in the world to lose; it is only natural that the spring clip type of terminal attachment should gain in popularity. Simplicity is, perhaps, the chief attribute of the Chater-Lea clip. It is made by Messrs. Chater-Lea, Ltd., 74-84, Banner Street, London, E.C.1.



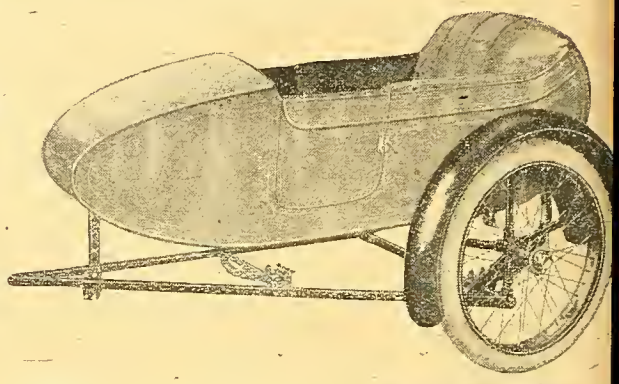
The Chater-Lea spring terminal clip.

SIDECARS FOR SPECIFIC PURPOSES.

Catering for All Tastes. Several New Sporting Models.



Dunhill's triangulated chassis for Indian Scout sidecars, showing the special attachments.



Specially built for the Indian Scout machine, this Dunhill sidecar has a clean and artistic simplicity in its bodywork.

WHAT exactly is the proportion of sidecars to solo mounts on the road nowadays is more or less a matter of conjecture. Certainly, however, the sidecar is the most popular form of pleasure vehicle extant—chars-à-bancs not excluded. At the same time, it is somewhat difficult to understand why such a large demand for sidecars—the attachments themselves as distinct from the complete outfits—should exist, especially as the great percentage of buyers obtain their outfits as such and from the one firm, and do not nowadays buy a solo motor cycle, and then, as a happy afterthought, decide to carry a passenger or two.

Why, then, do so many firms make sidecars only, and why are new sidecars coming on the market almost daily? The answer is simple enough, and, speaking generally, may be put down to the fact that these sidecars are in each and every case designed for a specific purpose and to appeal to a specific buyer.

Individual Requirements.

The potential sidecarist may consider his chosen machine as nearly perfection. He may, on the other hand, cordially dislike the sidecar that goes with it. He may desire a bright-hued sporting body on a chassis *sans* all inessentials, such as grids and draught-proof screens. He may get—if he buys the outfit complete—just the reverse. Or it may be *vice versa*. Again, he may possess a very "bulky" wife or wife-to-be—and bulky people are generally very comfort-loving!—and may desire an out-size in bodies. Or he may want a two-seater or a one-and-a-half-seater. Or, perhaps, he merely sighs for something different, something distinctive.

The Sidecar Specialist.

In most of these cases the makers of the outfit are loth and often unable to satisfy such tastes. Naturally, then, it is here that the purely sidecar specialist firms reap a rich harvest.

Some excellent examples of these special-purpose sidecars have come on the market recently, several of which we illustrate on these pages.

Dunhills, Ltd., of 359-361, Euston Road, London, N.W.1, are too well known to need much introduction, and a special attachment which they have constructed for the Indian Scout will be noted with interest by riders of this machine. Special connections were necessary in this case, and these are shown in the picture of the chassis. Indian red is, of course, prominent in the colour scheme.

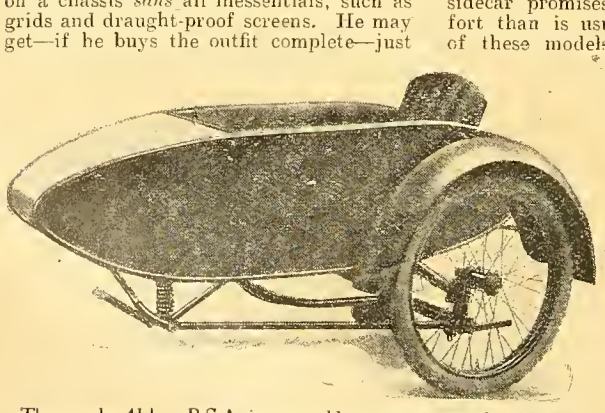
Also on very sporting lines, Hughes's sidecar promises considerably more comfort than is usual with the general run of these models. The dash, the high back-rest, and the well-padded seat will be appreciated by even the most ca hardened flapper. The makers Messrs. Thomas Hughes, Baker Stre Sparkhill, Birmingham.

Incidentally, the makers of the Brou Superior have introduced a sport model for use with their big twins. T has a large scuttle-shaped windscreen celluloid. Another firm to introduce sporting sidecar for their big twin is Rex Motor Mfg. Co., of Coventry.

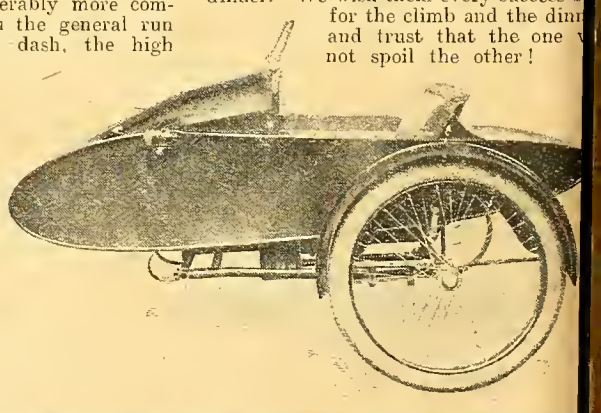
Finally, we have an instance of makers of a "touring" outfit harken to the insistent demand for someth lighter, simpler, and of more speedy pearance. The B.S.A. sporting ou certainly is most attractive, and yet d not appear to be uncomfortable.

SCREW ROAD—A CLUB VENU

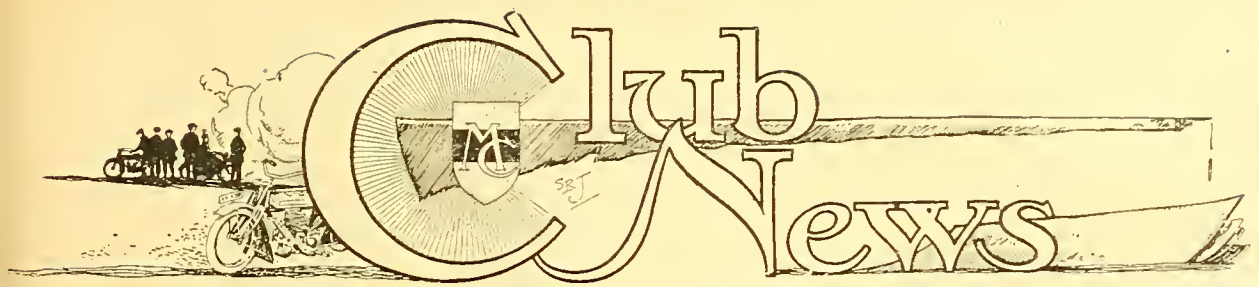
ALTHOUGH the club's headquart (Bangor) are within twenty-five m of the now famous Screw Ro apparently none of the members of University College of North Wales M.C have hitherto been aware of its possib ties. They are, however, making an offi attempt at the ascent on the 16th in following a petrol consumption test immediately before their first ann dinner. We wish them every success b for the climb and the din and trust that the one not spoil the other!



The popular 4¼ h.p. B.S.A. is now sold as a sporting outfit with this door-less attachment, in lieu of the heavier touring model.



Coupled with an attractive streamline body, this Hughes sidec has all the attributes (except a door) of a comfortable touring mode



Burnley and District M.C.C.

Results have now been announced of ie reliability trial held on the 29th ult., nd are as under :

HARRISON CUP AND GOLD MEDAL.—J. R. shworth (3½ Sunbeam sc.).
CLUB SILVER MEDAL.—E. Atkinson (4 riumph).
CLUB BRONZE MEDAL.—E. Pool (6 Ariel sc.).

Sheffield University M.C.C.

There were twenty-four entries in the ecent reliability run over a forty-mile erbyshire course. Results (highest pos- ble score, 100) :

SILVER MEDAL.—C. F. Boothroyd (4 Norton), 3.
SPARKING PLUGS.—G. F. Jones (3½ Brough) nd H. Winterbottom (3½ Ariel), 94, tied; M. oderberg (3½ Sunbeam sc.), 92.

Wellingborough, Rushden, and District M.C.C.

At the speed trials on the 28th ult., . M. Barron (3½ Norton) made fastest me of the day, thus gaining a most ovel prize—a free aeroplane flight offered y the Berkshire Aviation Co. Other ass winners were Rex Ludlow and W. . Spencer Robb (both on Nortons) and . J. Bosworth (3½ Prough).

Middlesbrough and District M.C.

Proving one of the most successful the ub has ever held, the Scoon reliability ial was run over a very sporting and ost beautiful course among the hills nd dales of Weardale. Sixty-eight com- etitors started, and forty-four finished, he Scoon silver bowl being awarded to . S. Williams, and gold medals to A. . Buttres and J. R. Jenny.

Oxford M.C. and Banbury M.C.

Formula results now being available of e inter-club hill-climb held on the 28th t., and reported in last week's issue *The Motor Cycle*, the total marks ined by the respective clubs have now en announced. The University City ub proves the winner with twenty-nine ints against the nine for Banbury.

lymouth and District M.C. and L.C.C.

In delightfully sunny weather, and th good entries, the first annual motor cle gymkhana was held at Home Park a recent Saturday afternoon. Skilful iving of both solo and sidecar machines s witnessed in events which varied om potato-picking to obstacle races and g jumps. Results :

GG AND SPOON RACE.—*Solo:* 1, A. C. Smith riumph); 2, Miss M. Phillips (Connaught). *ecar:* 1, C. C. Mason (Matchless); 2, H. S. (Norton).
OTATO PICKING.—*Solo:* 1, J. D. Spooner nbeam); 2, A. C. Smith (Triumph). *Sidecar:* C. C. Mason (Matchless); 2, J. C. Holmes rley-Davidson).
LOW RACE.—*Solo:* 1, C. R. Endicott (A.B.C.; M. Amiss (Abingdon).
BSTACLE RACE.—*Solo:* 1, M. Dawes iumph); 2, A. C. Smith (Triumph).
ONG JUMP.—1, J. D. Spooner (Sunbeam), 10 ; 2, M. Dawes (Triumph).

Brighton and Hove M.C.C.

Results of the recent hill-climb on Windmill Hill, which attracted more than fifty entries, are appended :

FLYING START.

CLASS 1 (350 c.c.).—1, A. T. Koehler (2¾ Coulson B), 41⅘s.; 2, E. Stacey (2¾ Verus), 47⅗s.; 3, F. Jenner (2¾ Royal Ruby), 50⅘s.
CLASS 2 (600 c.c.).—1, A. N. A. Hewett (3½ Sunbeam), 34s.; 2, C. Volk (3½ Sunbeam), 34⅘s.; 3, L. G. Watts (4 Triumph), 36⅘s.
CLASS 3 (Unlimited).—1, A. N. A. Hewett (3½ Sunbeam), 33s.; 2, C. Volk (3½ Sunbeam), 34s.; 3, W. H. Sheraton (3½ Norton), 34⅘s.
CLASS 4 (Sidecars on Formula).—1, H. D. Dobson (3½ Norton sc.), 50s.; 2, S. Dunford (7·9 Harley sc.), 43s.

STANDING START.

CLASS 5 (Unlimited).—1, C. Volk (3½ Sunbeam), 39s.; 2, A. N. A. Hewett (3½ Sunbeam), 39⅘s.; 3, W. H. Sheraton (3½ Norton), 41s.
CLASS 6 (Sidecars on Formula).—1, H. D. Dobson, (3½ Norton sc.), 53⅗s.; 2, S. Dunford (7·9 Harley sc.), 43⅘s.

North Cheshire M.C.C.

Results have now been announced of the trial for the Mather Cup, held on the 29th ult. Mow Cop was the *pièce de résistance* of the morning's run, and here excellent climbs were made by A. F. Gibson (4 Triumph sc.), T. J. Lawton (3½ Norton), and S. Bann (8 Matchless sc.). At Cow Dale, in the afternoon, G. T. Holland (the holder of the cup) made a very fast climb on his G.N. But the feature of the trial was the consistent running of M. Foreman's 1912 Rudge, which was awarded the Mather Cup. Other awards follow :

FIRST-CLASS CERTIFICATES.—J. F. Gibson (4 Triumph sc.), A. Booth (3½ Sunbeam), and O. Jessop (3½ Sunbeam), 93 marks.
SPECIAL LIGHTWEIGHT PRIZE.—N. C. Lawton (2¼ Enfield), 25 marks.

Leeds University M.C.

At the recent speed trials timing was worked rather ingeniously by means of a starting flag worked by trigger action and spring released by competitors running across a string on the road. The results were :

300 c.c. SOLO.—1, A. Burgess (2½ New Hudson), 23s., 39 m.p.h.; 2, B. Hoggitt (2½ Clyno), 26⅖s., 34 m.p.h.
350 c.c. SOLO.—1, C. P. Porritt (2¾ Douglas), 17⅘s., 52 m.p.h.; 2, G. G. Hardy (2¾ Douglas), 18s., 50 m.p.h.
550 c.c. SOLO.—1, R. F. L. Gosling (3 A.B.C.), 14⅖s., 62 m.p.h.; 2, A. F. Plummer (3 A.B.C.), 16s., 56 m.p.h.
750 c.c. SOLO.—1, A. W. Gregory (4 Norton), 13⅗s., 67 m.p.h.; 2, R. F. L. Gosling (3 A.B.C.), 14⅘s., 61 m.p.h.
1,000 c.c. SOLO.—1, A. W. Gregory (4 Norton), 12⅖s., 70 m.p.h.; 2, R. F. L. Gosling (3 A.B.C.), 14⅖s., 63 m.p.h.
750 c.c. SIDECARS.—1, C. Brook (6 A.J.S. sc.), 19⅗s., 46 m.p.h.; 2, D. Roper (4 Triumph sc.), 21s., 42 m.p.h.
1,000 c.c. SIDECARS.—(1.) W. Hallitt (8 Zenith sc.), 15⅗s., 57 m.p.h.; (2) D. Roper (4 Triumph sc.), 21s., 42 m.p.h.



LADY MOTOR CYCLISTS IN ALL NIGHT TRIAL. In spite of the strenuous nature of the Newcastle and District M.C. trial, these two ladies, both astride 3½ h.p. N.U.T. machines, put up an excellent performance.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

CAMPING AND THE LAW—TWO MORE OPINIONS.

Sir,—With reference to "Ab Origine's" letter quoting Section 72 of the Highway Act, 1835, I suggest it would be very difficult, probably impossible, to obtain a conviction against a motor cyclist under that section. The well known legal rule of *ejusdem generis* would, doubtless, be held to apply, and the words "or other person" be held to mean "or other person of the same nature as a hawker, higgler, or gipsy." To mention but one legal precedent, a law relating to "sheep, pigs, and other cattle" was held not to apply to cows. This may seem very strange to your readers, but it is, nevertheless, the judgment of the Courts. CAMPER.

London, W.9.

Sir,—Your previous correspondents on this subject seem to be under the impression that there is a "correct law regarding campi g."

It is no offence (and, therefore, is not punish ble) merely to camp on a roadside waste, and the constable who "moved on" a motor cyclist on the grounds that he had previously "moved on" gipsies was wrong in both cases—it is no part of his duty.

There are certain things that one may not do by the roadside, to wit,—a person may not light a fire within fifty feet of the centre of the highway.

No such limitation of time as twenty-four hours, referred to by Mr. Richardson in your issue of May 12th, exists, except in some people's imagination.

Of course, if a person made his encampment permanent, or for weeks or months, he might be assessed for rates in the usual way, or he might, at the instance of four householders, be indicted as a public nuisance; but if a tired Englishman—be he motor cyclist or not—likes to rest on the roadside waste, he has a perfect right to do so, and in doing so does not infringe any Act of Parliament.

W. R. JEFFERY.

ELECTRICAL PHENOMENON

Sir,—May I crave space to reply to the letters of Lodge Plugs, Ltd., in your issue of May 19th, and Mr. N. W. Benley in your issue of the week following?

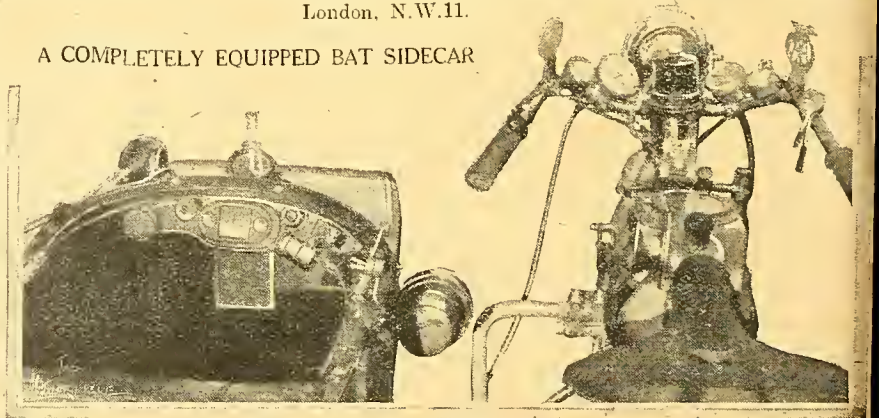
First, I certainly interpreted Mr. Benley's expression "flexible" to refer to ordinary electric lighting flexible, as is customary in the electrical trade, but this does not, in my opinion, explain his observations. I am quite aware that coiling the high-tension cable would increase both the self-induction and the capacity of the circuit, but not sufficiently to prevent a spark at the plug, provided the magneto and the plug were in perfect working order. Immediately after reading Messrs. Lodge's letter I carried out the following experiment on my 7 h.p. A.J.S. twin. A solid iron core 5in. long and ⅜in. diameter, was wound with twenty turns of high-tension rubber insulated cable in two layers, and the ends inserted between the end of the magneto cable and plug of the back cylinder, so that the coil was in series with the plug. The engine was then started from cold in the usual way without any misfiring or irregularity. Retarding the spark fully and closing the throttle to the slow running position failed to produce a misfire. The front plug was then shorted, and the engine continued to fire on the cylinder to which the coil was connected. Changing the coil over to the front cylinder, and repeating the above experiments, produced no variations in the results. I cannot see, therefore, that, provided the insulation of the cable is sound, coiling the high-tension cable round a frame tube, or an engine bearing, can produce any serious defects in the firing. I do not think any rider would go to the trouble in practice of coiling his surplus cable more than the twenty turns I experimented with. I may say, in conclusion, my engine is a very easy starter with the Cox-Atmos carburetter I have had fitted, and this ease in starting was not interfered with by the above experiment, showing that the plugs functioned perfectly throughout. F. E. SCHOFIELD.

AVERAGING THIRTY.

Sir,—Until a few weeks ago I shared the belief of "Eclipsed" that very high speed spurts were necessary in order to average 30 m.p.h. on the road. I discovered my error by driving my own machine from Dorchester to Winchester *via* Ringwood (sixty miles) in 1h. 58m., which time included a short stop for petrol at Romsey. This meant an average road speed of over 31 m.p.h. I had a heavily loaded sidecar, and my speed certainly never exceeded 37 m.p.h., except for one short burst of less than a mile, when I ambitiously, but unsuccessfully, sought to overtake a solo rider, but even then I never reached more than forty-two or forty-three, which is the utmost I can get out of my mount when untuned and fully loaded. On the other hand, the road was good. I had only four small towns to go through, and I rarely dropped below 34 m.p.h. In such circumstances it would appear that one's average may be pretty near to one's maximum. C.D.S.

London, N.W.11.

A COMPLETELY EQUIPPED BAT SIDECAR



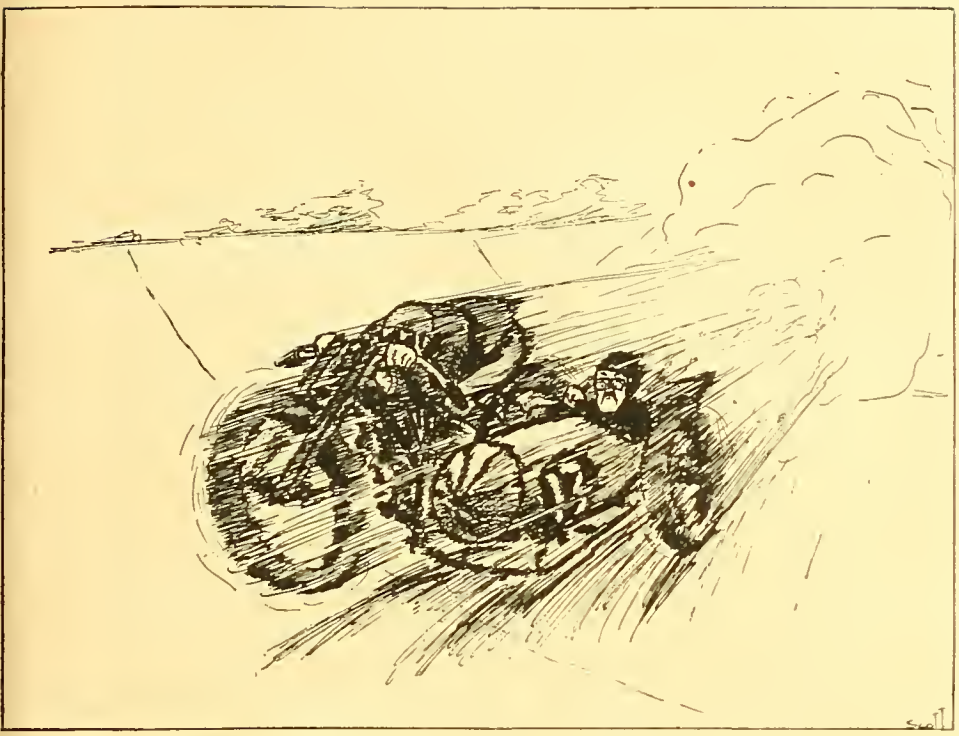
This photograph was submitted in the recent Sheffield-Henderson photographic competition by J. C. Montgomery, Bridgwater, who gained a consolation prize. The equipment of this very completely fitted sidecar is as follows:

SIDECAR

Watch
Voltmeter
Ammeter
Detachable inspection light
Compass above dash
Mirror below dash
Electric cigarette lighter
Electric Klaxon

MACHINE.

neroid altimeter
Rev. counter inspection lamp (behind head light)
Speedometer
Stop watch on tank
Gradient indicator (front
Air speed indicator (rear



TIME: THE PRESENT. SPEED: EIGHTY MILES AN HOUR.
That forgetful, but otherwise excellent mechanic, Jones, has just remembered that he omitted to tighten those sidecar connections, nor has he registered for "free insurance!"

SOLUTION NEXT WEEK!

Sir,—Here is another conundrum for your readers. Recently I sent away a two-stroke engine and crank case for slight repair. On its return last week I reassembled the machine and tried to start the engine. Nothing doing! After trying for half an hour, and using up a lot of language, I gave it up. Two days later I made another attempt. Aided by the proffered advice of several of the "clever" brigade, I went carefully over the machine. Compression was good, timing absolutely correct, a good fat spark at the plug, jet clear, and proper mixture reaching the cylinder, but all that happened on trying to start was an asthmatic cough and a flabby kick. After wasting more time, etc., an idea dawned on me. Investigation proved it correct, and as soon as the alteration was made the machine ran as sweetly as ever. What was the cause of the "strike"? PUZZLED.

Dumbarton.

["Puzzled" asks us to withhold the solution for a week, but we think that many of our readers may discover the fault right away. It is not a difficult piece of deduction.—ED.]

POLICE PREJUDICE AND THE SWISS SIX DAYS.

Sir,—Would you allow me to trespass on your space to comment on Mr. J. Stuart White's letter, published in a recent issue. I would like to do so because it is likely to produce an erroneous impression on the mind of English readers as to the state of affairs in Switzerland. It is true that in several cantons there are police restrictions with regard to the circulation of motor cars. It is not exact to state, however, that this happens exclusively north of Lac Léman and the St. Gothard Pass, "where the German language and mentality rule supreme," as Mr. Stuart White likes to style it. As a matter of fact, the Canton Grison—in which the population speaks partly Roman, partly Italian, and partly Swiss-German—forbids motor car traffic entirely, and in the French speaking Cantons, Geneva, Neuchâtel, and Vaud, motors are prohibited on Sunday afternoons during the summer months. On the other hand, no such prohibition exists in the Canton of Bale-Ville, situated in the extreme north, just across the German frontier.

I quite agree, of course, that circumstances are far from being satisfactory for motor car drivers owing to the right of each of the twenty-five cantons to issue its own traffic regulations, which differ in varying degrees. What I want to emphasise, however, is that the police regulations have nothing to do whatsoever with the fact that in one part of Switzerland French is spoken, in another Italian, and in yet another the so-called Swiss-German dialect, a tongue as different from the German as is Flemish. I may add that quite recently, on May 22nd, 1921, a vote was taken in Switzerland to procure an alteration of the Swiss Constitution by which the Executive is empowered to issue regulations on motor car traffic for the whole of Switzerland. The Cantonal Governments will still be able to limit the traffic within their boundaries, but in virtue of this decision of the people of Switzerland the right is now formally given to the Federal Authorities to open for traffic all routes they deem necessary. I am sure that, in consequence of this, in the very near future things will become such that Mr. Stuart White, as well as a number of his English colleagues, will try their luck again, and, after having driven all over France, will pay a visit to Switzerland, where, I think I dare say, neither the German language nor the German mentality "rules supreme." Policemen in all countries are, of course, a peculiar race, but I do not think they are worse in our country than elsewhere.

DR. PAUL LANG,
Secretary of the London Group of the Nouvelle Société Helvétique.

ONE MAN'S MEAT——!

Sir,—The motor cycle of to-day, speedy and reliable as it is, is not, to my mind, as far advanced in design as it should be—it follows too much on push cycle lines.

Let us look at car practice. When motor cars were first used they followed the lines of the old horse-drawn vehicles, which *The Motor Cycle* described only a few months ago. But makers soon dropped that, and struck out on their own. The result is as it is seen to-day—a perfect motor car, with little to remind one of horse-drawn four-wheelers.

Now, with motor cycles, taking first the frame, nearly all the makers, with one or two exceptions (such as the Scott, Cotton, etc.), follow the ordinary cycle frame, and also use the crank case as a connecting link. Now, in my mind, the crank case is a crank case, not a portion of a frame. Let us next consider the engine or transmission of power from the engine. Central transmission direct from the crankshaft centre (as car practice) is the ideal. This method of transmitting or harnessing of power is only used on a few motor cycles. As a practical engineer of nearly thirty years' experience, I fail to see the side pulley as a sound engineering job. The pulley unsupported on one side is bound to set up a side strain, or twist, in the frame, and the more power the engine develops the greater that strain. Of course, we know that fine results are obtained by engines of that type, such as the Norton, Sunbeam, etc.; but I think that this method of transmission is due to simplicity in practice and adaptability in engine design, but at best it is only a makeshift. Failing central transmission, the next best thing is the Scott practice, with outside central flywheel and driving sprockets, supported by roller bearings on each side.

Now another grumble is the gear change control. Why have it on the tank side? On a sharp corner, traffic, or deep rut and greasy gradient, the very time that both hands are

wanted on the bars, we have to let go to change gear. Why not foot change, as Scott, or both hand and foot change? Even the Ford on four wheels changes by pedal, while we risk our balance and our necks on hand change.

In conclusion, one point in which we score over car practice is noise: we are further advanced in making noises than we were ten years ago. SILENT TWIN.

Llanover.

WIND RESISTANCE OF MUDSHIELDS.

Sir,—The letter in your issue of May 19th from your correspondent Mr. G. Sharp will be of considerable interest to all motor cyclists, as there is no doubt that a combination of a thoroughly efficient shield for the rider with a method of increasing the efficiency of the engine is one which every enthusiastic motor cyclist would desire; and certainly the flat or "stove pipe" types of shield, however efficient from the point of view of protection from mud and oil to the rider, are a positive handicap to the machine in other respects.

A considerable amount of practical experience has shown that the V shields which are covered by our patent No. 33,617, 1920, have all the good points without the compensating disadvantages of many other types, and practical tests show that even when a motor cyclist has been going "all out" there is an entire absence of overheating of the engine.

The weight even of the heavier type is only 6 lb. 6 oz. per set complete with fittings, so that this is a negligible factor, whilst actual experiment has shown that the special formation of the shields offers less wind resistance than would be the case if the rider was quite unprotected.

THE SPEEDWELL GEAR CASE CO., LTD.

AN OCCASIONAL PASSENGER SIDECAR SUGGESTED.

Sir,—He would be a captious critic indeed who could not find the motor vehicle to his taste among the host of models offered to the public nowadays. Nevertheless, there is one attachment I have yet to see advertised, which, for want of a better name, I will call the bachelor's sidecar. A sidecar is of value to the solo rider for the following reasons:

(1.) It obviates the nuisance of continually lifting the rear wheel on to the stand when stationary.
(2.) Stability on grease and tramlines.
(3.) Carries luggage, gun case, golf clubs, etc.
(4.) Carries occasional passengers.
(5.) Carries a spare wheel.

Such a sidecar requires no hood, screen, door, upholstery, or permanent seat, but should embody the following features: *(a)* Capacity for about 1 cwt. of luggage. *(b)* Waterproof cover. *(c)* Tip-up seat and straps for securing luggage. *(d)* Accommodation for spare wheel.

It need not be particularly comfortable, but must be light and strong, for it would be attached to fast machines.

In conclusion, I have noticed recently a controversy on the subject of the merits of four-cylinder American machines as opposed to the British single. Last year I sold one of the former in favour of the latter. Of course, the four-cylinder scores in pace and comfort, but for everything else the Britisher has it easily, in my opinion. BACHELOR.

Hong Kong.

TAXATION OF MOTOR CYCLISTS.

Sir,—In the course of the reply made by the Minister of Transport to the deputation from the Motor Legislation Committee which waited on him on the 5th ult., when representatives of our organisations were present, Sir Eric Geddes stated that, although he had made special enquiries as to the working of the new taxation as regards different classes of cars, he had not specially investigated the position as regards motor cycles.

Although perhaps motor cyclists may not have been more hardly treated than other classes of road users, inasmuch as after a fair mileage they recoup themselves for the tax that under the old scheme they would have paid upon their petrol, yet, from the figures issued by the Minister, it would appear that motor cyclists more than any other class of road user have failed to reach the numbers that it was estimated would by now have taken out licences.

The chief cause is obvious, and lies in the fact that the present high annual tax (required in a single payment) proves a very heavy financial burden to many motor cyclists, especially as the same amount is required even if the machine is only used for the last four months of the year.

Another cause is that motor cyclists have not yet been accorded the privilege of taking out quarterly licences at a proportionately reduced annual tax.

Undoubtedly, if these disabilities had not been present at the commencement of the year a much smaller number of motor cyclists would have foregone the use of their machines. The number of such, however, is very large.

The suggested 25% reduction in the amount of annual tax, with a further proposal that licences should be issued from day to day or for short fixed periods at a proportionately reduced rate of tax, thus easing the financial burden and giving greater consideration to the convenience of motor cyclists, would not only assist the sport and pastime and increase trade, but would afford additional revenue to the Government, not only from this particular taxation, but from the revenues which naturally accrue to the Exchequer in periods of healthy trade.

Amongst road users the motor cyclist pays the greatest attention to economy in its various phases, and though his machine is peculiarly susceptible to the condition of road surfaces, it is not responsible for road damage except to an extent almost incapable of mathematical calculation.

Whilst the motor cyclist is prepared to pay a share of road maintenance and improvement, in justice he asks that his present financial burden should be lightened and payable according to periods of use.

The adoption of the above suggestions would greatly improve the present system, which is obviously prohibitive to many would-be motor cyclists.

(Signed) T. W. LOUGHBOROUGH,
Secretary Auto Cycle Union.

(Signed) H. R. WATLING,
General Manager British Cycle and Motor Cycle Manufacturers' and Traders' Union, Ltd.

SUMMARY OF CORRESPONDENCE.

At a Putney garage on Whit-Monday "G.T.W.B." attempted to buy some carbide, but was told that there was none in stock. As it was then nearly dark, he asked for information as to where he could get some, to which the manager of the garage replied very rudely, so rudely that "G.T.W.B." had perforce to censor his letter and we to summarise it! Amongst other things, this obliging garage man said that motor cyclists were more trouble than they were worth.

Another case of widely varying quotations for spares is brought to light this week by Mr. T. Stearne, who required a new spindle and cone for his V.S. hub. One firm quoted 18s. 6d., another 5s.! In fairness, he wishes it stated that the lower estimate came from Mr. J. M. Geiger, 24, Mansfield Road, Gospel Oak, London, N.W.3.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	Post.
"MOTOR CYCLES AND HOW TO MANAGE THEM." The standard handbook on the motor cycle. It deals with every part of the machine, and with every type of machine, and will be found invaluable to all motor cycle riders. New Edition. Just published	2/6	2/10
"TRACING MOTOR CYCLE TROUBLES." A system for tracing motor cycle faults and of remedying them when found. Fourth Edition	2/-	2/3
"MAGNETOS" By A. P. YOUNG. A complete treatise on magneto ignition for motor cars, motor cycles, and aeroplanes. Second Edition	4/6	4/10
"TWO-STROKE MOTOR CYCLES." A reliable treatise on Two-strokes, from the rider's point of view. Just published	3/-	3/3
"MOTOR CYCLE REMINISCENCES." By "IXION," of *The Motor Cycle*	5/-	5/3
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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects. ROUTES.—By special arrangement with the Automobile Association and Motor Union, readers of "The Motor Cycle" desiring routes may enjoy the benefit of the Road Service Department of that organisation. Queries should be addressed to the Editor in the ordinary way (enclosing a 2d. stamp), and will be dealt with by the A.A. and M.U., who are regularly in receipt of reports from their representatives all over the country as to the existing state of the roads in any particular locality.

GEAR RATIOS.

The engine sprocket of my machine has seventeen teeth, countershaft thirty-four teeth, final drive on countershaft eighteen teeth, and back wheel forty-eight teeth. What would the gears be if I fitted (1) eighteen tooth sprocket on engine shaft, (2) nineteen tooth sprocket on engine shaft?—G.A.

(1.) 5 to 1. (2.) 4.77 to 1. Full information as to method of calculating gear ratios is contained in the latest edition of "Motor Cycles and How to Manage Them."

TYRE SIZES.

I want to carry a spare tyre, but wonder what size I should get, as I have a B.S.A. with tyres marked 26×2½ for rims BSD2, and Grindlay sidecar with tyre marked 26 × 2½. What puzzles me is that the motor cycle rims measure 22½in. in diameter, and the sidecar rim is only 21in.—W.W.

The rims fitted to the B.S.A. are the D2 size (nominally for 26×2¼ or 26×2⅜ tyres), but the covers actually fitted are 26×2½ for 2¼. If you examine them you will see that this size is marked upon them. The sidecar, judging by your measurement, has a 26×2½ rim, and consequently the tyres on the motor cycle are not interchangeable with that on the sidecar.

POWER OUTPUT OF TWO-STROKE ENGINES.

Wishing to select a motor cycle for the coming season I was informed by a well-known firm that a 2½ h.p. two-stroke engine attains 5,000 r.p.m. on the bench. Not wishing to dispute the statement (which seems rather high for a two-stroke), I am asking you if it is possible, for I imagine that such a power unit would have to give off about 5 b.h.p. to reach such a speed.—DOUBTFUL.

In all probability a two-stroke engine of about 260 c.c. capacity will develop from 4 to 5 b.h.p. at maximum revolutions on full throttle. 5,000 r.p.m., however, is rather high for this type of engine, and probably 4,000 r.p.m. is nearer the mark. The power output of two-stroke engines usually reaches its maximum at about 3,000 to 3,500 r.p.m. As compared with four-stroke engines, they are essentially of the slow running variety.

SIDECAR ON A LIGHTWEIGHT TWIN.

Possessing a 1916 3 h.p. twin Royal Enfield, I desire to attach a light but strong sidecar. Is this machine suitable for passenger work?—C.A.B.

The machine in question is not really suitable for sidecar work, but in a fairly level district it might give satisfaction, provided that the attachment is light and too much is not expected of it. Many little two-strokes are giving satisfaction as sidecar machines.

WHAT IS "C.C."?

What is meant by "c.c." in stating the size of an engine? Is it used in England for comparing the power of engines or for handicapping?—W.A.B. (Canada).

The letters "c.c." are an abbreviation for cubic centimetres. They are, however, used occasionally in place of "cubic capacity." Thus an engine which is described as being of 750 c.c. is one which has a piston displacement of 750 cubic centimetres. For racing and competition purposes engines are divided into classes according to their cylinder capacities.

TO FIND TON-M.P.G.

Will you give me the formula for comparing the ton mileage figures of two sidecar outfits?—H.H.B.

The calculation is quite simple. It is merely necessary to multiply the total weight of the machine in tons by the distance travelled in miles, and divide by the amount of fuel used in gallons. The ton mileage of a machine weighing 336 lb. giving 60 m.p.g. is 9 ton-miles per gallon.

SIZE AND POWER OF AN OLD ENGINE.

(1.) I have an old V twin engine. The bore appears to be about 66 mm. and stroke 75 mm., and angle between the cylinders about 75°. What is the horse-power and cubic capacity? (2.) Can I get a 75° magneto?—J.C.P.

(1.) If the dimensions which you give are correct, the cubic capacity is 582 c.c.; the engine would be rated at approximately 4½ h.p. (2.) It is doubtful whether you can obtain a magneto to suit a 75° V twin engine without having one specially made, as the angle is not a very usual one.



A scene at the foot of Oakamoor Hill in Derbyshire, the venue of the recent East Midland A.C.U. Centre open hill-climb.

EXPERIENCES WANTED.

"A.H." (Eccles).—Degory carburetter fitted to 2¾ h.p. Douglas: m.p.g., acceleration, and power.

"Scooter" (Rye).—Kingsbury scooter, especially starting from cold, size of jet, and quantity of oil.

READERS' REPLIES.

OIL PUMP DIFFICULTIES.

In the issue of May 5th "G.B.T.J." complains of trouble with his Scott oil pump. I think he will find that this is caused by the gland leather having become too soft and wedging between the plunger rod and the gland nut. I had similar trouble which I cured by fitting a new gland leather.—JOHN HYATT.

TWO-STROKE RATTLE.

The explanation of the phenomena is this. A weak mixture, carrying petrol, but little oil, will fire at low temperature (or more easily than rich oily vapour). Your correspondent "Tunbridge Wells" would do well to examine his crank case and cylinder joints for a blown-out joint ring (possibly only partial) or other air leak, such air leaking in diluting the pure petrol vapour and producing a lower flash point mixture. Also he should be sure that the exhaust gas can be swept freely, and that his silencers are perfectly clear, especially if a Villiers with the usual exhaust pipe, as any obstruction in the exhaust will cause pre-ignition. The symptoms of rattle when going downhill occur occasionally on all two-stroke engines, and are caused by the critical speed of the engine, for a given strength of fuel mixture, being temporarily exceeded, the mixture firing probably by compression alone or by a particle of glowing carbon which would not fire a richer mixture in ordinary running. Thus we have an engine firing long before dead centre, and the momentum carrying the piston over and completing the stroke normally. —ALLDAYS.

RECOMMENDED ROUTES

WORCESTER TO WOOD GREEN.—W.K.

Worcester, Spetchley, Upton Snodbury, Inkberrow, Alcester, Stratford-on-Avon, Wellesbourne, Kineton, Warmington, Banbury, (near edge of) Adderbury, Aynho, Souldern, Baynard's Green, Bicester, Waddesdon, Aylesbury, Aston Clinton, Tring, Northchurch, Berkhampsted, Boxmoor Station, Leverstock Green, St. Albans, Barnet, Wood Green. Approximately 115 miles.

MANCHESTER TO SWANSEA.—T.W.D.

Manchester, Altrincham, Bucklow Hill, Knutsford, Holmes Chapel, Brereton, Sandbach, Wheelock, Haslington, Crewe Station, Hatherton, Hankelow, Audlem, Burleydam, Whitchurch, Prees, Preston Brockhurst, Hadnall, Battlefield, Shrewsbury, Dorrington, Church Stretton, Craven Arms, Stokesay, Ludlow, Brimfield, Leominster, Hope-under-Dinmore, Hereford, Mordiford, Fownhope, Ross, Wilton, Goodrich, Whitchurch, Symond's Yat, Whitchurch, Monmouth, Raglan, Usk, Llangibby, Caerleon, Newport, St. Mellons, Cardiff, Canton, Ely Station, St. Nicholas, Bonvilston, Cowbridge, Brocastle, Bridgend, Laleston, Pyle, Margam, Aberavon, Briton Ferry, Neath, Swansea. Approximately 231 miles.

DONCASTER TO DALTON.—W.R.G.

Doncaster, Wentbridge, Ferrybridge, Aberford, Bramham Moor Cross Roads, Collingham, Harewood, Otley, Burley-in-Wharfedale, Ilkley, Addingham, Skipton, Gargrave, Hellifield, Long Preston, Settle, Clapham, Ingleton, Kirkby Lonsdale, Crooklands, Milnthorpe, Heversham, Levens Bridge, Lindale-in-Cartmel, Newby Bridge, Greenodd, Ulverston, Lindale, Dalton. Approximately 133½ miles.

HIGHGATE TO HALIFAX.—W.E.H.

Highgate, Barnet, Potters Bar, Hatfield, Welwyn, Stevenage, Baldock, Biggleswade, Girtford Bridge, Eaton Socon, Buckden, Alconbury Hill, Stilton, Norman Cross, Peterborough, Wansford, Stamford, Great Casterton, Colsterworth, Grantham, Great Gonerby, Newark, Tuxford, Retford, Barnby Moor, Bawtry, Doncaster, Barnsley, West Bretton, Flockton Moor, Huddersfield, Elland, Halifax. Approximately 204 miles.

MERTHYR TYDFIL TO ABERYSTWYTH.—J.R.

Merthyr Tydfil, Nant-ddu, Storey Arms, Brecon, Bronllys, Llyswen, Erwood, Builth Wells, Howey, Llandrindod Wells, Rhayader, Llangurig, Dyffryn Castell, Ystytty-Cynfyn, Devil's Bridge, Aberystwyth. Approximately 96 miles.

Important Dates.

Tues., June 14th—Junior T.T. Race

Thurs. June 16th—Senior T.T. Race.

Sat., June 18th—North-Western Centre A.C.U. Open Speed Trials.

Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup

Fri., July 1st, and Sat., July 2nd Arbuthnot Trophy Trial.

Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.

Sat., July 2nd—500 Mile Race at Brooklands for the Miller Gold Cup.

Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials

Sat., July 9th—St. Andrews Speed Trials

Sat., July 9th—Cardiff M.C.C. and associated club Open Hill Climb.

Mon., July 11th, to Sat., July 16th Scottish Six Days' Trial.

Sat., July 16th—Ilkley M.C. and L.C.C. Open Reliability Trial.

Sat., July 23rd—East Midland Centre A.C.U. Open Speed Trials.

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Sat., July 30th—Newcastle and District M.C. Open Speed Trials.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.

Sat., Aug. 6th—B.M.C.R.C. Open Brooklands Meeting.

Sat., Aug. 6th—North Wales M.C.C. Open Reliability Trial.

Fri., Aug. 12th—Motor Cycle Grand Prix in Belgium.

Sat., Aug. 13th—Cumberland M.C.C. Open Reliability Trial.

Sat., Aug. 20th—Western Centre A.C.U. Open Speed Trials.

Thurs., Aug. 25th—Ystalyfera and Carmarthen M.C.C. Open Speed Trials.

Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

Fri., Sept. 23rd, to Tues., Sept. 27th—Anglo-Dutch Reliability Trial.

SPARKLETS

More Sidecar Taxis Licensed.

A B.S.A. motor cycle taxi has been recently licensed in Salford.

An Excelsior taxicab outfit was approved by the Watch Committee of Leeds during the end of last month.

Magnetos at High Speed.

The Douglas machines which secured first and third places in the Brooklands Senior T.T. race recently were equipped with E.I.C. magnetos.

Consistent Riders.

Among nearly a hundred competitors Hugh Gibson, riding an 8 h.p. Royal Ruby sidecar, secured the A.C.U. North-western Centre championship for 1921, his was the only sidecar outfit to make the ascent of Litton Slack without assistance. S. Eastwood, on a 2¾ h.p. machine of the same make, put up the best performance in the lightweight classes up to 350 c.c.

In the London-Edinburgh Trial the same two riders, mounted on 2¾ h.p. and 3 h.p. Royal Ruby machines respectively, both qualified for gold medals.

Catalogues Received.

Humphries and Dawes, Ltd., Hall Green, Birmingham: Described as an "art folder," a single sheet specification and illustrates the O.K.-Junior passenger machine in a clear and adequate manner.

R. W. Weatherell, South Green, Billericay, Essex: A small three-fold sheet containing loose reproductions of the R.W. Scout machine in various models.

J. Kirby, Broadgate, Lincoln: Specifications of the Lincoln-Elk machines which are now equipped with countershaft three-speed gear boxes.

Whitley Manufacturing Co., Ltd., Charterhouse Mills, London Road, Coventry: Illustrating and describing the two models, and also a chain adjuster for Sturmey-Archer gear boxes and foot control pedal for Sturmey-Archer clutches. The manufactures of this firm have been appreciably reduced in price.

Siemens Brothers and Co., Ltd., Caxton House, Westminster, London, S.W.1: "Primary Cells and Batteries—Dry and Fluid" is the title of a catalogue which lists batteries of various types useful for lighting on motor cycles.

J. B. Brooks and Co., Ltd., Great Charles Street, Birmingham: A new edition of the "Brooks Book," which deals thoroughly with saddles, leather cases and all other equipment of a similar nature. The new cantilever leaf-spring saddles are also included.

B.S.A. Cycles, Ltd., Small Heath, Birmingham: "A much improved catalogue of B.S.A. motor cycles is now available. It contains much detailed information, illustrations, and reproductions of machines in their true colours.

CURRENT CHAT

Times to Light Lamps.

June 9th	... ...	9.42 p.m.
,, 11th	... ...	9.44 ,,
,, 13th	... ...	9.45 ,,
,, 15th	... ...	9.46 ,,

T.T. and Summer Number.

Next Thursday's issue of *The Motor Cycle* is the annual special T.T. and Summer Number containing all the latest news of the Tourist Trophy races, and many special features.

Arbuthnot Trophy Trial Entries.

Entries for the Arbuthnot Trophy Trial are already coming in. This competition is open only to officers of the R.N., R.N.R., R.N.V.R., and the R.M., who are actually on the active list. Entries close on Monday, June 13th, and should be sent to the Secretary, the Auto-Cycle Union, 83, Pall Mall, London, S.W.1.

Short Notice for a Long Ride.

Mr. J. R. Watkins, a Royal Enfield entrant for the London-Edinburgh, had his mount smashed by a lorry when *on the way to the start*. He immediately rushed home, started up his old W.D. Triumph, and, without any sort of preparation, completed the 400 miles run, and gained a gold medal. This makes an additional gold medal for Triumph machines on the list which we published last week.

Observed Riding in Open Trial.

Open trials south of London are fairly rare events, and therefore the open event to be held by the Bournemouth and District M.C. and L.C.C. on July 2nd should attract a great number of South-country riders. As there are no "real" hills within a reasonable distance of the club's headquarters, several novel features have been introduced to put the whole trial on a competitive basis. These include starting tests, timed hill-climbing, speed tests (in a private park), and "observed riding." Entries will be received until June 22nd by the trials secretary, Mr. E. L. Herring, 44, Middle Road, Bournemouth West, Hants.

Watch your Licences!

Motor cyclists are recommended to keep an eye on their licences and make sure that the ink with which they have been filled up is not fading away. Two motor cyclists were summoned at Bristol last week for having motor licences on which the particulars were not visible. One licence had been issued in January at Taunton and filled up with red ink, and the other made out in Bristol with black ink. In each case the hot sun had caused the ink to fade. The result was that summonses were issued, not against those who were to blame, *i.e.*, the licensing authorities at Taunton and Bristol, but against the victims who were in no way responsible.

Special Features.

TT. NOTES AND NEWS.
IS DESIGN STAGNATING?
SIDECAR TOPICS.

The International Six Days Trial.

The Union Motocycliste Suisse, which is responsible for the organisation of the International Six Days Trial, is endeavouring to make arrangements so that the cost of living for competitors will not be in excess of, and perhaps not reach, £1 per diem.

Visitors to the Grand Prix can continue their journey direct to Geneva after this event, and arrive there comfortably in time for the International Six Days Trial.

Yorkshire Speed Championships.

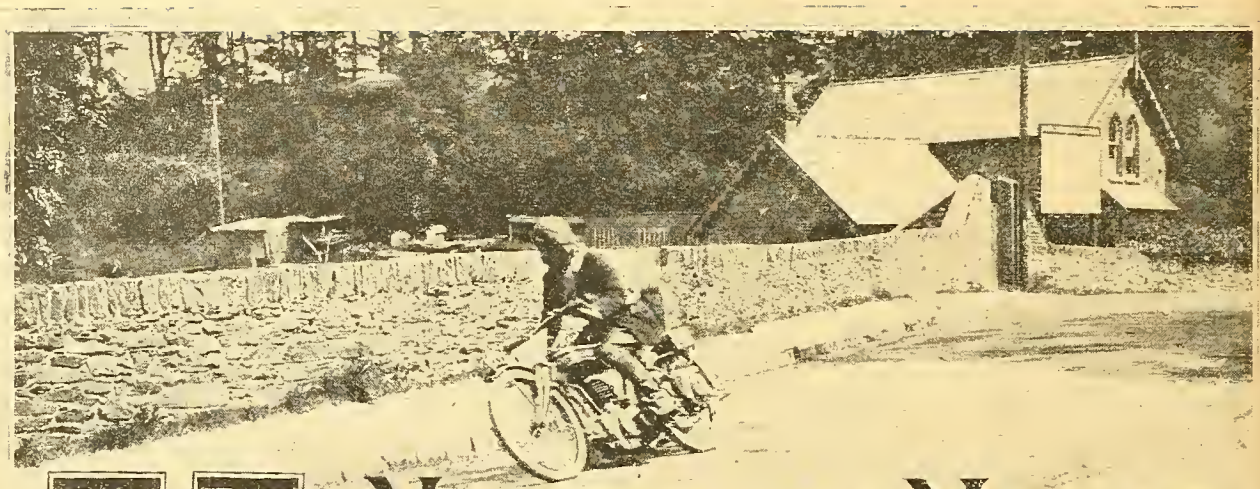
Speed events on the sands are apparently very popular this year, and what promises to be a most successful and interesting meeting will be organised by the Middlesbrough and District M.C.C. on behalf of the Yorkshire Centre A.C.U. on July 9th at Saltburn Sands. There will be the twenty-mile Yorkshire championship races in 350 c.c., 600 c.c., and 1,000 c.c. categories and nineteen other short distance events catering for all classes. So hard, smooth, and consequently "fast" are these sands that a speed of 118 m.p.h. was attained during car trials held there before the war.



PRACTISING FOR THE T.T.

Two Sunbeam riders, Dance and Bennett, about to start for a lap round the course.

Another early morning scene. Spectators watching an Indian starting for the thirty-seven mile lap.



T.T. NOTES and NEWS

A Review of the Practising. Form of Men and Machines Improving Day by Day. Organisation Complete. Compiled from the Daily Reports of Members of "The Motor Cycle" Staff in the Isle of Man.

NEXT TUESDAY'S JUNIOR T.T. RACE IN A NUTSHELL.

DATE AND TIME OF START: 9.30 a.m., Tuesday, June 14th, 1921.
DISTANCE: Five circuits of 37 miles 6 furlongs each. Total distance, 188 miles 6 furlongs.
FIRST PRIZE: The Junior Tourist Trophy, to be held for one year. £40 in cash and special gold medal.
SECOND PRIZE: £20 in cash.
THIRD PRIZE: £10 in cash.
"THE MOTOR CYCLE" TROPHY for the fastest 250 c.c. machine (22 entries).
TEAM PRIZE: To be won by a nominated team, who must all finish the course within thirty minutes of the winner.
PRELIMINARY EXAMINATION: Monday, June 13th—
Nos. 1 to 25, at 9 a.m.; Nos. 26 to 50, at 10 a.m.; Nos. 51 upwards, at 11 a.m.

PREVIOUS WINNERS.

1920	*Cyril Williams, single-cylinder A.J.S. (74 × 81 mm. = 348 c.c.)*	..	*40.7 m.p.h.*
1914	*Eric Williams, single-cylinder A.J.S. (74 × 81 mm. = 348 c.c.)*	..	*46·6 ,,*
1913	*H. Mason, V twin N.U.T.-J.A.P. (60 × 61 mm. = 344 c.c.)*	..	*43·7 ,,*
1912	*W. H. Bashall, flat twin Douglas (60·7 × 60 mm. = 350 c.c.)*	..	*39·6 ,,*
1911	*P. J. Evans, V twin Humber (60 × 60 mm. = 340 c.c.)*	..	*41·5 ,,*

As recorded in the last issue of *The Motor Cycle*, practising for next week's Tourist Trophy races commenced at the beginning of last week. A good deal of work has been accomplished by the competitors for both races, and most, if not all, have now completed the minimum number of circuits to qualify for the races on Tuesday and Thursday next.

* * *

After a disappointing Whit week, due to the absence of steamship communication with the mainland, Douglas last week began to assume a somewhat jovial aspect, due entirely to the arrival of the army of motor cyclists who are taking part in the forthcoming races.

* * *

The Island as a whole is very pleased to have the motor cyclists back again once more, but it does not always show this pleasure in some of the absurd restrictions. Several of the visitors have been worried by the police for not having silencers, and some of the local motorists have been getting into trouble for not carrying horns. The same restrictions with regard to Sunday riding are still in existence.

* * *

Much indignation is felt amongst visiting motor cyclists at the new tax imposed upon them by the Insular Legislature. Last year they were charged 1s. This year the charge has gone up to 10s., and the increase is bitterly resented, all the more so that it is known that the increase is illegal at the moment, as the new Bill has not yet received the Royal assent. There is also much annoyance felt by the want of facilities for landing machines at the Douglas quayside. Although efforts were made by the Auto Cycle Union, *The Motor Cycle* and the local club, the Harbour Commissioners have so far done nothing to facilitate unloading from passenger steamers.

Porters have been engaged by the A.C.U. to meet every steamer landing in Douglas. They will be under the supervision of a guide, and their duty will be to carry all members' machines to the quay free of charge; but there will be no harm in recognising the porters' efforts in the usual way. These men will wear badges, and any complaints made to the local consul, or to the A.C.U. local office in Castle Mona Shops, will receive attention.

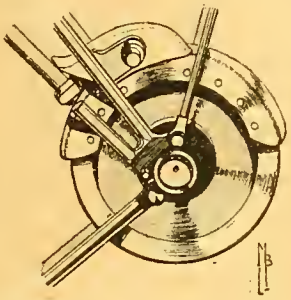
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The Norton machines have been purposely varied this year for the peculiarities of the Manx course. The wheelbase has been shortened by about 1½in., and the top tube has been also shortened, bringing the riding position lower, and altogether giving it a more businesslike appearance. The handle-bars are straight and wide, and do not appear to be very popular with some of the men entered to ride, and alterations may be made.

T.T. Notes and News—

The course on the whole this year has been much criticised by the riders, particularly that part from the second iron gate on the mountain descent as far as Keppel Gate, where the surface had become very loose owing to the dry season. The Highway Board has done nothing at all to this section, although attention has been drawn to it. Subsequent storms, however, helped to improve this section.

* * *



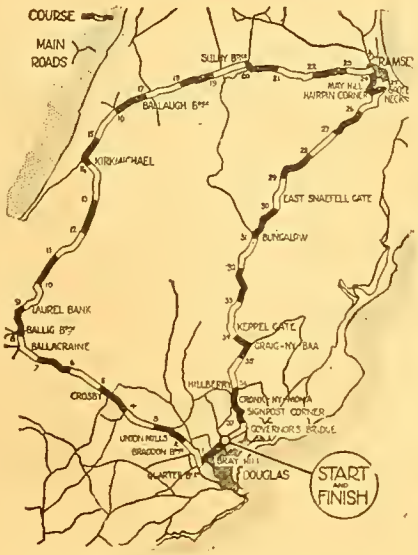
The front wheel brake fitted to the T.T. model Douglas; brakes of this type have been under test for some time.

Great Britain, Ireland, and U.S.A.

Although this year's T.T. is not of the international character the enthusiast would wish to see, international rivalry will not be entirely lacking, for America is meeting England, Scotland, Ireland, Wales, and the Isle of Man. Further, there are M.A.G. engines in the race, but one cannot help but regret that France, Italy, Belgium, and the overseas Dominions are not represented. Why do not some of the South African, Australian, and New Zealand clubs send over a rider to represent them in this blue riband event of the whole motor cycle world?

* * *

On our run round the course we noticed that between Craig-na-Ba and Ramsey the surface has been substantially repaired with an abundance of sharp-edged stones, which in their present state are very destructive to tyres. Nearer Douglas the surface has been tarred.



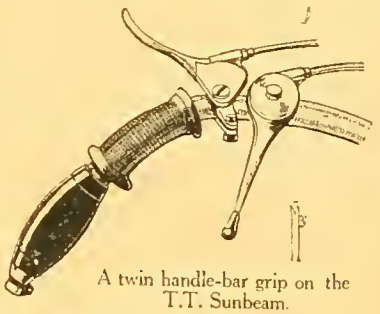
The Tourist Trophy course of 37 miles 6 furlongs, which has to be covered five times for the Junior event, and six times for the Senior.

PRACTICE ITEMS.

Every day the competitors improved their riding and their times; therefore, it is interesting to record some of the fastest times of the first two days, although at this stage no sensational speeds were attempted. The fastest time on the opening day was made by L. Mitchell (Norton), who covered the lap in 45m. 45s.—approximately 49 m.p.h.; while the following also made notable times:

	m.	s.	Approx. m.p.h.
T. C. de la Hay (3½ Sunbeam) ...	46	10	= 48½
D. M. Brown (3½ Norton)	49		= 46
A. Bennett (3½ Sunbeam)	47	30	= 47½
H. W. Hassall (3½ Norton)	47		= 47¾
D. S. Alexander (3½ Norton) ...	48	45	= 46
H. R. Davies (2¾ A.J.S.)	46	35	= 48

Indians, this year equipped with single-cylinder engines and Hutchinson tyres, modelled on the lines of those used for dirt track work in America, were running fast and quietly. A slight shortening of the wheelbase has improved the Norton's corner work. B.S.A.'s are said to be very fast up the mountain. They have already acquired quite a following of local experts, and, what is more to the point, their riders like them, and are at home on their mounts. Unfortunately, they have temporarily lost one of their team and a reserve rider, for Kuhn and Wood collided in an early practice spin, and the damage, though slight, necessitated medical treatment.



A twin handle-bar grip on the T.T. Sunbeam.

* * *

The Velocette and Omega are doing good times in the lightweight class, and the Ivys are very steady, and should do good team work.

* * *

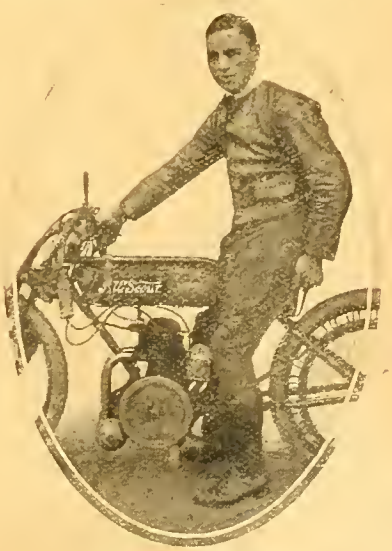
F. Boulton (New Imperial) fell between Signpost Corner and Governor's Bridge at just the same spot as Chambers (A.J.S.) came off the day before. No serious damage was done, however, and a special warning has been arranged for the future.



Norman Norris (Ivy).



N. E. Vicary (Ivy).



R. Weatherell (R.W. Scout).

RIDERS OF TWO-STROKE MACHINES IN THE 350 c.c. CLASS IN THE JUNIOR T.T.

T.T. Notes and News—

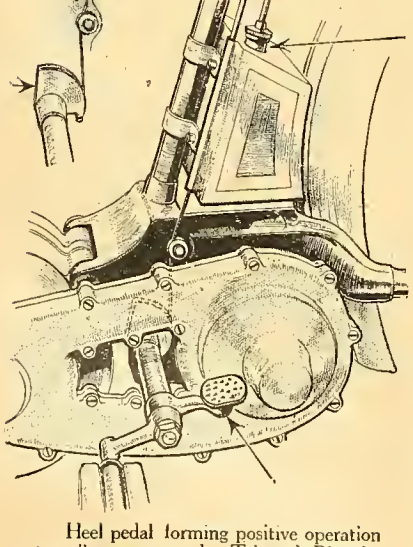


The Tourist Trophy, presented in 1907 by the Marquis de Mouzilly St. Mars. The Junior Trophy is a duplicate presented by the same patron of the motor cycle movement.

The Manx people take a keen interest in the race, and are delighted that it is not to be postponed or cancelled. The juvenile portion of the population is especially interested—both boys and girls. The "little maids from school"—many more than three of them—haunt the garages where the competitors keep their machines, and worship the "boys" who are going to race. They know them all by their Christian names, and follow their fortunes most closely throughout the entire period of practice until the race itself, and then they take French leave from school, and go mad watching the race itself. This is what they did last year, and they are working themselves up to a high pitch of excitement already for the coming race now that it is definitely fixed that it will take place.

* * *

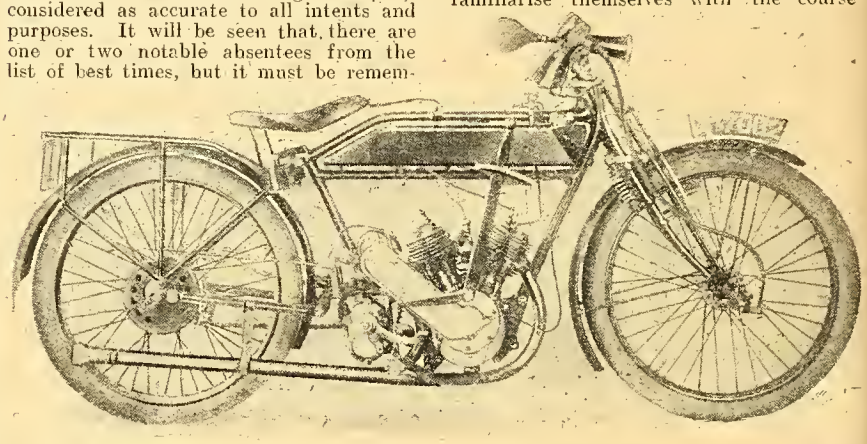
The organisation, in which the local club is bearing a most useful part, is very good, and there is hardly any part of the course which is not in more or less direct communication with the Douglas control. The only possible criticism relates to those who have completed a lap pulling up at the grandstand in the way of others passing through at speed. This matter, however, was immediately tackled by the capable A.C.U. officials, and the regulations were modified to meet the case.



Heel pedal forming positive operation for oil pump on the Triumph-Ricardo (Inset) Sector on footrest shaft indicated by dotted lines in main drawing

Lap Times.

No official lap times were issued, but those which we are able to give may be considered as accurate to all intents and purposes. It will be seen that there are one or two notable absentees from the list of best times, but it must be remembered that many star performers are not out to make sensational practice times. The following are the best lap times for the third morning's practice.



The T.T. model in which the James Cycle Co. are placing their confidence—the 3½ h.p. twin. J. Lidstone, G. A. Strange, and G. E. Stobart are the riders selected.

SENIOR.

	m. s.	m. s.
D. M. Brown (Norton)	45 12	
H. Hassall (Norton)	45 45	and 44 11
J. L. Mitchell (Norton)	44 22	
H. Le Vack (Indian)	46 53	and 45 28
J. Whalley (Sunbeam)	44 55	and 43 32
H. R. Harveyson (Indian) ..	46 5	
T. E. Greene (B.S.A.)	46 58	

JUNIOR.

A. H. Alexander (Douglas) ..	46 10	
G. Kelley (A.J.S.)	48 30	and 49 35
E. Williams (A.J.S.) ..	46 50	and 46 23
H. R. Davies (A.J.S.)	44 6	and 43 59

LIGHTWEIGHTS.

W. G. Harrison (Velocette) ..	54 33
N. Black (Omega)	53 15

Lap speeds in the Junior Class are so phenomenal that one is led to speculate on the chances of certain Junior machines in the Senior event.

Many Qualified Early.

From the time they were introduced on the course, the Scotts were notably fast and very easy to start. The new Diamond o.h.v. machines, one of which has a three-speed gear, are also showing up well.

It was noticeable, in the earlier stages of the practising at least, that the old T.T. riders had the benefit of past experience on corners. Most of the newcomers were much too fast, and changed gear too late.

* * *

Among those who qualified for the races during the first few days were: Senior race—D. Brown (Norton), A. Bennett (Sunbeam), H. R. Harveyson (Indian), F. C. North (B.S.A.), H. W. Hassall (Norton), Reg. Brown (Sunbeam), J. W. Shaw (Norton), H. Le Vack (Indian), V. Horsman (Norton), H. Riddell (B.S.A.), and G. Dance (Sunbeam). Junior race—N. Black (Omega), A. Milner (Levis), A. Alexander (2¾ Douglas), W. H. Kelly (Ivy), J. S. Clayton (New Imperial), H. F. Harris (A.J.S.), E. Williams (A.J.S.), and H. R. Davies (A.J.S.). It will be seen that the Senior men qualified more rapidly than the Junior entrants.

* * *

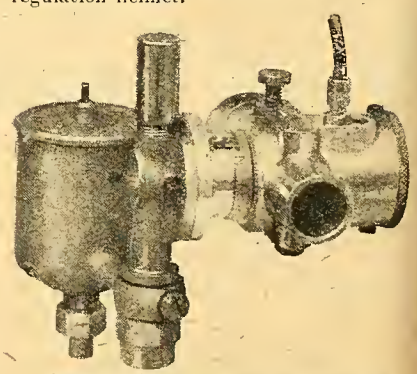
After the enthusiasm of the opening of the practising had worn off a little, those who had qualified settled down to familiarise themselves with the course rather than to achieve high speeds. Notwithstanding, the following times were made for the fourth morning's practice laps:

	M.	S.
T. C. de la Hay (3½ Sunbeam) ...	43	25
D. Brown (3½ Norton)	43	0
H. W. Hassall (3½ Norton) ...	43	34
F. W. Dixon (3½ Indian)	43	30
A. Alexander (2¾ Douglas) ...	47	30
J. L. Emerson (2¾ Douglas) ...	49	10
H. R. Davies (2¾ A.J.S.)	42	35

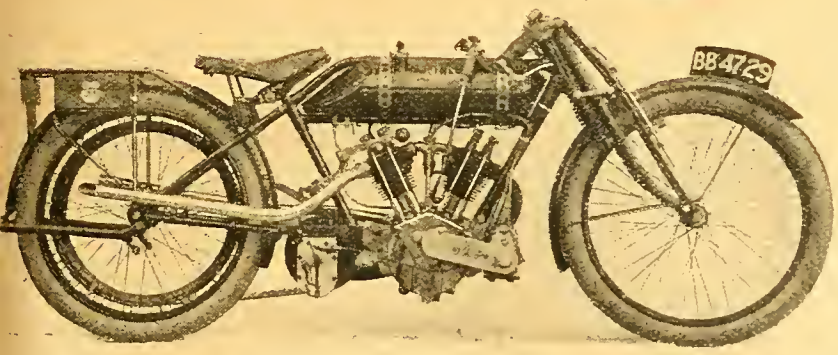
H. R. Davies's speed was really remarkable. The fastest Senior lap last year was 40m. 43s.

* * *

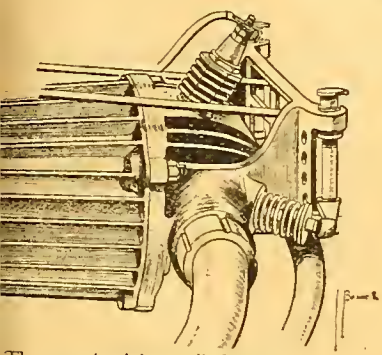
The Manx Club provided forty marshals for different parts of the course, and accidents, usual in the preliminary stages, were very few. One Douglas rider fell three times, but was saved by his regulation helmet.



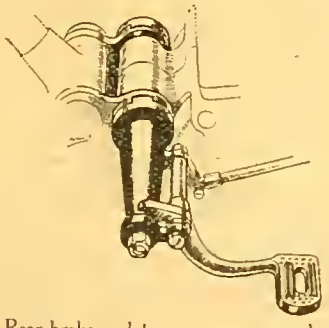
Many machines will use the single lever Cox Atmos carburetter, and a special model with aluminium body and a large choke has been produced. The large choke permits maximum power, but in other respects the carburetter is quite normal



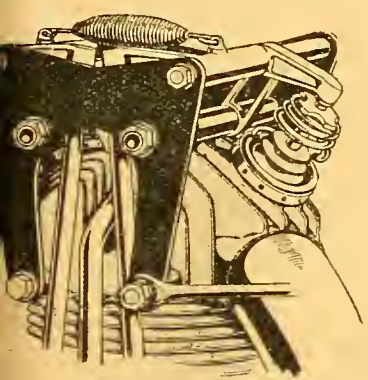
An N.U.T. won the Junior race in 1913. This 2¾ h.p. model will endeavour to repeat the performance in 1921.



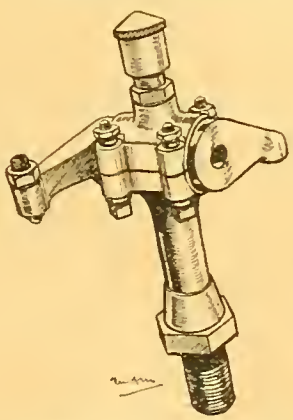
The new aluminium cylinder head on the 2¾ h.p. T.T. Douglas.



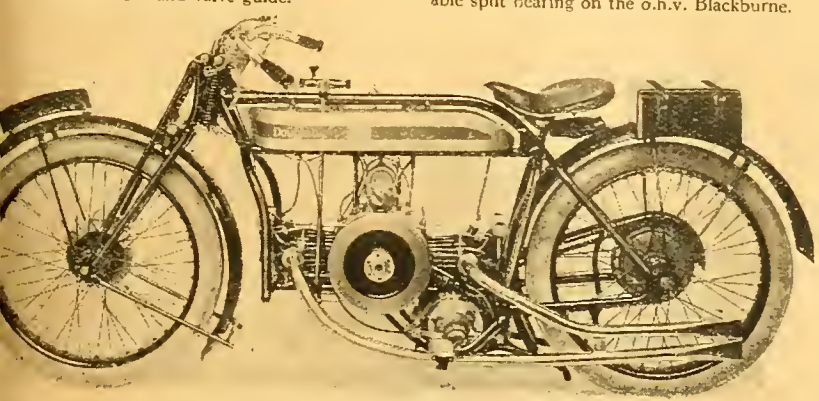
Rear brake pedal arrangement on the Triumph-Ricardo motor bicycle.



J.S. overhead valve gear, showing cooling ribs on head and valve guide.



The one-piece valve rocker and its adjustable split bearing on the o.h.v. Blackburne.



Very little external alteration from standard is observable in the T.T. Douglas, which is based upon the sports model. It has a four-speed gear box.

A late addition to the Junior entrants is Archie Jones, who was entered by Frank Whitworth, Ltd., to ride an Ivy in the Senior event. We understand that the A.C.U. has agreed to transfer this entry to the Junior race, so that there will be seven Ivys in this event.

* * *

There are rumours that P. Pike (of the Levis team) will not be able to ride owing to indisposition. In all probability one of the Levis reserves will take his place.

* * *

The A.C.U. banners, constructed of zinc letters on a wire netting background, serve their purpose admirably, and incidentally withstood the recent gales much better than the normal fabric type.

* * *

At the time of going to press, R. N. Judd, who is entered to ride a Velocette, is on the sick list.

* * *

A well-known figure in the Isle of Man, Mr. G. Brown, father of the well-known "Duggie," is much in evidence at the morning's practices.

* * *

One day last week Victor Horsman did a trial lap, then returned to Liverpool to attend to business matters, and was back in the Island the following night.

* * *

The B.S.A. team, under the management of Commander St. John, is quartered at Ramsey, as are the Scotts. Those who stay at Ramsey are permitted to start and finish their practice laps from that point.

* * *

Quite a crowd turned out to witness the arrival of the new Triumphs.

* * *

Much good work has been put in by the Manx Motor Cycle Club, and particularly by Mr. H. M. Rogers, whose efforts are untiring.

* * *

The paucity of sailings is a serious handicap to those who require spares from the works in a hurry.

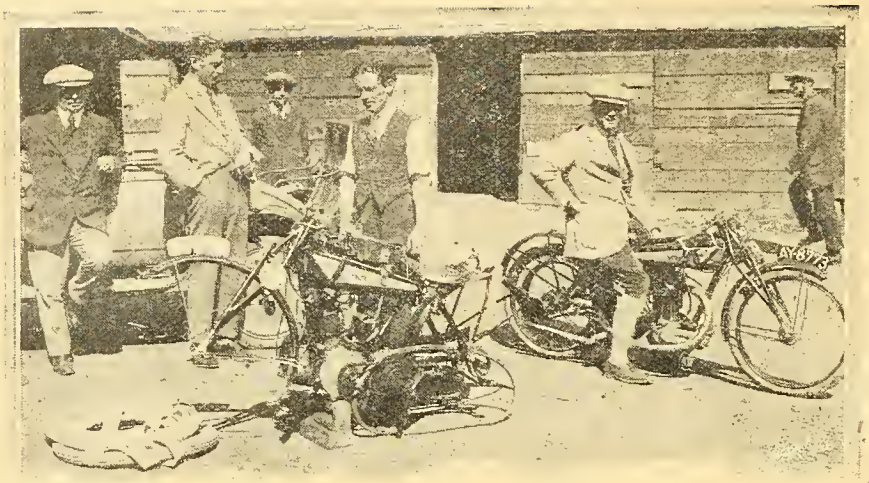
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F. W. Dixon killed a bird on his way up to practice, and his Indian was about to carburet it when he arrived.

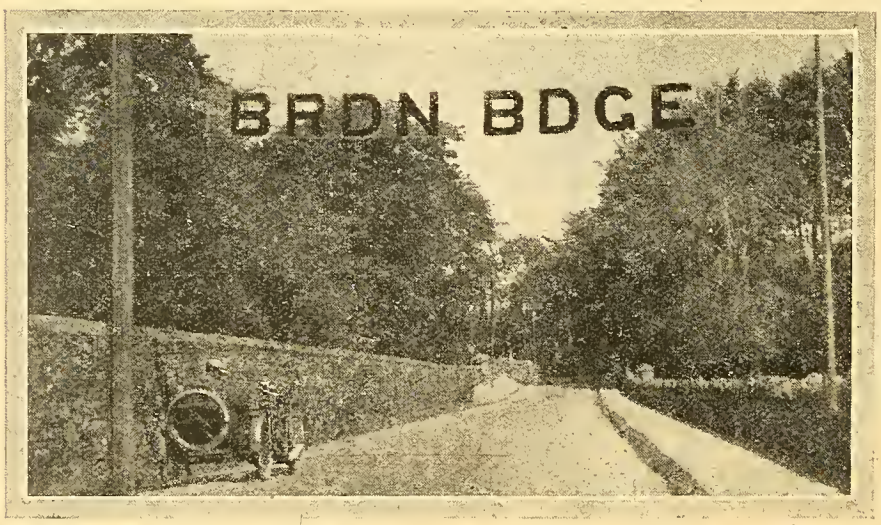


SURELY NOT A BLOW HOLE!

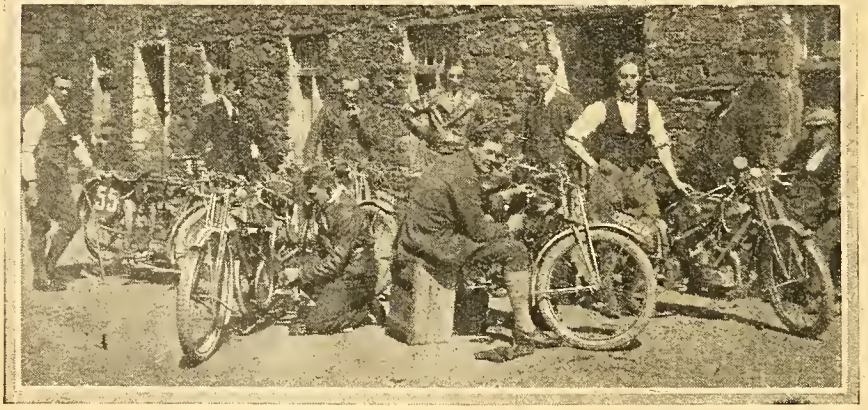
Although the majority of machines are tuned before reaching the Island, extraordinary care has been used in the final tuning up. Here is R. Russell Coes carefully examining the cylinder of his Indian.



At the Coulson depot. Longden is busy with the tyres of his twin. Kaye Don and H. Petty will be observed, the latter on his mount.



'Ware Bridge! One of the new type of signs around the course to indicate points where special caution is necessary. They consist of solid letters on wire netting—the sign depicted is near Braddon Bridge.



Final stages in the tuning of the Ivy machines. There will be seven of this make in the Junior race, as a Senior entry is to be transferred.

On different days we viewed the practising from various parts of the course, and one morning at Hilberry observed that the B.S.A. riders' corner work was very good on the whole; but Clapham (on the new Scott), the rider nominated by the Ilkley Club, was easily best.

* * *

Down the mountain Walker and Hassell attained terrific speeds on their Nortons: and Le Vack, too, was remarkably fast, and his cornering splendid.

* * *

At this time the weather was fine, and dust was giving the riders a great deal of trouble; and from Hilberry Corner, the dust clouds on the mountain were visible long before the machines appeared in sight.

* * *

Mechanical troubles are not so prevalent as usual, and have been chiefly of a minor character. The Norton riders reported stops through valve spring breakages.

* * *

After nearly a week on the Island, the speeds were reduced, for on the fifth day—a fine day, too—no better times than H. R. Davies's (2¾ A.J.S.) 42m. 35s. of the day before were made, although Hassall (Norton) improved his time by 19s. Bennett, of the Sunbeam team, covered the lap in 43m. 19s. Some of the other notable times were as follows:

	m.	s.
H. Le Vack (3½ Indian)	44	43
D. Alexander (3½ Norton)	43	25
G. Dance (3½ Sunbeam)	43	34
D. G. Prentice (2¼ New Imperial)	50	25
H. F. Harris (2¾ A.J.S.)	47	52
H. Thorpe (2¾ Douglas)	49	29

* * *

The new Diamond is a very racy looking machine. It has inclined overhead valves, the stems being lubricated by oil release from the timing gear. Ball bearings are fitted to the rocker gear and the chain transmission passes through a new Diamond three-speed gear box.

* * *

Once again the Dunlop *buffet* is a popular and well patronised feature of the early morning starts.

* * *

The Sun Vitesse is an interesting little mount, equipped with a rotary inlet valve forming an extension to the crankshaft. It is also fitted with a foot operated Moss three-speed gear.

* * *

Velocettes are attracting much favourable comment; they are fitted with clutches, and the flywheels are enclosed in aluminium cases.

* * *

By the end of last week nearly all the competitors and their mounts were in the Island. Some of the late arrivals were the Massey-Arrans and the Dot.

* * *

F. W. Dixon (Indian), who has already earned a reputation for his fine cornering, fell at Governor's Bridge, but without serious damage to himself or his mount. Notwithstanding, he almost made record lap.

* * *

At the end of last week, T. Mall (the Irish Sunbeam rider) took Hilberry too wide, and fell heavily. It is feared that he is out of the race.

T.T. Notes and News.—

On his first trip round the course on the Massey-Arran, Jack Thomas was inside qualifying time, despite the fact that owing to a slight defect the high gear could not be employed.

* * *

T. C. de la Hay takes his practice laps quietly and occasionally stops to light a cigarette.

* * *

Reg. Brown is recovering from the results of his fall, and as he was temporarily unable to ride he returned to the mainland for a few days.

* * *

The usual wild rumours are prevalent, and it is no uncommon thing to meet, in the best of health, the man who ten minutes before had been reported as in hospital with serious concussion.

* * *

Most of the Levis team's early practice was done on old machines, but good laps have been completed, and they appear fast on the course.

* * *

Two overhead valve Massey-Arrans, with Blackburne engines, and one with a s.s. J.A.P. will be run. All have new Burman light three-speed gears, and look very smart.

* * *

T.T. Douglas mounts will have a four-speed gear box for the race though much of the practice work has been carried out with the three-speed box. The new change speed lever works in a gate bolted to the timing gear cover. All oil is carried in a large sump directly below the crank-case and front cylinder, and the oil pump is coupled directly to its operating pedal. A. H. Alexander's machine has a Senspray carburetter and an exhaust lacketed inlet pipe.

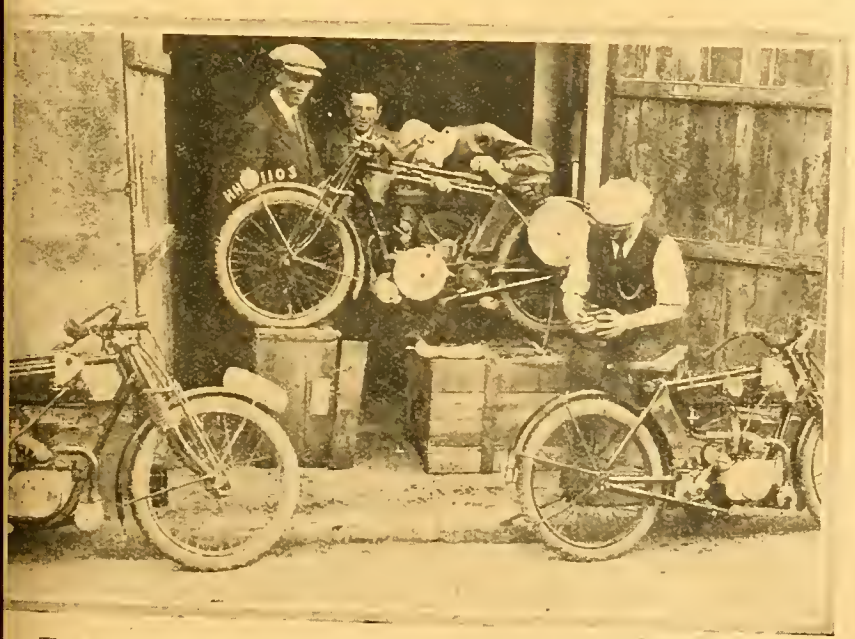


Where hope runs high—the A.J.S. depot. Considering the fast lap times made by these little machines it is no wonder that optimism is the rule.

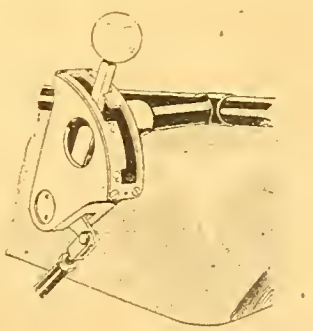
A comprehensive record of past T.T. races is included in the excellent programme of the 1921 event, published by the A.C.U., price 1s. Scoring sheets, speed, and distance tables are included for the present year's races.

* * *

The end of the first week's practice brought forth a series of minor accidents to men and machines. Minton fell at Keppel Gate, which necessitated a visit to the hospital, where it was found that no bones were broken. D. Alexander's front mudguard came adrift and jammed his front wheel, causing him to fall at speed, but he escaped with little hurt. His breeches, however, were torn to shreds. Among those who suffered mechanical trouble were Wood (B.S.A.), who broke a piston at Windy Corner, and Hadfield had his magneto go wrong.



The man who wins the T.T. is a genius in his particular sphere, and one thing that strikes the observer as he strolls from garage to garage is the infinite capacity for taking pains that some of the T.T. riders exhibit in the overhauling of their mounts; obviously there must be nothing slipshod in any part of the preparation. A scene at the Velocette depot.



The three-speed gate of the Velocette, specially designed for the T.T. models.

Some of the best laps were accomplished last Saturday, Dixon (Indian) making an unofficial record this year in 41m. 35s. Other Senior lap times were:

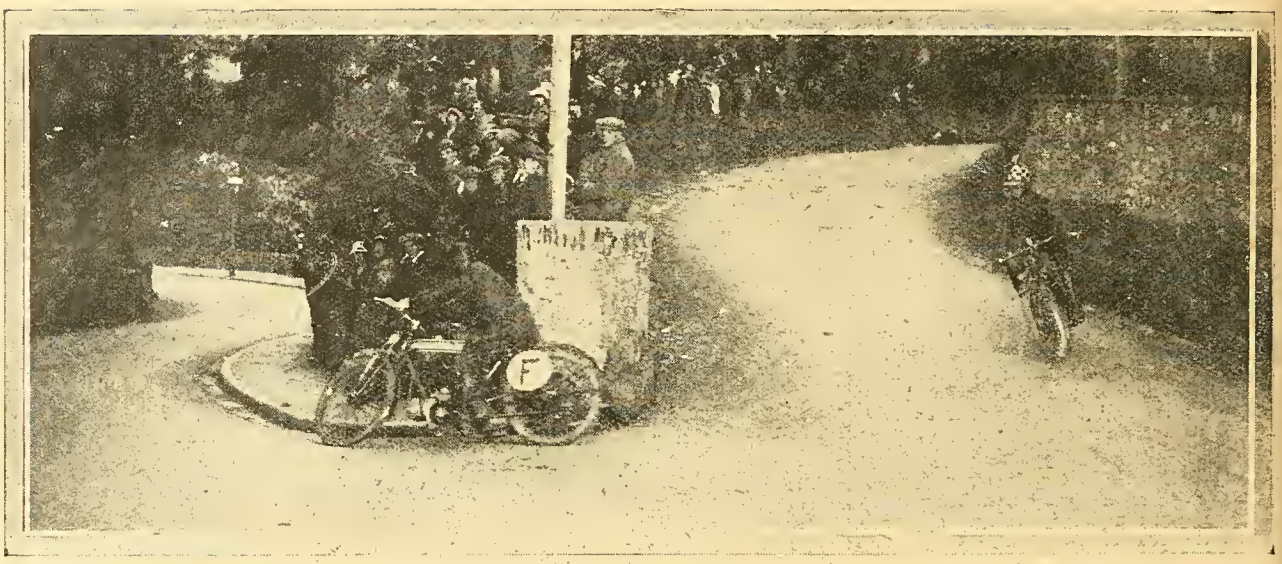
	m.	s.
A. Bennett (Sunbeam)	42	35
H. W. Hassall (Norton)	42	
J. Whalley (Sunbeam)	44	45

Among the Juniors the following made best times:

	m.	s.
A. Alexander (Douglas)	45	45
Eric Williams (A.J.S.)	47	2
V. Ollson (A.J.S.)	49	35

* * *

Just as he was expecting to get on the course again Judd's leg took a turn for the worse. He is suffering from a form of blood poisoning.



GOVERNOR'S BRIDGE. The worst bend on the whole course, and so acute that competitors have to slacken speed, and which actually makes it less dangerous than the other corners where high speeds are possible. It immediately precedes the finishing point.

LATE NOTES ON THE JUNIOR CONTESTANTS.

MANY hold the opinion that the Junior is a gift for the A.J.S. if all goes well, and go so far as to place the riders: 1, H. R. Davies; 2, E. Williams; 3, T. Sheard or Harris.



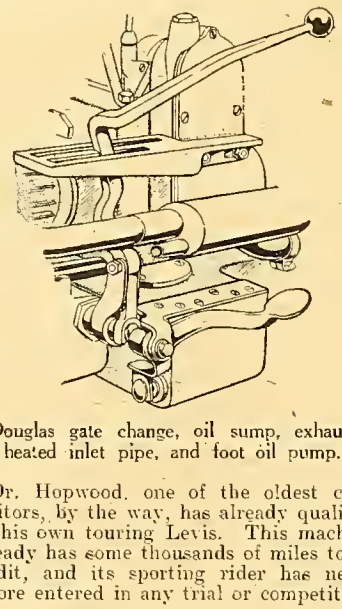
A SPORTING MEDICO.

Dr. C. H. Hopwood, who aspires to win *The Motor Cycle* Cup on his standard Levis, which has several thousand miles to its credit. He is seen operating upon the piston of his engine.

Ollson (on the standard side-by-side valve A.J.S.) is very consistent, and is comfortable on his machine. Douglas should be good runners-up, probably A. Alexander and Thorpe. Norris (Ivy) is going well at times, but is not consistent. Blackburnes are fairly fast, and Carey should be moderately well up. The 250 c.c. class is a hopeless guess. On form, M. Black (Omega) or B. Kershaw or D. Prentice (New Imperial) should win. All the 250 c.c. J.A.P.'s are good, and Denley (Velocette) can lap all day at 55-56m. per lap; but the Levises only obtained their new engines this week, and have been running last year's machines and faked standards.

New Hudsons and Martins had not arrived at the week-end. Most Levis times are not available, as they start from Peel, and time themselves. Some have only completed one lap, and others are running "dark." The Diamonds are as fast as anything in this class, but are having minor troubles, and have only completed a slow lap or two between them.

Personally, from observations on the course, we fancy Levis, if the new engines are all right. The Velocettes should finish well up. Of the J.A.P.'s those mentioned appear best, and N. Black rides well.



Douglas gate change, oil sump, exhaust heated inlet pipe, and foot oil pump.

Dr. Hopwood, one of the oldest competitors, by the way, has already qualified on his own touring Levis. This machine already has some thousands of miles to its credit, and its sporting rider has never before entered in any trial or competition.

* * *

The Ivy machines, under the charge of Howard Newman, have been suffering from lubrication troubles, due to oil congealing on cold mornings. These little machines have standard engines, and are standard in almost every respect.

* * *

Sulby Bridge has been taking its toll, and several minor accidents have occurred there through the riders taking it too fast.

* * *

The Sunbeam organisation is perfect, and the men are doing excellent practice work. Though the lap times are consistently good, the team does not appear to be out for sensational times *yet!*

THIS WEEK'S FORM.

AT the time of going to press, the 350 c.c. A.J.S. machines were still the favourites in the opinion of those who have followed the practising in the Island, but the Douglas entry also had a strong following. On Monday H. R. Davies (A.J.S.) covered a lap in 46m., Eric Williams and Harris (on sister machines) in 47s. and 48s. respectively. A. Alexander (2¾ Douglas) has lapped in 43m., and Ollson (on the side-by-side valve A.J.S.), too, has been riding very consistently. The real T.T. Levis mounts have only been introduced to the course this week, and it is too early to judge their capabilities.

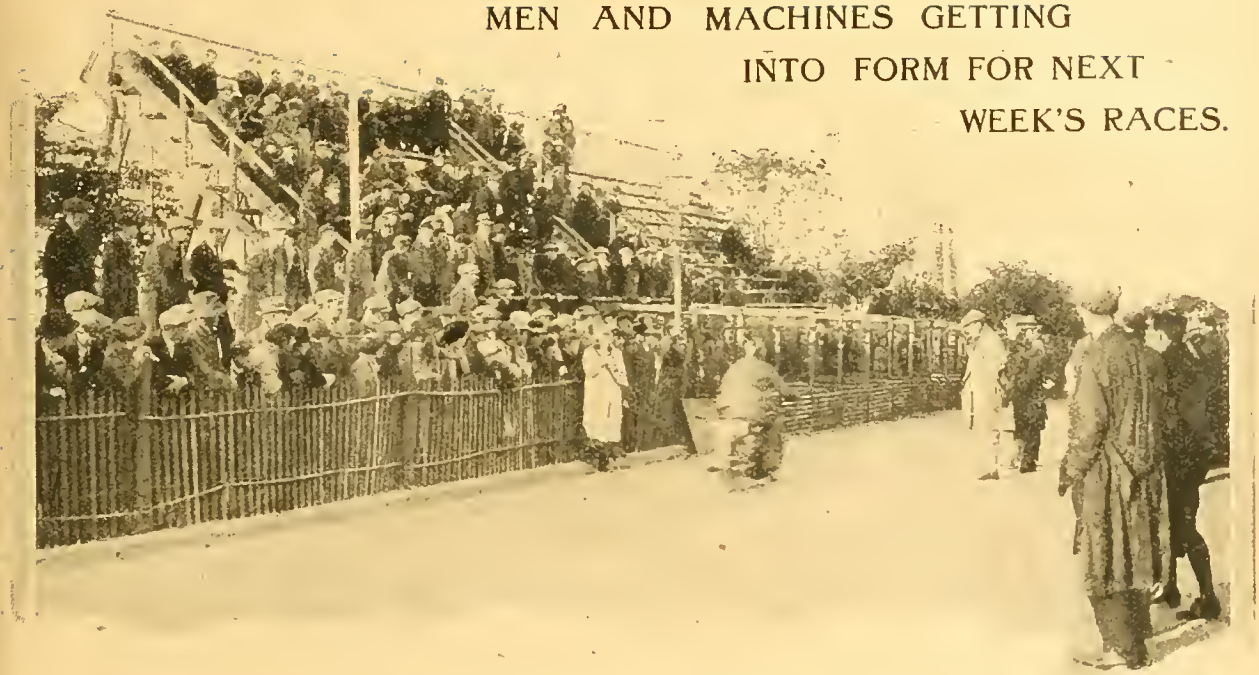
So far, the best Velocette time has been 53m., but the riders do not appear to be hurrying unduly, and apparently have speed in reserve.

S. Gill (Triumph) fell on Monday at Quarter Bridge, but was riding again on Tuesday. His front tyre rolled off the rim at Governor's Bridge.

This week some of the riders have discovered the penalty of scraping round the wall at Governor's Bridge, since Horton fouled it and fell on Monday, and all together they are quickly improving their cornering through continual practice, and the experience gained thereby.

There is no doubt that next Tuesday's race will be hardly fought, and that it will be exceedingly fast.

MEN AND MACHINES GETTING INTO FORM FOR NEXT WEEK'S RACES.



Greater enthusiasm than ever is being shown by the spectators in the various riders and their machines, and a big crowd gathers every morning to watch the practising.

TABULATED LIST OF THE 65 ENTRIES FOR THE JUNIOR T.T. RACE.

33 Four-stroke Singles. 10 Twins. 22 Two-strokes.

Twenty-two Competitors for "The Motor Cycle" Cup.

No.	Rider.	H.P. and Make.	No. of Cyl.	Bore and Stroke.	Cubic Capacity.
				mm.	c.c.
1	G. Browne	2¾ New Scale	1	71 × 88	348
2	A. G. Miller	2¼ Martin	1	70 × 90	346
3	L. Nicholson	2¼ Coulson	1	71 × 88	348
4	*Tudor Thompson	2¾ Douglas	2	61 × 60	350
5	B. Kershaw	2¼ New Imperial	1	64.5 × 76	†249
6	W. H. Kelly	3 Ivy	1	75 × 79	348
7	P. Pike	2¼ Levis	1	67 × 70	†247
8	G. Savage	2¼ Hobart	1	64.5 × 76	†249
9	C. W. Fairweather	2¾ Blackburne	1	71 × 88	†349
10	Norman Black	2¼ Omega	1	64.5 × 76	†250
11	Vivian Olsson	2¾ A.J.S.	1	74 × 81	349
12	F. A. Longman	2¾ Wooler	2	60.5 × 60	345
13	A. Milner	2¼ Levis	1	67 × 70	†247
14	*R. Weatherell	3 R.W. Scout	1	75 × 76	318
15	G. Kuhn	2¼ Sun-Vitesse	1	67 × 70	†247
16	Jack Thomas	2¼ Massey-Arran	1	71 × 88	348
17	A. H. Alexander	2¼ Douglas	2	61 × 60	350
18	W. J. Lord	2¼ Hobart	1	64.5 × 76	†249
19	L. Vicary	3 Ivy	1	75 × 79	348
20	L. Horton	2¾ New Imperial	1	70 × 90	346
21	Geo. Denley	2¼ Velocette	1	63 × 80	†249
22	B. H. Norris	2¼ Sun-Vitesse	1	67 × 70	†247
23	J. G. Oates	2¾ Massey-Arran	1	71 × 88	348
24	D. G. Prentice	2¼ New Imperial	1	64.5 × 70	†249
25	P. Newman	3 Ivy	1	75 × 79	348
26	R. N. Judd	2¼ Velocette	1	63 × 80	†249
27	F. J. Price	2¼ Diamond	1	65 × 75	†249
28	F. W. Applebee	2¼ Levis	1	67 × 70	†247
29	E. Remington	2¾ Blackburne	1	71 × 88	349
30	*J. Joynson	2¼ N.U.T.	2	60 × 61.5	349
31	T. Eve	2¾ Martin	1	70 × 90	346
32	G. Kelly	2¾ A.J.S.	1	74 × 81	349
33	J. R. Alexander	2¾ Douglas	2	68 × 48	350
34	S. F. Haden	2¼ New Comet	1	70 × 76	293
35	J. S. Clayton	2¼ New Imperial	1	64.5 × 76	†249
36	S. A. Marks	2¼ Diamond	1	64.5 × 76	†249
37	H. G. Hawker	2¾ Hawker	1	65 × 105	348
38	H. F. Harris	2¾ A.J.S.	1	74 × 81	349
39	R. Carey	2¾ Blackburne	1	71 × 88	348
40	Jack Holroyd	2¾ Massey-Arran	1	71 × 88	348
41	*F. Boulton	2¾ New Imperial	1	70 × 90	346
42	*Eric Longden	2¾ Coulson	2	60 × 61	344
43	*R. W. Loughton	2¾ N.U.T.	2	60 × 61.5	349
44	R. E. Pugh	2¼ Levis	1	67 × 70	†247
45	*C. F. Edwards	3 Ivy	1	75 × 79	348
46	*C. H. Hopwood	2¼ Levis	1	67 × 70	†247
47	H. Thorpe	2¾ Douglas	2	60.5 × 60	345
48	W. Howarth	2¼ Dot	1	70 × 90	346
49	G. S. Davison	2¼ Levis	1	67 × 70	†247
50	H. Petty	2¾ Coulson	1	71 × 88	348
51	G. N. Norris	3 Ivy	1	75 × 79	348
52	Eric Williams	2¾ A.J.S.	1	74 × 81	349
53	Frank Wood	2¾ Blackburne	1	71 × 88	348
54	*H. F. Brockbank	2¾ Brock-Blackburne	1	71 × 88	348
55	Reg. Green	3 Ivy	1	75 × 79	348
56	*W. G. Harrison	2¼ Velocette	1	63 × 80	†249
57	O. Wade	2¾ A.J.S.	1	74 × 81	349
58	J. Emerson	2¾ Douglas	2	60.5 × 60	345
59	H. R. Davies	2¾ A.J.S.	1	74 × 81	349
60	H. Martin	2¼ Martin	1	64.5 × 76	†249
61	S. E. Longman	2¾ Wooler	2	60.5 × 60	345
62	T. M. Sheard	2¾ A.J.S.	1	74 × 81	349
63	*R. Humphreys	2¼ Velocette	1	63 × 80	†249
64	G. W. Jones	2¾ New Hudson	1	67 × 70	†247
65	Reg. Lucas	2¾ Coulson	1	71 × 88	348

*Private entries. †Eligible for *The Motor Cycle* Cup.

LAST YEAR'S LAP POSITIONS AT A GLANCE.

FIRST LAP.—1, Eric Williams (A.J.S.); 2, H. R. Davies (A.J.S.); 3, N. F. Harris (A.J.S.).

SECOND LAP.—1, Eric Williams (A.J.S.); 2, H. R. Davies (A.J.S.); 3, N. F. Harris (A.J.S.).

THIRD LAP.—1, Cyril Williams (A.J.S.); 2, R. O. Clark (Levis); 3, J. S. Holroyd (Blackburne).

FOURTH LAP.—1, Cyril Williams (A.J.S.); 2, R. O. Clark (Levis); 3, J. A. Watson-Bourne (Blackburne).

FINAL LAP.—1, Cyril Williams (A.J.S.); 2, J. A. Watson-Bourne (Blackburne); 3, J. S. Holroyd (Blackburne).

On page 716 will be found a list of winners of previous Junior Tourist Trophy races.

Where to Learn the Results of the T.T. Races.

An Alphabetical List of Prominent Positions where "The Motor Cycle" Series of Telegrams will be displayed next Tuesday and Thursday.

MOTOR cyclists all over the country are interested in the Tourist Trophy races, but only a comparatively small percentage can afford the time to visit the Isle of Man in order to witness them. *The Motor Cycle* telegrams, which are displayed in prominent positions, have always been appreciated, for only by their aid are many thousands of readers able to follow the progress of the races by the positions of the riders at the conclusion of each lap. This year the list of depots, etc., where these telegrams will be displayed has been considerably extended, and would have been even larger, but for the fact that there is a limit to the number which can be handled expeditiously by the Post Office authorities.

In order that motor cyclists may follow the progress of the Tourist Trophy Races on Tuesday and Thursday of next week, "The Motor Cycle" is following its usual practice of circulating by telegrams all over the country the respective lap positions. A list of addresses where these telegrams will be displayed is appended.

Aberdeen.—Cruikshank, 13-19, Rose Mount, Viaduct.
Ammanford (Carm.).—Harries, Ironmongers.
Bedford.—J. Crawley and Sons, Motor Engineers, 4, St. Mary's Street.
Belfast.—Palmer Tyres, Ltd., 75, Ann Street.
Birkenhead.—H. J. Marston's, 50, Argyle Street.
Birmingham.—Amac, Ltd., Aston Cross; Bacon and Wynn, Ltd., 870, Stratford Road; Colmore Depot, 31, Colmore Row; County Cycle and Motor Co., 307, Broad Street; H. Cutler and Son, Handsworth Motor Depot, 247, Soho Road; P. J. Evans, 81, John Bright Street; Iliffe and Sons, Ltd., Guildhall Buildings, Navigation Street; James Cycle Co., Ltd., 9, Broad Street Corner; The Premier Motor Co., Aston Road; Frank Whitworth, Ltd., 139, New Street.
Blackburn.—Slater's, 3, Lord Street (Market Place).
Blackpool.—Brown and Mallalieu, Metropole Garage, General Street.
Bolton.—Parker's, Bradshawgate.
Bournemouth.—P. W. Surplice, Poole Hill.
Bradford.—A. Hodgson, 10, Horton Road; Eric S. Myers, 52, Manningham Lane.
Brecon.—Fryer Bros. and Co., Motor Cycle Agents.
Bridgend (Glam.).—John Lewis, 35, Caroline Street.
Bristol.—The Leader Cycle and Motor Depot, 196, Cheltenham Road.
Burnley.—W. H. Harrison, The Motor House.
Bury.—Jack Pilling, 1, Rock Street.
Cambridge.—Herbert Robinson, Ltd., 32, Green Street.
Cardiff.—Alexander Thom, 201, City Road.
Carmarthen.—Carmarthen Motor Cycle and Cycle Car Club, Nelson Hotel.
Cheltenham.—H. E. Steel, Ltd., Automobile Engineers, High Street; A. Williams and Co., 19, Portland Street.
Chester.—Marston's, 26-31, Bridge Street.
Colwyn Bay.—Braid Bros., Midland Garage.
Coulsdon (Surrey).—Knight and Wheatley, 4, The Pavement.
Coventry.—*The Motor Cycle* Offices, Hertford Street.
Darlington.—Cleveland Car Co., Ltd., Grange Road.
Doncaster.—J. H. Wilkinson and Son, 19, Silver Street.
Dorchester.—W. G. Churchill, Motor and Cycle Engineer, The Grove.
Dublin.—J. J. Kelly, 27, Batchelor's Walk; F. A. Wallen, Trinity Street, Garage.
Dudley.—Whorton and Christopher, 220, Wolverhampton Street.
Dunfermline.—D. R. Engineering Co., Ltd., Hospital Hill.
Eccles.—Barlow and Sons, 174-6, Monton Road, Monton.
Edinburgh.—Rossleigh, Ltd., 32, Shandwick Place; Alexander and Co., 113-115, Lothian Road.
Exeter.—P. Pike and Co., Ltd., The Garage, St. Thomas; Maude's Motor Mart,, 100, Paris Street.
Glasgow.—Alexander and Co., 272, Great Western Road; Bell Bros., 238, Great Western Road; V. Jennings and Co., Ltd., 86, Mitchell Street.
Gloucester.—W. B. Gibb, 100, Northgate Street.
Granton-on-Spey.—W. G. Donaldson, 26, High Street.
Gravesend.—The Premier Motor Garage, 25a, Stone Street.
Grimsby.—Jas. Plastow, 13, Osborne Street.
Halifax.—Halifax Motor Exchange, 25, Horton Street.
Hereford.—James Fryer, Ltd., No. 2 Garage, Commercial Road.
Huddersfield.—Earnshaw and Co., 10, Cloth Hall Street.
Hull.—Gray Bros. and Kemp, Ltd., 362, Anlaby Road; Morrell and Co., Ltd., Jameson Street.
Ipswich.—Egertons, Engineers and Coachmakers, Northgate Street.
Kettering.—Harry Taylor, Cycle Agent, Montague Street.
Leeds.—W. Mitchell, The Motor House, Roundhay Road; Palmer Tyres, Ltd., 1, New York Road.
Leicester.—The Colmore Depot, 62, High Street; Tom Cann, Ltd., 88, Woodgate.
Liverpool.—Colmore Depot, 24, Paradise Street; Victor Horsman, Ltd., 7, Mount Pleasant; J. Blake and Co., 110, Bold Street.
Llandrindod Wells.—Tom Norton, Ltd., The Automobile Palace
London.—Auto-Cycle Union, 83, Pall Mall, S.W.1; Automobile Association and Motor Union, Fanum House, Whitcomb Street, W.C.2; The Allen-Bennett Motor Co., Ltd., 9, Royal Parade, London Road, West Croydon; Benetfink and Co., Ltd., 107, Cheapside, E.C.2; Burlington Motor Cycle Co., Ltd., 7, South Side, Clapham Common, S.W.4; Coppen, Allan and Co., 89, Great Portland Street, W.1; Douglas Motors, Ltd., 39, Newman Street, W.1; Eagles and Co., 275, High Street, Acton, W.; The Eastern Garage Co., 418, Romford Road, Forest Gate, E.7; W. H. Elce and Co., 15, Bishopsgate Avenue, Camomile Street, E.C.3; A. W. Gamage, Ltd., Holborn, E.C.1; The General Motor Cycle Service, 95, Dartmouth Road, Forest Hill, S.E.23; Godfrey's, Ltd., 208, Great Portland Street, W.1; James Grose, Ltd., 4, Old Jewry, Cheapside, E.C.2; James Grose, Ltd., 8, New Bridge Street, Ludgate Hill, E.C.4; James Grose, Ltd., 255, Holloway Road, N.17; Hutchinson Tyres, 70, Basinghall Street, E.C.2; Jones's Garage, The Broadway, Muswell Hill, N.10, and Jones's Garage, Woodside Parade, North Finchley, N.; D. C. Lamb, 151, High Street, Walthamstow, Essex, and 50, High Road, Wood Green, N., and 387, Euston Rd., N.W.1; Longman Bros., 17, Bond Street, Ealing Broadway, W.5; J. L. Love and Co., 21, Park Road, Bromley, Kent; Maude's Motor Mart, 100, Great Portland Street, W.1; Norman Reid, Barrett and Co., Ltd., 6, Warwick Street, Regent Street, W.1; Phelon and Moore, Ltd., 4, Berners Street, W.1; Robertson's Motors, Ltd., 157b, Great Portland Street, W.1; S. E. Clapham (Motors), 27, Stockwell Street, Greenwich, S.E.10; The Service Co., Ltd., 289, High Holborn, W.C.1; H. Taylor and Co., Ltd., 52, Sussex Place, South Kensington, S.W.7, and 21a, Store Street, Tottenham Court Road, W.C.1; Turner's Stores, 180, Railway Approach, Shepherd's Bush, W.12; F. J. Youngs, 2, The Parade, High Road, Kilburn, N.W.6; Palmer Tyres, Ltd., 119, Shaftesbury Avenue, W.C.2; Iliffe and Sons Ltd., 20, Tudor Street, E.C.
Luton.—Dickinson and Adams, Motor Engineers, High Town Road; Geoffrey S. Davidson, Ltd., Bute Street.
Maidstone.—Rootes, Ltd., Len Engineering Works.
Malvern.—W. and B. Woodyatt, Ltd., The Garage.
Manchester.—The Colmore Depot, 3, Peter Street; Tom Davies, Deansgate; The Ruby Cycle Co., Ltd., 162, Deansgate; J. W. Gourlay, 3, Burgon's Building, Fallowfield; Iliffe and Sons Ltd., 199, Deansgate, Manchester.
Mansfield.—Reg. Lucas, Esq., The Garage, Brunt's Street.
Middlesbrough.—Fred W. Dixon, Park Garage, Linthorpe Road.
Neath (Glam.).—Central Motor and Motor Cycle Garage, London Road.
Newcastle-on-Tyne.—Travers, Ltd., 77, Pilgrim Street; Grimshaw Leather and Co., Ltd., Barras Bridge; The Percy Motor Co., Ltd., 72, Northumberland Street.
Norwich.—R. O. Clark, 2a, Upper King Street.
Nottingham.—Whitfield and Mosley, Carrington Street; Palmer Tyres, Ltd., Greyfriar Gate.
Nuneaton.—Sam Robbins, Ltd., Leicester Road.
Peterborough.—Turnhill, North and Co., 55, Broad Street.
Perth.—Macfarlane's Motor Depot, 22, South Methven Street.
Plymouth.—P. Pike and Co., Ltd., 33, Union Street.
Pontymister (Mon.).—Marsh's S.P.Q.R., 131, Commercial Street, Pontymister, Risca, Mon.
Portsmouth.—Palmer Tyres, Ltd., 49, High Street.
Preston.—Bradshaw's, Fishergate, Preston; Bert Houlding, Marks, and Rigby, Ltd., 215, Lancaster Road.
Reading.—H. Julian, 84, Broad Street.
Rugby.—Sam Robbins, Ltd., Bilton Road.
Ryde.—Downing and Donovan, Motor and General Engineers, Union Street.
St. Albans.—Dudley R. Clarke, 98, London Road.
St. Ives (Hunts.).—Parker and Son, Station Road Garage.
Sheffield.—F. B. Roper, 166, London Road; Henderson Sidecars, Aero Works, Fitzwilliam Street.
Sherborne.—Dyer's Motor and Cycle Works, The Parade.
Shrewsbury.—J. C. Pickering, 49, Mardol; James' Garages, Ltd., 8, Mardol Head.
Southport.—H. F. Brockbank, 58, Lord Street; R. Bamber and Co., Ltd., 2, East Bank Street.
Stevenage (Herts.).—Hall's Garage, Ltd.
Stockport.—Talbot Garage, Ltd., Mersey Square.
Sunderland.—Grimshaw Garage.
Tadcaster.—Frederick Snape and Co., Bridge Street.
Taunton.—Hewin's Garages and Engineering Co., Ltd., Corporation Street.
Torquay.—Nunn, Farmer and Co., 73, Union Street.
Tunbridge Wells.—R. Carey, 16, Crescent Road; Read Bros., 82, London Road, Southborough; G. E. Tunbridge, 2, Vale Road.
Turriff (Aberdeenshire).—William Dickie.
Walsall.—The Colmore Depot, Stafford Street; Maude's Motor Mart, The Walsall Garage, Wolverhampton Street.
Weston-super-Mare.—D. Read and Co., Orchard Street.
Wetherby (Yorks.).—Frederick Snape and Co., 22, North Street.
Wisbech (Cambs.).—Crabtree and Sons, Ltd., Motor Engineers.
Wolverhampton.—Cyril Williams, Chapel Ash Depot.
Worcester.—Eric Williams, Ltd., The Motor Cycle Depot; W. J. Bladder, 52, Sidbury.
Wrexham.—North Wales Motor Exchange.
York.—Smith Bros., Walmgate.
Yeovil.—James Moffat, Town Hall Garage.

LONDON-COVENTRY-LONDON.

"A SURPRISINGLY severe run" was the consensus of opinion at the finish of the North-west London Motor Cycle Club's annual London-Coventry-London Reliability Trial held on Saturday last.

This twelve-hour trial, previously noticeable on account of an entire absence of severe gradients, included this year a "colonial section" remarkable for the severity of the hills, the narrowness of the roads, and the appalling surfaces. The route, starting at Hampstead, was *via* Rickmansworth, West Wycombe, where the colonial section started, Kop Hill, Aylesbury, and Banbury to Coventry, and back *via* Dunstable to the finish at Jack Straw's Castle, Hampstead. The entry included twelve motor cyclists.

The first event of interest was the arrival not less than half an hour early at the West Wycombe check of C. C. Labin (4 Indian Scout) and another rider travelling in the wrong direction! The first hill in the non-stop colonial section accounted for several failures, C. H. Auty (2¼ James), Miss L. Buchan (2¾ Douglas), and P. H. Goddard (6 Enfield sc.), all coming to rest, and needing considerable assistance to reach the top. Kop Hill was likewise responsible for several failures.

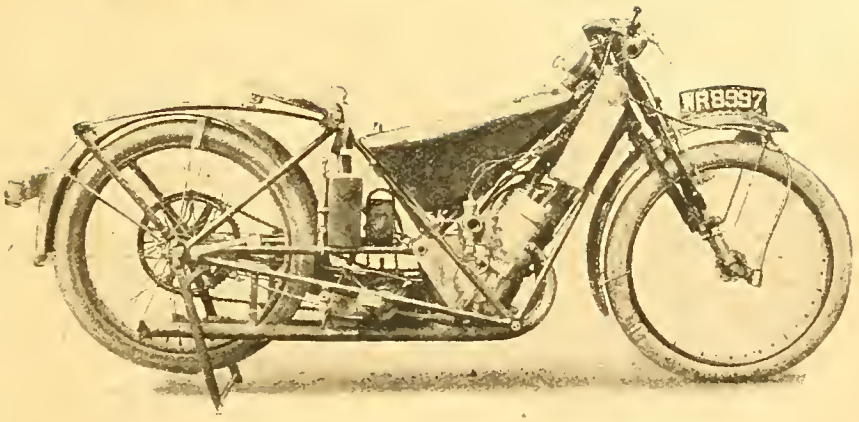
B. E. Belfield (7 A.J.S. sc.), to obviate the possibility of tyre trouble, had cunningly fitted a Rapson unpuncturable pneumatic tyre to the rear wheel, but stopped with a flat tyre near Banbury! All the riders appeared at the finish, with the exception of the plucky Miss L. Buchan, who, riding a solo Douglas, suffered from a leaky petrol tank in the neighbourhood of Daventry.

T.T. SCOTTS.

Aluminium Engine, Four Speeds, Two-spark Magneto.

A PREVIOUS winner of the Senior event should have a sound idea of what is necessary for the Isle of Man course, and since H. O. Wood is responsible for the 1921 T.T. Scott it will be hardly surprising if the new machine develops a large backing for the forthcoming race. Engine, frame, and gears are entirely new, though reminiscent of Scott design.

To begin with, the twin-cylinder engine has a bore of 73 mm. and a stroke of 62.5 mm. Cast iron liners, fixed in the main aluminium crank case and water jacket casting, form the cylinders, and a single aluminium casting serves as a head for each cylinder and the necessary water jacket. For these heads, a copper and asbestos gasket is used at the joint. The head may be removed without disturbing any other part of the machine. In addition to these features the transfer passages are comprised in the main casting, and a separate exhaust pipe leads from each cylinder to the rear of the machine. Large water pipes are used, and the return extends over the whole front of both cylinder barrels.



Practically constructed throughout of aluminium, the Scott engine strikes a new note in two-stroke engine design. The water-cooled cylinders are of aluminium with cast iron liners.

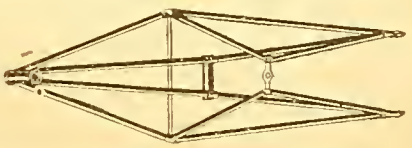
Four-speed Gear.

Following Scott practice, two chains convey the drive to a normal Scott two-speed gear, but the usual place of the rear driving sprocket is occupied by a gear wheel which drives the layshaft of a two-speed gear box. The rear driving sprocket lies between the high and low mainshaft gear wheels, to either of which it may be locked by means of a separate foot control through the medium of delay action operating gear. By this means four speeds are obtainable, the ratios being in the proportion of 3.3 to 1, 4.75 to 1, 4.95 to 1, and 6.4 to 1.

Both engine and gears are mounted on a sub-frame which may be readily detached from the main frame, which, as might be expected, is an open one of triangular construction, but a considerable increase in lateral rigidity has been obtained by disposing each side of the duplex frame so that no two tubes lie in the same plane, the upper portion of the frame being considerably narrower than the lower portion.

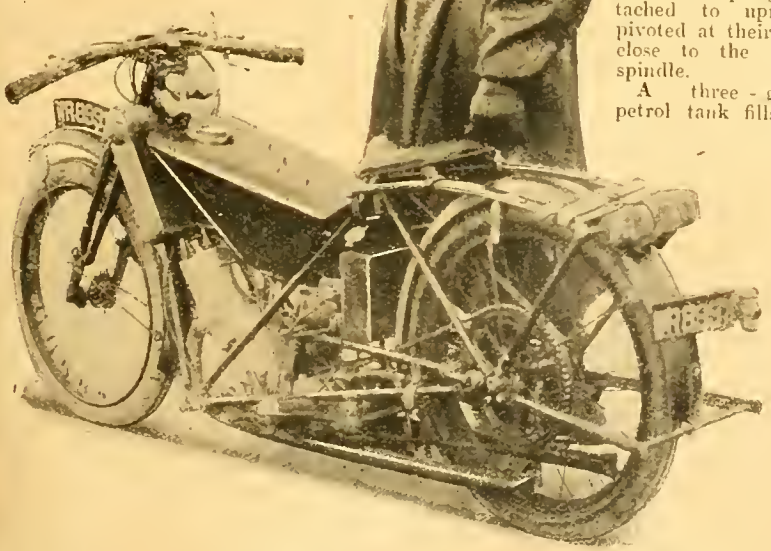
Suspended at the peak by a coil spring the pan seat is carried on two long laminated springs attached to uprights pivoted at their base close to the wheel spindle.

A three-gallon petrol tank fills the major part of the open frame, and a half-gallon oil tank is carried in front of the rear mudguard. Lubrication, it must be added, is entirely automatic, and is operated by crank case vacuum. Quite a novel feature is the substitution of a "decelerator" for the half compression device, the normal half compression lever on the handle-bar operating the switch as usual, and also serving to close the throttle independently of the main carburetter control setting.



Diagrammatic plan of the Scott T.T. frame, showing the arrangement of tubes.

An Amac carburetter, Lucas two-spark magneto, and 650×65 Palmer tyres, complete a very interesting specification.



Capt. Clarence P. Wood, well known as a consistent Scott competitor in trials, and one of the favourites for the T.T. race. H. O. Wood (known to his intimates as Tim Wood), the designer of the new T.T. Scott, and winner of the 1913 Senior event, when he averaged 48·28 m.p.h., is his elder brother.

HOLLAND v. GT. BRITAIN.

THE A.C.U. has proposed to the Dutch motor cyclists that the annual International Team Trial be postponed from August 1st to September 26th. This is in order to have more time thoroughly to organise the programme for the entertainment of the visitors from Holland, who, last year, so royally entertained the British team.

A Midland course of about 150 miles will probably be chosen, and the formation of the British team is now in progress. The A.C.U.—and all interested in our national reputation as motor cyclists—are desirous of having the finest possible team to represent them, and applications for the honour should be made at once to Mr. C. A. Edwards, the hon. sec. to the organising committee, 61, Kenilworth Gate, Putney, London, S.W.15.

The entry fees are 7s. 6d. for private owners and 21s. for trade riders. The rival teams will be made up, as last year, of three private owners and three trade riders on solo machines under 500 c.c.; three private owners and three trade riders on solo machines over 500 c.c. In the sidecar class there are also three each private owners and trade riders, totalling fifteen.

COVENTRY-TORQUAY AND BACK.

TRAVEL-STAINED and tired, sixteen motor cyclists completed on Saturday evening the twenty-four hour run of the Coventry and Warwickshire Motor Club. A goodly crowd saw the riders off to Torquay the previous evening, and an equally interested throng applauded the survivors as they arrived back, for this was the first twenty-four hour run of the Coventry Club. The chief award was the Godiva Golden Goblet, and the conditions called for the very strict timekeeping to within five minutes early or late at any point of the route. It rained on Friday evening soon after the start, and continued until after Bath, where supper was arranged at the York House Hotel. Here F. Allen (Rover sc.) retired due to water having short-circuited the dynamo and wires—a trouble experienced by one of the car drivers in the contest.

Torquay was reached *via* Glastonbury, Wellington, Collumpton, and Exeter, and after breakfast at the Oddicombe Beach Pavilion, the return trip was commenced *via* the same route. Two more riders dropped out, viz., W. A. Weaver (Coventry Victor sc.) and E. S. Astley (Rover sc.), and two of those who continued experienced the misfortune of their sealed watches stopping. Truly, motor cycles are becoming more reliable than timepieces. After tea at Cheltenham, the run home was easy, but a final secret check caught several napping. The sixteen survivors of the nineteen starters—an excellent record for a straightaway run of 388 miles—were :

F. A. Marshall (4½ Humber).
S. A. Thomson (4 Triumph).
R. A. Player (4 Triumph).
T. H. Meakin (4 Triumph).
R. Wright (4 Triumph).
L. Crisp (4½ Humber).
D. Atkin (5 Rover sc.).
C. N. Green (5 Rover sc.).
R. B. Roberts (4 Triumph sc.).
W. Hazlewood (8 Hazlewood sc.).
H. A. Smith (4 Triumph sc.).
F. Yates (4½ Humber sc.).
H. R. Caswell (5-6 Coventry Victor sc.).
R. Grindlay (4½ Humber sc.).
Fell Smith (8 Rex sc.).
T. R. Gibbons (6-8 Acme sc.).

OXFORD UNIVERSITY v. OXFORD CITY.

AFTER soundly beating the Banbury Motor Club a week before, the Oxford M.C. were again victorious in a somewhat more difficult contest with the Oxford University M.C.C. at Kop Hill on Saturday.

Both clubs having previously staged climbs there were familiar with the hill, but, owing to the dangerously loose and uneven surface, no very sensational times were clocked. As was expected, Riddoch (on his big Zenith) made fastest time of the day (39.4 secs., equalling a speed of 46.5 m.p.h. from a standing start); but the two bonus marks for this performance were not enough to balance the overwhelming superiority of Kimber's Levis and Tollady's Velocette in the lightweight classes.

A Fast Sidecar Single.

Again, although the 'Varsity club, represented by Riddoch, made fastest sidecar time, L. Avery's 7-9 h.p. Harley-Davidson and N. U. Young's 4 h.p. Triumph were second and third, and secured between them another four marks for the city. The latter rider, who, incidentally, drove far and away the fastest mediumweight sidecar outfit, has only one arm, and consequently deserves great praise for his fine showing on a hill which, on their own confession, thoroughly frightened the majority of the solo competitors.

Competition was very keen, indeed, in the 650 c.c. solo class, but it looked as if the first three places were going to the city club until Harwood, on his hybrid Pegasus-Jap, seized the opportunity of a lull in the last car class to make a couple of fast ascents and credit the University with a welcome point for third place.

Excluding Class 7, the respective totals of the two clubs are as follows : Oxford M.C., 36 points; Oxford University M.C.C., 18 points. Detailed results follow.

CLASS 1 (650 c.c. SIDECARS).—1, N. V. Young O.M.C. (4 Triumph), 67.8s.; 2, A. F. Scroggs, O.U.M.C.C. (3½ Sunbeam), 74.8s.

CLASS 2 (UNLIMITED SIDECARS).—1, I. P. Riddoch, O.U.M.C.C. (8 Zenith), 46.2s.; 2, L. Avery, O.M.C. (7-9 Harley-Davidson), 56.4s.; 3, N. V. Young, O.M.C. (4 Triumph), 65.4s.

CLASS 3 (250 c.c. SOLO).—1, Cecil Kimber, O.M.C. (2¼ Levis), 55s.; 2, J. W. Tollady, O.M.C. (2¼ Velocette), 56.8s.; 3, J. M. Macintyre, O.U.M.C.C. (2¼ Velocette), 95.4s.

CLASS 4 (350 c.c. SOLO).—1, Cecil Kimber, O.M.C. (2¼ Levis), 56.6s.; 2, J. W. Tollady, O.M.C. (2¼ Velocette), 57.2s.; 3, T. G. Lindsay, O.U.M.C.C. (2¾ Verus-Blackburne), 63s

CLASS 5 (UNLIMITED SOLO).—Best time of two runs: 1, I. P. Riddoch, O.U.M.C.C. (8 Zenith), 39.4s.; 2, E. J. Cross, O.M.C. (7-9 Indian), 40.4s.; 3, R. W. H. Davies, O.U.M.C.C. (8 Zenith), 43.6s.; 4, A. D. Cruikshank, O.M.C. (3½ Norton), 45.4s.

CLASS 6 (650 c.c. SOLO).—1, A. D. Cruikshank O.M.C. (3½ Norton), 45.8s.; 2, M. Pearson, O.M.C. (3½ Norton), 48s.; 3, J. E. G. Harwood, O.U.M.C.C. (3½ Pegasus-Jap), 48.4s.; 4, H. S. Bayley, O.M.C. (3½ Sunbeam), 49.8s.

CLASS 7 (1,500 c.c., CYCLE CARS OR LIGHT CARS).—1, H. R. Godfrey, O.M.C. (8.7 G.N.), 49.4s.; 2, G. L. Hawkins, O.M.C. (8-7 G.N.), 50.6s. No O.U.M.C. starters in this class.

Week-end Club Events.

June 11.—Bristol M.C.C. Club Run to Sidmouth.
June 11.—Kidderminster M.C.C. Flexibility Hill-climb.
June 11.—Birmingham M.C.C. Gymkhana.
June 11.—Doncaster and District M.C.C. Hill-climb.
June 11.—North-West London M.C.C. Surprise Run.
June 11.—Luton and South Beds. A.C. Speed Trials.
June 11.—Leeds and District M.C. Slow Hill-climb.
June 11.—Bridgwater and District M.C. and L.C.C. Club Run and Flexibility Hill-climb.
June 11.—Oxford M.C. Reliability Trial.
June 11.—Standard M.C.C. (Coventry). Non-stop Trial.
June 11.—North Lindsey A.C. Reliability Trial.
June 11.—Surbiton and District M.C.C. Butler Cup Trial.
June 11.—Middlesbrough and District M.C. Hill-climb on Yearly Bank.
June 11.—Glasgow M.C.C. Twelve Hour Open Reliability Trial.
June 11.—Wallington and District M.C. and L.C.C. Night Trial.
June 11-12.—North-West London M.C.C. Camping Week-end.
June 12.—Wakefield and District M.C.C. Reliability Trial.
June 12.—Leeds M.U. Reliability Trial and Hill-climb.
June 12.—Bishop Auckland and District M.C. Barker Cup Trial.
June 12.—Essex M.C. Picnic.
June 12.—Barrow and District M.C. Reliability Trial.
June 12.—Grantham and District M.C. and L.C.C. Hill-climb and Trial.
June 12.—Rochester, Chatham, and District M.C. and L.C.C. Club Run to Whitstable.
June 12.—Brighton and Hove M.C. Social Run to Henfield and Gymkhana.

A Section devoted to Club Announcements will be found on Supp. xliii.

THE ORIGIN OF THE PNEUMATIC TYRE.

Last week *The Irish Cyclist and Motor Cyclist* attained its thirty-sixth anniversary, and celebrated the occasion by issuing a special number in which Mr. J. B. Dunlop, the eighty-year-old veteran who invented the pneumatic tyre, gives the true version of its origin.

DUNLOP INNOVATIONS.

The Schrader valve, described on page 703, has been adopted as standard by the Dunlop Co. This was decided at a special meeting held last Thursday, when it was announced that a new type of Magnum tyre (of 26×2½in., 26×3in., and 28×3in.) is now available. A special rim for this tyre has also been introduced, which, it is claimed, is not only better as regards the arrangement of spokes than previous types, but has a bead sufficiently heavy in proportion to the size of the tyre.

ENTRIES FOR THE GRAND PRIX.

To date there are forty-nine entries for the Motor Cycle Grand Prix, made up as follows : 250 c.c. class, nine ; 350 c.c. class, eight ; 500 c.c. class, thirty-two. British riders pilot teams of B.S.A.'s, Douglases, and Nortons in the latter class, and three Triumphs have also been entered, but their riders have not yet been nominated. There are also three Douglases and two Velocettes in the "junior" class. The race takes place at Le Mans on July 24th.

THIS YEAR'S ILKLEY TRIAL.

Arrangements for that most sporting trial, the open event of the Ilkley M.C. and L.C.C., to be held on July 16th, are now well in hand. There will be no fewer than seven trophies, but that these will be earned is indicated by the fact that it has been found necessary to set separate routes for solo riders and sidecarists at some of the more difficult points. Mr. H. W. Sellers, Langley Avenue, Bingley, is the secretary for this event.

COMPETITIONS ABROAD.

In September the Czech Club will hold a race for light cars, cycle cars, motor cycles, and scooters over a 200 kilometre circuit near Prague.

THE SCOTTISH SIX DAYS.

Twenty-four entries have already been received for the Scottish Six Days Trial on July 11th to 16th. These include the following :

J. A. Watson Bourne (8 Brough Superior), G. Brough (8 Brough Superior), H. Karslake (8 Brough Superior), D. Wright, jun. (4 Norton sc.), H. Gibson (8 Royal Ruby sc.), D. C. Sangster (3½ James), F. J. Hutchison (8 Royal Ruby sc.), W. Buchanan (4¼ B.S.A.), J. Beck (8 Royal Ruby sc.), R. S. Macrae (7-9 Harley-Davidson sc.), R. Carfrae (——), H. Nelson (7-9 Rudge sc.), T. Hunter (B.S.A. sc.), J. A. Hilger (5 Rover), D. S. Milne (B.S.A. sc.), W. Westwood (4 Triumph), A. Shepherd (B.S.A. sc.), J. Browne (2¾ Douglas), and three riders of Raleighs.

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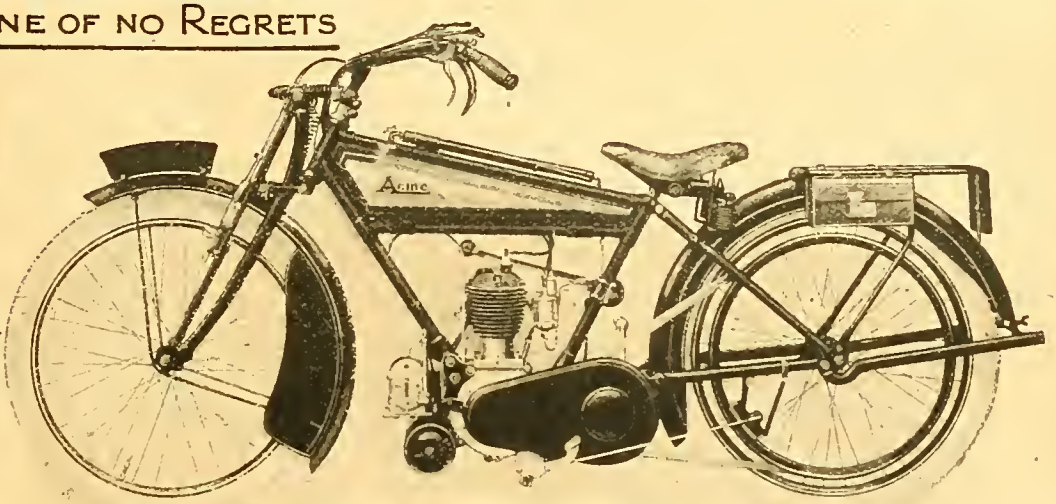
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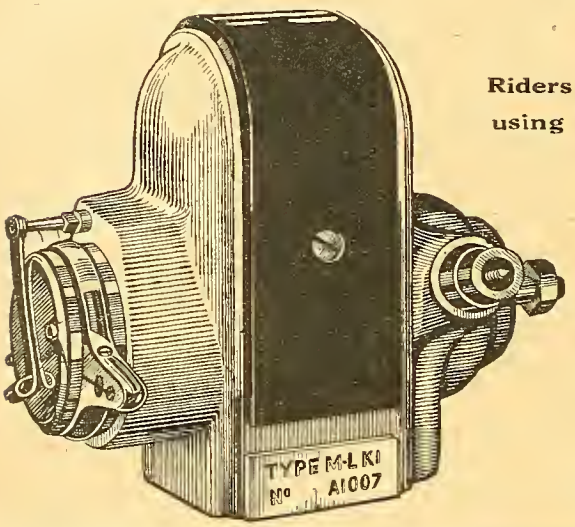
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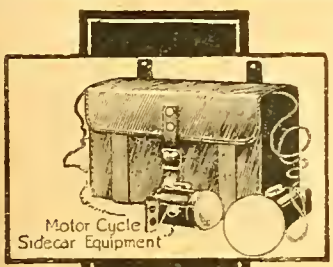
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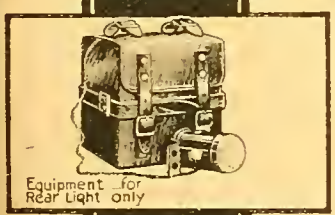
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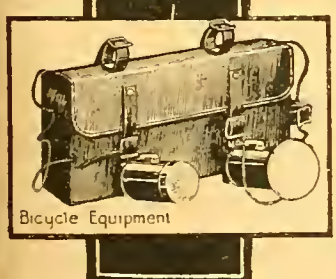
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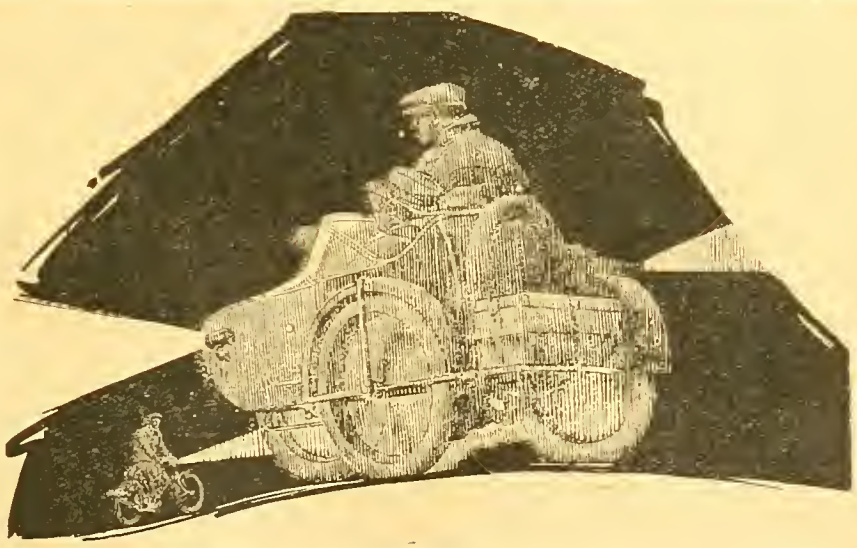
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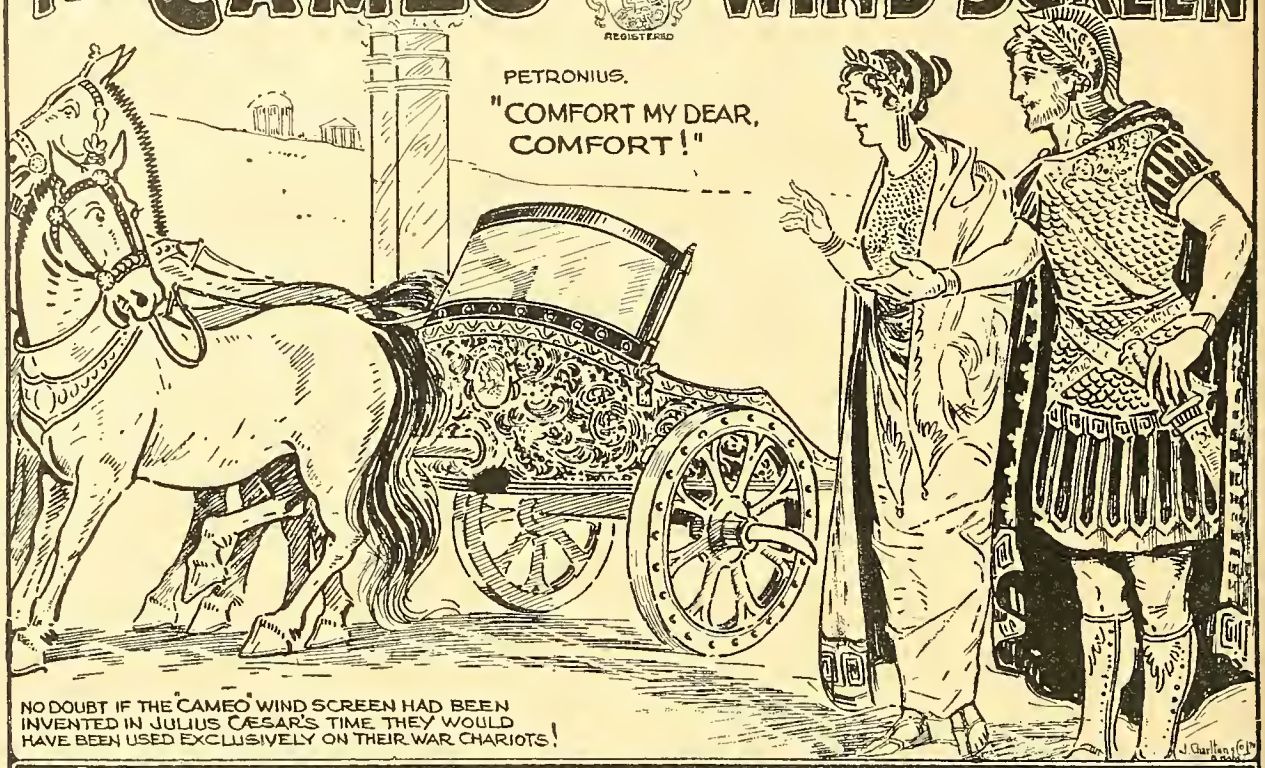


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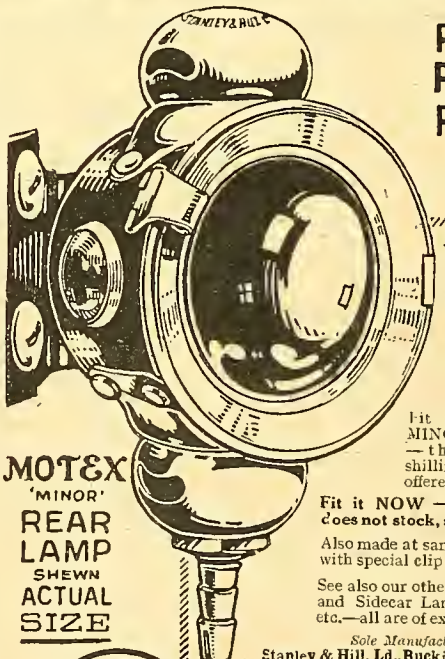
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TRIUMPH, 3-speed, all-chain	£125	0	0	RUDGE, I.O.M.	£85	0	0
DOUGLAS, all on, 2¾ h.p.	£85	0	0	ENFIELD, 2¾ h.p.	£65	0	0
LEVIS, 2¾ h.p., 2-speed	£68	0	0	ENFIELD, 2¾ h.p., kick-starter	£70	0	0
LEVIS, single-speed	£60	0	0	O.K., 2-speed	£59	17	0
NEW HUDSON Popular, 2¼ h.p.	£52	10	0	CONNAUGHT, single-speed	£47	10	0
NEW HUDSON, Ace	£75	0	0	CALTHORPE-J.A.P., 2-speed	£52	0	0
B.S.A., Model K.	£107	10	0	NEW IMPERIAL, 2¾ h.p.	£80	17	6
B.S.A., H.2, and No. 3 Sidecar	£152	0	0	O.K., single-speed	£50	8	0

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BROUGH 3½h.p. T.T. o.h.v. Model H, 2-speed, lamps, horn, speedometer, mileage only 1,630, fast, paid; £75.—Jenkins, 1, Brandon Grove, Newcastle-Tyne. (D) [2865

BROUGH T.T. 3½h.p., overhead valves, horizontal twin, Sturmey-Archer 3-speed gear box, kick start, fast, all accessories, engine practically new; £68. Hogg, 23, Hartington St., Derby. [2471

WE are now ready to deliver that last sporting Brough 3½h.p. flat twin in the following models: h.p. touring model, guaranteed to do 60, the rts model to do 65, the T.T. model guaranteed to a speed over 70 m.p.h.; absolutely the finest rkmanship, wonderfully easy to handle; £130.—d your orders along to the agents, G. and J. wson, 60 and 62, Regent St., Cambridge. [0599

Brough Superior.

ULIANS of Reading for Brough Superior. Can give early delivery of these fine machines. [0584

BROUGH Superior Combination, done 100 miles only, absolutely best sporting outfit on road, over £230, licensed, fully insured, no fault of e for selling, photo supplied; write appointment; dland Area.—Box 4,480, c/o *The Motor Cycle*. [2606

WE are now giving delivery of the famous Brough Superior machine, 8h.p., overhead valves, made an ideal specially for the man who takes a pride ownership and desires the best, specially tuned, ranteed 8 or 80 on top gear. Standard, £175: tric, £195.—Agents, G. and J. Dawson, 60 and 62, ent St., Cambridge. [0598

Brown.

BROWN 3½h.p., Bosch, Amac, ride away; or exchange Triumph lightweight.—Bungalow, Thorney e, Iver, West Drayton. [2625

B.S.A.

S.A.—All models always in stock; delivered anywhere.

S.A. Replacements, every part and pattern, by return.

S.A. Specialists: County Cycle and Motor Co., Broad St., Birmingham. [3248

S.A., all models, and Rudge, repairs, spares, sidecars.—Alexander, Wallasey Village, Cheshire. [8423

S.A. 1921 Twin 6-7h.p. Combination in Stock, £175; spare wheel, tyre, and luggage grid extra £13/19.—w.

S.A. 1921 Model H2 4½h.p., chain drive, £110; No. 3, 1921 sidecar, £42; No. 2, 1920 type sidecar, in stock.—A. Rivett, 236, High Rd., Leytonstone. [1449

20 B.S.A. Combination, fully equipped, unused; exchanges or deferred if desired.—Below.

20 B.S.A. Combination, Magdyno lighting, speedometer, hand-controlled clutch, horn, licensed, lent condition; 115 gns.—Edwards, 50, Harrington South Kensington. [3382

S.A. 3½h.p., overhanled and reliable; £35.—Hewins' Garages, Ltd., the Real Service Firm, Taunton. [2781

S.A. 7h.p. Combination, 4h.p.; part exchange; stamp reply.—88, Vicerage Rd., Wolverhampton. [X3313

W 1921 B.S.A. Combinations in stock; list price.—Bounds, Garage, High Rd., Kilburn, N.W. [3325

21 New B.S.A. 4½h.p. K2 Model, never been ridden; best offer secures.—J. Baker, Deddington. [2517

S.A. 4½h.p. and Henderson Sidecar, splendid order; £87; would separate.—3, De-Grey St., [2794

S.A. all models in stock; spare parts definitely by return against cash.—Pitts, of Redditch. 91. X9324

S.A., 1921, K2, just arrived, ready for road.—Turner Brothers, 134, Upper Thames St., Lon. E.C.4. [2986

S.A. 3½h.p., new condition, all complete, quick ale; £50; seen after 6 p.m.—16, South Worple Mortlake. [2931

—3½h.p. B.S.A., 2-speed, rebushed, new cylinder, exceptional condition, ride 150 miles.—105, ington Rd., E.6. [2966

PURCHASE BY EXTENDED PAYMENTS

If you are not desirous of paying cash for your motor cycle, we can offer you a simple method of purchasing by Extended Terms spread over 12 months. This does not require a large capital outlay and immediate delivery is given of machine. We require one-quarter of the total amount cash, and the balance can be paid in twelve equal monthly instalments. A larger amount cash deposit can be paid if desired, thereby reducing the monthly payments.

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WRITE TO-DAY for list of machines available for immediate delivery, which includes:

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G.N. MORGAN } Cycle Cars.

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Grams: "Elcemocyca, London." 'Phone: Avenue 5348.

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Let us exchange your present machine for a new 1921 model. We can offer you the best possible price and delivery from stock of all the latest leading models. We specialise in exchanges, and can guarantee entire satisfaction.

NEW 1921 MODELS.

ARIEL 4½ h.p. chain drive Comb. ..	£150 0
B.S.A., 4½ h.p., Model H.2	£110 0
B.S.A., 4½ h.p., Model K.2	£107 0
B.S.A. Sidecars for above, No. 3 Model	£42 0
B.S.A. 6-7 h.p. twin Combination ...	£175 0
MATCHLESS Combination, H.2 ...	£185 0
MATCHLESS Comb., 2-seater Sidecar	£192 10
ENFIELD 8 h.p. Combination	£160 0
ENFIELD 8 h.p. Combination, dynamo	£182 0
BAT 8 h.p. spring frame Combination	£179 0
DOUGLAS, 2¾ h.p., 2-speed, all on ..	£85 0
A.J.S. 7 h.p. Combination, spare wheel	£215 0
QUADRANT 4½ h.p. 3-sp. Combination	£125 0
ENFIELD 2½ h.p. lightweight, 2-speed	£65 0
CALTHORPE-J.A.P., 2¾ h.p., 2-speed	70 gns.
CALTHORPE, 3 h.p., 2-speed, 2-stroke	60 gns.
NEW IMPERIAL 8 h.p. 2-speed Comb.	160 gns.
NEW IMPERIAL 2¾ h.p. 3-sp. Light Tourist	70 gns.
NEW IMPERIAL, 2¾ h.p., 3-sp., clutch, K.S.	77 gns.
TRIUMPH, 4 h.p., chain drive, Type S.D.	£125 0
TRIUMPH, 4 h.p., chain-cum-belt, Type H.	£115 0
RUDGE-MULTI, 3½ h.p., I.O.M.	£85 0
ZENITH 4-5 h.p. Sporting Model C.	£115 0
MORGAN and **G.N.** Cycle Cars. All models.	

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MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A. Coachbuilt Combination, 2-speed, clutch, new condition; reasonable offer.—32, Eccleston Mews, Eaton Sq., S.W.1. [2972

B.S.A. 1920 Magdyno Combination, 4½h.p., all-chain, brand new; £135.—Clark, 7, Exhibition Rd., South Kensington. [3412

B.S.A.—All models for immediate delivery; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2242

B.S.A. 4½h.p. All-chain Combination, all lamps, tools, horn, etc., tax paid; any trial; £90.—Rowe, 95, Lower Addiscombe Rd., Croydon. [2656

B.S.A. 6-7h.p. and Sidecar, Lucas mag., dynamo electric lighting, mileage 1,600, tax paid.—5a, Great George St., Park St., Bristol. [2428

B.S.A., 4½h.p., 1913, all-chain, 2-speed, kick start, Bosch, lamps, tyres good; ride away; £42.—Steventon, Whyteleafe, nr. Croydon. [X3317

B.S.A. 1914 3½h.p., tools, etc., tax paid, perfect condition; must sell; going abroad; £35/10.—Griffiths, Lucock Row, Broughton Moor, Cumb. [2630

1917 (late) 4½h.p. B.S.A. All-chain Combination, Canoelet, good condition, lamps, horn, spares; £85.—Goldsack, 90, High St., Sandgate. [3105

B.S.A. Combination, coachbuilt, perfect order, spares; £60, or offer. 391, Hornsey Rd., N., or after 7 at 44, Queenmore Rd., Stroud Green. [2884

B.S.A. 1920 4½h.p. All-chain Combination, Easting, lamps (unused), spares, excellent condition; £105.—29, Lismore Rd., South Croydon. [X3311

B.S.A., 4½h.p., Model K, 3-speed countershaft gear, kick starter, excellent condition; £65.—Eagles and Co., 275, High Street, Acton, London. [3083

B.S.A., 1920 (August), 4½h.p., 3-speed, countershaft, indistinguishable from new, licensed; 80 gns.—Fersfield, Westbury Rd., New Malden. [3206

FRANK WHITWORTH, Ltd., of Birmingham, have several excellent B.S.A. machines and combinations at very moderate prices; write for details. [X3407

B.S.A. Coachbuilt Combination, 1914, chain-cum-belt, countershaft 3-speed, overhauled 1920, plenty spares, ready to ride away; £60.—177, Hatfield Rd., St. Albans. [2727

B.S.A. Combination, 1919, Canoelet sidecar, 3in. tyres, Binks, hand control clutch, lamps and generator; 85 gns.—Hicks, 32, Lena Gardens, Hammersmith. [2418

1920 B.S.A. 4½h.p., Rennoc sidecar, accessories, scarcely used, manufacturers' guarantee, available about two months; £120.—36, Trebovir Rd., Earl's Court. [2912

B.S.A. Singles and Twins, early deliveries, fitted with any model Sandum sidecars; B.S.A. twin and dual sidecar in stock.—Sandum Sidecars, 336, Gray's Inn Rd., W.C.1. [0541

B.S.A. 1920 4½h.p., Sandum sidecar, hand and foot clutches, fully equipped, indistinguishable from new; £130.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3263

B.S.A. 3½h.p., believed 1912, variable gear, free, crank start, renovated, makers' colours, with new parts, T.T. handles, fast and powerful, licence; £40.—Lydford, Chilworth, Guildford. [2503

B.S.A. 6-7h.p. Twin, Model A, with B.S.A. No. 1 sidecar, in stock; immediate delivery at makers' price, £175; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [2796

B.S.A. 1920, No. 2 sidecar, hood, wind screen, tax paid, mileage under 1,500, Lucas lamps, several extra fitments, owner successful competition rider; £125.—Sprosen, 73, Bury Rd., Wood Green [3370

B.S.A. and Sidecar, 4½h.p., 3 speeds, countershaft, well equipped, fine condition, licensed; £90; convenient payments arranged.—Bunting's Motor Exchange, Wealdstone. Closed Sundays. [3232

1921 B.S.A. H2 Combination, mag. dynamo lighting, electric Klaxon, all accessories; any trial, as new; £170, or offer.—Morton, 31, Corsica St., Highbury, N.5. 9.30 to 6.30. Sats. 9.30 to 1. [3408

B.S.A. 6-7h.p. Twin, Magdyno, spare wheel, two adult seater sidecar, hood, screen, brand new, owner wishes to dispose at reasonable loss, ioability to use same.—Chandos, 5, Greenhill Rd., Harrow. [3451

B.S.A. 4½h.p. Motor Cycles, Models H and K, brand new, just delivered from the works, complete with special coachbuilt sidecars; £126 and £123.—P. J. Evans, 81-91, John Bright St., Birmingham. [2868

1919 B.S.A. Milford Combination, electric lamps, Stewart trip, grid, spare new belt, tools, tax paid; any trial, ride reasonable distance; £105, or best offer.—Field, 2, Oriental Parade, Monument Rd., Woking. [2979

IMMEDIATE Delivery of any B.S.A. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0501

B.S.A. 4½h.p. 1914 2-speed Combination, £65; exchange entertained; also house property policy £250, full advance Sept., offer or exchange class combination for both.—Baxendale, 20, Mordaunt Rd., Harlesden. [2866

MOTOR CYCLES FOR SALE.

B.S.A.

4¼h.p. New B.S.A. Model K, with Mills-Fulford side-car, £125; Model H ditto, £128; Model K2, solo £107; Model H2, £110; combination, 6-7h.p., £175; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3363

B.S.A. 4¼h.p. Model H2, with B.S.A. No. 3 side-car; actually in stock for immediate delivery at makers' price, £152; also Model H2 solo; inspection invited; easy payments arranged.—Wilkins Simpson, opposite Olympia, London. [2797

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—B.S.A. K2, new 1921 models, just delivered, £107; Model H2, all-chain, £110; 6-7h.p. twin combination, standard, £175; immediate delivery from stock; cash, easy terms, or exchange. [3447

B.S.A. 1921 6-7h.p. Twin Combination, Lucas Magdyno lighting, electric horn, spare wheel, luggage grid, Royal Eastieq, new a few weeks ago, and guaranteed perfect, tax paid, insurance, or exchange for cheaper machine; £195.—Chaston, Blackwood, Mon. [3181

LATE 1919 4¼h.p. B.S.A., coachbuilt sidecar, Stewart horn and speedometer, watch, acetylene lighting set and lamps, new belt and spares, tyres as new, tax paid 1 year, all in really good condition, having had very little use; £105.—2, Wolverton Av., Kingston. [3133

B.S.A. 1918 4¼h.p., 3-speed, K.S., chain and belt, model K, overhauled, new Montgomery sidecar fitted, Cowey trip speedometer, P. and H. lamps, new tyres and tubes, tools, spares, etc., tax 11 months, insurance paid; price £90.—70, Palewell Park, East Sheen, S.W.14. [2965

B.S.A.—A motor cycle worthy of its name is the B.S.A. We have always in stock at least three models, Model K, Model H, and 6-7h.p. twin; immediate delivery; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0379

Calthorpe.

1920 Calthorpe-Precision, Enfield gear, new tyres; sacrifice £27.—17, Dyers Lane, Putney. [2437

4h.p. Twin Calthorpe-Jap Combination, Enfield gear, all on; £98.—Drake, 215, Beckenham Rd., Beckenham. [3032

CALTHORPE-J.A.P., 1916 2¾h.p., good condition and appearance; £42, or near offer.—W.S., 8, Bayham Rd., W.4. [2923

1920 2¾h.p. Calthorpe-Jap, 2 speeds, mileage 300, like new, equipped; £46.—Sinclair, Blencathra, Walton-on-Thames. [2699

BARGAIN.—1920 Calthorpe-Jap, 2¾h.p., 2-speed, clutch, practically unused; £50, lowest.—35, Bramshot Av., Charlton, S.E.7. [2816

CALTHORPE-J.A.P., 2½h.p., late model, Enfield 2-speed gear; £38; tax paid.—Eagles and Co., 275, High St., Acton, London. [3084

CALTHORPE-J.A.P., 1916, 2¾h.p., 4-stroke, 2-speed, excellent condition, accessories, licence for 1921; £36.—Keary, 2, Auriol Rd., W.14. [1340

CALTHORPE 3½h.p., Bosch, B.B. carburetter, fully equipped, new tyres, in good order, licence paid; £17 secures.—14, Estcourt St., Devizes. [2742

CALTHORPE-PRECISION 2¼h.p., 2-speed, F.E., tax paid, fully equipped, perfect condition; £32.—Lacey, 28, Hughenden Rd., High Wycombe. [3153

CALTHORPE, 1916, 2¾h.p. J.A.P., overhauled, enamel etc., perfect, guaranteed bargain; £27/10.—Goads' Private Garage, 122, Maida Vale, W.1. Hampstead 1353. [3349

CALTHORPE 1921 Combination, actually in stock for immediate delivery; cash or deferred terms; place your orders with the Calthorpe specialists.—Burlington Motors, Ltd., Clapham Common, S.W.4. 'Phone: Brixtoo 2417. [0509

1916 Calthorpe-Jap, 2¾h.p., 2 speeds, lamps, horn, mirror, speedometer, leg shields, new bearings, nearly new tyres, spare tyre, cylinder, valves, belt, tax paid, insurance transferable; bargain, £42, offers.—Weedon, R.A.F., Old Sarum, Salisbury. [3140

Campion.

1919 4-5h.p. Twin Campion Combination, complete, good condition; £75; lightweight part.—Roberts, Stanton-by-Bridge, Derby. [X3323

2½h.p. Campion 2-speed Lightweight, recently overhauled, tax paid to Dec., all on; £30, or exchange 3½h.p. Humber.—83, London St., Reading. [2580

1920 2¾h.p. Campion-Jap, 2-speed, Sturmey gear, hand clutch, kick starter, new condition, small mileage, unused since autumn, licensed; £55.—89, East Hill, Wandsworth. [3144

Cedos.

E. KICKHAM for Cedos, sole agent for Bristol and district.—Stokes Croft, Bristol. [3357

Chater-Lea.

CHATER-LEA 8h.p. Combination, 1914, perfect, trial any time; £80.—40, Forest Hill Rd., East Dulwich, S.E.22. [3114

CHATER-LEA 8h.p. Combination, Model 10; £160; catalogue on request.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. [1854

REYS

173, Gt. Portland Street.

Telephone—Langham 1257.

1921 Models in Stock.

Following for Immediate Delivery:

1921 **NEW IMPERIAL,** 3-speed	£73	10
1921 **NEW IMPERIAL,** 3-speed. clutch, and kick-starter	£80	17
1921 Model H. **B.S.A.** and No. 3 Sidecar	£152	0
1921 Model K. **B.S.A.**	£107	0
1921 **ENFIELD** Combination	£160	0
1921 6-7 h.p. **B.S.A.** and Sidecar, and spare wheel	£189	0
1921 4 h.p. **DOUGLAS** Combination ..	£170	0
1921 **MATCHLESS** Combination	£185	0
1921 8 h.p. **NEW IMPERIAL** Comb. ..	£168	0
1921 2¾ h.p. 2-speed **DOUGLAS**	£85	0
1921 2¾ h.p. 3-sp. **DOUGLAS** with clutch	£105	0
1921 4 h.p. **TRIUMPH,** Model H.	£115	0

1920 SHOP-SOILED.

1920 5-6 h.p. **JAMES** Combination	£145	0
1920 6 h.p. **NEW IMPERIAL** Comb. .	£150	0
1920 2-stroke **DIAMOND**	£40	0
1920 2¾ h.p. 2-speed **NEW IMPERIAL,** with clutch	£65	0
1920 2¾ h.p. 2-speed **NEW IMPERIAL,** without clutch	£60	0
1920 3¼ h.p. **LEA-FRANCIS**	£95	0

GREAT REDUCTION IN MATCHLESS and NEW —: IMPERIAL. :—

Call and Inspect Latest Models.

New Imperial Spare Parts Stockists.

SECOND-HAND MACHINES.

1920 **INDIAN** and Sidecar, all accessories	£125	0
1920 2-stroke **JAMES,** 2-speed	£65	0
1920 6 h.p. **ZENITH,** sports model, and Sidecar	£110	0
1920 2½ h.p. 2-speed **EDMUND**	£78	0
1920 4 h.p. **TRIUMPH** and Momtgomery Sidecar, all accessories	£110	0
1920 2-stroke **JAMES,** 2-speed	£65	0
1919 **A.J.S.** Combination, dynamo lighting, speedometer	£130	0
1921 **SCOTT,** all accessories	£125	0
1920 2-speed 2-stroke **CLYNO**	£48	0
1920 **LEA-FRANCIS** and Sidecar, all accessories	£130	0
1914 3-speed M.A.G. **MATCHLESS** ...	£70	0

REPAIRS.

Good Machines taken in for Sale on Commission.

A few Bulbous Back MM4 **CANOELET SIDE-CARS,** slightly shop-soiled, to clear, **£35.**

EASY PAYMENTS TAKEN ON NEW MACHINES, AND EXCHANGES ENTERTAINED.

Large Stock of Powell & Hanmer Lamps and other Accessories.

CAR DEPOT:

378, Euston Road.

Telephone—Museum 6436.

MOTOR CYCLES FOR SALE.

Chater-Lea.

CHATER-LEA 1919 2¾h.p. 2-stroke, 2-speed, excellent condition, lamps; £52.—Avery, Little York Cottage, Back Pantiles, Tunbridge Wells. [X3300

CHATER-LEA 1914 4h.p., B.S.A. 2-speed, sidecar excellent running order; £39.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2253

CHATER-LEA 1915 8h.p., Millford sidecar, wind screen, electric lighting and accessories, perfect condition throughout; £90.—70, Camden Mews, Camden Rd., N.W. [3061

CHATER-LEA New Model No. 10 Sidecar Combination, 8h.p., 3-speed, the best value on the market, £160. Have you seen it? Write for leaflet.—Chater-Lea, Ltd., Banner St., London, E.C.1. [3147

Chater-Lea-Jap

CHATER-LEA-J.A.P., 8h.p., 3-speed countershaft chain drive, wicker sidecar, very powerful; £50 exchanges entertained.—Hudson, Brook Rd., Redhill. [2741

Chater-Lea-Peugeot.

CHATER-LEA-PEUGEOT 6h.p. Combination, good running order; £50.—45, Monmouth Rd., East Ham, E.6. [2741

Cleveland.

CLEVELAND 3h.p., 2-stroke, all-chain drive, 2-speed 3in. tyres, not done 400 miles; 63 gns., or part exchange first-class combination.—Crawford, Doone, Lewes Rd., East Grinstead. [2551

Clyno.

CLYNO 1920 2-speed Lightweighth, nearly new, tax paid; £58/10.—F. Spearman, Bridge St., Bishop's Stortford. [2521

1917 6h.p. Clyno Combination, lamps, screen, good condition; 80 gns.; tax paid.—9, Church Rd., Willesden. [3021

CLYNO Combination, 6h.p., 1918, 3-speed, kick clutch, new condition; £95, or cycle only £80.—93, Sheldon Rd., Chippenham. [2921

CLYNO 1920 2-stroke, 2-speed and clutch, lamps, horn, tools, licensed; £58.—Hewins' Garages, Ltd., the Real Service Firm, Taunton. [2721

1921 Clyno 8h.p. 3-speed Spring Frame Combination guaranteed as new, very small mileage; £200.—Marshallsay, Baker, Chickerell, Weymouth. [0621

CLYNO Combination, 3-speed, kick start, chain drive, enclosed, any trial; £88; take lower power part.—57, Kenbury St., Camberwell, London. [3021

CLYNO 6h.p. Combination, 3-speed clutch, kick start, lamps, horn,, age of 1917, perfect running-order, £75, or near.—296, Kilburn Lane, Paddington, W. [2521

5-6h.p. Clyno Combination, new coachbuilt, plenty spares, perfect condition everywhere, take the anywhere; £105, exchange.—Webber, Eastleigh, Hedge ton. [3021

CLYNO Lightweight, 1920, very little used, lamps, mechanical horn; 50 gns.—Vivian Hardie & Lane, Ltd., 23 and 24, Woodstock St., New Bond St., W.1. [0521

CLYNO 5-6h.p., with new sidecar body, renovated, re-enamelled, replated, guaranteed 3 months; £ down and 12 instalments of £8/5.—Auto Traders, Ltd., 84, Jermyn St., London. [2

£80, Close Offer.—5-6h.p. Clyno combination, 3-speed K.S., 4 interchangeable wheels, lamps, horn, paid, hood, screen; any trial; exchange; between and 8.—21, Windsor Rd., Denmark Hill. [2

CLYNO 1916 6h.p. 3-speed Combination, kick start interchangeable wheel, good tyres, just overhauled, replated, and enamelled, accumulator lighting £88.—91, Grove Park, Denmark Hill, S.E.5. [3

CLYNO 5-6h.p. Combination, coachbuilt, 2-speed K.S., just overhauled and repainted, new gear, pillion, lamps, horn, luggage grid, long brass exhaust copper silencer, smart lot; £85, tax paid; seen after 6 p.m.—18, Clairville Gardens, Hanwell, W.7. [2

CLYNO 5-6h.p. Combination, 1916-17 models, well built, replated, enamelled grey or black, 3 speeds, kick start, foot clutch, new carburetters, magneto, interchangeable wheels, sidecars rebuilt, peinted to choice as new; solo £75, combinations £90; deferred payments arranged.—Hearn Bros., 117, Loughborough Park Brixton, S.W.9. 'Phone: Brixtoo 2888. [9

W.D. Clyno Combination, 6h.p., 1916, 3-speed gear, beautifully stove enamelled, 1921 colours, new lifetime, pull 3 anywhere, not done 500 miles since overhauled, in perfect condition, 1921 Amac carburetter, Lucas lamps, new horn, 3 new tyres not to be punctured (extra heavy oversize), Beldam on driving wheel, tools, splendid chassis, 6 points, firm as rock sidecar, new, painted same colour, new upholstered in red, splendid carrier at back with rubber-plated bindings, locker underneath, new Cameo screen, side curtain, new apron, perfect turnout; £110.—Rain, 5, Walter St., Stockton-on-Tees. [

Connaught.

1920 Connaught 2¾h.p, Sturmey-Archer 2-speed clutch, kick start, perfect order, complete lamps, horn, licence; £55.—M., 8, Silver St., Enfield. [

 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. Motor Cycles advertised by private owners are, when desired, marked (P).

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 2¾h.p., 2-speed, running order; genuine, £48.—66, Bovill Rd., Forest Hill, S.E. [3286

1h.p. Clyno, 1920, 2 speeds, clutch, lamps, horn, 2 tax, just overhauled, perfect order; £45.—108, Kendrick Rd., Reading. [3287

1918 (Oct.) 4h.p. Douglas Combination, 3-speed, clutch, kick start, lamps, horn, accessories, tax paid, fully insured; £85.—19-21, Speke Rd., Battersea (nr. Clapham Junction). [2745

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

1920 4h.p. Douglas Combination, excellent condition, new tyres, new clutch, lamps, Klaxon, all panners; seen any time; £100, no offers.—43, Stock Orchard Crescent, Holloway. [2573

DOUGLAS Combination, 4h.p., 1921, only done a few miles, licensed, fitted with lamps, horn, etc., condition perfect; £150.—Hewins' Garages, Ltd., the Real Service Firm, Taunton. [2778

1918 2¾h.p. Douglas, condition perfect, tax paid, everything on, new tyres; £55, or exchange higher power, any make.—Priest, 82, Station Rd., Barnes. 'Phone: Putney 2553. [2431

1919 2¾h.p. Douglas, 2-speed, speedometer, lamps, etc., tax paid; £60, or nearest offer.—By letter to Mr. Kemp, 65, Kimpton Rd., Church St., S.E., or Reply 76, Southwork St., S.E.1. [2612

3h.p. New Douglas, with accessories, 2-speed £85. 4 3-speed clutch and kick starter £105. 4h.p. Combination £170 ex-works; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3367

DOUGLAS Combination, 4h.p., 1920, special Chandler-Hobson carburettor, winner of many prizes, and absolutely tip-top condition; £130.—Hewins' Garages, Ltd., the Real Service Firm, Taunton. [2775

THE Effra Motor Works.—When you have purchased a 2¾h.p. Douglas from us you have the satisfaction of knowing that our machines are entirely overhauled and worn parts renewed.—Below.

90.—We are prepared to receive orders for 90 2¾h.p. Douglases; £45 each; 1916 buffer head models.—Below.

1915.—2¾h.p. Douglases, 1916, restoved and replated, tank makers' colours, new mag., carburetter, guards, chain, pulley, etc., and miscellaneous other new parts, which adds considerably to the value of the machine, brand new Wood-Milne tyres and new tubes. We confident are we in these machines that we agree to send same on approval against cash; carriage extra.

CHEQUES and Money Orders should be made payable to the Effra Motor Works, 14, Effra Parade, Brixton, London, S.W. [1048

1913 2¾h.p. T.T. Douglas, 2-speed, makers' colours, original enamel, Amac, Thomson-Bennett, heavy mudflaps, lamps, accessories, licence, unscratched, new condition; £55.—63, Solon Rd., Brixton. [3018

DOUGLAS, 1916 engine, recently overhauled by Douglas, tyres, Bosch, lamps, bearings, everything all to new, 2¾h.p., guaranteed faultless; £40.—Players' Arms, Tadworth, near Sutton. [2442

DOUGLAS 1916 2¾h.p., 2-speed, completely overhauled, fully equipped, brand new tyres, excellent condition throughout, tax paid; £44.—12, Kensington Mews, South Kensington Station, Kensington W. [3234

IMMEDIATE Delivery of any Douglas Model; cash or deferred payments; book your order now and avoid disappointment later.—Burlington Motors, Ltd., North Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0505

DOUGLAS 2¾h.p., £17 down and 12 instalments of £4; 4h.p., with new sidecar body, £25 down and 12 instalments of £7/10/-; renovated, re-enamelled, retyred, guaranteed 3 months.—Auto Traders, Ltd., 84, Lupus St., London. [2601

DOUGLAS, late 1920, 2¾h.p., 3-speed, kick start, clutch, Cowey trip speedometer, P. and H. lamps, Lucas horn, aluminium number plates, tax paid, mileage under 200; £85.—Ramm, The Orchard, Godstone, Surrey. 'Phone: 10 Godstone. [3139

DOUGLAS 1915 2¾h.p., 2-speed, not W.D., tyres new, complete tools, Stewart horn, electric lamps, mudboards, leg and undershields, long exhaust, discs, all in sound condition and appearance, tax paid; £55.—Parker, 18, Hallswelle Rd., Golders Green, N.W.4. [3101

1918 Douglas, 2¾h.p., superpower induction, developing 4h.p., 150 m.p.g., Bosch, Pedley grips, knee grips, special mudshield, armoured toolbags, electric gas lights, tyres good, fast, tools, licensed; photo; just going Switzerland; £56.—Whiting, Fressham, Surrey. [2653

1921 Douglas Models, 2¾h.p., 4h.p., and new improved W.D., at £85, all fully equipped; trade invited. Extended payments taken at one one-fifth deposit, remainder in 12 equal monthly payments; exchanges arranged.—Wauchope's, 9, Shoe Lane, Fleet Street, London. [3445

1914—4h.p. Douglas combinations, late models, re-enamelled, in perfect running order, sidecars coach-built. These are genuine bargains. Approval against cash and carriage. Aeroplane propellers new, 2 bladed, 4-bladed 10/-, carriage extra.—Owen, 59, Scholefield Rd., Upper Holloway. [X3298



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26×2½	Dunlop W.D. Heavy ..	42/6	56/9
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"	Palmer Cord Heavy ...	39/6	62/-
"	Clincher de Luxe Ex. Hy	39/-	68/6
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2¾h.p. Douglas Motor Cycle, 1913 machine, 1915 cylinders, Binks 3-jet carburetter, leg guards, engine shield, new spare belt, unused retreaded tyre, new spare valves and sundry other parts, Flexiphas fittings to valve guides, lamps, etc.; price £50.—Can be seen "Lynstead," Spencer Rd., East Molesey. [1428

A DOUGLAS Motor Cycle, 2-speed, late model, thoroughly overhauled and renovated by us; £45; compare our prices. We have the largest stock of 2¾h.p. Douglases in the South; that is why we can sell at this ridiculous price; the trade supplied.—Sulina Garage, New Park Rd., Brixton Hill, S.W.2. 'Phone: Streatham 40. [1216

Duzmo

LEICESTER and Coventry Distributing Agents for Duzmo overhead valve sporting motor cycles; deliveries now commenced; demonstration model on view.—Naylor's Garage, Anstey, Leicester. 'Phone: 52. [2522

DUZMO, 1921, 3½h.p., machines now available, single-geared and 2-speed all-chain drive models; call and inspect the demonstration machine.—Full particulars from the North of England distributors, Leach and Seed, 16, John Dalton St., Manchester. [3372

Elswick.

ELSWICK-PRECISION, 4½h.p., 3-speed, countershaft, K.S., B. and B., perfect condition; sell £65, or exchange 8h.p., cash adjustment.—132, Goldhawk Rd., W. [3215

Enfield.

JULIANS of Reading have 1921 Enfields in stock. [0478

ENFIELD Lightweight, new; what offers?—177, Westminster Bridge Rd., S.E.1. [2331

1921 Enfield-Jap 8h.p., all on; 145 gns.—67, Flaxman Rd., Camberwell. After 6 p.m. [3466

ENFIELD 2¼h.p. 2-stroke, 1919, rarely used; £40.—E209, Deacons, Leadenhall, St., E.C. [X3255

SHEFFIELD Agent for Royal Enfields, all models in stock.—J. A. Stacey, 12, Ecclesall Rd. [0573

NEW 1921 Enfield Combinations in stock; list price.—Bounds, Garage, High Rd., Kilburn, N.W. [3324

ENFIELD 2¾h.p. Twin, 2-speed, lamps, horn, pump, tax paid.—Campbell, 5, Approach Rd., Tulse Hill, S.E. [2937

1916 Enfield 3h.p. Twin, 2-speed, clutch, K.S., tax paid; £46.—14, Pembroke Rd., Walthamstow, E.17. [3291

1920 8h.p. Enfield Combination, Magdyno lighting and horn, perfect; £150.—Chaston, Blackwood, Mon. [3185

ENFIELD Combinations and Lightweights; see us before buying elsewhere.—Clifford Motorics, Eastwood, Notts. [3193

1919 Enfield Combination, electric lighting, Easting, tax paid; £95.—Frazer, 163, Stafford Rd., Wallington. [3208

1916 Enfield, 3h.p., 3-speed, kick start, good order, tax paid; £55, or offer.—Malkin, c/o Mr. A. Bolus, Meriden. [X3328

ENFIELD 2¼h.p. 2-stroke, 2-speed, 1921, in stock, £65; kick starter £5 extra.—Rivett, 236, High Rd., Leytonstone. [1451

ENFIELD Combination, 1916, Lucas accessories; £110.—Ratcliffe Bros., 200, Gt. Portland St., W.1. Langham 1704. [3379

NEW 1921 Enfield Combination, 8h.p., in stock; list price £160.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0621

6h.p. Enfield Combination, hood, screen, electric lights, licence paid; £75.—49, Armesley Av., The Hyde, Hendon, N.W.9. [3442

ENFIELD 6h.p. C.B. Combination, good condition, hood, screen, etc., tax paid; any trial.—Rowe, 95, Lower Addiscombe Rd., Croydon. [2657

ENFIELD 6h.p. Combination, late 1915, and accessories, tax paid; £85. Particulars on application.—Cowan, Fingask, North Berwick. [2619

1921 Royal Enfield Lightweight, tools, horn, tax paid, only used fortnight; £56; buying combination.—57, Ditton Rd., Surbiton. [3072

1919 Enfield Combination, 8h.p., new condition, lamps, speedometer, screen, licence, insured; £125.—Brown, Photographer, Bedford. [2475

ENFIELD 1914 3h.p., o.h.v., T.T. model, 2-speed, lamps, horn, spares, overhauled, very fast, tax paid; £55.—48, Hillcourt Rd., Dulwich. [2572

ENFIELD Combination, 6h.p., late 1915, speedometer, wind screen, excellent condition; £85.—11, Barcombe Av., Streatham Hill, S.W.2. [3026

NEW 1921 8h.p. Enfield Combination, in stock; list price £160; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [8740

ENFIELD 1921 Brand New 8h.p. Combination, just arrived from works; £160; exchanges arranged.—Eagles and Co., 275, High St., Acton, London. [3081

ENFIELD Lightweight Twin, T.T. bars, Bosch, B. and B., in top-hole condition, all accessories; 42 gns., or near offer.—Ash, 3, Agnes Rd., Acton. [2668

MOTOR CYCLES FOR SALE.

Enfield.

1921 8h.p. Enfield Combination, dynamo model; £182; and 8h.p. standard model, £160.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0341

6h.p. Enfield Combination, 1914, stored 4 years, all on, splendid condition and appearance; trial; £90, lowest, bargain.—11, Corrance Rd., Acre Lane, Brixton. [2854

ENFIELD 6h.p. Combination, 1916, in good condition; trial or examination at any time; £85; tax paid.—94, Hoppers Rd., Winchmore Hill, N.21. [3122

1920 6h.p. Enfield Combination, Magdyno, Easting, Lucas horn, mirror, new tyre, tax paid, as new; £155.—Mercer, Mill House, Capel, Paddock Wood. [2561

1917 6h.p. Enfield Combination, Lucas dynamo lighting, speedometer, Eastiog wind screen, excellent condition; £125.—2, High St., Thornton Heath, Surrey. [3209

1921 Enfield Combination, 8h.p. Vicars, Magdyno lighting, tax paid; £170; buying car.—Bramble and Beuchamp, Cambridge Works, Bedford Rd., East Finchley, N.2. [2922

1921 Enfield Combination, dynamo lighting, with or without dynamo; in stock; immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

1921 2½h.p. Royal Enfield, 2 speeds and kick starter, latest model, been exactly 54 miles only, equal brand new; £60.—Walbro Motor Cycle Co., Saffron Walden, Essex. [1739

ENFIELD Combination, 6-8h.p. J.A.P., accessories, spares, screen, speedometer, tax paid, just overhauled; £120, or offer; appointment only.—A.C.B., 30, Finlay St., Fulham. [2495

ROYAL ENFIELD 6h.p. Combination, excellent condition, 1916, 2 years unridden, Orto screen, hood, hood cover, speedometer, Tan-sad; £100.—Wilkie, 15, Agate Rd., Hammersmith. [3086

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Royal Enfield models from stock, combinations and lightweights, from £65; supplied on our easiest of easy payment systems. [3450

ENFIELD Combination, late 1917, lamps, speedometer, screen, outfit carefully looked after, in new condition; £110, or reasonable offer.—64a, Highbury Grove, Highbury Barn. [2902

ENFIELD 1916 6h.p. Combination, lamp set, bulb horn, excellent appearance and mechanical condition; £85.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9552

ENFIELD 1921 Brand New 8h.p. Combination, just arrived from works; in stock for immediate delivery; no waiting; ready to drive away; £160.—Wilkins Simpson, opposite Olympia, London. [2802

1916 Royal Enfield Combination, 6h.p., guaranteed equal to new, screen, hood, Klaxon, Low generator, all lamps, tax paid, trial any time; £95.—Gaby's, 5, Blenheim St., Bond St., W.1. 'Phone: 5500 Mayfair. [2930

ENFIELD 2¼h.p. 2-stroke, 2-speed, brand new 1921 model, just arrived from works, in stock for immediate delivery; no waiting; ready to drive away; £65 Easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [2801

ENFIELD Coach Combination, 6h.p., 1913, complete, hood, screen, lamps, horn, tyres perfect, grand engine, climb anything, all in splendid condition, been well looked after, tax paid; £80.—Thomas, 28, Church Hill Rd., Walthamstow. [3112

ENFIELDS.—The cheapest twin on the road. We are North London agents, and can supply from stock standard models £160, electric £182, cash, or deferred payments. All spares in stock. Trade supplied.—Jones' Garage, Muswell Hill, and at Woodside Parade, N. Finchley. [0380

Excelsior.

1921 British Excelsior 4½h.p. Combination, absolutely new; £125.—Bowring, Asfordby, Melton Mowbray. [X3339

2¾h.p. Excelsior-Jap, late 1920, kick start, 2-speed, clutch, Tan-Sad, lamps, all accessories; £68.—7, Woodhurst Rd., Acton. [3115

1919 Excelsior-Villiers, 2½h.p., 2-speed, clutch, kick start, fully equipped, tax paid, perfect condition; £45.—73 Victoria Rd., Stroud Green, N. [3204

BRAND New 1921 2½h.p. Excelsior, Sturmey-Archer, 2 speeds, kick starter and clutch, leg shields and footboards, shop-soiled; £63.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [1741

F.N.

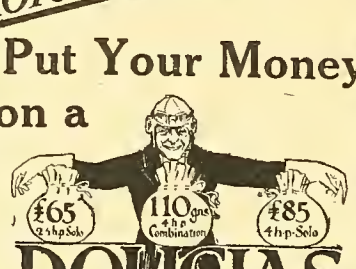
F.N., 4-cyl., ride away; £20.—5, St. Mary's Sq., South Ealing (side door). [2978

F.N. 2¼h.p., 2 speeds, clutch, shaft drive, electric lighting, splendid goer; must sell; £26.—143, Ravenshury Rd., Earlsfield, S.W. [3373

IMMEDIATE Delivery of any F.N. Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0500

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F.N.

F.N. Combinations in Stock; reduced price, £188; call for a trial run.—Grimes and Co., 18, Bruton Place, Bond St., W. Mayfair 4792. [6071

Francis-Barnett.

JULIANS, of Reading, have 1921 Francis-Barnett in stock. [0475

2¾h.p. Francis-Barnett-Jap, 2-speed clutch and kick starter, very small mileage and condition almost equal to new, complete with lamps, horn, and tools £72/10; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3351

1920 2¾h.p. Francis-Barnett, exceptionally good J.A.P. engine, Sturmey-Archer, 2 speeds and kick starter and clutch P. and H. lamp sets, and tax paid, in really new condition and appearance; £65.—Heady, 85, High St., Saffron Walden, Essex. [1731

Grandex.

GRANDEX-PRECISION Lightweight, 2-speed countershaft, tax paid, tyres as new, good condition.—80a, High St., Bexley, Kent. [3461

2¾h.p. Grandex, 1915, 2-speed countershaft, h.b. clutch, all accessories, lamps, handle-bar mirror, etc., tax, fully insured, perfect condition, appearance fair; £30; genuine bargain.—33, Sandringham Rd., Forest Gate, E. [3231

GRANDEX PRECISION Combination, seat 2, 6h.p. 1915, been stored, Enfield 2-speed gear, Bosch Binks, chain drive, Dunlops, hood, screen, lamps, hand start, perfect condition, smart turnout; £110. Seen Monday, Wednesday after 7 p.m., and week-ends.—21 Elmfield Rd., Balham. [3061

Harley-Davidson.

SHEFFIELD Agent for Harley-Davidsons; from £120.—Stacey, 12, Ecclesall Rd. [0571

HARLEY Sports, brand new, fully equipped; £120.—Clark, 7, Exhibition Rd., South Kensington. [3411

HARLEY-DAVIDSON Motor Cycle, solo; £60, or near offer.—Apply, Bridges Garage, Ltd., Cirencester. [2431

1916-17 Harley-Davidson, C.B. sidecar, pillion seat, spares; evening 6-7.—Owen, Saracen's Head, Aylesbury. [2511

1918 7-9h.p. Harley 3-speed, as new; £85.—4 Whyteville Rd., Upton Lane, Forest Gate. Phone: Stratford 283. [3311

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bambers', Southport, Lancashire. Tel.: 607. [5011

1917 Harley-Davidson, mag., dynamo, excellent order, all on, not war model; any trial; £68.—98, Park Rd., West Ham, E. [3151

1920 Harley-Davidson 4h.p. Flat Twin, perfect condition, fully equipped; any trial; £100 cash.—Box 4,533, c/o *The Motor Cycle*. [2991

1920 Harley-Davidson 4h.p. Combination (Henderson sidecar), all accessories; £135.—Apply Pavilion Garage, Sloane Sq., London. [2711

HARLEY-DAVIDSON, 1918, 3-speed, kick start, good order, £75 solo; £95 with sidecar.—Brookfield, 322, Whitehorse Rd., Croydon. [3211

HARLEY Combination, 7-9h.p., mag. model, electric lighting, Cameo screen; any trial after 6; £115.—J. S. Clark, 30, Bruton Place, Berkeley Sq., W.1. [2711

1917 Harley-Davidson Combination, mag., with coachbuilt sidecar; £130; exchange 2-seater car.—White, 23, Victoria St., Reading, Berks. [3111

HARLEY-DAVIDSON, late 1920, C.B. sidecar, screen, hood, grid, Tan-Sad, discs, electric, perfect; price £185, or offer.—'Phone: Battersea 1730. [2511

LATE 1920 Harley-Davidson de Luxe Combination, beautifully equipped, discs, unscratched and perfect; £155.—24, Balliol Rd., Oxford Gardens, North Kensington. [3011

HARLEY, 1920, 7-9h.p., electric model, 2,600 miles, licence, speedometer, insurance, excellent condition; £130.—Lund, Sutherland House, Maple Rd., Surbiton. After 6. [3111

1920 Harley-Davidson Electric Combination, 7-9h.p., mileage only 1,100, owner abroad, tax paid, new; £150, lowest.—Barnett, c/o Boyces, 329, Archway Rd., Highgate, N. [2911

HARLEY-DAVIDSON 1920 4h.p. Model, S sporting sidecar, electric lighting, good condition as new; £185.—Parker's, Bradshawgate, Bolton; 245, Deansgate, Manchester. [X3

1920 Harley Combination, dynamo lighting, speedometer, discs, spares, licensed, splendid condition, £155, or exchange considered.—Edwards, 50, Harrington Rd., South Kensington. [3

HARLEY-DAVIDSON 7-9h.p. (1919) Combination, Easting hood, etc., absolutely new condition, all covers; any inspection and trial; £120.—Anderson, 3, Sutton Rd., Muswell Hill, N.10. [2

1920 Harley-Davidson, perfect condition, third local hill-climb, Lucas dynamo lighting, Henderson Elite sidecar; £187; would sell separate.—Soanes, 286, Christchurch Rd., Boscombe. [2

MOTOR CYCLES FOR SALE.

Levis.

LEVIS.—Sole Walsall agents; special exchange and deferred payment terms; immediate delivery.—Maudes', Walsall Garage, Walsall. [2423

LEVIS 2-speed Motor Cycle for sale, perfect condition, all accessories, tax paid; genuine bargain, 1922.—61, Field Rd., Forest Gate, E.7. [2528

LEVIS Motor Cycle, practically unscratched, mileage 500, tax paid, lamps, etc.; £38.—2, Kelton Villas, Hawkes Rd., Kingston-on-Thames. [3093

BRAND New 1921 2¼h.p. Levis, 2 speeds and clutch, in stock at £68.—Walbro Motor Cycle Co., High St., Saffron Walden. 'Phone: 45. [1742

2¼h.p. New Levis Popular Model, £60; in stock for immediate delivery; 2-speed model £68; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3368

IN Stock, 1921 Levis, £60. Good wine needs no bush. Nuff sed.—Sole agents, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [0494

Lincoln Elk.

4¼h.p. Lincoln Elk Combination, 1914, Bosch mag., Amac carburetter, good mechanical order; £45.—Dwight, 367, Hivings Hill, Chesham. [2651

4¼h.p. Lincoln-Elk Combination, 2-speed, clutch, kick start, good Dunlops, in excellent order; £42/10.—Miller, 151, Kingston Rd., Teddington. [3108

LINCOLN-ELK 2¾h.p., late model, 3-speed, lamp, horn, tools, splendid condition; £35 10, tax paid.—Griffiths, Lucerk Row, Broughton Moor, Cumb. [2629

Martinsyde.

MARTINSYDE Combination, standard £160, de luxe £215; catalogue on request.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. [1855

Massey-Arran.

IMMEDIATE Delivery, 1921 2¾h.p. Massey-Arran Super Sports Model, Blackburne engine, Sturmey 3-speed, K.S., hand and foot clutch, discs, knee-grips, finished black and gold, specially tuned; 95 gns.; tax 10 -.—Demonstration and full particulars with pleasure by the sole agents for Stamford and Peterborough, Metro Motor Works, Stamford, Lincs. [3317

Matchless.

MATCHLESS

1921 Combinations, any model from stock or in few days. Gradual payments can now be arranged. Every outfit personally tested by the Matchless specialists. Spares of all dates in stock.—J. Tassell, Bloomfield Rd., Plumstead. [5374

£185.—Matchless Combinations

1921 Models Now Reduced £20; all models in stock for immediate delivery.—Tassell, 4a, Bloomfield Rd., Plumstead. [5793

TULLIANS of Reading have all Matchless models in stock. [0480

MATCHLESS 1921 Combination, M.A.G.; £205, from stock.—Gibb, Gloucester. [0443

MATCHLESS 3½h.p., 2 speeds, clutch, all on, tax paid; £40.—1, The Rise, Crayford. [3059

MATCHLESS M.A.G. Combination; £95.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [3045

£35.—3½h.p. Matchless, Bosch, variable gear, rebushed, overhauled.—45, High Rd., Woodford Green, Essex. [2958

MATCHLESS 1913 6h.p., T.T., 3-speed hub gear, tax paid; £35.—72, Woodside Park Rd., North Finchley, N.12. [2530

MATCHLESS-J.A.P. 5-6h.p., believed 1913; £50.—Seen at Hanover Gate Garage, Park Rd., Regents Park, London. [3071

MATCHLESS Combination, 1920, dynamo lighting, perfect condition; £145.—H. Marks, 10, Fleur de Lis, Shoreditch. [2480

1921 Matchless Combination, done 100 miles; accept £185, or exchange solo or combination.—Shaw, Dunkar, Wakefield. [2707

1921 Matchless Magdyno Combination, brand new, unused, unregistered; owner must sell, £188.—Madrid Rd., Barnes, S.W. [3385

MATCHLESS Combinations, new, in stock, from £174; 1921 models, £205.—Sheffield Agent, J. Stacey, 12, Ecclesall Rd. [0574

BRAND New 1921 Matchless Combination, M.A.G. engine, only run few miles; £165.—24, Balliol Rd., Ingrd Gardens, N. Kensington. [3013

MATCHLESS Combination; price reduced to £185; supplied from stock.—R. B. Clark and Co., 7, Exhibition Rd., South Kensington. [3416

MATCHLESS Combination, 8h.p., K.S., accessories, tax paid, excellent running condition; bargain, £40, Craster Rd., Brixton Hill. [3433

1919 Matchless Combination, good condition, Lucas accessories; £120, or exchange offer considered.—Bell, Crockenhill, Swanley, Kent. [3289

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RADCO, 2¼ h.p., single-speed.....	£44 2
SPARKBROOK, 2½ h.p., single-speed	£64 0
SPARKBROOK. 2½ h.p., 2-speed ..	£70 0
SUN, 2¼ h.p., single-speed	£49 17 6
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MATCHLESS Model H 1920 Combination, fully equipped, mechanically perfect; bargain, £135.—Wainwright, Millfields, Wolverhampton. [X3301

MATCHLESS Combination, Magdyoo, speedometer, hood and screen, guaranteed perfect; sacrifice £170.—Emons, South Bank, Spring Rd., Ipswich. [3330

MATCHLESS 1920 Model H., hood, screen, spare wheel, etc., splendid machine; first reasonable offer accepted.—10, Auckland Rd., Upper Norwood, S.E.19. [3472

1921 Matchless Combinations, all models for immediate delivery; exchanges or deferred if desired.—Edwards, 50, Harrington Rd., South Kensington. [3384

MATCHLESS Prices Reduced.—1921 combination, complete now; £185; exchanges arranged.—Agents, R. B. Clark and Co., 7, Exhibition Rd., South Kensington. [3415

1920 Matchless Model H. Combination, Magdyno lighting, speedometer, screen, etc., all splendid condition; 145 gns.—Spurling, 8, Courthope Rd., Hampstead, N.W.3. [2815

MATCHLESS, Matchless, Matchless.—Latest 1921 model 8h.p. combination, for immediate delivery.—Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St., W.1. [0418

1921 Matchless Combination, M.A.G., Lucas dynamo lighting, double seater sidecar, everything on, lavishly equipped; what offers.—150, Upper Richmond Rd., East Sheen. [3116

MATCHLESS 8h.p. B2 1915, improved 1920, M.A.G. engine, spring wheel sidecar, detachable wheels, spare, Lucas dynamo lighting, exceptional outfit; £130.—64, Melrose Av., Mitcham. [2920

VICTORY Model Matchless Combination, interchangeable wheels, excellent condition, just thoroughly overhauled, good equipment; £120.—W.M., 59, Piedmont Rd., Plumstead, S.E.18. [3038

F.O.C.H. have a 1920 Matchless combination, Magdyno, small mileage, fully equipped, hood, screen, spare wheel, luggage grid, tax paid; £175.—5, Heath St., Hampstead (near Hampstead Tube Station). [2765

SPECIAL Racing 5-6h.p. Matchless-Jap, in magnificent condition, guaranteed road speed of over 80 m.p.h., engine in perfect tune and condition; best offer over £60.—Hill Crest, Mickleover, Derby. [3207

MATCHLESS Model H2 Combination, equipped with Lucas lamps, brand new, £187; would exchange for 1920 model and cash.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2245

MATCHLESS 1921 Model H2, Lucas Magdyno lighting, electric horn, speedometer, insurance, new few weeks ago, guaranteed perfect, tax paid, cost £260; sacrifice £200, or exchange cheaper machine.—Chaston, Blackwood, Mon. [3182

MATCHLESS 6h.p. Twin and Coachbuilt Sidecar, 3 speeds, kick starter, Bosch, 26×2½ good tyres, fast, powerful, splendid condition, guaranteed perfect; trial any time; bargain, £58.—Owner, 77, Salmons Lane, York Rd., Stepney Station. [3186

MATCHLESS 1921 Model Combination, electric lighting, sidecar outfit with screen, hood, detachable and spare wheels, practically new, tax paid, cost new £250; will accept reasonable offer near £200.—Mulliner, Northampton. Tel.: 908. [2869

MATCHLESS Combination, 1914, 8h.p., C.S. 2-speed, clutch, K.S., all-chain, 700×80 extra heavy tyres, practically new, electric lighting throughout, engine thoroughly overhauled, perfect mechanical condition, ready for any tour; sacrifice £80 for quick sale, great bargain.—Firmin, 17, Milton Rd., Wallington, Surrey. [2710

REDUCTIONS. Reductions.—Matchless, brand new 1921 models; immediate delivery from stock at makers' very latest reduced prices; with Magdyno lighting, £210, without Magdyno lighting £185; call and inspect these very latest models; easy payments arranged.—Wilkins Simpson, opposite Olympia, London. [2804

MATCHLESS 1921 Models in Stock; the finest sidecar outfit on the market; note new reduced price; combination, complete spare wheel and wind screen, £185; 2-seater body, £7/10 extra; extended terms and exchanges arranged.—City Agents, Elce and Co., 15-16, Bishopsgate Av., Cemomile St., E.C.3. 'Phone: Avenue 5548. [0067

MODEL H Matchless, late 1920, M.A.G. engine, electric lighting, speedometer, spare wheel, leg shields, wind screen, hood and wings, with Tan-Sad pillion, spare tube and other accessories, tax paid, cost over £250, mileage 1,000 only, owner bought car; price £195.—Write first Finch, Hemsby, Gerrard's Cross, or 'Phone: City 891. [2919

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock, for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0381

MATCHLESS, 1920, M.A.G., mileage 2,200, decarbonised by engine makers at 2,000, Magdyno, speedometer, mudshields, hood, side curtains, Easting Royal screen (just fitted), sidecar step, spares, all tyres unpunctured and spare wheel unused, condition and mechanism perfect, insurance £7/10 paid May 11th; £195, cost £250; after 5.—45, Gosberton Rd., Balham. [2854

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SAM E. Clapham (Motors), Greenwich, the live Matchless agent. First again. Call and see the latest model from the Matchless Works, something new, 1921-1922 Matchless sports model; comfort, speed, and reliability, the combination for the knut and a flapper. Watch its performance in the near future; inspection invited. Immediate deliveries to the early birds of the Matchless sports model.—Note the agent, Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3237

MATCHLESS 1921 Models.—Sam E. Clapham (Motors), Greenwich. 'Phone: 751. Glorious news for clients. Petrol down, Matchless revised prices; see advert inside cover; absolutely the finest value for money to-day. 1921 standard model Matchless with screen and spare wheel, £185 cash, or deferred terms; satisfaction guaranteed or money returned. Free instruction and service by Matchless experts; write, 'phone, or call on the record sales Matchless agent, Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3236

Maxim.

MAXIM-DALM, Dec., 1920, 3h.p. 2-stroke, absolutely new, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, £52; ditto with clutch, kick start, £58/10.—224, Pentonville Rd., London, N.1. [4292

Metro.

METRO-TYLER, nearly new; owner giving up riding: £45.—101, Upper Tollington Park, N.4. [2613

METRO-TYLER, 1919, 2-stroke, 2-speed, very smart, all on, 2¾h.p.; trial; £38.—16, St. Mary Abbotts Terrace, Kensington. [3154

METRO-TYLER, 1920, tax paid, lamps, horn, splendid condition; £43.—C. Roswell, 129, Southlands Rd., Bromley, Kent. [3104

Minerva.

4h.p. Minerva, clutch, running order, £27; C.B. sidecar, £5.—Larchcroft, Ridgeway Rd., Redhill. [3477

MINERVA 3h.p., good puller, spring forks, with mag.; £7/7/—Bell, 49, Riverside, Kingston-on-Thames. [2584

2¼h.p. Minerva Lightweight, tax paid, Boulton mag., B.B., very low and light, in good running order; £15, offers.—32, Birmingham Rd., Stratford-on-Avon. [3256

Monarch.

1920 Monarch-Jap, Sturmey-Archer countershaft gear, new Montgomery sidecar, screen, lamps, etc., £125.—Chaston, Blackwood, Mon. [3184

£140, or near offer.—Monarch-Jap 6h.p. combination, Sturmey 3-speed, countershaft, all accessories, perfect condition, under 1,000 miles, had careful attention, no accidents, only run 6 months; bought car; list price 1920; £173. — King, Dunraven St., Tonypandy. [3213

Motosacoche.

MOTOSACOCHE 2¼h.p., Bosch mag., tax paid, excellent order, good tyres, ready to ride any distance; £20 secures.—14, Estcourt St., Devizes. [2743

1914 3½h.p. Twin M.A.G. Engined Motosacoche, mechanical condition good, lamp, horn, and generator, licence paid; seen any evening 6 to 7.30; what offers?—Milton House, East Molesey, Surrey. [2505

New Hudson.

JULIANS of Reading have all New Hudson models in stock. [0534

NEW HUDSON, 4h.p., 3-speed, clutch, perfect; £50. 97, Colbourne Rd., Balham. [2806

NEW HUDSON 4h.p., 2-speed, hand clutch; £38; take lightweight part.—57, Kenbury St., Camberwell, London. [3027

NEW HUDSON 1920 2¼h.p. Touring Model, lamps, horn, and tax paid; £50; apply by letter only.—J. Argyle, 19, Gt. Clarendon St., Oxford. [2635

1915 New Hudson, 2-stroke, lamps, horn, tools, and spares, legshields, tax paid, excellent condition; 30 gns., or nearest.—49, High St., Walton-on-Thames. [3282

1914 New Hudson Combination, Bosch mag., J.A.P. engine, Henderson sidecar, 4h.p.; sell or exchange for higher power combination.—Davis, 105, Church Rd., Northwood. [2534

NEW HUDSON 3½h.p. 1914 with C.B. Sidecar, lamps, the whole in very good condition, including tyres; price £70, or offer.—S.W., 31, Fillebrook Rd., Leytonstone, E.11. [2878

NEW HUDSON 1913 2¾h.p., 4-stroke, excellent condition, never been used for five years, original front tyre scarcely worn, 6h.p. type 3-speed gear; lowest £28.—Crow Bros., Guildford. [2873

1914 New Hudson Combination, 3½h.p., 2-speed, excellent condition, 2 tyres new, complete with accessories; bargain, £55; without sidecar, £45.—7, Norwood Rd., Herne Hill, S.E.24. [3427

New Imperial.

2¾h.p. New Imperial-Jap, 2-speed countershaft, accessories; 39 gns.—176, S. Ealing Rd., W.5. [3301

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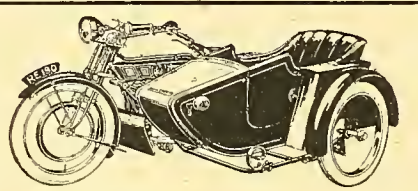


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1920 New Imperial Combination, condition as new, fully equipped, mileage 1,800; £135.—34, Heathfield Rd., Bromley, Kent. [2740

LATE 1919 New Imperial 2¾h.p., fully equipped, speedometer, perfect, licence paid; £53, near offer.—Lumbard, Ashbourne. [X3337

1921 New Imperial Lightweight, countershaft gear, kick starter, 250 miles only; £69/10.—Collier's Motories, Horton St., Halifax. [2753

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, 1916-17, recently overhauled by experts, good order, lamps, horn, tax paid; £46.—Tennant, Masham, Yorks. [2620

1921 New Imperial, 2¾h.p. J.A.P., 3-speed, clutch, fortnight old, tax paid; bargain, £78, buying combination.—Gray, Burnley Lane, Pocklington. [9194

2¾h.p. New Imperial, 1921 model, clutch, kick start, Tan-Sad, lamps, horn, tools, new March, carefully run in; £70.—Gledhill, Sheepscombe, Gloucestershire. [3168

1920 New Imperial 8h.p., enclosed chain drive, new Dunlop extra heavy cover; bargain, £90; apply by letter only.—J. Argyle, 19, Gt. Clarendon St., Oxford. [2637

2¾h.p. New Imperial, 2 speeds, perfectly new, guaranteed done under 500 miles, lighting set, all accessories; £55.—Bishop, 35, Princes Rd., Wimbledon, S.W.19. [3402

1919 (Dec.) 6h.p. New Imperial Combination, sidecar, wind screen, etc., all brand new; must sell; £125, or part exchange solo machine.—118, Cricklade Rd., Swindon. [2819

2¾h.p. New Imperial, 2-speed £73/10, ditto with clutch and kick starter £80/17; 8h.p. combination, £168; in stock for immediate delivery; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3364

IMMEDIATE Delivery of any New Imperial Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0506

New Scale.

NEW SCALE, 1920 Precision, little used, excellent condition, 2-speed, kick start; £60.—Carder, Northfield, Barnstaple. [2694

NEW SCALE 1920 3½h.p., Burman 2-speed gear, Precision engine, Watsonian sidecar; £80.—Hewins' Garages, Ltd., the Real Service Firm, Taunton. [2774

Newton.

1921 2½h.p. Newton-Villiers, single-speed, flywheel magneto, Amac 26×2¼ Hutchinsons, semi-T.T. bars, finished black and gold, and the finest value in 2-strokes, immediate delivery; £45.—Aero Motor Works, Stamford, Lincs. [3318

Norton.

PREMIER Motor Co. for 1921 Nortons.

ANY Model Norton delivered to your address, carriage paid, within 24 hours.—The Premier Motor Co., Aston Rd., Birmingham. [0625

JULIANS of Reading have Norton 16H. in stock.

JULIANS of Reading have Norton Model 9 in stock. [0489

DAN GUY, Weymouth.—Norton official agent; early deliveries. [0595

NORTON 1921 Famous 3½h.p. from stock; £132.—Gibb, Gloucester. [0444

WESTON-SUPER-MARE.—Jack Pruen, Oxford St., for Nortons.—'Phone: 440. [6250

1921 T.T. Norton, as new, lamps, licence, etc.; sacrifice £85.—Putterill's Garage, Harpenden. [2723

NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [6128

NORTON 1919 3½h.p., S.A. countershaft, in splendid condition; £75.—Fryer, Aslockton, Nottingham. [3095

NORTON 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5005

NORTON.—Sole Walsall agents; exchanges or deferred payments.—Maudes' Motor Mart, Walsall Garage, Walsall. [2421

1917 Norton, 16H, 3-speed, equipped, tax paid; £76, or exchange.—Howe, 6, St. Peter's St., Hackney Rd., E.2. [2949

FRANK WHITWORTH, Ltd., of Birmingham, have Nortons ready for immediate delivery; also a fine second-hand 3½h.p. Norton. [X3406

3½h.p. T.T. Norton, Philipson, brand new engine frame, mag., carburetter; £98, or near offer.—Barron, Hebron Lodge, Evington, Leicester. [3111

NORTON 1921 Motor Cycles, brand new, all models in stock, immediate delivery.—Palin, Sole Agent, Bourne St. (nr. Spot), Osmaston Rd., Derby. [3181

MOTOR CYCLES FOR SALE.

Norton.

NORTON, 1921, T.T. model, 16H, as new, guaranteed perfect, only ridden 250 miles, too fast for owner, will do 70 m.p.h., licensed; £115.—Moss, Wem. [X3345

NEW 1921 3½h.p. Norton, 3-speed, kick start, 1611 model, in stock; list price £132; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 97. [8739

NORTON Big 4 Sporting Combination, July, 1920, tip-top condition, everything on, climbs Porlock and Lynton with ease; £155.—Smith, 23, Bath Rd., Bristol. [2433

NORTON 1921 3½h.p., T.T., fully equipped, speedometer, tax paid, indistinguishable from new; £100. Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3267

NORTON Agents.—Motor cyclists in or near Oldham call. Our Mr. Mitchell will demonstrate to you the finest machine in the world.—Bulloughs Motors, Waterloo St., Oldham. [2050

NORTON 1921 3½h.p., 3-speed, all-chain, perfect, tax paid, just returned from makers, having been specially tuned for competition work; price £120.—Howard Davies, Bryn Golen, Ruthin, N. Wales. [X3133

1920 Big Four Norton, de luxe sidecar, lamps, 2 generators, also dissolved acetylene cylinder charged, tax paid, very fast, has exceeded 60 solo and sidecar; £145.—Ellis, Ogle Terrace, South Shields. [3008

NORTON 1921 Big 4 Combination, special sidecar with large lockers, Triplex screen, oversize tyres, only 6 weeks old, and perfect in every way, licensed; £70.—Hewins' Garages, Ltd., the Real Service Firm, Taunton. [2776

NORTON 1921 Big Four Model, Henderson sidecar, Lucas Magdyno lighting, Cameo wind screen, oversized tyres, tax paid, insured, indistinguishable from new; cost £230; £170.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3268

BIG Four Norton, Aug., 1920, equipped in every detail as a show machine, 700×80 Dunlops, Lucas horn, Bonniksen with trip, H.A.H. head and two tail lamps, accumulators and dry battery, separate steams, speedometer and drip feed lamps, Terry spring links, tax paid until Jan., 1922; price £130; owner getting combination.—C. H. Hunt, Court Hill, Shipstead, Surrey. Croydon 2225, or Burgh Heath 66; after 7 p.m. [2523

N.S.U.

5h.p. Twin N.S.U. Motor Cycle, 2-speed gear, condition as new; £50.—51, Archer St., N.W.1. [2969

1914 2¾h.p. 2-speed N.S.U., spring frame, good tyres, only wants seeing.—Benstead, Swade, Sittingbourne. [3312

5h.p. Twin N.S.U., 2-speed, Bosch, Amac, coachbuilt sidecar, tax paid; £50.—Blake, 216, Westbourne Grove, W. [3240

5-6h.p. Twin N.S.U. Motor Cycle and Cane Sidecar. Bosch mag., 2 speeds, free engine, running order; £20.—Box 672, c/o *The Motor Cycle*. [X3329

N.U.T.

N.U.T., 3½h.p. special engine, o.h.v., T.T., 2-speed, very fast; £60.—4, The Square, Carshalton. [3229

N.U.T. 3½h.p., 1920, Magdyno, just overhauled; £110; faultless.—Dr. Warren, Ponders End, Enfield 560. [3062a

BRAND New 3½h.p. N.U.T. with Lucas dynamo lighting; accept £125.—Grosvenor Garage, Bradford St., Bolton. [3254

N.U.T. 1920 3½h.p., dynamo lighting, tax paid, indistinguishable from new; £125.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3269

N.U.T.—Sole agents for nine counties; special exchange or deferred payment terms; immediate delivery all models; trade supplied.—Maudes' Motor Mart, London, Exeter, and Walsall. [2422

1920 (July) N.U.T., dynamo lighting, electric horn, extra pair Palmer cords, many new parts and tyres, magnificent machine, winner 4 gold medals; sacrifice, £105, or nearest offer.—Rhodes, Queen St., Romford. [3257

1919 N.U.T. 3½h.p., sports model, 3-speed S.A. gear, Magdyno, Cowey speedometer, trip, Palmer tyres, horn, knee-grips; cost £155 April 1st this year, done about 1,000 miles; 95 gns., or quick sale.—11L, Cramer Mews, West Brompton, London. [3357

O.K.

JULIANS of Reading have all O.K. models in stock [0481

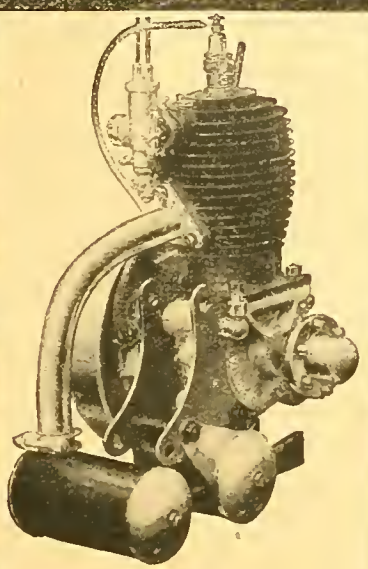
O.K. Lightweight, 2-speed gear, spares, and tax paid; £30.—170, Red Lane, Coventry. [X3293

O.K. 2¼h.p., overhead inlet, lamps, horn, good tyres, licence paid; £28.—Hedges, 55, Wote St., Basingstoke. [2783

O.K. 2¼h.p. 4-stroke, 2-speed, countershaft, good condition; £30. — Write, 15, Maitland Park Villas, N.W.3. [2830

O.K.-VILLIERS 2¾h.p., late 1920, 2 speeds, new condition; £42.—Eagles and Co., 275, High St., Acton, London. [3080

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MOTOR CYCLES FOR SALE.

O.K.

1920½ O.K. Junior, 2¼h.p., as new, good climber, very fast, perfect; £40; approval.—Richards, Main St., Caersws. [2883

O.K. 2¼h.p., in splendid condition, 2-speed, new carburetter, easy starter; lowest £50; deposit system.—Snow, 91, Mapledene Rd., Dalston, E.8. [3465

O.K. (Late) 2¼h.p. M.A.G., Albion 2-speed countershaft, Druids, lamps, footboards, licence, new condition; £40; exchange 2¾h.p. Douglas.—63, Solon Rd., Brixton. [3019

Omega

1920 Omega-Jap 2¾h.p., 2-speed, all accessories, tax paid 1921, small mileage, as new; £55.—8, Hall Moon Lane, Herne Hill, S.E.24. [3428

1920 2¾h.p. Omega-Jap, 2 speeds, kick starter and clutch, all lamp sets and tax paid, disc wheels, been very little used, appearance and mechanical condition as new; £55.—Heady, 85, High St., Saffron Walden. [1734

P. and M.

JULIANS of Reading have 1921 P. and M. in stock [0488

P. and M. Combination; £75.—Speechley, 86, Churchfield Rd., Acton, W.3. [2679

P. M. Combination, 2-speed, running order, tax paid; £28.—Peters, c/o Barkhams, Hunstanton. [2527

P. and M. Combination, 2-speed and K.S., licence paid; £68.—1, Elmsdale Rd., Walthamstow. [2555

P. and M. 1919 3½h.p., K.S., as new; £48.—35, St. Clement's Mansions, Lillie Rd., Fulham. [3409

£17.—3½h.p. P. and M., 2 speeds, minus front forks, otherwise complete.—King, Egrove Farm, Oxford. [X3302

P. and M., 1918, perfect condition, new tyres; £55. —38, Sheriff Rd., West Hampstead, N.W.6. [2959

P. M. Combination, Mills-Fulford sidecar, 1918, good condition; £65.—54, Dalling Rd., Hammersmith. [2747

P. M. 1917 Combination, good tyres, nice condition; accept £57/10.—Edwardes, 277, Camberwell Rd., S.E. [3219

1918 P. and M. Combination, lamps, horn, screen; £65, or exchange.—Butterworth's Garage, Brixton Hill. [3057

1920 P. and M. Combination, Lucas lamps, horn, leg-shields; £98; appointment.—Edge, Chad Valley, Edgbaston. [2506

1918 P. and M., Klaxon, electric lamps, mechanically perfect, tax paid; £60, offers.—106, Camden Mews, N.W.1. [3277

1918 P. and M. Combination, perfect condition, all accessories; £75, tax paid.—147, Ivydale Rd., Nunhead, S.E. [3311

P. and M. Combination, 1918, fully equipped, splendid condition; £85.—3, Sanderstead Rd., South Croydon. (After 2 p.m.). [2540

1918 P. and M.'s, renovated as new, makers' 1920 colours, guaranteed, immediate delivery; £55.—1, Othello St., Liverpool. [3173

1921 P. and M. Combination, used for demonstration only, fully equipped; £140.—Phelon and Moore, Ltd., 4, Bernors St., W.1.

1920 Combination, with screen, lamp set, speedometer, luggage grid, Cowey horn, etc.; £140.—Phelon and Moore, Ltd. (above).

R.A.F. Combination, fully equipped, re-enamelled and overhauled by us; £100; solo £75; all above machines have our usual guarantee.—Phelon and Moore, Ltd. (above). [9506

£50.—P.M., excellent condition, just been renovated at cost of £22, plate and enamel perfect.—Hine, Parliament Mansions, Victoria St., S.W. [2545

BRAND New 1921 3½h.p. P. and M., latest type, used once only, must sell; accept £100.—Heady, 85, High St., Saffron Walden, Essex. [1738

P. and M. Combination, Dec., 1919, not W.D., Easting, lamps and spares, first-class condition, tax paid; £80.—22, Wyeth's Rd., Epsom. [3040

P. and M. Combination, as new, 1918, fully equipped, tax paid, screen and lamps; £72/10.—Richards, 14, Arragon Gardens, Streatham, S.W. [3252

P. and M. Combination, lamps, horn, speedometer, spares, discs, perfect order, licensed; £45.—Dodd, 135, Bathurst Gardens, Willesden, N.W.10. [2711

1920 P. and M. Combination, fully equipped, licence insurance paid, new March this year, mileage 300; £120.—Burcham, 6, Stonegate, Spalding [3056

1919 P. and M. Combination, Henderson sidecar, Cameo, lamps, tax and insurance paid; £95, or near offer.—Goodhouse, Goose Green, East Dulwich. [3246

P. and M., 1919, fully equipped, speedometer, Swan sidecar, guaranteed 3 months; £110.—Ratcliffe Bros., 200, Gt. Portland St., W. Langham 1704. [3375

P. and M. Coachbuilt Combination, 1918-19, Cameo screen, lamps, in new condition, any trial; £69 exchange Harley.—A. Southorn, 12, Thrale Rd., Streatham S.W. [3251

MOTOR CYCLES FOR SALE.

P. and M.

P. and M.'s, unrenovated, less gears, rear wheels, magneto and carburetters; small parts from £15; magnetos for same, 45/-.—Banister and Botten, 341, Upper St., London, N.1. 2480 North. [3260

P. and M. 3½h.p. R.A.F. Reconstructed Model, accessories, new tyres, tax paid; an exceptional bargain; £45.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0066

P. and M. Combination, 1919, not W.D., makers just overhauled, tax, insurance paid, Stewart Mecborn, Cowey, side, rear lamps electric, condition excellent; £90, nearest offer.—84, Shaftesbury Rd., London, N.19. [3106

1913 P. and M., exceptionally fine condition, unused during winter, Bosch, Binks carburetter, economical, and very reliable, fully equipped, licence, genuine bargain; £55.—Schurassmann, 1, Grange Rd., Bishop's Stortford. [3283

P. and M. 3½h.p. Solo, £18 down and 12 instalments of 5 gns.; combination, with new sidecar body, £20 down and 12 instalments of £6/16/8; renovated, re-enamelled, replated, guaranteed 3 months.—Auto Traders, Ltd., 84, Jermyn St., London. [2602

P. and S.

PEARSON-SOPWITH, 2¾h.p. Villiers, Albion 2-speed, electric lighting, spare tyre and belt, tax paid; £50.—22, Eswyn Rd., Tooting. 3054

Paragon.

1920 3h.p. Paragon, 2-stroke, 2-speed, spring frame, Lucas lamps, mechanical horn, mileage negligible, tax paid, perfect condition throughout, any trial; bargain, £45.—88, Brook Green, Hammersmith. [3087

Peugeot.

3½h.p. Peugeot Combination, N.S.U. 2-speed gear, Lucas lamp set, horn, Saxon spring forks, good tyres, splendid condition, tax paid; £38.—231, Green Lanes, N.4. [3334

Precision.

3½h.p. Precision, perfect condition; £35.—Arnell, 47, High St., Acton, W.3. [2494

4¼h.p. Precision Combination; £35.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [3047

4¼h.p. Precision Coachbuilt Combination, 3-speed, perfect; trial; £32.—17, Heaton Rd., Mitcham. [2994

4¼h.p. Precision Coachbuilt Combination, 2-speed, free engine; £25.—14, Phœnix St., Euston, N.W.1. [2736

Premier.

PREMIER 3½h.p., Brampton gear, tax paid, any trial; best offer.—Chambers, 19, Mount Pleasant, Redditch. [2587

PREMIER 3½h.p., 3-speed, clutch, kick start, good condition; £35.—Hewins' Garages, Ltd., the Real Service Firm, Taunton. [2782

PREMIER 3½h.p., 3-speed countershaft, disc clutch, mechanically perfect; what offers?—Norris, 312, Cricklewood Lane, N.W.2. [2828

PREMIER Combination, 7-9h.p., 2-speed countershaft, powerful outfit, all on, any trial; 90 gns.; take lower power part.—57, Kenbury St., Camberwell, London. [3029

PREMIER 4h.p. 1915 Combination, 3-speed countershaft, just overhauled, lamps, tyres good, take 3 anywhere, tax paid; £90.—Rest-Holme, Terriers, High Wycombe. [3152

PREMIER Combination, coachbuilt, all on, perfect order, first-class appearance, tax paid; £50; exchange modern lightweight.—190, Lozells Rd., Handsworth, Birmingham. [X3320

1913 3½h.p. Premier Combination, Bosch, B. and B., 2-speed, F.E., engine overhauled, tax paid, all lamps, in very good order; 28 gns.—J. Wells, jun., 7, Atbara Terrace, Saddlebow Rd., King's Lynn. [3405

P.V.

P.V., spring frame, Villiers engine, 2½h.p., 2-speed, 2-stroke, 1919, fully equipped; any trial; 45 gns., or offer.—32, Mayow Rd., Sydenham. [2533

Quadrant.

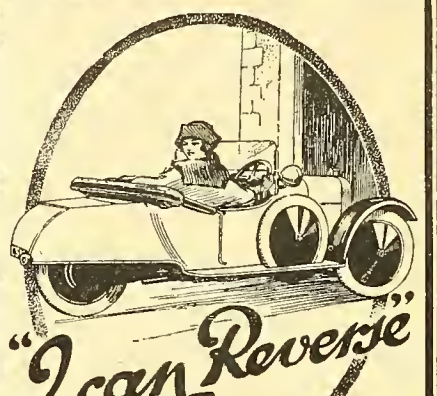
QUADRANT Combination, late 1920, Lucas lamps, like new; £105.—Maund, Wem, Salop. [X3215

QUADRANT Aug., 1920, Combination, electric lighting, Easting, discs, front forks slightly damaged, licence paid; £80, or offers.—Thornley, 47, Union Rd., New Mills, nr. Stockport. [X3284

1920 Quadrant 4½h.p. Combination, all accessories, Eastieg and Tand-Sad, mileage 1,000, exceptional opportunity; £105.—Clifford Wilson, 177, Westminster Bridge Rd., S.E.1. Hop 210. [2329

£19.—3½h.p. Quadrant, Bosch, B. and B., new La Grande spring forks, footboards, thoroughly overhauled, repainted; a gift; after 7.—Hanson, 24, St. Marks Rd., North Kensington. [2788

QUADRANT.—Sole agents and wholesale distributors London, Southern and Eastern Counties. All spares stocked. Official repairers.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd., London. S.E.1. Tel.: Hop 210. [6736



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Radco.

RADCO 2-speed, free, Albion gears; £29.—12, New Rd., Gaywood, King's Lynn. [930

RADCO 2¼h.p., perfect running order, tax paid £25.—Brookes, Upperhulme, Leek. [257

RADCO 2-stroke Lightweight, lamps, perfect order tax paid; £30.—Vernon, Manor Farm, Pebworth Stratford-on-Avon. [X333

RADCO 2-stroke, 1920 engine (fitted by makers), ne Amac, waterproof mag., almost new belt, P. an H. lamps, Dunlops, stove enamelled February, tax pai good climber, mechanically sound and reliable; first 3 gns. secures, carriage paid; no offers.—King, Savil House, Shadwell, Leeds. [X312

Raleigh.

PREMIER Motor Co. for 1921 Raleighs.

WE can deliver to your address within 24 hou the new Raleigh 5-6h.p. flat twin, spring fram chain drive; solo 140 gns., sidecar 176 gns.—So Birmingham agents, The Premier Motor Co., Aste Rd., Birmingham. [06

NEW 1921 5-6h.p. Flat Twin Raleigh, immedia delivery; 140 gns.—Gray's Garage, Watford. [33

RALEIGH Solo and Combinations for immediate d livery, dynamo lighting optional; exchanges.—New ham Motor Co., 223, Hammersmith Rd., W.6. 'Phon Hammersmith 80. [22

NEW Raleigh Combination, as delivered fro works May 14th, mileage 50, tax paid, own ordered abroad; 160 gns. for quick sale.—Griffith Bilson, Cinderford, Glos. [30

RALEIGH Combination, used about 25 miles f demonstration purposes, tax paid, Lucas horn £175.—Newnham Motor Co., 223, Hammersmith R W.6. 'Phone: Hammersmith 80. [22

RALEIGH, the finest flat twin on the road; imm diate delivery; solo model, speed, comfort, a reliability.—Note the agent, Sam E. Clapham (Motor 27, Stockwell St., Greenwich, S.E.10. [32

1921 6h.p. Twin Raleigh Combination, with spa wheel, brand new; also 3½h.p. Sunbeam, n 1921 model; also brand new 4½h.p. British Excelsi with Mills-Fulford de Luxe sidecar, price £128.—Dick Turriff, Aberdeenshire. [25

WE can give delivery of this famous make machine from stock; there is no better quali or finish possible; a perfect machine in every poi and detail; Raleigh 5-6h.p. flat twin solo, 140 gn combination, 176 gns.—G. and J. Dawson, 60 and Regent St., Cambridge. [06

Reading-Standard.

READING-STANDARD Combination, condition a appearance perfect, not done 1,000 miles; b gain, £90.—Williams, Hillmorton, Rugby. [X33

READING-STANDARD 10h.p. 2-speed Combinati mileage under 400, lamps, etc., all on, tax pai £90; trial given.—109, Forest Rd., Walthamsto E.17. [28

Regent.

1920 Regent Combination, Coventry Victor engi 6h.p., Sturmey-Archer gear, 28×3 wheels, o run 500 miles, perfect condition; £125, or near offer 30, Princess Rd., Leicester. [X31

Rex

1914 7h.p. Rex Combination; £65.—59, Palf Place, Dorset Rd., Clapham Rd., S.W.8. [30

3½h.p. Rex, C.A.V. mag., B.B. carburetter, go condition; £10/10.—17, Heaton Rd., Mitcha [29

REX 1915 4h.p., 2-speed, clutch, as new, lam licence; £30.—4, Fairview Place, Upper To Hill, Brixton. [34

6h.p. Rex T.T., all new accessories, 2-speed, f engine, lamps, etc., £28/10.—Grout, Milgate Pa Bearsted, Maidstone. [31

7h.p. Rex Combination, 1914, 2-speed, handle sta ing, perfect running order; £50.—3, Norwood R Herne Hill, S.E.24. [19

6h.p. Rex 2-speed Coachbuilt Combination, 19 completely overhauled, guaranteed condition, n tyres, electrically equipped; any trial; £75, nearest 182, Old Bank Rd., Dewsbury, Yorkshire. [X33

1921 Twin 6h.p. Rex, cane sidecar, handle starti 2-speed, 1½in. belt drive, Bosch, B. and engine rebushed throughout, new pistons, excellent c dition, tax paid; £55, or nearest offer.—Priestl Draper, Swindon, Wilts. [26

REX de Luxe Combination, 3-speed, countersha clutch, kick-starter, all-chain, Amac carburett Bosch mag., electric light, well-sprung sidecar, n tyres, tax paid, splendid condition; £85, or near reasonable offer, trial any time to purchaser's appoi ment.—33, Convent Gardens, South Ealing, W (Northfields Station District Railway). [34

Rex-Jap.

REX-J.A.P. 6h.p. Solo or Combination, 1915, Bos Binks, accessories, good appearance; trial; £ —Newells, Poultry Works, Mytholmroyd, Yorkshi [26

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Rover.

ULIANS of Reading have 75 m.p.h. Rover model in stock. [0585

OVER 3½h.p., 1913, 3-speed, clutch, exceptionally good condition, tax paid; £50.—Below.

OVER 3½h.p. 1916 Combination, 3-speed, clutch, accessories, excellent condition; £90.—Restall's rage, 241, Lower Clapton Rd., E.5. [2675

914 Rover 3-speed Combination, coachbuilt, equipped; £50.—Shaw, Jeweller, Wellington, lop. [X3341

OVER 3½h.p. T.T., splendid condition, exceptionally speedy and flexible; any trial; bargain for 5.—Redman, Thame, Oxon. [2706

920 3½h.p. Countershaft Rover, new a few months ago, costing £150; sacrifice £95, guaranteed per-t.—Chaston, Blackwood, Mon. [3185

919 Rover Combination, 5-6h.p., chain drive, acetylene and electric lamps, good condition; any l; £130.—Elvey, Blundell Rd., Leagrave, Beds. [2581

916 3½h.p. Rover, 3-speed countershaft, clutch and kick starter, lamps, horn, etc., fully licensed; 0; seen evenings.—74, Gordon Rd., Ealing, W.5. [2890

h.p. Rover Combination, bought April, 1920, very little used; must be sold; £125; seen Forest Gate appointment.—Crown Trading Co., Ltd., Stratford rket. [2640

RANK WHITWORTH, Ltd., of Birmingham, recommends the chain drive 3-speed 3½h.p. Rover £115 as one of the best value machines in the trade. livery from stock. [X3403

OVER 3½h.p. Late Countershaft Model, £65, or with Millford sidecar, £82.—Light Car and Motor le Engineering Co., 26, Tulse Hill, S.W.2 (½ min m Brixton Skating Rink). [3355

1h.p. New Rover, 3-speed clutch and kick starter, 2 fitted with Royal Leicester sidecar, screen and oe; reduced to £145; easy payments.—Harrods, d., 118, Brompton Rd., London. [3362

OVER Combination, 5-6h.p., ex-W.D., new chains engine No. 153512, Dunlops as new, 28×3, electric hts, Cowey horn, Tan-Sad, all perfect condition, any l; £130; tax paid.—Merryweather, Clapham Hoo, Ilford. [2838

ERY Late 1920 5-6h.p. Rover Combination, chain drive; ditto ditto 3½h.p. combination, Lucas electric lighting set, licenses paid, very latest 1921 Rover h.p. combination, just in, full particulars.—E., 6, mens St., Leamington Spa. [X3330

Royal Ruby.

OYAL RUBY Sports Model; 80 gns.; in stock.—John Aldrich and Co., Diss. [0630

OYAL RUBY 8h.p. Combination, 1919, practically new, 3-speed, clutch, fast, powerful, reliable; 35, or near offer.—Davies, 471a, Holloway Rd., ldon. [3191

Rudge.

EW 1921 Rudge Multi 3½h.p., now in stock; £65. —Gray's Garage, Watford. [3389

1h.p. Rudge Multi, 1921, brand new, unused; £79. 2 —Box 4,379, c/o *The Motor Cycle*. [2270

919 Rudge, I.O.M., good condition, privately owned. —Apply, 18, Glenhuck Rd., Surbiton. [2511

915 Rudge Multi, 5-6h.p., fast, reliable, good tyres, lamps; £40, or offers.—Davies, 83, Newbold Rd., gby. [2841

916 Rudge Multi 3½h.p., with C.B. sidecar, all on; £65.—Rowe, 95, Lower Addiscombe Rd., ydon. [2658

1h.p. Rudge Combination, mileage about 800, ex-2 cellent condition, tax paid; no reasonable offers sed.—H. Nunn, Sutton, Cambs. [3187

919 5-6h.p. Rudge Multi and sidecar, tax paid, small mileage, spares, etc.; £85; gift, illness.—Edwards, Hayes End, Middlesex. [2712

UDGE Multi, 1919, 3½h.p. engine, perfect, tax paid, electric light, speedometer, spares; first .—Mullam, 27, Spon St., Coventry. [X3286

UDGE 3½h.p., 1919, with 1920 Camber sidecar, condition and appearance as new, reliable, will anywhere; £80.—112, London Rd., Wallington. [2921

UDGE Multi Combination, 1914, 3½h.p., all new tyres, licensed, all lamps, in excellent condition oughout; £40.—Hewins' Garages' Ltd., the Real Service Firm, Taunton. [2777

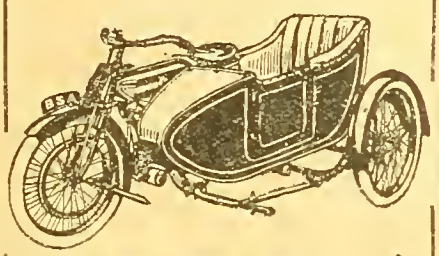
UDGE Multi, I.O.M. T.T., 1920, clutch model, pedal starter, lamps and generator, original tyres, eage 1,000, sidecar tax paid; £65.—Hicks, 32, Lena dens, Hammersmith. [2419

916 3½h.p. T.T. Rudge Multi, handle-bar clutch, kick-starter, C.A.V., Senspray, lamps, accessories, nce, new condition; £8; 2¾h.p. Douglas part.—Selon Rd., Brixton. [3020

UDGE Combination, 3½h.p., 1913-14, B. and B. carburetter, 2 speeds, clutch, fully equipped, od condition throughout; bargain, £50; trial.—29, sop St., Upper Baker St., N.W. [2973

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RUDGE Multi, 3½h.p., pedal starter, brand new; immediate delivery; just arrived from works; no waiting; at makers' reduced price, £85. — Wilkins Simpson, opposite Olympia, London. [2798

1920 3½h.p. Rudge Multi Combination, Easting, speedometer, legshields, lamps, pump, horn, tools, excellent condition, tax, insurance paid, just overhauled; £105.—Cable, Bridge St., Hemerton, London. [2569

1920 Rudge Multi, I.O.M., T.T., clutch and starter model, bought new in Aug., very small mileage, original tyres almost new, complete with P. and H. full lamp set, genuine Klaxon horn, and tax paid for year, machine is indistinguishable from brand new, very fast; £75.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. (D) [2862

Scott.

SCOTT, believed 1914, good condition; £38.—18, Key Hill, Birmingham. [X3292a

SCOTT, 1913, Binks, 2-speed, tax, all on; offers.—Prout, Canon St., Taunton. [3069

SCOTT, 1910, mechanically perfect, tax, and all on; offers.—Sowerby, Beelsby, Grimsby. [1537

SCOTT., late 1919, lamps, horn, etc.; £80.—Johnson, Loxwood House, Meath Green, Horley, Surrey. [3125

SCOTT 3½h.p., 1921, from stock, £130; or with Watsonian sidecar, £152/10.—Gibb, Gloucester. [0445

1914 T.T. Scott, overhauled, fast, new chains, Dunlops, Binks; £50.—41, Cavendish Rd., Blondesbury. [2715

SCOTT and Sidecar, engine No. 2790, electric lighting, first-class condition; £100; appointment.—33, Mansell Rd., Acton. [2559

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0510

SCOTT 1920 Combination, first-class condition and completely equipped, electric lighting, Easting screen, licence paid; £135, or best offer.—Havers, Milton Camp, Steventon, Berks. [2971

1920 Scott Combination, Lucas accessories, Easting, condition and appearance as new; exchange Triumph or Norton; sell £150, or near offer.—Boulton, Avenue Rd., Whittington Moor, Chesterfield. [2709

SCOTT (June, 1920—Ride-easy sidecar, mileage 1,500, Lucas lamps, Watford speedometer, screen and luggage grid, many spares, tax paid, perfect condition, carefully looked after; £150.—Clayton, 51, Chelsham Rd., Clapham, S.W.4. [2478

SCOTT-SQUIRRELL, engine No. 4955, run 500 miles, plating, enamel, and tyres perfect, fitted with battery electric lighting, Cowey horn, and copper exhaust, fast, clean, and comfortable machine; price £115. —Hilton, R.A.F. Base, Leuchars, Fife. (D) [2842

3½h.p. Tourist Trophy, Isle-of-Man Scott, rotary valves, 4 plugs per cylinder, double spark mag., kick-starter, 2-speed gear, recently overhauled and tuned by makers, weight 196 lbs., tax paid, an ideal sporting mount for fast touring; £93.—William Groves, Sheffield House, Belle Vue, Shrewsbury. [X3346

1921 3½h.p. Scott Combination, special equipment, including Lucas electric lighting set and horn, semi-T.T. bars, Bluemel wind screen, luggage carrier, fully licensed, perfect condition, fast, powerful; cost £225 ten days ago; bargain at £195; owner unable to use same.—Stafford, Green Lane, Hazel Grove, Cheshire. [X3325

Singer.

SINGER 3½h.p., 2-speed, clutch combination.—Hunt, 16, Riversdale Rd., N.5. [2477

1914 T.T. Singer, Albion 2-speed, fast, reliable; £25.—13, New St., Wellington, Salop. [X3342

£28.—4h.p. T.T. Singer, Philipson pulley, hub clutch, excellent tune.—Hudson, Brook Rd., Redhill. [2749

3½h.p. Singer, clutch model, Bosch, B. and B., perfect; £35.—Blake, 216, Westbourne Grove, W. [3242

1914 4½h.p. Singer Combination, 2-speed, lamps, horn, speedometer; £45.—Fairmount, Brockley View, Forest Hill, S.E.23. [2967

SINGER 2¾h.p., just overhauled, new tyres, all necessories; real bargain, £28.—Jones, 1, Trinity Church Rd., Castlenau, Barnes. [2664

Sparkbrook.

NEW Sparkbrook Motor Cycle, single speed £64, 2-speed £70; in stock for immediate delivery; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3369

1921 Sparkbrook, Villiers engine, 2-speed, done 30 miles, owner taking delivery of combination; horn, licence paid; £65.—Box 4,526, c/o *The Motor Cycle*. [2856

Stan.

38 GNS.; 2¼h.p. Stan 2-stroke motor cycle, Dunlop studded tyres, B.B. carburetter, Arden spring fork.—Stan Motor Co., Westwood Heath, nr Coventry. [X3411

MOTOR CYCLES FOR SALE.

Sun.

SUN-VILLIERS, 2¾h.p., perfect condition, tax paid, little used, recently overhauled; must sell, fully equipped, sacrifice, £32.—46, Inchmery Rd., Catford, S.E.6. [3195

BARGAIN; 1920 Sun Vitesse sporting model, very swift, Albion 2-speed, licence, etc., cost over £70; will offer £58 complete with lamps, etc.; first cheque secures; mileage under 500.—Box 680, c/o *The Motor Cycle*. [X3214

Sunbeam.

E. KICKHAM for Sunbeam, sole agent for Bristol and district.—Stokes Croft, Bristol. [3352

NEW 1921 3½h.p. Light Sporting Sunbeam in stock. —Nunn, Farmer and Co., 73, Union St., Torquay. [2701

1915 3½h.p. Sunbeam, excellent condition, licensed; £80.—Morriss and Co., Ltd., 139, Finchley Rd., N.W.3. [2876

SUNBEAM 3½h.p., with sidecar and accessories, in first-rate order; £110.—Apply, Deas, Haymount, Coldstream. [2846

SUNBEAM 3½h.p., 1920, and sidecar, perfect condition; £125.—Dr. Warren, Ponders End, N. Enfield 560. [3062

1914 Sunbeam Combination, horn, lamps, in splendid condition; £70.—Butterworth's Garage, Brixton Hill. [3058

3½ h.p. T.T. Sunbeam (Nov., 1920), Lucas lamps, only done 600 miles, perfect order; £110.—B., Sutherland House, London St., W.2. [3050

CAN Supply Now from Stock or immediately Sunbeam solos or combinations; full particulars.—E., 6, Clemens St., Leamington. [X3327

SUNBEAM Combination, brand new, 8h.p., screen, hood, spare wheel, horn, etc.; cost £280, lowest £210.—Hutchings, Forrabury, Bognor. [2705

1920 Sunbeam 3½h.p., Lucas horn, lamps, legshields, etc., licence paid, in perfect condition; price £136. —Kirkup, Kibblesworth, Gateshead. (D) [2451

1921 3½h.p. Sunbeam Combination, in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

1921 3½h.p. Sunbeam, new last month, leg shields, licence, all accessories, as new; £145.—Dr. Hodgson, Chislehurst. Tel.: 1886 Bromley. [2882

SUNBEAM 3½h.p., Sept., 1918, excellent condition, lamps, Klaxon, spares, tyre, sprockets, licence, insurance; £87, offers.—Seal, 273, Clifton Rd., Rugby. [X3297

1920 Sunbeam 3½h.p., Sunbeam sidecar, spare wheel, leg shields, horn, lamps, tools, cost £230; accept £179.—34, Goldhurst Ter., near Swiss Cottage, London. [3067

£75; 3½h.p. Sunbeam, late model, ready for assembling, mostly new parts, few minor parts missing; seen only after 6 p.m.—65, Plimsoll Rd., Finsbury Park, N.4. [3300

SUNBEAM 1915 3½h.p. Model with Sidecar, complete with all accessories, excellent condition; £110.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3265

1915 3½h.p. Sunbeam Combination, overhauled by maker, hood, screen, Lucas lamps, horn, tax paid for year, perfect order; £120.—Byfleet Automobile Co., West Byfleet. [2548

1920 Sporting Sunbeam, 3½h.p., little used, condition as new, fully equipped, Lucas lamps, Boniksen speedometer, etc; must sell; £137.—Beaurain, 51, Wilberforce Rd., Finsbury Park, N.4. 'Phone: Paddington 10. [2462

1919 8h.p. Sunbeam Combination, dynamo lighting, electric horn, speedometer, hood, wind screen, spare wheel, all interchangeable, small mileage, in excellent condition; £175.—Apply, after 6 o'clock, 59, Broadfield Rd., Catford, S.E. [3197

1921 3½h.p. Sunbeam Combination, dynamo lighting, spare wheel, numerous accessories, only done 500 miles, not scratched, insurance, year's licence; cost £275, accept £210; exchanges entertained.—Rose Bros., Felixstowe. [2942

1920 (late Sept.) 3½h.p. Sunbeam Combination, only done 800 miles, perfect condition, complete equipment, lamps, horn, speedometer, etc., licence to December and insurance to Sept. next, private ownership; £185, or offer.—Gollin, London Rd., Grantham. [2633

8h.p. Sunbeam Combination, late model, special luxurious aluminium sidecar body with child's seat, hood and screen, spare wheel, electric lighting, speedometer, etc.; a magnificent outfit, in perfect order throughout; £190.—Smurthwaite, C. Binks, Ltd., Eccles. [X3257

SUNBEAM 1916 3½h.p. and Skiff Sidecar, good lamp set, horn, mirror, speedometer, screen to sidecar, licence paid, guaranteed mechanically sound and good appearance; £105.—Herbert Robinson, Ltd. 32-35, Green St., Cambridge. Tel.: 995. T.A Bicycles. [9547

SUNBEAM 8h.p. Combination, Lucas Magdyno lighting, spare wheel, wind screen, speedometer, spare tubes, chains, valves, bulbs, and case, tools, etc., engine recently overhauled at cost £18/10; £190, or near offer.—Brown, 71, Twilley St., Wandsworth, S.W.18. [2935



EXCHANGES QUOTED.

1921 NEW LIGHT CARS.

STANDARD, 11.6 h.p., 4-seater	£610 0
AIREDALE, 11.9 h.p., 4-seater	£470 0
AIREDALE, 11.9 h.p., chassis	£400 0
LAGONDA, 11.9 h.p., coupe, dickey, full equipment. Reduced price ..	£420 0
CALTHORPE, 2-seater. Reduced price	£420 0
CALTHORPE, 4-seater. Reduced price	£450 0

1921 NEW MOTOR CYCLES.

COVENTRY PREMIER 3-wheeler	£250 0
ACME-J.A.P. 8 h.p. all-chain Combination, spare wheel and tyre	£190 0
ROYAL ENFIELD 8 h.p. Combination	£160 0
EDMUND-BLACKBURNE, sp. frame .	£98 0
ROYAL RUBY, 2¾ h.p., 2-speed, sports	30 gns.
NEW IMPERIAL, 8 h.p., and Sidecar .	160 gns.
NEW IMPERIAL, 2½ h.p., c/shaft, k.-s.	77 gns.
SCOTT Combination	£170 0
SCOTT, new Squirrel model	£130 0
BRADBURY, 6 h.p., and Sidecar	£165 0
TRIUMPH, chain drive, and Sidecar .	£185 0
B.S.A. twin Combination	£175 0
B.S.A. 4½ h.p. all-chain Combination ..	£152 10
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SUNBEAM, 3½ h.p., touring	£155 8
NORTON, 3½ h.p., single-speed	£98 0
***DOUGLAS**, 2¾ h.p., 2-speed	£85 0
***DOUGLAS**, 2¾ h.p., 3-speed, clutch ..	£105 0
***DOUGLAS** 4 h.p. Combination	£170 0

"Perfection" Sidecars and Bodies at reduced prices.

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DOT-J.A.P. 1920 8 h.p. Combination ..	£145 0
RUDGE-MULTI, 3½ h.p., spring forks	£37 10
EDMUND, 2¾ h.p., 1920, 300 miles ..	£69 10
ALLDAYS-ALLON, 1916, 2½ h.p., 2-sp.	£47 10
BROUGH, 1916, 3-speed, countershaft	£69 10
COVENTRY EAGLE, 1920, 3½ h.p., Sturmey c/shaft 3-sp., very smart	£95 0
DOUGLAS, 1919, 2¾ h.p., 2-sp., Tax pd.	£85 0
ENFIELD, 1920, 2¼ h.p., 2-sp., Tax pd.	£57 10
ENFIELD, 1921, equipped, Tax paid	£69 10
CLYNO, 1920, 2-speed, lightweight ..	£55 0
SCOTT, 1920, well equipped, Tax paid	£105 0
MINERVA, twin, spring forks	£35 0
TRIUMPH, 3½ h.p., spring forks	£25 0
ARIEL, 1920, 3½ h.p., 3-speed c/shaft	£84 10
VINDEC, 7-9 h.p., 2-speed, F.E.	£42 10
NEW IMPERIAL 1921; 200 miles ..	£69 10

PASSENGER MACHINES.

SUNBEAM, 1920, 3½ h.p. Combination	£160 0
MORGAN, 8 h.p., sporting. Tax paid	£115 0
MORGAN, 1015, sporting	£130 0
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ARIEL 3½ h.p. 1920 3-sp. Combination	£99 10
HENDERSON 10 h.p. 4-cylinder Combination, very smart condition ..	£195 0
HARLEY 1920 Combination, electric .	£180 0
HARLEY, 1916, & s/car, very smart	£105 0
INDIAN 3-speed twin Combination ...	£85 0
INDIAN, ditto, wants slight attention	£50 0
RUDGE, 5-6 h.p., Multi-Rudge Sidecar	£65 0
SCOTT, 1920, with new Sidecar	£135 0
TRIUMPH 3-speed 4 h.p. Coach Comb.	£75 0
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Sunbeam.

1920 (May) 8h.p. Sunbeam Combination, Magdy electric lighting, De Luxe sidecar, hood, scree spare wheel complete, chain, tube, valve, etc., large t kit, voltmeter, horn, clock, as new, in topping orde nearest £200; seen any time.—Lord, 22, Blackburn R Haslingden, Lancs. [24

SUNBEAM 6h.p. Combination, 1914, stored duri war, super-Gloria sidecar, luggage grid, tyres nea new, one spare, lamps, Cowey speedometer, Klaxo everything recently overhauled, ready to ride aw magnificent turnout, must sell; what offers; any tri after 7 p.m.—Churchill, 83, Iverson Rd., Brondesbu N.W.6. [29

T.A.C.

T.A.C. 7h.p., 4-cyl., reconstructed 1920, 3 spee shaft drive, Binks, Cowey speedometer, B. a L. lubrication, mechanical horn, 2-seater family si car, underslung, Easting, Taylor wind screens, la locker, machine and sidecar luxuriously sprung, n tyres, 3in. rear, perfect condition; £65; photo.—J. Gidda Na, Ember Lane, Esher. [31

T.D.C.

T.D.C. Engined Lightweight, 1920, 2¾h.p., dis lamps, tax paid, ride away; £24.—Margra Whitegates, Mottam. [2

Torpedo.

£23.—Torpedo-Precision 2-stroke, single-speed, g hill-climber.—Hudson, Brook Rd., Redhill. [2

TORPEDO-PRECISION Combination and cash late solo.—Thompson, 32, Clarance Rd., Kent Town. [2

Triumph.

PREMIER Motor Co. for 1921 Triumphs.

TRIUMPHS at the new reduced prices now in st

WE can deliver to your address within 24 h 2¼h.p. lightweight Triumph, £70; W.D.B. (r vated), £95; Type H 4h.p., 3-speed, £115; Type S chain drive, £125; sidecars from £25 to £50.—Y your machine direct from the Triumph special The Premier Motor Co., Aston Rd., Birmingham. [0

1921 Triumph, all-chain drive, new; accept £117 —Below.

1920 Baby Triumph, unregistered, like new, Li horn; £57/10.—14, Morton St., Royston, He [2

TRIUMPH, 1920, 3 speeds, all accessories, as n £85.—40, Aynhoe Rd., W.14. [2

TRIUMPH 1917, brand new sporting sidecar, ex lent condition; £87/10.—Below.

TRIUMPH 1918, brand new coachbuilt Ladb sidecar, very fast, perfect; £90.—Below.

TRIUMPH, 1918, reconditioned, absolutely per £65; Triumph, 1917, overhauled, fast mo £65. All these machines are picked, and I am pared to guarantee perfect; exchanges entertaine Goads' Private Garage, 122, Maida Vale, W.9. Ha stead 1353. [3

1920 Triumph, 3-speed, perfect condition, equip £95.—144, Ladbroke Grove, W.10. [8

1920 Triumph Combination, 3-speed, well equip £120.—144, Ladbroke Grove, W.10. [6

£20.—3½h.p. Triumph, splendid running order, f engine.—King, Egrove Farm, Oxford. [X3

1918 Triumph Combination; £85.—59, Pa Place, Dorset Rd., Clapham Rd., S.W.8. [3

1916 Triumph 4h.p., 3-speed, clutch, K.S., la horn; £65.—35, Cavendish Rd., Clapham. [2

DAN GUY, Weymouth.—1921 Triumph all-chain bination; £175. Baby 2-stroke, £70, from st [0

1918 Triumph Gloria Combination, countersh lamps, tax paid; 75 gns.—9, Church Rd., lesden. [3

TRIUMPH, 4h.p., countershaft, 3-speed, K.S., clutch; £75.—5, Bedford Villas, Carsha Surrey. [3

£75.—Countershaft Triumph combination, renov W.D., coachbuilt sidecar.—King, Egrove F Oxford. [X

TRIUMPH 1914 Coach Combination, 3-sp clutch; £52. Near Luton.—Tickle, 6, Cambr Rd., Hove. [3

TRIUMPH 3½h.p., 3-speed, clutch, lamps, £45; C.B. sidecar, Millford, £9/10.—102, Ke St., Fulham. [3

BRAND New Triumph, unridden, unregistered, equipped; £100, or near offer.—33, Hackford Brixton, S.W.9. [

1921 4h.p. Triumph Model H., £115, with Can sidecar £145.—Shepherd, Enfield Highway. Waltham Cross 31. [

1918 Triumph, countershaft, re-enamelled, hauled, fully equipped, licensed; £68.—R. W Gt. Missenden, Bucks. [

60 GNS.—Triumph, coachbuilt sidecar, clutch speed, spare wheel, perfect.—Geiger, 24, N field Rd., Gospel Oak. [

MOTOR CYCLES FOR SALE.

Triumph.

3½h.p. Triumph, 1911, in splendid condition, N.S.U. 2-speed and clutch; £33.—E.C., 41, Radford Rd., Leamington Spa. [X3412

TRIUMPH, W.D., thoroughly reconditioned, several to choose from; £55 to £60.—Clark, 7, Exhibition Rd., South Kensington. [3418

COUNTERSHAFT Triumph, incomplete, mostly small parts missing; £39/10.—Simpson, Orchard Rd., Sunbury-on-Thames. [2991

1912 Free Engine Triumph; full particulars given; can be seen Bampton Post Office, Oxon; 27 gns.—Jarvis, Coates, Cirencester. [X3289

TRIUMPH 4h.p. and Henderson R1 sidecar, all lamps, horn, etc., tax paid; £90.—28, Lower Addiscombe Rd., East Croydon. [3037

1919 Triumph with Canoelet Sidecar, in perfect condition, engine No. 59710; £100.—E. Gould, Lower Froyle, Alton, Hants. [2645

3h.p. Triumph, dropped frame, T.T. bars, copper exhaust, adjustable pulley, any trial; £30.—711, Garratt Lane, Lower Tooting. [2835

3-SPEED Triumph, clutch, coachbuilt underslung sidecar, tax paid, perfect; £60, offers; after 7 p.m. 45, Palace Sq., Crystal Palace. [2893

1917 4h.p. Triumph, lamp, horn, tax paid, good conditions ride 60 miles to purchaser; £68.—2, Fortunegate Rd., Harlesden, N.W. [3469

TRIUMPH 4h.p., 3-speed countershaft, Myddleton sidecar and full accessories; trial.—White Pullen, 1, Inderwick Rd., Stroud Green, N.8. [2717

3½h.p. Triumph Combination, N.S.U. 2-speed, mechanism perfect, insured, tax paid; £45, or nearest.—26, Maeroom Rd., Paddington. [2501

TRIUMPH 1918 4h.p., countershaft, enamel, plating, and mechanism splendid condition; £75.—9, Crystal Palace Park Rd., Sydenham. [3151

£60.—Triumph W.D. model, rebuilt, Sturmey-Archer 3-speed gear box, 4h.p. engine; sacrifice.—Jack Ward, 11, Radford Rd., Leamington Spa. [X3400

1918 Countershaft Triumph, in perfect running order; from £54, combination £75.—24, Balliol Rd., Oxford Gardens, North Kensington. [3010

TRIUMPH, November, 1920, mileage 1,500, condition as new, spare belts, cones, valves, sprockets; £98.—Bowman, 6, Clarence Crescent, Windsor. [3468

TRIUMPH 1912, clutch, 3-speed, recently thoroughly overhauled, excellent tyres, licensed; £42; Staines district.—Box 4,534, c/o *The Motor Cycle*. [3436

TRIUMPH 3½h.p. Combination, 3-speed clutch, just overhauled, new piston and tyres, coachbuilt sidecar; bargain, £65.—3, High St., Wimbledon. [2499

TRIUMPH 1920 Combination, sporting Canoelet, lamps, horn, tax paid; £115; new condition.—15, Albert Rd., Handsworth, Birmingham. [X3292

£0 GNS.—Sporty T.T. Triumph, 4h.p., Philipson pulley, mechanically perfect, tax paid, go anywhere.—Righton, Allsop St., Baker St., N.W. [3249

1918 4h.p. Countershaft Triumph, perfect order, ride away; £53.—44, Whyteville Rd., Upton Lane, Forest Gate. 'Phone: Stratford 283. [3395

TRIUMPH Models S. and H. for immediate delivery; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2243

2½h.p. Triumph Combination, 3 speeds, clutch, 2 K.S., long exhaust, T.T. bars, Phœnix sporting sidecar; £47.—27, Oliver Rd., Walthamstow. [2944

M.O.C.H. are Triumph Agents.—Combinations and solos, new and second-hand, in stock.—5, Heath St., Hampstead (near Hampstead Tube Station). [2762

TRIUMPH Free Engine, overhauled, good condition, tax paid, £32, offers; sidecar, nearly new, £4 15.—Wright, 149, Carlton Rd., Loudon, N.W.5. [3100

4h.p. Countershaft Triumph, W.D., renovated, all accessories, good condition and appearance; £50, quick sale.—Collins, Trinity College, Cambridge. [3149

M.T. Triumph, 1918, countershaft, 3-speed, K.S., long coppered exhaust, all lamps and Klaxon, tax paid; £65.—Bunn, 21, Tabor Rd., Hammersmith, W.6. [2650

TRIUMPH 4h.p., 3-speed, re-enamelled, plated, accessories, tax paid; £78.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [2246

1914 Triumph, 3-speed, S.A. Combination, in sound order, any trial, tax paid; £50.—Harvey, 47, South Lambeth Rd., S.W.8 (nr. Vauxhall Station). [3500

1914 Triumph, original plating and enamelling, just fitted brand new sidecar, tax paid; £70; would separate.—Holland, 50, Marlborough Rd., Coventry. [X3409

TRIUMPH 4h.p. Combination, 1918, perfect condition, little used, fully equipped, licence, one year's insurance; £95.—13, Roma Rd., Hampstead, N.W.3. [3156

TRIUMPH Coachbuilt Combination, 3-speed, clutch, fully equipped, good tyres, completely overhauled, recessed; £65.—Joyner, Guildford Rd., Ash, Surrey. [2812

TRIUMPH 3½h.p. C.B. Combination, 2-speed, F.E. clutch, lamps, etc., tax paid; £65, or exchange countershaft model.—309, Roman Rd., Bow.(D) [3102

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All Brand New Motor Cycles and carrying the makers' full Guarantee.

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73 Guineas each.

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Equipment comprising—Head Lamp, Tail Lamp, Mechanical Horn, Licence Card Holder, and Registration Numbers Painted on Plates, if purchased at same time, £3-3 extra.

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Second-hand motor cycles marked † may be had for

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The ordinary hire charge will be made, and if the machine is bought, the full amount will be allowed off the purchase price.

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†HENDERSON Comb., 1921, nearly new	£245*
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ARIEL, 3½ h.p. 3-speed, Comb. (new s.c.)	£65
†TRIUMPH Comb., nearly new	£130*
HENDERSON, 1921, nearly new	£195*
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ZENITH Comb., 8 h.p., 1920	£145*
†TRIUMPH Comb., chain drive, nearly new	£148*
†TRIUMPH Comb., chain drive, nearly new	£145*
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Triumph.

TRIUMPH 4h.p. Countershaft, new condition, tax paid, lamps, horn, complete; £72.—Harvey, 47, South Lambeth Rd., S.W.8 (nr. Vauxhall Station). [3499

1921 2¾h.p. Baby Triumph, been 250 miles, equal brand new and tax paid; £65.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [1740

1917-18 Triumph 4h.p., countershaft, overhauled, tanks repainted, perfect condition throughout; £55.—71a, King Henry's Rd., Hampstead. 'Phone: 6552. [3339

£50.—Triumph, 4h.p., 1914, 3-speed, Lucas lamp and horn, special fittings, spares, exceptional condition, tax paid.—109, Melrose Av., Wimbledon Park, S.W.19. [2167

TRIUMPH Combination, 4h.p., countershaft, 1918, overhauled, enamelled and plated, guaranteed perfect; £90, or near offer.—Davies, 471a, Holloway Rd., London. [3190

1920 Triumph, in excellent condition, spare valves and belt, tax paid; £85, or near offer; can be seen at any time at 47, Graham St., Sloane Sq., Chelsea. [2848

TRIUMPH Corvette Combination, K.S., 3-speed, clutch, electric lamps; good reason; 95 gns., or near; stamp, particulars.—Owen-Smith, Felsted School, Essex. (D) [2539

TRIUMPH 1914 T.T. 3-speed Combination, reconditioned by makers, electric lighting, many spares; 75 gns., or nearest; after 6.—73, Sherrift Rd., W. Hampstead. [3432

TRIUMPH 1918 Combination, aluminium dises and footboards, hood, screen, splendidly equipped, as new, tax paid; £90, near offer.—M., 7, Fairhazel Gardens, N.W.6. [3454

1920 (December) Triumph Combination, Lucas lamps, Cowey horn, mileage only 600, cost £160; accept £120.—Bramer, 17, St. Quentins Av., North Kensington. [3096

TRIUMPH 4h.p., 3-speed countershaft gear, Model H., 1919, in perfect condition throughout; £78.—F. Spearman, Bridge St., Bishop's Stortford. Tel.: 49, Bishop's Stortford. [2520

1921 Triumph Model H, with Montgomery purple sidecar, brand new turnout, unused, cost £145; accept £130. Fenton's, Grocers, Broughton Av., Bentley Rd., Doncaster. [2683

1919 2¾h.p. Baby Triumph, in very nice order, with lamp sets and tax paid, tyres, belt, and appearance very good; £52.—Heady, 85, High St., Saffron Walden, Essex. [1731

CROYDON Agent for Triumph motor cycles. All models in stock ready for immediate delivery.—Moore's Pierce Motor Works, Ltd 145, North End, Croydon. 'Phone: 2624. [1348

TRIUMPH Combination, 4h.p., 3-speed, clutch, guaranteed, excellent running condition, fully equipped, speedometer, new tyres; £68.—Davis, Croft Lane, Letchworth, Herts. [2463

TRIUMPH, 1921 models, in stock for immediate delivery at makers' reduced prices; exchanges arranged, or deferred payments.—Eagles and Co., 275, High St., Acton, London. [3079

4h.p. Triumph, late 1920, countershaft 3-speed, K.S., full equipment, Cowey speedometer and horn, machine better than new, mileage under 1,000; £110.—Gingold, 33, High Holborn. [2918

TRIUMPH and Coachbuilt Sidecar, 2-speed gear, clutch, lamps, pump, etc., wind screen, tyres good; £35.—Knight and Wheatley, The Pavement, Coulsdon, Surrey. 'Phone: Purley 1277. [3025

TRIUMPH Countershaft W.D. Model, renovated, replated, re-enamelled, guaranteed 3 months; £20 down and 12 instalments of £5/15/6.—Auto Traders, Ltd., 64, Jermyn St., London. [2603

4h.p. Triumph 3-speed Countershaft Coachbuilt Combination, electric light, just overhauled, repainted, tax paid; any trial; £80, or nearest offer.—Ellershaw, Playhatch House, Sonning, Reading. [2449

1919 Triumph Combination, Sunbeam sidecar, tax paid, lamps, horn, Cowey trip speedometer, Sensspray carburetter, indistinguishable from new; £105.—2, Fortunegate Rd., Harlesden, N.W. [3471

1921 All-chain Triumph, with beautiful Whitley sidecar, Lucas black lamps, horn, new last month, tax paid; any trial; £155; owner bought car.—Ellis, 7, Gladstone Terrace, Brighton. [2639

SEMI-T.T. Clutch Triumph, 1913-14, specially tuned engine (decompressor), Dunlops, practically as new, guaranteed throughout, ride 100 miles; £45, offers; combination wanted.—57, Stopford Rd., E.13. [2899

1920 Triumph Combination, excellent condition, Eastlag, Cowey, electric lighting, Tan-Sad, etc., with or without accessories, tax and insurance paid; best offer.—Tippett, 111, Dorchester Rd., Weymouth. [246J

TRIUMPH Gloria Combination, 1920, S.A., 3-speed gear box, lamps, horn, etc., new tyres, absolutely A1 condition, guaranteed in every way, any trial; £110, or near; must sell.—33, Hackford Rd., Brixton, S.W.9. [3489

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPHS.—We are the North London agents, and can give immediate delivery; chain drive, chain-cum-belt, and renovated models.—Jones Garage, Muswell Hill, N.10; and at Woodside Parade, North Finchley. [0382

IMMEDIATE Delivery of any Triumph Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0504

TRIUMPH 4h.p. Late 1919 and Gloria Sidecar, 3-speed countershaft, clutch and kick starter, lamps, speedometer, full equipment, small mileage, licence paid; £120, or near offer.—Major Hopkins, Incents, Berkhamsted. [2641

TRIUMPH, 4h.p., brand new, chain drive, 1921 model, just arrived from works; in stock for immediate delivery; £125; secure now at makers' latest reduced price; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [2800

BARGAIN.—3½h.p. Triumph Sports Solo, dropped frame, special tank, new Dunlop Magnums, exceptionally fast, tax paid 1922, ready drive away, any trial; first cheque £35 secures.—Apply, Wills, 30, Clarence Gate Gardens, Baker St., N.W.1. [2911

1920 Triumph, 4h.p., 3 speeds, countershaft, discs, indistinguishable from new, perfect running; £85, or with new unused 1921 Montgomery sidecar; £115; the best looking Triuoiph in London.—35, St. Clement's Mansions, Lillie Rd., Fulham. [3410

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Triumphs, all models in stock, new chain drives, new chain-cum-belts, solos and combinations; also 4h.p. renovated models, £90 and £95; immediate delivery; supplied on easiest of easy terms; trade supplied. [3448

TRIUMPH and Henderson Sidecar, engine, gears, and all bearings, etc., renewed, lamps, horn, mirror, Easting screen for sidecar, licence paid, new appearance, and guaranteed; £80.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9549

1919 Triumph and Gloria de Luxe Sidecar, engine No. 62209, in perfect condition, Easting wind screen, Lucas lamps, sundry spares, has been carefully ridden and looked after, insured and tax paid; trial by appointment; best offer over £115.—27a, Hervey Rd., Blackheath. [3052

1919 Triumph Combination, £120, chain-cum-belt, 3-speed, Lucas lamps, Klaxon, accessories, new bearings and sidecar with adjustable child's seat, entirely overhauled, stove enamelled, fully insured, tax paid; appointment, or after 6.—151, Wilberforce Rd., Finsbury Park. [2448

TRIUMPH, 1917, for immediate sale, near Earl's Court, 4h.p., 3-speed, countershaft, excellent running order, complete with accessories, some spare parts, worth £80; will accept best offer even if only few pounds, as owner leaving country.—Box 4,502, c/o *The Motor Cycle*. [2691

1919 Triumph Combination, not W.D., fully equipped, lamps, horn, legshields, Easting screen, tools, spares, etc., guaranteed first-class condition throughout, any trial or expert examination, licence paid; £120, or nearest.—Worboys, Roseberry, Saffron Rd., Biggleswade. (D) [2702

1917 and 1918 Triumphs, 4h.p., C.S., hand clutch, 3-speed, K.S., reconditioned, in perfect running order, from 56 gns.; fitted brand new coachbuilt sidecar, £17 extra; if fitted with new P. and H. lamps and generator, Klaxon, pump, and tools, £3 extra.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [3387

1919 Genuine 4h.p. Triumph, 3 speeds, complete with Ace disc wheels, F.R.S. large head light, rear light, Lucas horn, Watford speedometer, semi T.T. bars, knee grips, leg shields, specially tuned, exceptionally fast. This machine has been very little used, appearance and mechanical condition guaranteed equal brand new; a bargain at £95.—Walbro Motor Cycle Co., High St., Saffron Walden. 'Phone: 45. [1732

Velocette.

JULIANS of Reading have 1921 Velocette in stock [0488

VELOCE Motor, 2-speed, lightweight, nice condition; £20.—Edwardes, 277, Camberwell Rd., S.E.5. [3220

Verus.

VERUS-BLACKBURNE 1920 2¾h.p., K.S., lamps, horn, tax paid; £75.—Taylor, 22, Benbow Rd., Hammersmith. [3016

1920 Verus-Blackburne, 2-speed, kick start, never been ridden, selling for health reasons; £75, a bargain.—Regi, 50, Vine St., Minories. [3411

1920 2¾h.p. Verus-Blackburne, 2-speed, clutch, K.S., Senspray, W.S.R., licensed, excellent machine, mechanical horn, accessories; £72.—19, Saxon St., Wrexham. [3328

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VINDEC, late 1920, 2¼h.p., 2-speed, as new; £45.— 212, Ewell Rd., Surbiton. [3297

VINDEC Special 7-9h.p. Combination, take 3 any- where, fast, licence paid; £48; any evening.— Rhodes, 239, Beresford St., Camberwell, S.E. [2668

Weatherby.

1921 Weatherby Scout, 3h.p., 2-speed, 2-stroke, a new; £65; cost £78.—C., Roslyn, Northerby Rd S.E.23. [920

Wilkin.

1921 Wilkin 4h.p., 3-speed, clutch, and kick star braod new and unused; list price £132, ev price £96.—Edwards, 50, Harrington Rd., South-Ken sington. [344

1921 Wilkin, 4h.p., 3-speed, clutch, kick star demonstration model, mileage 100, 3in. tyres listed £130, our price £88.—Edwards, 50, Harringto Rd., South Kensington. [338

Wolf.

WOLF 2-stroke, 2-speed; £25.—59, Palfrey Plac Dorset Rd., Clapham Rd., S.W.8. [304

1915 Wolf-Jap C.B. Combination (1920 body), 4h.p C.S. 3-speed, handle clutch, kick starter, lamp horn, tax paid, excellent condition; £80.—Tuley, 3 Ashford Rd., Swindon. [X327

WOLF.—Sole agents for London, South of Thame and district. We are now fixing sub-agencie and invite enquiries.—Burlington Motors, Ltd., Sou Side, Clapham Common, S.W.4. 'Phone: Brixton 241 [050

Wooler.

WOOLER 2¾h.p., brand new, unridden, tax paid bargain £72.—46, Claremont Rd., Forest Gat E.7. [288

WOOLER, 1921; immediate delivery from stock Lockwood's, Commercial Rd., Eastbourne, Suss agents. [26

1920 2¾h.p. Wooler, only ridden 190, lamp Cowey horn, Cowey speedometer, unscratche cost £110, accept £75.—Hooley, 78, Highdown Rd Hove. [29

1919 Wooler 2¾h.p. Flat Twin, all on, perfect co dition, fast, tax paid, must sell owing to financ circumstances; £46, no offers.—88, Russell St., Pet borough. (D) [25

WOOLER, 1920, with all 1921 additions and i provements, condition, appearance, and ty as new, electric lights, footboards; £70; too fast owner's purposes; would consider part exchange rece 2-stroke, Beardmore-Precision, Calthorpe, or Coul B.—Rev. Cooke, 7, Bayshill Terrace, Cheltenham. [31

Zenith.

JULIANS of Reading have Zenith 1921 5h.p. stock. [04

DAN GUY, Weymouth.—Zenith agent, early delive all models. [05

ZENITH Motors, Ltd., Hampton Court.—1920 sh soiled 8h.p. models, from £108. [92

ZENITH 2¾h.p. H.O. Twin, countershaft, unuse offers.—Box 4,510, c/o *The Motor Cycle*. [26

F.O.C.H. for Zenith.—New and second-hand machi in stock.—5, Heath St., Hampstead (near Ham stead Tube Station). [27

ZENITH (late 1920) Countershaft Combination, accessories, as new; £130; exchange.—C.S., Swaton Rd., Bow. Tel.: 3155. [34

6h.p. Zenith C.B. Combination, good condition, spe ometer, Binks, ride 50 miles, tax paid; £70 Farnworth, Jeweller, Leigh, Lancs. [26

ZENITH, 5-6h.p., perfect, sporting mount, eve possible accessory, as new; sacrifice, £65 Brown, 9, Mornington Rd., Chingford. [27

ZENITH 1919 Sports 8h.p., disc wheels, very fa tax; any trial or examination; £75.—Lt. Ho Hospital, Whittington Barracks, Lichfield. [24

ZENITH-GRADUA 1914 6h.p. J.A.P., overhaul Swan sidecar, luggage grid; £72; tax paid Eagles and Co., 275, High St., Acton, London. [30

1919 (December) 8h.p. Countershaft Zenith a Millford Sidecar, completely equipped, mile under 3,000; 135 gns.—Clark, Trinity Hall, Cambrid [19

1920 8h.p. Zenith Combination, lamps, etc., p fect condition, tyres unpunctured, mileage 90 £150.—138, Stapleton Hall Rd., Stroud Green, N [29

£80.—1916 8h.p. sports Zenith combination, coa built, Binks, Stewart, Tan-Sad, lamps, etc.; exchange solo.—84, Ilex Rd., Willesden, N.W.10. [26

ZENITH-GRADUA 3½h.p. Coach Combinati good order, £36, or offer; also modern 10h cycle car, cheap.—Grant, 39, Leyton Park Rd., E. [24

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Zenith.

9 20 5h.p. Zenith, Cowey speedometer, F.R.S. lamps, small mileage, tyres good, fine condition; £95; exchange A.B.C.—Rusece, Chestnuts, Wealdstone, Harrow. [3345

h.p. Sporting Zenith, 1920 model, bought March 1921, mileage 1,500, perfect condition, lamps, etc.: ice £100.—Guinness, Houndless Water, Haslemere. [9336

'ENITH, 4h.p., 1914, complete with lamps, horn, Tan-Sad, spares, recently overhauled, splendid ndition, tax paid; £43.—Wood, 71, Robinson Rd., reton, S.W.17. [3107

'ENITH 5-6h.p. Sports, 1920, all on, perfect appearance, condition, fast, small mileage, tax and insurance; £100.—R. Wiltshire, 63, West Wycombe Rd., gh Wycombe, Bucks. [2669

UG., 1920, Zenith 5h.p. sporting model, Gradua gear, all accessories, condition as new, licence d, only done 800 miles; offers.—20, Malvern Av., ithills, Bolton, Lancs. [2594

110.—Zenith late 1920 8h.p. sports, mileage 1,200, specially good engine fast but flexible, new apirnace, speedometer, knee-grips; any inspection and il.—G.C., Trinity College, Oxford. [2583

-5h.p. Zenith, clutch, kick start, variable gear, splendid condition, complete, Lucas lamps, racing speed eter, horn, tools, etc.; £80, or exchange Triumph; n any time.—F. Ayling, Warnham, Sussex. [2529

9 20 6h.p. Zenith, tax paid, unscratched, electric light, Cowey, special sporting exhaust and finish, ne 65 untuned, mileage negligible; best offer over 10 secures.—Write Marsh, R.M.A., Woolwich. [3167

9 19 Zenith and Sidecar, as new, sporting model, 8h.p., all accessories, electric lighting, low mile; 108 gns., or offer.—Bartlett, 39, The Avenue, odesbury Park, N.W.6. 'Phone: Willesden 3232. [3430

'ENITH, 1921, built to special order, fitted with the 8h.p. M.A.G., aluminium pistons, drip feed front cylinder, and hand pump, large tank, 28×3 es; any examination.—74, Stony Lane, Smethwick, rmingham. [X3285

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9 20 Zenith 8h.p. Combination, clutch model, with luxurious Henderson sidecar and wind screen, .S. electric lighting, horn, tools, tax and insurance d: cost £225, bargain, £160.—Postance, 1, Austin ars, Stamford. [3158

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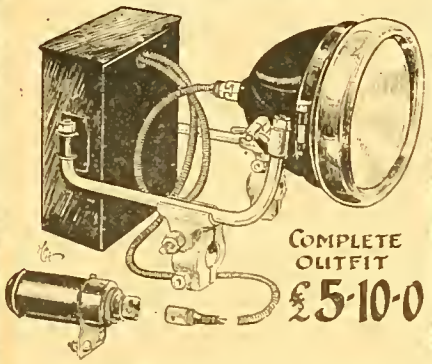
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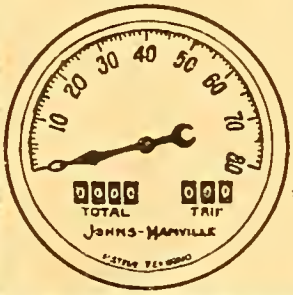
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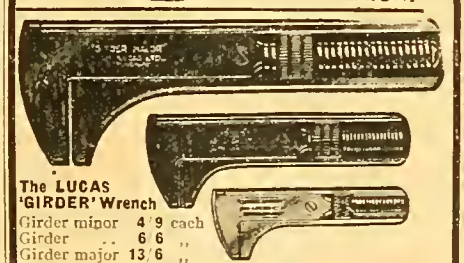
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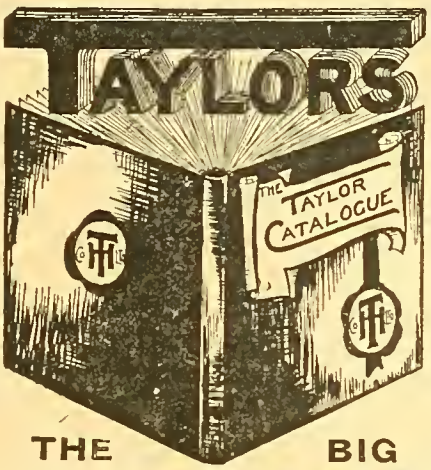
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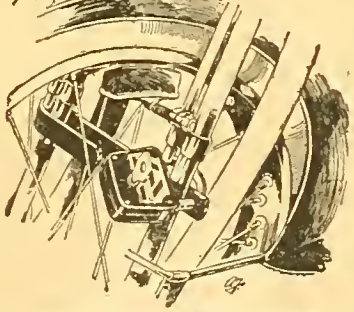
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WOODROW-PRECISION Cycle Car, 2-seater, 8h.p., water-cooled, Bosch, clutch, 2 chains, 2 speeds forward and reverse, electric light, accumulator, 60 m.p.g., tools, spare parts, date 1914, condition good; £65; photograph on application; no reasonable offers refused.—Stanley, c/o Aublet, Harry and Co., Peterborough. [2424

M.F.G. 1920 2-seater with dickey, 10h.p., horizontally-opposed twin engines on A.B.C. friction drive, Fellows mag., Zenith carburetter, seat kicker, domed wings, 5 detachable wheels and tyres, Smart speedometer and 8-day clock flush fitted in dash, full cantilever springing, irreversible warm steering, mileage 1,200 only, cost over £300 last year, will sacrifice for £140 cash; money urgently needed; on trial and examination gladly given; is in absolutely perfect condition throughout.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. [2863

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DE DION 8h.p.; £60.—Write 56, Priory Rd., South Park, Reigate. [2722

FORD Landaulet, in good order; £130.—8, Crowhurst Rd., S.W.9. [3077

WOLSELEY 2-seater, £50; lightweight motor cycle, £10.—W. W. Evers, Wath. [2640

£25.—6h.p. Rover, single-cyl., 2-seater, good running order.—King, Egrove Farm, Oxford. [X3305

£50 Down and 12 monthly payments of £5 secures reliable landaulet.—Palmer's Garage, Tooting.

£50 Down and 12 monthly payments of £7/10 secures reliable 2-seater.—Palmer's Garage, Tooting.

10h.p. Georges Richard 2-seater Car, mag. ignition; exchange for motor cycle, or sell £20.—Palmer's Garage, Tooting.

£250 Cash Secures 22h.p. Berliet Chassis, monobloc, as new, 4 speeds; exchanges.—Palmer's Garage, Tooting.

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ROSS Landaulet, 24h.p., 8-cyl.; £195; property of a lady.—Apply, Chauffeur, 21, Elm Park Garden Mews, South Kensington, S.W. [3076

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PETROL-ELECTRIC Lighting Sets and Dynamos.—Dyson, 7, Red Lion St., Boston. [2568

P. and M. Engine, late model, good condition; £9.—Buckland, Plough Lane, Wuddon, Croydon. [2729

4h.p. Twin J.A.P. Engine, m.o.v., minus few parts; £5.—1, Springfield Park Crescent, Catford, S.E.6. [3124

3½h.p. Water-cooled Engine, Triumph, with B.M. carburetter, radiator; £7.—14, Phœnix St., Euston, N.W.1. [2735

4h.p. Countershaft Triumph Engine, late decompressor, fins slightly chipped; £12.—20, Valley St., Tooting. [2655

PREMIER Engine, 3½h.p., Splitdorf mag., good condition; £8.—Richardson, 2, Brooklands Av., Denton Lane, Oldham. [2726

5h.p. Twin, complete, B.B. mag. platform, engine plates, running order; £6.—6, Wilkins Court, Caldewgate, Carlisle. [2672

DOUGLAS Engine, twin-cyl., nearly new; must be sold; offers wanted.—Maxwell, 17, Baron's Court Rd., West Kensington. [3340

ENGINE, 5-6h.p. N.S.U. twin, 2-speed gear, B. and B., and Bosch mag.; £13, complete unit; S.E.—Box 677, c/o *The Motor Cycle*. [2860

B.S.A. 4½h.p. Engines, in practically new condition; £13; carriage extra.—Marble Arch Motor Exchange, 135, Edgware Rd., W. [1298

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PERFECTLY New Precision 10h.p. Cycle Car Engine, will fit Morgan, cost price £43; for £25 cash.—Bennett, 254, Gray's Inn Rd., W.C. [3074

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5h.p. Twin Minerva Unit, m.v., adjustable tappets, Bosch mag., splendid condition; £12 for quick sale.—Platts, 602, King's Rd., Fulham, London. [3005

2¾h.p. Union 2-stroke Engine, brand new, complete with magneto and silencer; sacrifice, £13/10.—Skinner, 23, Wilton Rd., Handsworth, Birmingham. [X3420

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Manxland the Cynosure.

ALL eyes are this week focussed upon the Isle of Man. To the motor cyclist the thirty-seven mile mountain course is what Indianapolis and Le Mans are to the automobile world, and Epsom Downs is to those who follow horse racing, for there is decided annually the blue riband event of the motor cycle world. By the time these lines appear in print, the Junior contest will have been lost and won, and the results flashed by *The Motor Cycle* throughout the world. To-day (Thursday) the greatest race of the year—for the Senior Tourist Trophy, presented by the Marquis de Mouzilly St. Mars—will be contested by over sixty expert motor cyclists.

Reports from the course, reviewed elsewhere in this issue, indicate that to-day's event should represent the greatest race of the whole of the series inaugurated as long ago as 1907. Thousands have journeyed over to the Island to witness the races, and more would have done so had improved travelling facilities existed. Although not of the international character British motor cyclists would wish to see, there are sufficient international interests involved to draw the attention of the next greatest motor cycling nation to Great Britain, for America will be represented by men and machines.

The race is more than a test for man and machine: designers' reputations are at stake, and the results may have great influence upon future engine practice—a point affecting all classes of buyers of motor cycles. Overhead valved power units are competing with those of the more conventional side-by-side valved types; single cylinders, opposed twins, and V twins vie with one another to prove their superiority.

It is disappointing that Continental nations are not represented, since manufacturers of France, Belgium, Italy, and Switzerland have all made rapid progress in later years. An opportunity for some measure of comparison of the abilities of riders and machines will, however, present itself at the Grand Prix Race next month.

Speed and the Tourist Trophy.

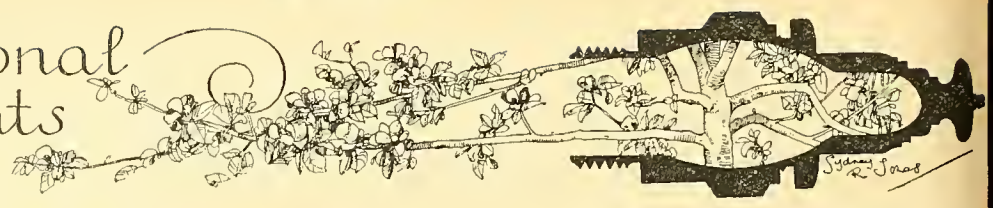
IN speculating on the probable winner of the Tourist Trophy Races many enthusiasts fall into the error of expecting the fastest machine to win. It is true, of course, that the fastest machine stands a good chance, but it is also true that probably 75% of the entrants are mounted on machines that are fast enough to win. What, then, are the vital features of a winning machine? Briefly, they may be summarised as acceleration, ease of control, efficient braking, reliability, and last of all speed. The whole value of the races to the buying public lies in these points, and it is for this reason that the Tourist Trophy Races do more to improve the modern motor cycle than any event in the year.

Brooklands does much to improve the power and stamina of engines; reliability trials demonstrate the general road worthiness of motor cycles, though not infrequently they are won by the accuracy of a watch or the ability of the rider to ride to strict schedule. Hill-climbs and speed trials provide interest and excitement for the sporting element, but the Tourist Trophy Races combine the best qualities of all these events, while they eliminate all extraneous factors except the personal element, which can never be a negligible quantity in any form of test. The ultra efficient racing type of machine, however, such as those used for short speed bursts on the track, does not find a place in the races, for the nature of the course sets a great premium upon general rideable qualities.

The Isle of Man course serves its purpose admirably, for the corners are such as to place a premium on acceleration, stability, and brake work; the mountain climb, though not steep, is long enough to test the power and endurance of the engine; while the few straight stretches help pure speed in just the right proportion. Let those who doubt the utility of the T.T. attempt to tour the Island course at high average speed, and they will soon discover the drawbacks of a faulty or imperfect mount.

An index to the advertisements in this issue will be found on the page facing the back cover.

Occasional Comments by "Ixion"



The Lucas Spare Bulb Case.

I HAVE just received a sample of the Lucas spare bulb case. Complete with three small bulbs and one large one, it weighs a fraction over 10 oz. It is a cylindrical canister with spring bayonet-jointed caps, and measures 5½in. long by 3in. diameter. Made of light sheet steel, it is so strong that you can play football with it without risk of smashing the contents, and is admirably adapted for the boot of a sidecar. On a solo mount it will be something of an incubus, unless you fake up a clip to secure it to the saddle-pillar tube, for which purpose, doubtless, its waist is slightly recessed. It sounds rather big, but you cannot accommodate a full kit of bulbs in less space.

Average Speeds.

A GREAT deal of nonsense is spoken and written about average speeds, both as regards actual achievement, and the theory of the thing. On the one hand, "Eclipsed" thinks that a 30 m.p.h. average is only possible if it includes spurts of nearly 70 m.p.h. To which Mr. Hartley wisely retorts that if George Dance averages 55 m.p.h. for a T.T. lap, what is his maximum in a spurt? Curiously enough, this very point was raised during the same week in our contemporary, *The Autocar*. One of its contributors crossed France in a Saurer motor char-à-banc, which was limited by a governor to a maximum speed of 22 m.p.h. (except when coasting declutched down hill). On one day's run this 5 tonner actually averaged within 5 m.p.h. of its all-out speed, viz., 17 m.p.h. Excluding blunt lies and sheer exaggeration, most of the discrepancies about high average speeds, and the conditions which make them possible, depend upon the driver's notion of what constitutes a safe speed through traffic and populous places, and round corners.

An Illustration.

ANY motor cyclist who is compelled for his sins to start and finish all his runs along the Metropolitan tram routes knows the hypnotic effect which trams and motor 'buses exert on a rider. It becomes a matter of life and death to overhaul each cumbrous monster, as it is sighted. The cause probably is due to a sub-conscious dislike of finding one's self cheek by jowl with a leviathan when a traffic cram develops. Anyhow, like most men, I usually accelerate and pass them as soon as possible. The nett effect is that I have often discovered myself averaging over legal limit from, say, Swiss Cottage to Tooting. On the other hand, when I am not disturbed by trams, I am the soul of caution in traffic, and drop to 5 or 10 m.p.h. Other riders, by contrast, quite frequently negotiate quite heavy traffic at a speed which appals me. On a long cross-country run one often threads townships which are two miles across. It makes all the difference whether one slows to 10 m.p.h. or penetrates them masterfully with a lot of hooting at 25. In the former case, some lurid scrapping on the open road is necessary to maintain a high average; in the latter case a little comparatively mild speed will set up high figures. The Saurer char-à-banc could average almost its maximum speed just because its maximum was almost maintainable in towns. There are parts of Scotland where villages are scarce and their streets are wide; it is easier to average forty there than it is to average thirty in England.

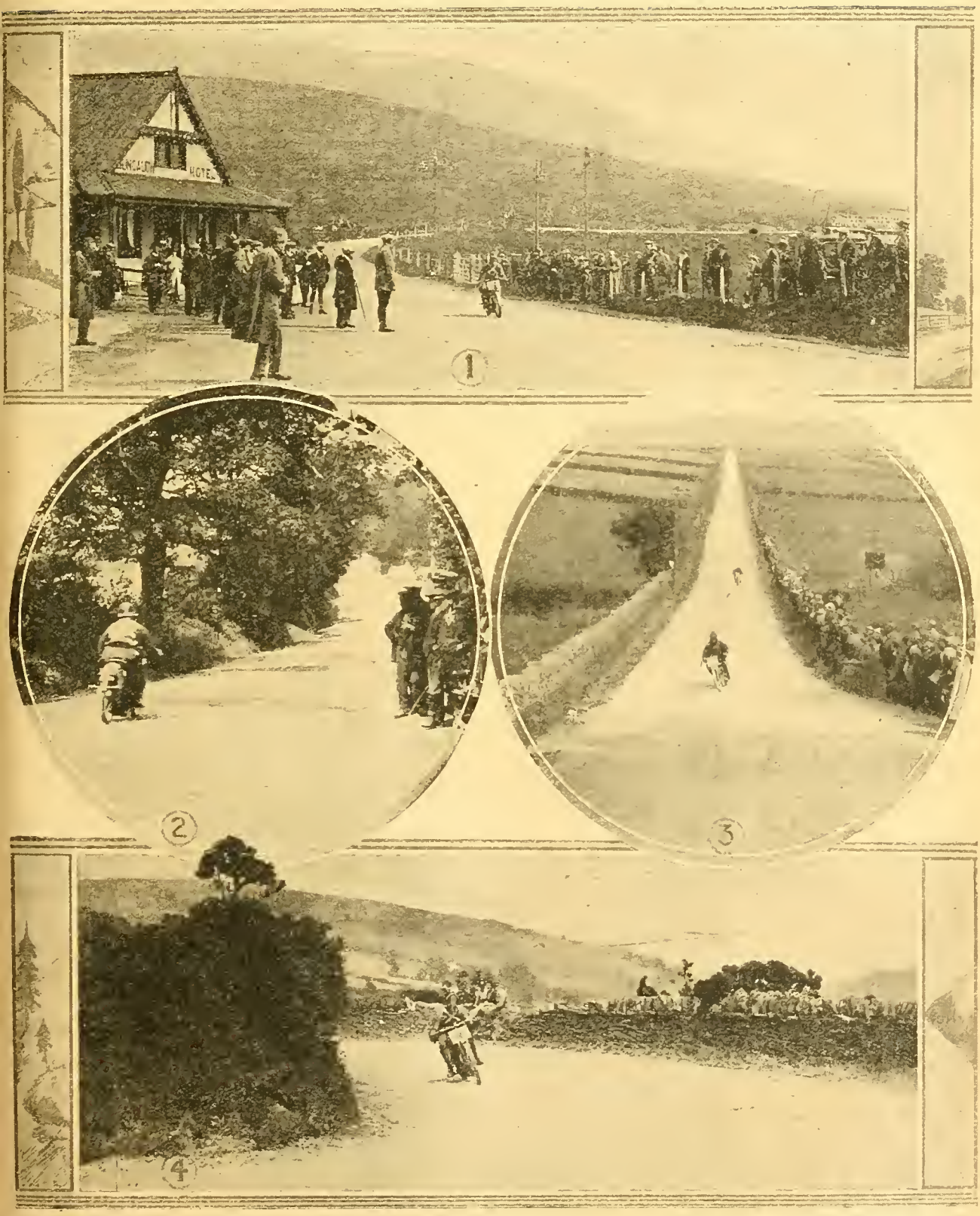
The Aerothrust.

A SOUTH African reader sends me a most interesting account of the engine which he uses on his boat. It is known as the "Aerothrust," and hails from La Porte, Indiana. This flat twin two-stroke has its cylinders and crank case cast in one piece, and utilises a flywheel magneto, possessing advance and retard mechanism. My correspondent has used it for two years, and has coaxed the r.p.m. up to 2,000 by filing the valve ports dead smooth. He starts it up on petrol, and switches over to a mixture composed of one-third petrol and two-thirds paraffin when the engine gets warm. I should like to know more about this unusual unit. The makers claim that the 5 h.p. pattern, 75 mm. × 88 mm., will pull three boats each containing four passengers by means of a 3ft. 6in. airscrew; and the illustration shows that the entire outfit is attached to the stern of the dinghy by a small clamp such as cooks employ for affixing mincing machines to the kitchen table.

The Revolution Limit?

WHAT is the maximum speed at which a petrol engine can be run? Time was when one looked a trifle conscious if the figure of 2,000 r.p.m. was mentioned, and experts sniffed audibly at the idea. Slowly the limit rose. Three thousand became as common as blackberries in September. Four thousand was credited to a super-tuner here and there—Coatalen, O'Donovan, and the like. Not so long ago we thought a claim of 6,000 r.p.m. worth public mention in *The Motor Cycle*. The other day the representative of a certain firm coolly, calmly, and dispassionately—at a time of day when sobriety may be taken for granted—on an occasion when there was no question of capping yarns against a trade rival—claimed *nine thousand revolutions a minute for one of his engines!* Aye, and when tackled with Lanchester's conclusions about the theoretic limits of piston speed, he guaranteed that on one of its track records this engine had been geared to a figure suggestive of the second speed in a tourist gear box, and left us to work out the resulting r.p.m. At any rate, I can assert that when this particular engine gets thoroughly on the bummel, no human ear can detect any periodicity in the sound of the explosions; the exhaust is simply one large rip—something like tearing emery paper.

VARIED SCENES ON THE T.T. COURSE.



Those who have not visited the Isle of Man do not always appreciate that the races take place amidst widely diversified surroundings. 1.—The bleak and isolated "Bungalow" on the mountain road. 2.—In the shady, leafy lanes of Glen Helen. 3.—Undulating pastoral country at Hilberry. 4.—A glimpse of the sea and Ramsey pier from the Gooseneck on Snaefell mountain.



An Irresponsible Discourse on the Choice of a Holiday Centre for the Motor Cyclist

WHEN the Editor commissioned an article on holiday touring grounds, the writer was selected because a hard season of competition following has taken his wheels into almost every corner of England or, as Fougasse's meticulous Scot corrected the Hun's "Gott strafe ———," Great Britain.

Now a man who uses his motor cycle continually, and travels at an hour's notice to the Lakes, to Wales, the Yorkshire Dales, or to Devonshire on the trail of trials is the last man to choose the motor cyclists' touring ground. He is *blasé*. Windermere is not a radiant lake, an island-studded gem—it is a lot of water round which one has to go to reach Red Bank, for an acceleration test. Somerset and Devon are not England's garden, "where the zider apples grow" — they are places always seen in the bleak grey morning of London-Exeter or Land's End trials; they are famous for Porlock and Lynton.



In the English Lake District. Grasmere seen from the summit of Red Bank.

The ordinary individual may rave of the luxuriant fruit-growing areas of Worcester, or the moorlands, meadows, and mountain streams of the West Yorkshire Pennine slopes; to the writer, those charms of Worcestershire are merely the setting for the worst straightforward climb in the country — the Old Wyche — while the beauties of the Yorkshire dales are merely concomitants of Park Rash, Buttertubs, and the routes of the Ilkley Club's trials.

Scotland may have its lochs and bens; but we go over the Border chiefly to climb Amulree, or to spend a bright evening with the boys of the Edinburgh Club in the shade of the Castle.

Of what then must the writer tell?

With the weather as it is at the moment of writing (thanks to the sun-spots), the best use of the motor cycle is to mount with as little preparation as possible, and get to the nearest calm water quickly and laze away the days in canoe or punt; what

Whither Away?—

could be better than a drowsy restful week on the quiet backwaters of the Upper Thames, the Severn, or the Avon?

Scotland and Central Wales have their scenic beauties in unlimited extent, but they are lonely and appreciated most by the thoughtfully inclined nature lover. The topography of Lakeland is less austere than that of Scotland, and some of the lake-side townlets have the effect of rather dignified little sea-side resorts.

Mountains—and the Sea.

The Welsh coast provides mountains in proximity to the sea, and a combination holiday, alternating grave and gay days, solitude of mountain tops and life at the coast, may be had.

East Coast places boast their bracing atmosphere, but the flatness of the approach does not attract the motor cyclist, who is usually a voracious hill-eater; this, however, does not apply to the North-east Coast, which has a rugged profile and tumbles down precipitously from the undulating plateau of the Wolds.

Fine coast scenery is, of course, a feature of our country, and probably nowhere in the world is there so great a diversity of characteristics as we can explore within such comparatively small distances; who, feeling alone with primal nature on the wild lochs of Ross-shire, could imagine that only a few days road-faring southwards would bring him to those suburbs by the sea on the Kentish and Sussex coasts?

In the track of motor cycle trials, the writer has found beauty spots in pastoral Warwickshire and rugged Derbyshire, desirable places untold in Devon, Somerset, Gloucester, and Worcester, mountain haunts with England at its ruggedest in Yorkshire, in Cumberland, North Lancashire, and Westmorland. Wales and Scotland have characteristics all their own, and some of the most beautiful districts imaginable are to be found tucked away in all sorts of odd corners in those countries.





These pictures show types of scenery in strong contrast to the other illustrations to this article. The rugged sky lines of the North are nowhere evident in the more luxuriant Midlands and the South.

(1) On the Avon at Stratford.

(2) Leafy lanes, orchards, and trim pastures abound in the western midland counties of Worcester, Gloucester, and Hereford.

(3) Quaintness, as much of man-made things as of natural beauties, is the feature of the Devon and Cornish coasts. Brixham, here shown, is typical.

Whither Away?—

How is it possible to recommend any one spot in the wealth of the glorious country in which we live; so full of beauty spots is it that even the very outskirts of our manufacturing towns and especially the edges of our coalfields (it is unfashionable to say coal *mining* areas!) would provide profitable holiday touring ground for those who delight in hunting quaint and little known beauty spots.

Human nature, however, being what it is, demands change, and sees little in the familiar; the Londoner goes to the Lakes or Scotland and travels 300 or 400 miles to his destination; the man bred on the Cumberland Fells is amazed at people who travel so far to see just a lot of "'ills an' watter," and goes to Blackpool, while the Scot leaves his hills and spends a week with relations at "St. Andra's."

Such is life! WHARFEDALE.



A typical Highland scene. At the southern extremity of Loch Ness, on the Caledonian Canal.

CHAIN ADJUSTMENT AND ITS EFFECT.

Correct Tension is Almost as Important as Proper Lubrication.

THERE is no doubt that a great many riders do not realise how very necessary it is to keep the transmission of a chain-driven machine not only in good order as regards lubrication, but also at the proper tension. Incorrectly adjusted chains not only have an effect upon the good pulling of an engine and its sweetness of torque, but also upon its life. As an example, I recently received a machine back from the makers after a complete overhaul. They had fitted new chains, but the tester had not troubled to adjust them properly. Mounting the machine I naturally knew at once what was wrong, but thought it hardly worth while going to the trouble of making the adjustment in the midst of London traffic.

The sensation was so disconcerting, that once amidst quiet country lanes I decided to remove the chain case and make the necessary adjustment, whereupon I discovered that, whereas the countershaft chain could not be tightened any more, yet it would not stand the removal of a half link! There was nothing for it, therefore, but to wait till the chain stretched.

The ride home was not a pleasure. The engine snatched badly at low speeds, and consequently possessed not an atom of "get away." I vowed that I would sue the makers for a new engine, as they had ruined the old one. At high speeds a hideous grinding and jangling came from beneath me. The old machine, however, seemed on the whole to be having an even worse time of it than I was.

Next day I spent countless perspiring and troubled hours wangling things so that the chains were at the correct and desirable tension, and this done, again sallied forth. The engine responded with the kick of a mule, and it was almost impossible to realise that I was riding the same machine, as the good effects of the overhaul now became evident. Moreover, the m.p.h. and m.p.g. were both increased.

It is possible, however, to go to the other extreme, for younger cousins and elder uncles continuously ride with their chains slapping against the chain cases, oblivious of the fact that anything matters till the chain jumps the sprockets and dents a hole in something, when they sit down and breathe oaths against their manufacturers. The more one studies motor cyclists as a mass, the more does one marvel at the absolute lack of "refined engineering taste" on the part of those who do *not* read *The Motor Cycle*.

Chains should be just so slack that they are not tight, no tighter or slacker, and it is a very good tip, in the case of totally enclosed chains, to empty a 2 lb. tin of axle grease into each of the chain cases. They then run beautifully silently, and will keep perfectly lubricated for several months. CHINOOK.



Through Feminine Goggles

Some Disconnected Jottings reflecting the Opinions of Lady Motor Cyclists.

Edited by "MINNEHAHA."

WHEN Miss Peggy Fraser—the fashion artist—wrote her contribution on motor cycle attire for ladies which appeared in *The Motor Cycle* for March 17th, she little realised the amount of correspondence she was inviting from other ladies who ride. She writes that she has found it impossible to deal with all the letters she has received, and at the request of many lady readers she has made arrangements for *The Motor Cycle* costume she designed to be made to measure by "Bisleys," Grove Arcade, Wallasey, Ches. Incidentally, the principal of this house is herself a motor cyclist.

Miss Fraser now submits a drawing of a suède or chamois leather jumper to take the place of the leather waistcoat, for summer wear. She draws attention to the fact that the neck can be closed up with thong and tassels. She recommends chamois as being the most suitable material, as it washes so easily.



A jumper in suede or chamois, designed for summer wear by Miss Fraser, to replace the leather waistcoat.

To Save the Complexion.

Quite on another subject, but one deemed just as important, Miss Fraser writes on the effects of motor cycling upon the complexion.

"I have known girls take up motor cycling," she states, "only to drop it again when they realise that the strong wind and exposure to the sun is spoiling their skin. Of course, I know enthusiasts will insist that they were not very keen to start with, if a little thing like that will put them off, but that is not so, and after all the 'little thing' assumes tremendous proportions when one gets into an evening dress again. The annoying part of it to the real motor cycle enthusiasts is that, with proper care, there is no need for any disastrous results. Of course, if one pays no attention for months it would not be an easy matter to convince onlookers that the complexion is quite in the picture with a petal frock of tulle. A smooth brown face may be very charming, but the same cannot be said of the neglected skin that burns red, and, sad though it is, these are in the majority.

"There are one or two hard and fast rules that are agreed by those who have discussed the matter with me. To begin with it is not wise to wash the face in hot water just before setting out, and never at all before departing for the homeward journey.

"A pot of good greasy cream—a pot of vanishing cream and a box of adherent powder always accompany me on my trips. Talcum powder is no good at all for this. Before setting out a very little greasy cream should be rubbed into the skin, particularly under the eyes, then a very little vanishing cream or pure glycerine, and a fairly thick dusting of powder, more than would be used in the ordinary way. The greasy cream will clean up the skin while one is out better than washing with soap and water, which usually has an irritating effect when the face has been exposed to the sun and wind. The greasy cream prevents the wind drying and roughening the skin, the vanishing cream prevents the dust from invading the pores, and forms a substratum on which a deft touch of powder will restore the freshness of the complexion."

Through Feminine Goggles.—

This hint will be of value to sidecar passengers also, as apparently they expose themselves to the same dangers to their complexions.

A Grumble.

I have before me a letter from a Louth gentleman who raises a point which may have been overlooked by lady motor cyclists. He writes:

"As every motorist knows, lady motor cyclists are increasing in numbers all over the country.

"It has been my experience, and I have no doubt that of others, frequently to have the pleasure of helping these ladies when in difficulties. Any sporting motor cyclist passing a fellow rider in difficulties slows down with the customary enquiry of 'Are you all right?' From my experience girls never do this.

"The other afternoon while out with a lady pillion passenger I had a breakdown and, feeling unwell, would have been glad to have my 'Get you home vonchers' taken a distance of two miles to a neighbouring town. Several girl riders and lady car drivers passed me without so much as a glance. After a somewhat tiring push in which my passenger nobly assisted, I had my machine repaired at a garage. Later, returning homeward, we came across the usual disconsolate female beside a two-stroke, who gave a very decided 'No!' to my enquiry. Her trouble proved to be a mysterious failure of the carburetter to flood, owing to shortage of petrol in the tank.

"My point is this: Girls have taken up our sport, even imitated our attire. They are very much offended and rightly, if deserted when in difficulties. Why not be thorough motor cyclists and show a little courtesy on the road sometimes?"

Miss Mary C. Coxeter, of the Morrell Memorial Hospital, Wallingford-on-Thames, makes a plea for the lady's model motor cycle.

"I have been taking *The Motor Cycle* for some time," she writes, "and cannot understand why so little interest seems to be taken in designs, etc., for women riders. I know that young riders prefer a man's machine, but there must be many like myself 'no longer young,' and holding a position of matron, or some other like appointment, who simply cannot ride a machine with a diamond frame, and certainly not in the attire that the younger riders can and do wear. I wish Miss Fraser could supply one with a pattern."

Miss Coxeter seems to have overlooked the many excellent ladies' machines now available. Among these I can mention off-hand the Velocette, Ixion, Cedos, and Excelsior. There are several other machines suitable for ladies who wish to ride without having to don special clothing. The Reynolds runabout, for example, is like a little car on two wheels, and is as easy to handle and wheel about as any motor cycle of the conventional type. This machine is a glorified scooter, but has a full-size engine, two-speed gear, clutch, and pedal starter. The frame is entirely open, and all the machinery is tucked away inside—a compartment very like the bonnet of a car.



1921 summer fashions for lady motor cyclists—a snap taken at Bala this month of a Norton enthusiast who has elected to discard the skirt

Then there are the Autoglider—a full-powered machine of the scooter type—and the Kenilworth: both machines favoured by many ladies who require weatherproof mounts for shopping and social calls.

A lady in Bridgwater favours the sidecar—an 8 h.p. one, to boot—and although it appears to be an admirable mount in almost every way, there are points she criticises.

"It starts with the minimum of trouble," she writes, "runs quietly and smoothly, and has always plenty of power in hand. I go through seas of mud with hardly a spot on my boots, owing to the excellent mudshields, while my passenger sits in the acme of comfort, with hood, side curtains and screen to meet the weather. There are one or two points, however, I do not like.

"For instance, there is the question of the front brake. It rubs on the front wheel rim, is very inadequate, makes a ghastly groan when used, removes the paint, and leaves a sullen red line.

"Then the sidecar is placed a trifle too close to the cycle. Being unusually tall and muscular I can lift my leg with a swing over the seat and down without knocking the sidecar, but an extra inch and a half would make a great deal of difference, and would allow a passenger on the carrier to sit naturally.

"The luggage carrier is curved to fold over the back of the car when not in use. But this curve has the kindly property of pitching luggage against the paint, and it is with great difficulty that a suit case can be prevented from rubbing unsightly patches on the excellent coachwork.

"A proper inspection panel to the chain cases is indispensable, and, incidentally, the accessibility of some parts might be improved."

FRENCH FASHIONS FOR LADY MOTOR CYCLISTS.

(Seen at the Parc des Princes Track at Paris.)



Mme. Girardot, who won the sidecar competition for ladies at a recent Parisian event. (Inset Mme. Gaillard, who rode a Blériot in the same trial.



Multi-cylinder Motor Cycle Engines

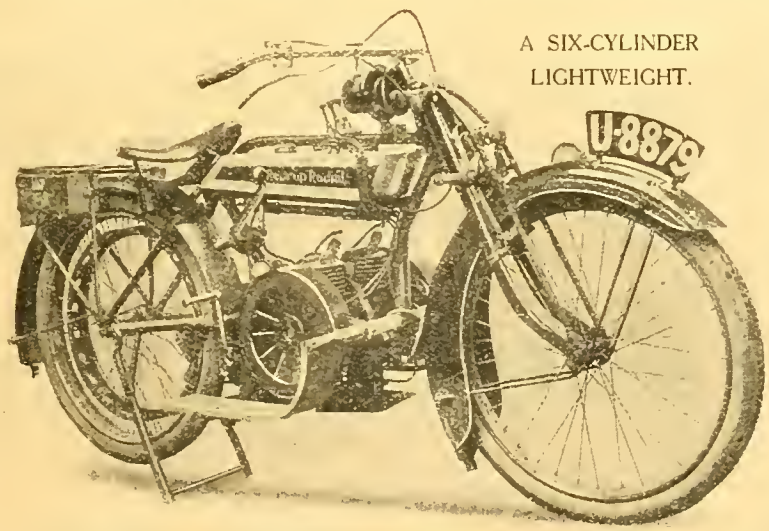
How Many Cylinders may bring High-powered "Lightweights" into Being.

MOTOR cycles gradually increased their weight before the war because the demand for more power was answered by increases of cylinder capacity without departure from existing designs.

In the case of single or twin-cylinder engines having irregular or widely-spaced torque intervals, increases of size resulted in much more highly stressed transmissions and disproportionately increased weights of power units themselves.

Aircraft engineers promptly learned that increase of power (capacity) without disproportionate increase of weight could only be achieved by increasing the numbers of the cylinders, or, alternatively, reduction in weight of an engine of given capacity could best be effected by multiplying its cylinders. Thus five-cylinder engines gave place to sevens, nines, twelves, twenty-ones, and even greater numbers.

Motor cycle engineers, on the other hand, have not pursued the multi-cylinder ideal to any extent, yet an increased number of small cylinders to give a required total cylinder capacity will permit reductions in weight on many accounts; for example, the greater the number of cylinders the less need for heavy flywheels, owing to the more continuous delivery of comparatively small separate power impulses. In the same way transmission weight can be cut down by the employment of light chains or gears; it is not often realised, for instance, that the ultimate breaking load of a $\frac{1}{2}$in. × $\frac{3}{16}$in. chain is only about 30 lb. less than that of a $\frac{5}{8}$in. × $\frac{3}{8}$in. chain. The large bearing areas of the latter size of chain are needed to resist the crushing effect of the large impulses of one or two-cylinder engines in use to-day, but the smaller chain would successfully overcome the tractive resistance if the power unit delivered the even torque of an electric motor.



A SIX-CYLINDER LIGHTWEIGHT.

A 5-6 h.p. Redrup Radial; each cylinder has a capacity of 103 c.c., and the six tiny impulses in two engine revolutions permit light transmission details to transmit the even but powerful torque.

Sporadic Efforts.

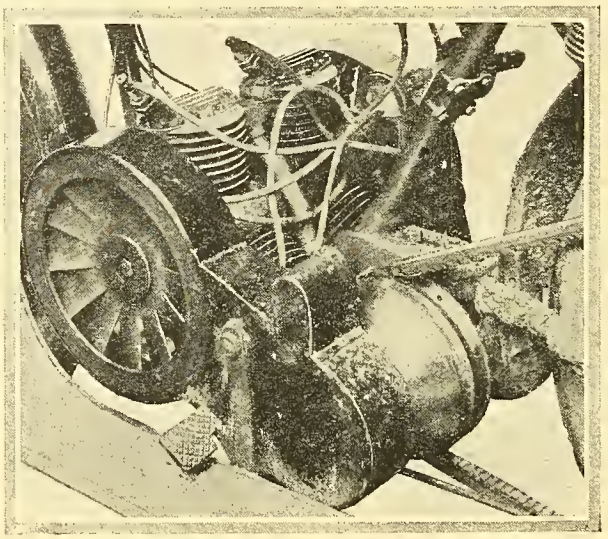
Generally speaking, the motor cycle trade has eschewed the many-cylindered type of engine, but the F.N. four-cylinder, and such even-firing units as the Douglas, Brough, Scott, and A.B.C. have all shown good results for their weight. The four-cylinder, however, involves an expensive crankshaft, and the same may be said of such

Multi-cylinder Motor Cycle Engines.—

past efforts as the Dennell-Jap of 1905 (three cylinders in line), and the eight-cylinder American Curtiss of 1908.

Undoubtedly the layout permitting the greatest weight economy is the radial type, for almost any number up to nine cylinders may be conveniently disposed around a single crankshaft. Early motor cycle engines designed on the radial principle were rather few and far between, but the type is by no means a new innovation; Anzani brought out an even-firing three-cylinder before 1908, and round about the same time the Esnault-Pelterie five-cylinder "fan-type" engine was put into use for pacing machines.

The early days of aviation thrust the claims of the radial into high prominence, and a designer responsible for one of the pioneer static radials turned his attention after the war to the production of a miniature three-cylinder radial suitable for lightweight motor cycles. This engine is now incorporated in the British Radial machines, and the designer, Mr. C. B. Redrup, is now experimenting with six-cylinder engines. The one illustrated is a mechanical combination of two three-cylinder engines having a built-up crankshaft with two throws set at 360° (*i.e.*, both rise and fall together); a single carburetter serves all six cylinders, and the magneto is similar to that described on previous occasions in *The Motor Cycle*, having an H armature, with two cams in the contact-breaker set at 180°; the high-tension current is led to the sun wheel of an epicyclic distributer, whence it passes by way of two planets (which roll round at one-third its speed) to the segments on the internally toothed ring. As the magneto runs at one and a half times engine speed, there are six sparks delivered in each two engine revolutions. The oiling is somewhat different from that used on the earlier Redrup engines, for the tappet operated oil pumps are dispensed with and a quadruple pump is installed in the tank. Four leads extend to the four timing rings, and the surplus lubricant leaks along the oilways in the crankshaft, whence it is flung into the cylinders.



A mechanical combination of two three-cylinder engines forms the six-cylinder Redrup.

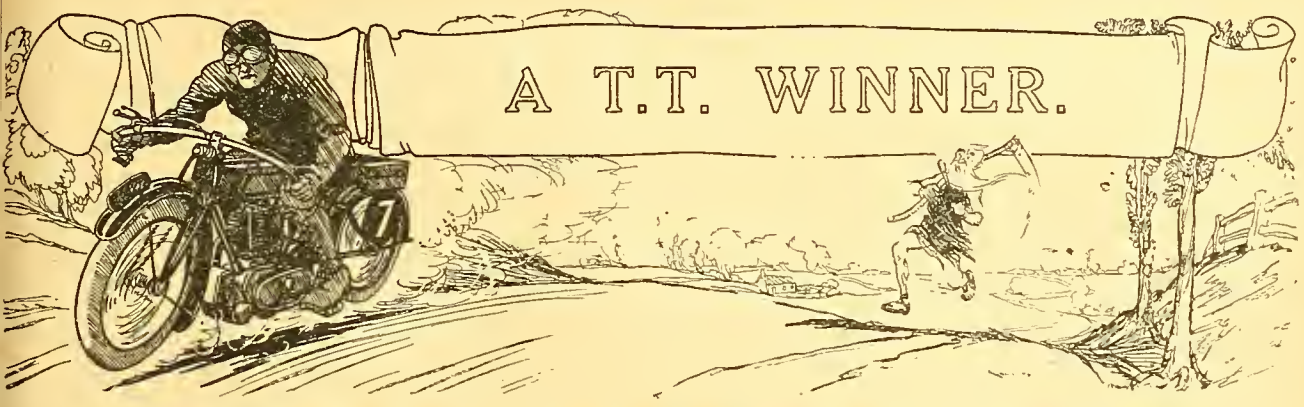
With a bore and stroke of 50.8 × 50.8 mm., the total capacity of the engine is 618 c.c., yet the weight is under 50 lb. The torque is so even that only a light-weight two-speed gear box is in use on the experimental machine, and the total weight is less than 200 lb.; thus it is possible to make up a 5-6 h.p. machine which is a "light-weight" for taxation purposes.

A short test which we had on the machine showed it to have high speed and acceleration with an extraordinary absence of torque vibration. Carburetter difficulties, however, are not entirely overcome, and in consequence the top gear hill-climbing was not comparable with the speed attained on the level; however, the charm of driving a machine propelled by such a continuous delivery of power impulses has to be experienced to be appreciated, and at a later date more precise results will be obtainable when further experiments have been carried out. Such engines naturally need development for motor cycle use; with shaft drive, for example, they should be ideal.



A NEW DEPARTURE FOR AN OLD CLUB.

The start of the recent Twenty-four-hour Trial to Torquay and back of the Coventry and Warwickshire M.C., when a very large crowd assembled, as also at the finish. Among the riders in the foreground are: L. Crisp (4½ Humber), R. Wright (4 Triumph), T. H. Meakin (4 Triumph), R. A. Player (4 Triumph), and F. A. Marshall (4½ Humber).



A T.T. WINNER.

A Study of the Man who Wins and the Fears that Beset him on the Course.

HE is (probably) rather a small man. He is certainly very dirty. As he stands astraddle his machine waiting for the start, he cannot be called pretty. A "crash" helmet hardly sets off manly beauty at the best. His heavy clothing has made him perspire a little during the official preliminaries. He is obviously rather nervous—his eyes flicker, his smile is a little forced, his laughing chatter betrays an inward flutter. The casual observer, devoid of trained sympathies, writes him down as, perhaps, rather an unusually clever mechanic, with athletic tendencies, strung up for the moment to deeds of daring by the hope of an enduring fame and a substantial reward in hard cash and promotion.

Let us try to do our imaginary winner rather better justice.

* * * * * *

Perhaps two or three months ago he knew an exciting moment when one of the leading firms approached him to ride for them, and offered him their "first string." That alone marks him out as above his fellows. There are nearly 200,000 motor cyclists in the kingdom, and this little man may be the pick of them all. (How many people are employed in your personal profession, gentle reader? Do you stand at the absolute summit of it?) For the last month or two he has "worked" in a sense which few people read into that much abused word. Road tests. Bench tests. Workshop tuning. More road tests. Consultation with the designer. Changes in engine, gears, 'bus. More tests. Then across to the Island. Daily practice in the chill morning mists before the world is up. Now, after a month of the most intense and concentrated labour, he is going to play dice with fortune for four interminable hours. Such duels are a familiar experience to many men. To the aeroplane pilot—but the air is wide and clear. To the soldier—but for him fate is largely a lottery, and he bears little personal responsibility. To the sailor—but he has only Nature to grapple with.

Thinking in Thousandths of Seconds.

The boy before us is going to tackle continuous perils, coming upon him in as quick succession as the lightning flashes at the centre of a tornado. He will have to think and act in thousandths of seconds, and one false move may spell failure. Moreover, he is matched against the massed brains and cunning and dash of at least two continents. It is not his motive only to survive. He is riding to win. Not the least of his many formidable opponents is *himself*.

The first threat to his mental balance comes from fear. The course looks wide enough in all conscience as you tour gently round it at thirty. At forty it is transformed into a succession of dangerous bends. At fifty the corners look as if nothing could steer round them, and progress becomes an appalling gamut of spurts, skids, and violent brakings. At fifty-five the road seems to shrink to an average width of 2ft. 6in., and the assorted materials which bound it look harder than ever. So the first temptation, which lasts perhaps a quarter of a lap for a really fit man, is to funk.

Intoxicated by Speed.

This soon passes, and the devil who tempts men brings a far more subtle influence out of his bag. He envelops you in the intoxication of speed. The roar of your engine; the consciousness of another man behind you; the occasional peep of a dust-cloud not too far ahead; the sense of skill and mastery which every skating swerve of speed cornerwork imparts; the contemptuous superiority which comes of overhauling slower men: all these things go to the head like wine. The rider becomes what an old Scottish mystic would term "fey." He sloughs off all idea of terror. He becomes drunk with speed. His strained expression changes to a look of positive pleasure. He grows more and more daring. If he does not resist this madness of velocity he will presently crash. If he is in the first rank, he will pull himself together, cool down the crazy emotions which bid him take unpardonable risks, and begin to ride a grim, cool, deliberate race in which peril is balanced against prudence so exactly that maximum speed results.

Possibly a spice of trouble with some detail of his machine will steady him. He stops. For a moment he is drenched in a fever of apprehension. All seems to be lost. With trembling fingers he picks aimlessly and senselessly at the machine. Then reason reasserts itself. He forces himself to work as if he were in the shops at home with all the day before him. In a minute or two he is off again, and this time he is riding in deadly fashion—never dropping a yard, and never courting a crash.

A T.T. Winner.

By the half distance the most emotional man is sober enough, and sheer physical weariness begins to enforce the next relentless test. His machine is rigid. The road is rigid. His body is soft, impressionable and flexible. For over 100 miles his body has sustained the incessant shocks of the continuous impact, his wrists have pinned the skidding, bouncing wheels to the desired track, and all the time he is crouched in a posture which no other animal ever assumes for more than a few moments. Every muscle aches, every sinew is weary, every nerve is raw. Nothing but superb concentration can conquer this extreme physical exhaustion. If he thinks of it, presently only a fraction of his wits will be available in some cruel emergency. Speed and steering are his sole legitimate occupations; he must serve them to-day, and leave minor matters for to-morrow

The Last Lap.

In the concluding laps comes the most searching ordeal of all. Stamina is all but exhausted. Only an iron will can keep the worn body true to its cruel task. Meanwhile the rider has some notion of where he stands. In the constant passing he acquires some notion of who are still in the running, and how they are travelling. Friends signal as he passes. At his replenishment stop he gathers vague and disturbing knowledge from the flurried encouragement of his colleagues at the depot. He has one man to help him swill in fuel and oil against the fleeting seconds, and, as he rinses his mouth, his friend gasps anxiously, "You're a sure winner, old man, but for heaven's sake don't spare her!" In 1913 the start of the last lap saw the three first men riding within *thirty-two seconds* of each other. The demeanour of the crowd at all the vantage points becomes eloquent. On the early laps they were almost languid when he passed. Gradually he felt he was being watched with interest. Now his appearance seems to have something electric and thrilling about it. Then, too, what were those blurred figures he glimpsed as he roared past the great hoarding where the score is kept? To be second in the race is to be nobody. He stresses himself to wrench extra fractions of a second from old Father Time at every corner. And he is *so* tired. The devils return, and beset him. The devil of the intoxication of speed (if the rider be young). The devil of fear (if the rider be oldish). And of all the laps the last lap is the worst! If he does not know he is leading, he knows he is near the front. Better die than lose by a matter of seconds. Better finish second than die. Every corner traps him in two minds. The watchers along the course are surely egging on the men behind him. He is tempted to beat record when he is almost too tired to sit the saddle for another forty minutes. He fancies that his engine is losing tune. Surely it is crawling up the mountain compared to what it did in that first lap which now seems centuries ago. Well, then he must save time on the corners. Never mind, it *is* the last lap. Just forty minutes more, and then he can lie down and drink and sleep and forget and rejoice. Then comes the last mile. The corners at Governor's Bridge seem deliberately intended to thwart victory, the wide road seems to have dwindled to a garden path. A blurr in the distance indicates that the grandstand is still there; in less than half a minute it has bounded past, people are cheering, the throttle is closed. . . .

* * * * * *

To think that this very superb, capable, and intelligent creature is probably descended from rather a feeble cousin of the gorilla. That his ancestors were content for uncountable centuries to subsist on roots and berries, and to dwell in caves or tree-tops. That they knew nothing of machinery, and were so devoid of imagination that they spent aeons in inventing the flint axe and the bone needle. That they scuttled chattering to their lairs when the lightning flashed or a tiger growled in the forest.

* * * * * *

The cosmic process is surely marvellous, and leads—whither?

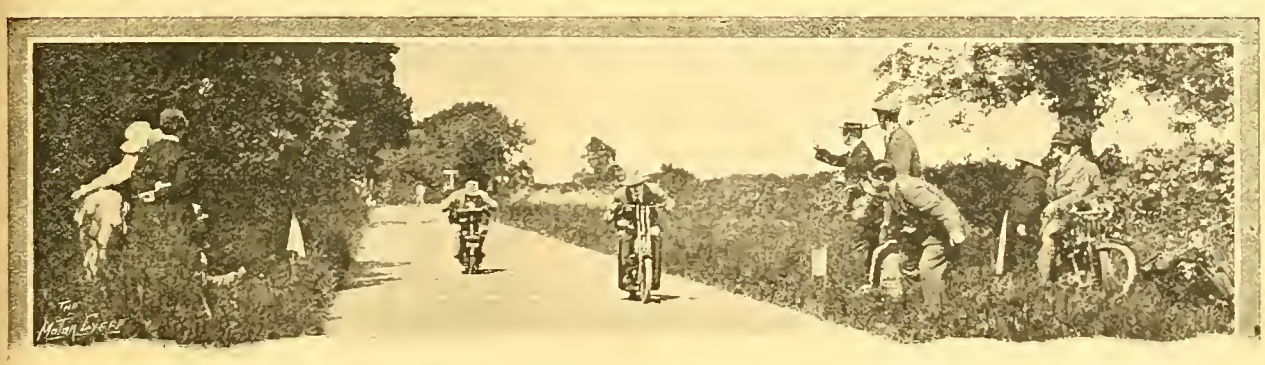


WHERE RIDING SKILL IS NEEDED.

Approaching one of the most dangerous corners on the course. Immediately beyond Sulby Bridge the road turns abruptly to the left.

18 HAIRPIN BENDS IN A QUARTER MILE.

How far will a Motor Cycle Travel with the Petrol Tap turned off? Which is the Faster on Acute Bends—Solo or Sidecar?



The Kenilworth miniature about to cross the tape in the scooter acceleration test. The Autoglider, a few yards behind and rapidly gaining, was handicapped 20 yards in a distance of 120 yards.

HOW many can answer correctly the two questions given in our sub-title? They have been the subject of more than one friendly debate, so it was agreed to decide the points on the occasion of *The Motor Cycle* staff trial. This annual event was first inaugurated in order to settle such questions, when those who throughout the year have to follow the fortunes of competition riders of distinctly varying skill, covering more miles without any intrinsic award as an inducement, arrange a trial for themselves. Editors, sub-editors, artists, and photographers are there. Motoring colleagues from sister journals are invited to observe the tests, lady friends grace the occasion with their presence, and, for one evening at any rate, the caretaker of the office has a clear and satisfactory run, for no "overtime" gentry are in the way! Eight events were down for decision this month, the "regulations" a model of brevity—less than 100 words in all!

Those present were mounted on a varied assortment of machines—miniatures, lightweights, and mediumweight solo machines, T.T. mounts, and single and twin sidecar outfits; and from London and Coventry the editorial, artistic, and photographic staffs met on Edge Hill, Warwickshire.

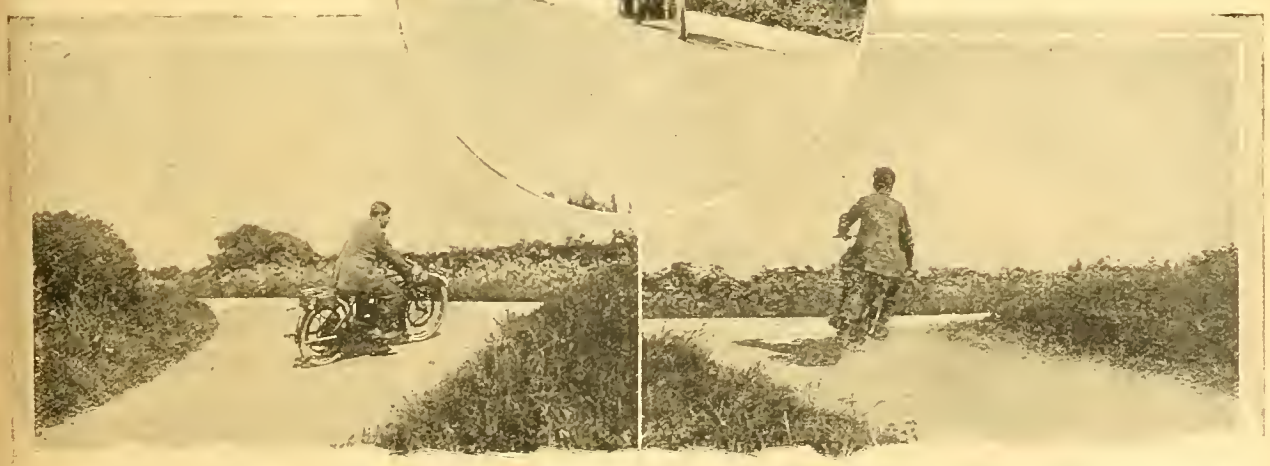


Two or three who took part learned of the first post-war *Motor Cycle* trial as readers, but have since become regular members of the staff. A great point about the event is that "any machine is everybody's machine"—thus the various makes represented were sampled in turn by practically all the riders present, enabling a first hand comparison of their merits, and particularly the ease of manipulation.

Scooters Considerably Improved.

In the first staff trial of 1919, the scooters, let it be whispered, were taken over on a car, but two years have worked wonders. Scooters have developed (as we said they would) into miniature motor cycles, equipped with comfortable seats, and have so extended their range of utility that they were driven to the event under their own power.

A newcomer this year was the Reynolds Runabout, ridden to the venue (including a non-stop ascent of Edge Hill) by a lady. This machine attracted considerable attention at the last Olympia Show, and more will be heard of it since it is now in production—the open frame design is becoming popular with a certain class of



A miniature T.T., in which controllability and steadiness counted more than maximum speed. Unconcernedly smoking a cigarette, the rider of the Kenilworth, in the top picture, recorded an only slightly slower time than did the spectacularly skidding Sports Sunbeam and the chain-driven Triumph. Actually the Triumph rider made the best time of the three.

18 Hairpin Bends in a Quarter Mile.—

buyer not usually interested in the more orthodox type of machine.

In spite of the fact that the so-called scooters (regarded as miniature motor cycles) are now established on the market, they were sufficiently novel to be an attraction to many of the visitors, especially the ladies, who, by the way, never seem nervous in taking their first ride and start away after the briefest instructions concerning the functions of the various levers, often forgetting how to stop them!

1¼ h.p. Four-stroke versus 2½ h.p. Two-stroke.

An acceleration test of these miniatures was the first event—a 1¼ h.p. Kenilworth competing with a 2½ h.p. Autoglider, on the knock-out principle; the latter granting the smaller machine twenty yards in 120 yards.

Notwithstanding the fact that the Autoglider is fitted with a Villiers engine, and the little Kenilworth only a tiny four-stroke, the light weight of the latter was found of great advantage in getting off the mark, with the result that it won several of the heats, the semi-final, and eventually the final. The Autoglider once under way, however, rapidly overhauled the Kenilworth, and, as a result, close finishes were the rule.

The Value of an Outside Flywheel.

A slow race up the long and steep grades of Edge Hill revealed the advantages of a twin engine with an outside flywheel, for the 8 h.p Rex-Blackburne was easily the winner in the sidecar class, while a chain-driven Triumph proved the victor among the solo mounts. A tortoise race along the level became so strenuously fought out at about half a mile an hour that the question of balance and ease of handling decided it. A healthy tortoise in good training could have raced the winning 3½ h.p. Sports Sunbeam.

Speed.

Then followed an event the reverse of this. A "hot stuff" Norton being in the Isle of Man, a fast climb was arranged up the hill between a 1921 Triumph and a Sports Sunbeam, the latter bounding over the top first at—well, over legal limit!

Economy is a Virtue.

A carburetter capacity test opened up possibilities for future developments, for one could determine with a speedometer the most economical speed.

In this test engines were started, and the petrol tap turned off at the word "Go"! The Rex-Blackburne driver decided to get immediately into top gear and to drive at about 7 m.p.h., which proved to be extravagant and not at all proportionate to the usual 50 m.p.g. obtained on the run. Those who rode at their usual cruising speed did much better, as the following result will show:

1,520 Yards with the Petrol Tap Turned Off.

	Yards.
2¾ Douglas (Claudel carburetter)	1,520
3½ Sports Sunbeam (Amac two-lever carburetter)	1,487
3½ Sunbeam (Amac two-lever carburetter) ...	996
4 Triumph (Triumph carburetter)	954
2½ Autoglider (Senspray carburetter)	953
1¼ Kenilworth (Vici carburetter)	708
4 Triumph sc. (Triumph carburetter)	698
4¼ B.S.A. sc. (B.S.A. carburetter)	690
5-6 A.J.S. sc. (Amac one-lever carburetter) ...	681
2¾ Reynolds Runabout (Cox Atmos carburetter)	652
4 Blackburne (B. and B. carburetter)	520
8 Rex-Blackburne sc. (Binks carburetter)	390

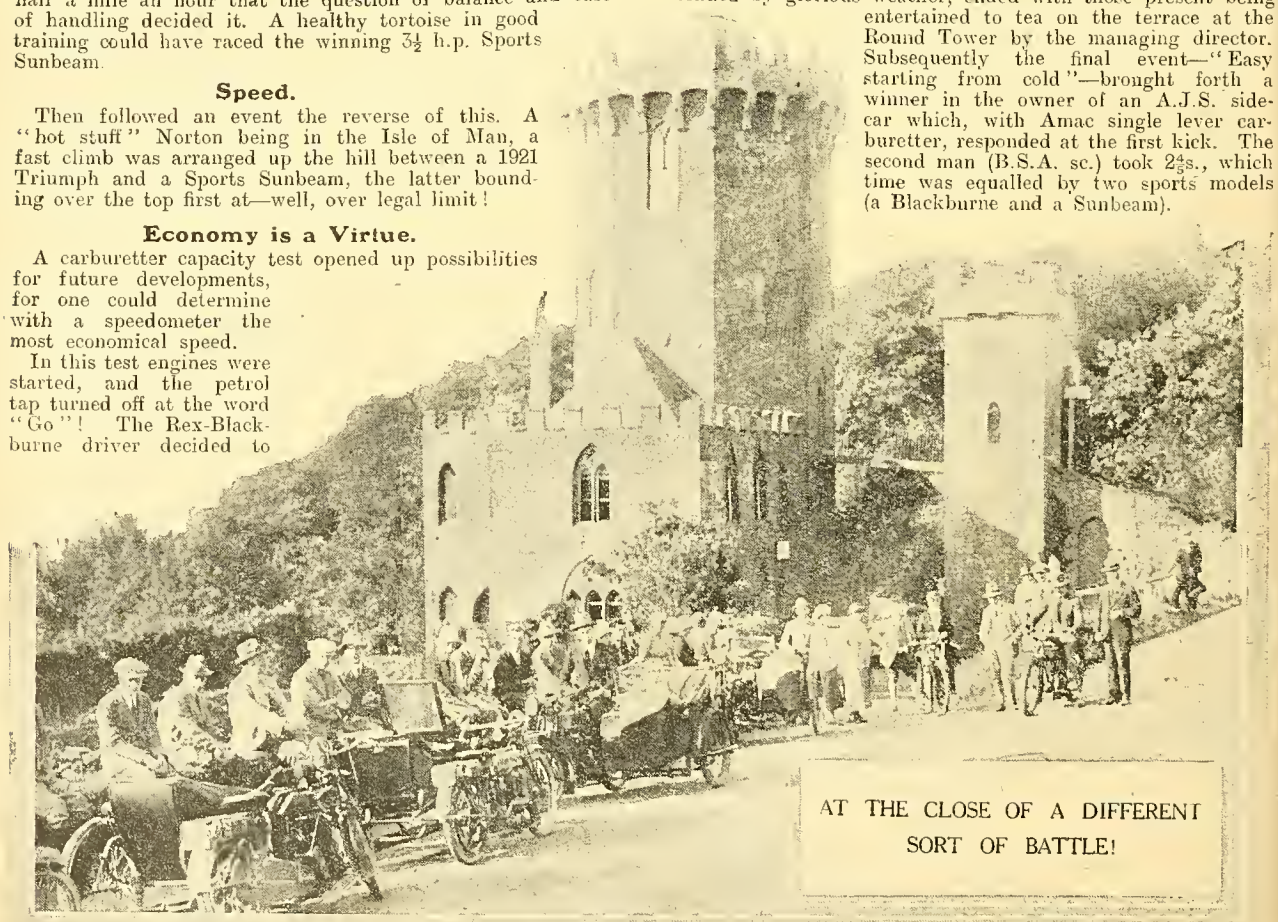
Eighteen Hairpin Bends in a Quarter of a Mile.

To decide the point as to which is the faster on hairpin bends—solo or sidecar—several of *The Motor Cycle* staff were timed on six circuits of a triangular sward making a distance of a quarter of a mile. This was a test of skill, as one leg of the triangle was on a down grade, the next one on an up grade, and the third along the level. The following times were recorded:

	m. s.		m. s.
2½ Autoglider	1 41	4 Triumph	1 23
1¼ Kenilworth	1 34	5-6 A.J.S. sc.	1 22
3½ Sports Sunbeam ..	1 34	2¾ Douglas	1 20
4¼ B.S.A. sc.	1 33		

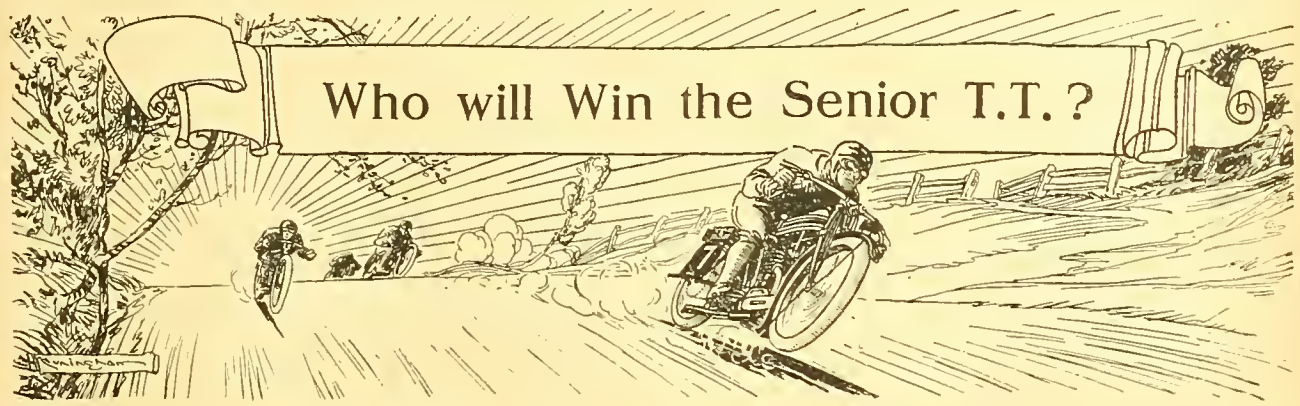
The winner's speed on his Douglas was 11¼ m.p.h.

A sporting and interesting afternoon's programme, attended by glorious weather, ended with those present being entertained to tea on the terrace at the Round Tower by the managing director. Subsequently the final event—"Easy starting from cold"—brought forth a winner in the owner of an A.J.S. sidecar which, with Amac single lever carburetter, responded at the first kick. The second man (B.S.A. sc.) took 2⅘s., which time was equalled by two sports models (a Blackburne and a Sunbeam).



AT THE CLOSE OF A DIFFERENT SORT OF BATTLE!

Built to commemorate the Battle of Edge Hill—the Castle Inn, on the crest of the Edge Hill range in Warwickshire—a familiar landmark for many miles around. It is to-day the venue of many a gathering of motor cyclists, and an annual rendezvous for members of *The Motor Cycle* staff and their colleagues of sister journals.



Who will Win the Senior T.T.?

By MICHAEL KIRK.

Will the Race go to Wolverhampton Again? Claims of Coventry, Birmingham, and Bristol.

MY annual *début* in these columns as a tipster is always frightfully embarrassing, but never more so than at this moment. Club talk admits that we are going to see the race of the century. Experts agree that the 500 c.c. machine is getting too fast for the course, and that 1922 will probably see the Senior event contested by engines of 350 c.c.; in other words, any of the sixty-eight entries with a clean run and a decent jock could probably beat last year's winning time. A quarter of the men have never ridden in the T.T. before, and of these newcomers a sprinkling certainly suffers from what Shakespeare called "vaunting ambition that o'erleaps itself," but others have been spotted, and trained by 'cute racing managers with an eye to absolute victory. All the famous cracks are engaged, and at least ten of the principal factories have been spending money lavishly during the past twelve months in order to win. I would sooner try to foretell when I shall suffer my next puncture than pick the winner of the 1921 T.T.

"Horses for Courses."

Perhaps my task is not quite so black as it looks. Any top-notch 3½ h.p. could average 55 m.p.h. in the race on two conditions, viz., that it was superbly ridden, and that it stood up. The B.M.C.R.C. held an exercise canter at Brooklands on May 21st, when the Douglas, Indian, Martin, and Norton lasted the course well. Past history guarantees the stamina of the Sunbeam. Triumphs have nine machines, four with Ricardo engines, and five with side valve engines—this team plainly means business with a very big B. The B.S.A. people have not devoted a year to producing speedsters without due confidence. Scotts either abstain from the race or lay their fingers on the Trophy. Blackburnes aspire to be our super-engine builders. Rovers have worked a good deal harder than the public know. The James team are dark horses, but the firm generally shines when it is out for blood. Consequently I see no sense in backing a particular machine, and unless cruel bad luck intervenes, I think the human factor will decide the race.

Was it the poet Gray who sang:

> Full many a Dance is born to jazz unseen,
> And waste his exhaust in the village lane.

But this year the competition managers have gone over the ranks of trials men with a small-toothed comb in the effort to unearth potential T.T. winners. One of these as yet unknown heroes is quite likely to upset all our calculations. But on form, as I know it, there are three men whom nobody can hold if they ride their best and escape trouble. One is the popular favourite, George Dance, at once the most capable and the most modest of all our regular racing men.

No. 2 is H. R. Davies, who would almost certainly start co-favourite if only he were mounted over a 500 c.c. engine; his little 350 c.c. A.J.S. is being quietly backed in some quarters to defeat all the Senior entry: it was fast enough to do so last year (he has made one of the fastest practice laps this year), and toughened by another twelve months of development, it is capable of anything.

The third rider whose chances I personally rank level with Dance's, if we credit both with a non-stop, is C. P. Wood. This magnificent rider is practically unknown in the South of England, and he has certainly yet to show what he can do in the T.T.; but you can take it from me that Yorkshire "expects" him. The entry list is full of famous names, all honestly earned by brilliant work; but I do not know anybody who can outride this trio, and in a non-stop I should expect Dance and Wood to fight out the finish with Davies close up.

When Popular Tips Drop Out.

In actual fact, it is highly improbable that the favourites will get a clean run. Year after year we see the popular tips drop out, and new men storming on to victory. Outside my trio it is simply impossible to make selections. For instance, if the B.S.A. 'buses are as good as they look, as good as a year of intensive culture from Heather and Pearsall should guarantee, and if Gus Kuhn rides his B.S.A. as demoniacally as he can ride a little 'un? If the Nortons enjoy the luck they deserve—Brown was second last year, Shaw was seventh, and Horsman is riding as he has never ridden before; besides, an out-and-out Norton victory is long overdue.

In the Sunbeam team De la Hay is regarded by some judges as a more probable winner than Dance. He rode a splendid race last year, when his last lap was actually his fastest by over 2m. The Brooklands canter on May 21st showed that the Douglas team is in much the same mood as the Kaiser was on August

Who will Win the Senior T.T.?—

4th, 1914; they expect to be home as conquerors in next to no time. Their new man, Thorpe, is still a dark horse. Emerson is, to my mind, more of a track man than a road man; but A. H. Alexander is as near as no matter a Scottish edition of Dance. The fellow who finishes ahead of these three Douglases will probably have to travel.

The American Entry.

Indians? They were too slow last year. They are not likely to under-estimate the pace twice running. You can guess whta their team is like if you note that an unknown man named Malkow has pushed H. R. Harveyson of all people down to fourth place. At Brooklands, rightly or wrongly, I formed the impression that Le Vack was not bestirring himself unduly, but was rather more interested to see how his engine would stand an hour of—shall we guess, not *quite* full throttle? How Billy Wells would enjoy again annexing the first three places in a year when the big British factories were going baldheaded for the spoils. All the same I do not think it will be his turn this time.

We have still to analyse the sensational Triumph team. The four Ricardo engines will be ridden by Shemans, Gill, Sgonina, and another. The works rule against entering married men in the race has been relaxed because Shemans could not be kept off the saddle. The o.h.v. Triumph keeps coolish when lapping Brooklands at 60 m.p.h. on a gear of 5.6 to 1. Yet this engine is regarded by the Triumph Co. as their second string. They are racing it, they say, for experimental purposes, and pin their hopes of victory to the side-by-side valve engine, which represents wizard Stanley's latest brainwave. Five of the latter are engaged, and the factory team apparently consists of Townshend (the ex-Sunbeam expert), Edmond, and Watson-Bourne. Another nasty lot to beat.

I am glad I don't know more about the Rover, Blackburne, and James crowds, for the race is already quite sufficiently bewildering. Neither am I in touch with the Scott second and third strings, though a strong Yorkshire tip has reached me, "Watch Stanfield if anything happens to Clarence." There are a few individual entries, which need not be taken very seriously in view of the massed factory opposition. I am writing at a time when practice has not gone far enough to show up the merits of the new jockeys, nor yet to indicate how some of the "dark" engines are sticking it. I am prepared to look excessively foolish by teatime on Senior day, but if I had to lay out my money at this moment, the bulk would go on G. Dance and C. P. Wood; and I should be more anxious about being deprived of it by a Douglas than by any other.



AFTER THE MORNING DIP.

On the lovely Devonshire coast. One of the large double-seater sidecars (used for hiring purposes by the X Motor Co., of Torquay) on Oddicombe beach, Babbacombe.



Cambridge University M.C.C.

Mr. G. Rae Arnot, Trinity College, has now taken over the post of secretary of this club.

Berwick and District M.C.

Owing to the threatening weather, the turn-out at the recent reliability trial was not as large as might have been expected from a club with a membership of well over one hundred. The ascent of Carter Bar was observed, and brake and restarting tests were held on Corby Bank. Results:

1, John I. Elder (7 A.J.S. sc.), 2 marks lost; 2, W. H. Dodds (4 Triumph), 3 marks lost; 3, H. T. Taylor (3½ Rudge Multi), 5 marks lost.

Worcester and District M.C.C.

A G.N. cycle car, driven by O. Hayes, gained the premier award in the recent trial for "Sidecars v. Small Cars." Other results follow:

FIRST-CLASS AWARDS.—*Private:* S. J. Melhuish (7 A.J.S. sc.). *Trade:* B. Alan Hill (8 Rover).
SECOND-CLASS AWARDS.—*Private:* Not won. *Trade:* Cyril Williams (G.N.).
THIRD-CLASS AWARDS.—*Private:* Not won. *Trade:* B. Bladder (4½ Humber sc.).
SPECIAL CLUB AWARDS.—*Private:* O. Hayes (——). *Trade:* B. Alan Hill (8 Rover).

Special attention is called to the performance of Mrs. F. G. Gibbs (3½ Sunbeam sc.).

West Birmingham M.C.C.

So severe was the reliability trial held on the 4th inst. that only one rider, D. B. Cranmore (3¾ Scott), registered a non-stop run. An excellent performance was also made by Mrs. H. G. Galc (2¼ Velocette), who, however, had bad luck on one hairpin corner, otherwise completing the run without a stop. The course was almost impossible for sidecars, and the only entrant, R. W. Cowley (4¼ B.S.A. sc.), had a great struggle to get round.

East Midland Centre A.C.U.

On the 4th inst. there was a meet of motor cyclists in the East Midland Centre at Monsal Dale, Derbyshire, where there assembled about 300 club members, many of whom had travelled over eighty miles. There were representatives from the following clubs: Derby, Ilkeston, Leicester, Lincoln, Loughborough, Mansfield, Nottingham, Sutton-in-Ashfield, Grantham, Burton-on-Trent, and Stamford. A feature of the entry was a quartette of the new Brough Superiors, which were much admired. A slow hill-climb arranged by the North Derbyshire Club proved a great success. The entry fees were devoted to the Chesterfield Royal Hospital, and were generously supplemented by a collection taken from the hundreds of spectators on the hill. The winner of the slow climb proved to be E. Chandler, of Mansfield, on a 7-9 h.p. D.M.C.—a machine designed and built by himself.

Bucks County M.C.C.

The recent two hundred miles reliability trial for the Vernon Cup resulted as follows:

1, W. G. Harding (4 Triumph sc.), who thus wins the cup for the second year in succession; 2, W. F. Johnson (7 A.J.S. sc.); 3, R. Pugh (4 Triumph sc.).

Keighley M.C.

Results with awards of the recent hill-climb have now been confirmed, and are as follows:

COULTON TROPHY AND GOLD MEDAL.—A. Shuttleworth (2¼ O.K. Junior).
SILVER MEDAL.—P. Beadman (7-9 Harley sc.).
BRONZE MEDAL.—W. Rycroft (2¾ Edmund).
GOLD MEDAL (Fastest Solo).—A. Jackson (3½ Norton).
GOLD MEDAL (Fastest Passenger).—A. Jackson (3½ Norton sc.).

Week-end Club Events.

June 16.—Canterbury and District M.C.C. Fuel Consumption Test.
June 18.—North-West London M.C.C. and North London M.C.C. Inter-club Hill-climb.
June 18.—Coventry Triangle M.C. Gymkhana.
June 18.—Saltcoats and District M.C.C. Picnic.
June 18.—Holwood M.C.C. Club Run to Leith Hill.
June 18.—Coventry and Warwickshire M.C. Social Run and Picnic.
June 18. Surrey M.C.C. Triumph Cup Reliability Trial.
June 18-19.—Surbiton and District M.C.C. Week-end Run to Bournemouth.
June 18-19.—Leeds and District M.C. Club Run to London.
June 18-19. Public Schools M.C.C. "Touch Nothing" Run.—
June 19.—West Birmingham M.C.C. "Old Crocks" Competition.
June 19.—Rochester, Chatham, and District M.C. and L.C.C. Club Run to Dymchurch.
June 19.—Ivy M.C.C. (Wolverhampton). Club Run to Llangollen.
June 19.—Central London M.C.C. Club Run to Welwyn.
June 19.—North-West London M.C.C. River Picnic at Bourne End.
June 19. Ilkley M.C. and L.C.C. Team Trial for Heaningway Trophy.
June 19.—Wakefield and District M.C.C. Club Run to Ingleton.
June 19.—Stafford and District M.C.C. Club Run.
June 19.—Wolverhampton Auto Nomads. Club Run to Malvern.
June 19.—Halifax and District M.C.C. Club Run to Burnsall.
June 19.—Leeds M.U. Club Run to Crayke and Gilling Castle.
June 19.—Wolverhampton M.C.C. Social Run.
June 19.—Harrogate and District M.C.C. Reliability Trial for Muratti Trophy.
June 19.—Stamford and District M.C.C. and Peterborough M.C.C. Inter-club Reliability Trial.
June 19.—Sheffield M.C.C. Club Run to Buxton.
June 19.—Northern M.C. Flexibility Hill-climb.
June 19.—Exeter M.C. and J.C.C. Club Run to Shaldon.
June 19.—Eastbourne and District M.C.C. Blakemarsh and Doull Competition.
June 19.—Woolwich, Plumstead, and District M.C. Wilmot Cup Trial.
June 19.—Berwick and District M.C. Consistency Hill-climb.
June 19.—Basingstoke and District M.C.C. and L.C.C. Club Run.
June 19.—Doncaster and District M.C.C. Social Run to Bewer Castle.
June 19.—Liverpool M.C. Social Run to Blackpool.
June 19.—Kidderminster M.C.C. Social Run.
June 19.—North Wales M.C.C. Picnic.
June 19.—Brighton and Hove M.C.C. Dobson Trophy Trial.
June 22.—Reigate, Redhill, and District M.C.C. Speed-judging Competition.
June 22.—Bridgwater and District M.C.C. and Taunton and District M.C. and L.C.C. Inter-club Run to Cheddar.
June 22.—Heleasburgh M.C.C. Flexibility Trial.
June 23.—Worcester and District M.C.C. Speed Trials.

Macclesfield M.C.

C. R. M. Mills, on a Morgan, with a total loss of two marks, proves to be the winner of the recent reliability trial. S. Bann (7 Matchless sc.) and W. M. C. Preston (3½ Sunbeam sc.) were second and third with a loss of three and nine marks respectively.

Ilkley M.C. and L.C.C.

There were a long list of entries and many spectators at the knock-out hill-climb held on Barden Fell. Competitors were handicapped from the scratch man, W. Bradley (7-9 Indian). Results:

1, J. Stanfield 2¾ Edmund), 28s. handicap (Dixon cup and gold medal.; 2, W. R. Haggas (4 Triumph), 12s. handicap (silver medal); 3, H. Foulds (4¼ B.S.A.), 26s. handicap (bronze medal); 4. W. Bradley (7-9 Indian), scratch.

Norfolk M.C. and L.C.C.

Full formula and time results are now available of the very successful hill-climb held on Ringland on the 26th ult. They are as follows:

EVENT 1.—On time: 1, Miss K. Riches (2¼ Levis), 28⅘s., and A. H. Bryant (2¾ New Hudson), 28⅘s., tied for Mr. E. M. Wood's prize; 3, E. M. Wood (2¼ Levis), 30⅘s. On formula: 1, Miss K. Riches (2¼ Levis), 100%, club first prize; 2, A. H. Bryant (2¼ New Hudson), 98%; 3, A. Adcock (2¼ Levis), 93%.

EVENT 2.—Walk over, A. Adcock (2¾ Douglas), 29⅘s., club first prize.

EVENT 3.—On time: 1, R. M. Knowles (3½ Norton), 20s., Mr. Chas. Bunting's prize; 2, H. F. Mase (3 A.B.C.), 20⅘s.; 3, F. T. Ebbage (3 A.B.C.), 23⅘s. On formula: 1, H. F. Mase (3 A.B.C.), 100%, club first prize; 2, R. M. Knowles (3½ Norton), 80%; 3, F. T. Ebbage (3 A.B.C.), 67%.

EVENT 4.—On time: 1, J. C. Trendall (4 Triumph), 22⅘s., club first prize; 2, G. H. Hanworth (4 Norton), 23s.; 3, S. A. Towlson (4 Norton), 24⅘s. On formula: 1, G. H. Hanworth (4 Norton), 100%, club first prize; 2, J. C. Trendall (4 Triumph), 92%; 3, S. A. Towlson (4 Norton), 84.5%.

EVENT 5.—On time: 1, W. F. Ayrton (8 Zenith), 19⅘s., club first prize; 2, R. A. Daniels (7-9 Rudge), 20⅘s.; 3, M. G. Bagshaw (7 Harley-Davidson), 25⅘s.

EVENT 6.—On time: 1, H. T. Chapman (4 Triumph), 28⅘s., club first prize; 2, A. S. Bagshaw (4 Triumph), 28⅘s.; 3, A. Adcock (3½ P. and M.), 38s. On formula: 1, H. T. Chapman (4 Triumph), 100%, club first prize; 2, A. S. Bagshaw (4 Triumph), 98.5%; 3, A. Adcock (3½ P. and M.), 73.6%.

EVENT 7.—On time: 1, E. M. Wood (7 Indian) 23⅘s., club first prize; 2, H. D. Wheeler (8 Imperial-Jap), 25⅘s.; 3, H. J. Kett (7-9 Rudge), 26s. On formula: 1, E. M. Wood (7 Indian), 100%, club first prize; 2, H. J. Kett (7-9 Rudge), 67%; 3, S. A. Towlson (4 Norton), 58.5%.

EVENT 10.—1, H. D. Wheeler (8 Imperial-Jap), 22⅘s., Mr. A. Bullen's prize (fastest sidecar time of day); 2, M. G. Bagshaw (7 Harley-Davidson), 25⅘s.

EVENT 11.—1, R. M. Knowles (3½ Norton), 16⅘s., club first prize; 2, R. A. Daniels (3½ Norton), 21s., club second prize; 3, H. F. Mase (3 A.B.C.), 21⅘s., club third prize.

EVENT 12.—1, J. Morse (7 Indian), 20⅘s., and R. O. Clark (8 Zenith), 20⅘s., tied for club first prize; 3, R. A. Daniels (7-9 Rudge), 21⅘s.

EVENT 13.—1, R. A. Daniels (3½ Norton), 17⅘s., club first prize; 2, R. M. Knowles (3½ Norton), 17⅘s., club second prize; 3, C. J. Trendall (4 Triumph), 20s.

EVENT 14.—1, R. O. Clark (8 Zenith), 15⅘s., Mr. H. D. Wheeler's prize (fastest time of day); 2, W. F. Ayrton (8 Zenith), 17⅘s.; 3, J. Morse (7 Indian), 18⅘s.

EVENT 15.—Slow race: 1, H. J. Hannent (4 Indian), 3m. 30⅘s., Sheriff's prize; 2, R. O. Clark (2¼ Levis), 3m. 8⅘s., club second prize.

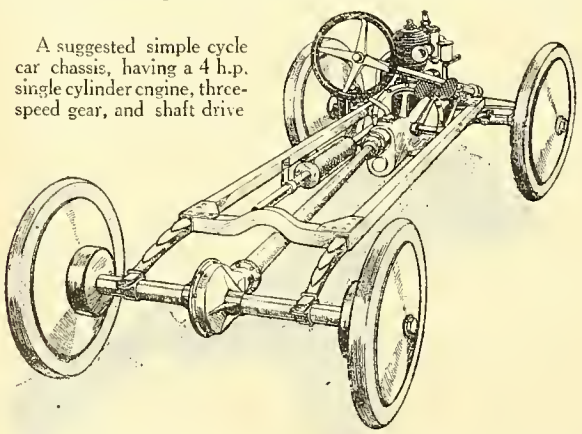
EVENT 16.—Relay race: Winning pair, R. M. Knowles (3½ Norton) and R. A. Daniels (3½ Norton), 45.6s., club first prize.

The Cycle Car of Moderate Price



A Suggested Design eliminating all Unnecessary Refinements without departing from the Conventional.

THE £100 car! How often has this ideal been waved before our longing eyes! How often have designs been produced, and how seldom have these designs materialised! The actual figure of £100 is an ideal, but provided the price does not exceed that of a medium-powered motor cycle and sidecar there is an enormous market for a light four-wheeler which has hardly yet been touched. Capt. Carden and a few other enthusiasts have shown us what can be done, and such machines as the Carden, A.V., and Tamplin are doing first-class pioneer work,



A suggested simple cycle car chassis, having a 4 h.p. single cylinder engine, three-speed gear, and shaft drive

but so far only the fringe of the market has been touched.

Whatever the lines on which the future cycle car develops (and it will develop) it must be a compromise, for it is ridiculous to demand a Rolls-Royce for the price of a sidecar outfit, and the man who is to succeed will be he who most carefully studies the mentality of the buying public.

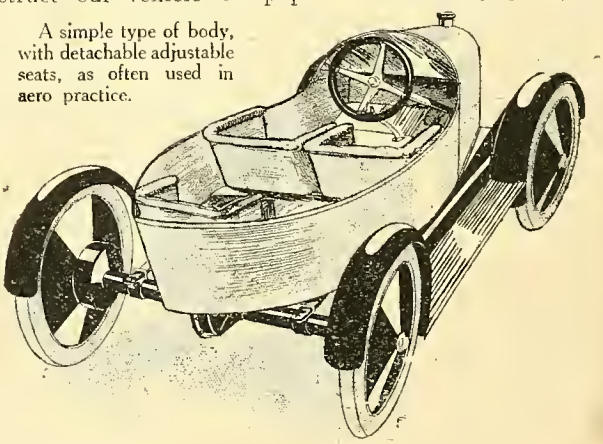
Now the state of mind of the average motor cyclist—and it is he who will do most of the pro-

selytising—is something of a puzzle. Why, for instance, should the man who is perfectly content to drive his family about on a single-cylinder motor cycle with chain and belt drive, immediately demand a four-cylinder water-cooled engine, three speeds and reverse and shaft drive, when he sports an extra wheel?

Design by Elimination.

The miniature car will always have its adherents; but the difficulty in designing a cycle car is to know what can be left out and not what can be added. Popular opinion undoubtedly demands shaft drive, and really there is no reason why it should not have it. If all manufacturing costs are considered, there is little to choose between a shaft with a simple differential-less back axle and a solid axle with chains or belts or both and their attendant countershafts, bearings, and erecting costs.

Let us start, then, with a shaft drive and one-piece live axle, and see what can be eliminated as we construct our vehicle on paper. One brake on each



A simple type of body, with detachable adjustable seats, as often used in aero practice.

The Cycle Car of Moderate Price.—

wheel, operated independently, will comply with the law, and will provide at least as good decelerative effect as that obtained on a motor cycle and sidecar.

The gear box requires more thought, since the number of ratios depends to some extent on the size of engine employed. First, however, is a reverse necessary?

In the ultra-light type of vehicle under consideration the answer is in the negative. A reverse is certainly a luxury, but one cannot expect luxuries without paying for them, and a reverse involves quite a considerable amount of outlay in gear wheels, bearings, striking gear and material.

Choosing the Power-unit.

A single-cylinder engine of about 600 c.c. provides ample power for propelling a motor cycle and sidecar, and will consequently suit our cycle car, which will certainly be no heavier or worse streamlined; but a single-cylinder engine will involve a three-speed gear.

On the other hand, a 1,000 c.c. twin will cost more to produce as an engine, though only two gear ratios would be needed. The *average* rider does not require to climb Park Rash or the Screw Road, and the Enfields and Morgans have shown us what can be done with only two gears. The choice between single with three speeds and twin with two is a matter of opinion, but probably the single would be the more economical in use, and since a single, if carefully balanced, is a simple and satisfactory engine and gives admirable satisfaction in motor cycle and sidecar service, we may accept it for the time being.



A Carden on Alms Hill. This little light four-wheeler is marketed at less than £140 complete with essential accessories.

Channel Steel for the Chassis.

Composite wood and steel plate frames may be cheap in small quantities, but for serious production it would be cheaper to use a channel steel frame which may be a simple rectangle and infinitely less expensive than the frame and chassis of a motor cycle and sidecar.

Quarter-elliptic springs all round can be arranged so as to provide satisfactory suspension, and the ends in each case should be rigidly attached to the axles so that no torque or radius rods need be employed.

A plain tubular front axle with well laid out cable and bobbin steering is all that is required, but an alternative steering gear may be arranged with direct connections, a spur gear reduction being fitted at the base of the steering column.

So much for the general layout, which is, however, capable of considerable variation in detail. A two-stroke engine might be employed to smooth the torque and reduce costs, though petrol consumption would be increased and cooling might become a more serious problem.

Bodywork.

An engine and gear unit would be neater and probably cheaper than separate engine and gear box, since if the clutch cover were spigoted to the crank case no further lining up would be necessary, and the whole unit could be removed for overhaul when required.

The question of bodywork is important, since much money may be spent in this direction with but little useful result. Perhaps the best results may be obtained by forming an outer shell of vertical sides with separate adjustable and removable seats. By this means accommodation for two adults and two children can be arranged with equal protection, or the children's seats may be removed to make room for luggage.

Such a vehicle as that described could be produced for a very reasonable sum, and would be a sound utilitarian machine for all normal purposes. Admittedly, it is without frills, and might not suit the sporting solo motor cyclist. Nevertheless it would fill an empty niche in the market, and should have colossal sales.

Many readers will have suggestions to make, but it must be remembered that electric lighting, self-starters, detachable wheels, reverse gears, etc., all cost money, and are luxuries rather than necessities.

A light four-wheeler as suggested could be nicely finished in serviceable grey paint with black enamelled guards, which would look much better than cheap and bad coach finish.

UBIQUE.

NEXT THURSDAY.

THE MOTOR CYCLE

Will contain a fully illustrated report of the

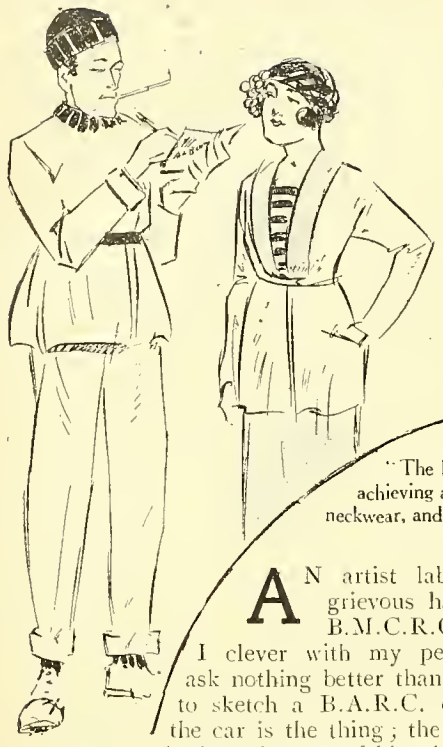
SENIOR TOURIST TROPHY RACE,

as well as authoritative articles on the technical aspects of both races.

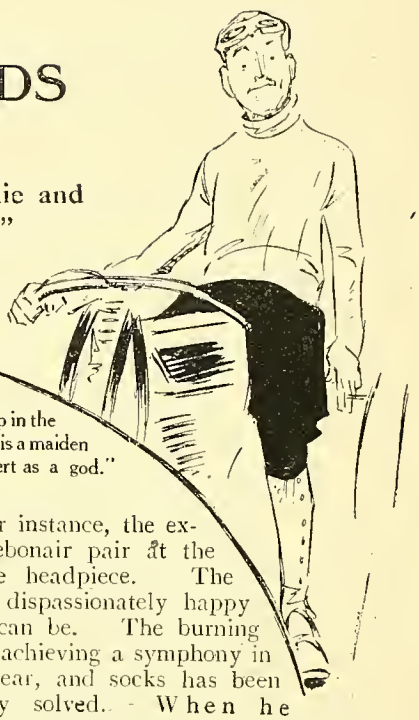
JUNE 23rd. 4d.

SOME BROOKLANDS TYPES.

Sketched by Helen McKie and analysed by "Ixion."



"The burning problem of achieving a symphony in cap, neckwear, and socks."

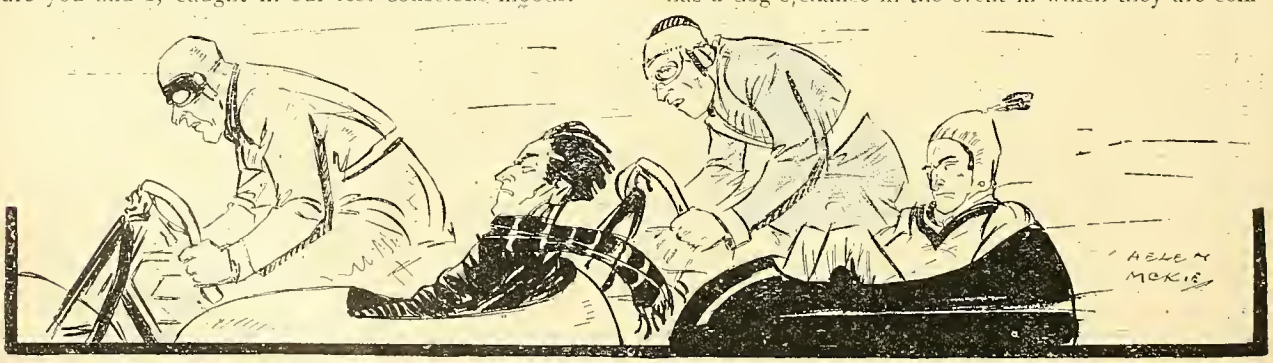


"Somewhere up in the Midlands there is a maiden who regards Bert as a god."

AN artist labours under grievous handicaps at a B.M.C.R.C. meet. Were I clever with my pencil I would ask nothing better than a commission to sketch a B.A.R.C. event. There the car is the thing; the driver's head is the only part of him that shows, and you indicate it as a pimple with a few tailing wind lines on the top of a black mass mistily suggested in the front of a cyclone. But a stripped motor bicycle is a perfectly beastly thing to draw, especially when it is speeding, and the exposed driver constitutes about seven-tenths of the apparition. Moreover, it goes much too fast. Your only hope would be to get a $\frac{1}{2000}$th sec. snap with a reflex camera close up, and then make the photograph the basis of your drawing. Moreover, until the last meeting, the authorities kept us in the paddock, and as the distant riders circled round the gigantic track, they looked as devoid of detail as a midge on a lofty ceiling. So Helen McKie, womanlike, turns up her nose at the unintelligible racing, and concentrates her attention on the paddock. You will therefore go to her in vain for impressions of Emerson slogging away at the hour record, or Judd beating "ninety" on a Norton, or the big Indians banging the flying kilo. into unrecognisable pulp. But her paddock types are more interesting than the speed wizards, just because they are typical. They are you and I, caught in our less conscious moods.

Take, for instance, the excessively debonair pair at the left of the headpiece. The knut is as dispassionately happy as a knut can be. The burning problem of achieving a symphony in cap, neckwear, and socks has been triumphantly solved. When he arrived at the track there was only one fly in the ointment. He had but £1 in ready money, his tank was almost empty, and there was the question of supper for his fairy. The card told him that Bridgman had got 2m. 12s. start in an 8½ mile race. He chanced to know that Bridgman is the Indian secretary. He found a bookie who was unaware of this significant fact. The £1 is well and truly on at "tens." So his temporary financial anxieties are soothed. His companion? Any girl can place her. At least three well-dressed, good-looking, and youthful men are peeping at her with keen interest. She knows that her attire is brand new, tasteful, and creaseless. In the immediate neighbourhood there are several girls making mental notes of her get-up. "Paradise enow," as the immortal Khayyam says.

Miss McKie, as befits an innocent girl, probably did not grasp the inward significance of the two sidecar outfits, which she has depicted racing almost abreast. But her honest pencil has nevertheless fully revealed the facts. Quite obviously, neither of them has a dog's chance in the event in which they are com-



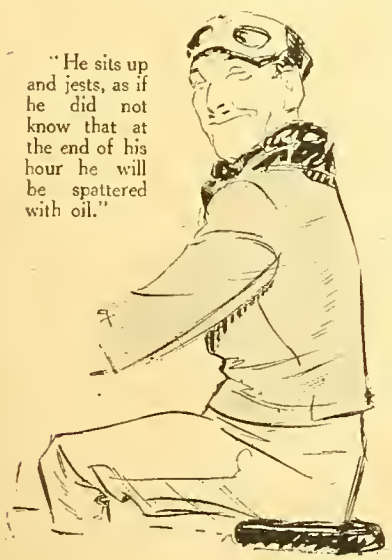
"Quite obviously, neither of them has a dog's chance in the event in which they are competing."

Some Brooklands Types.—

peting. The front pair innocently entered with every intention of annexing a gold cup, and will be sorely puzzled in the course of the next lap to know why the field is roaring past them so contemptuously. They are green at the game. The driver does not realise that his nose should be a foot lower; that his back should be horizontal instead of at 45°; that his 'bus is much too standard and hopelessly undertuned; and that his sidecar is more adapted to conveying a *petite* flapper than to minimising wind resistance. His passenger is wholly ignorant of the fact that wind resistance increases as the square of the velocity. Next year, if he is still racing, he will have bought a sidecar shaped like a guillemot's egg; he will cut his hair ("prison crop"); he will remove his scarf; and he will burrow down into the chair. At present this verdant green pair are in process of disillusionment, and will snarl out some pungent remarks about shamateurs and factory support when the race is over. The pair who are overhauling them belong to the clever fraternity. Cute Mr. Ebblewhite handicapped them out of victory at the last meeting, and at present they are not out for blood. No! They are merely working up their time allowances by dint of ignominious defeats. Note the sardonic eye which both of them are cocking sideways. They are ready to flatten right down if they perceive an official studying them. The sidecar man is manfully butting his head into the wind and thereby knocking at least 5 m.p.h. off their speed. The driver has his head well up, and his incurved "tummy" is a regular wind trap. Let either of them spot Loughborough or any other knowing steward with his eye on them, and the pair will horizontalise themselves so that the outfit will accelerate ten miles an hour in a tenth of a second. Probably their manœuvres will escape notice; they will get an extra thirty-nine seconds start at the next meeting; then they will employ some person to put a tenner on them at outsiders' price; the consequent proceedings will be convivial to a degree.



". . . wears a leather helmet with ear rolls and goggle attachment, even when he is dismounted."



"He sits up and jests, as if he did not know that at the end of his hour he will be spattered with oil."

At the right of my title piece you will perceive an unmistakable character. He is a factory mechanic, and he is a favourite. To his left front is a serried battalion of press photographers, lining up their cameras. They have not asked him, studio wise, "to look pleasant." Pressmen never demand the impossible. Somewhere up in the Midlands there is a maiden called Amelia who regards Bert as a god. This is Bert's most godlike pose. Miss McKie's rather pitiless sketch of him will be carefully cut out of *The Motor Cycle* next Thursday morning and pinned up over Amelia's dressing table. For the rest Bert is really rather a somebody. He is an expert tuner, and a magnificent rider. Out of that rather ugly 2 cwt. of metal he is shortly going to coax about 5 m.p.h. more than any of his rivals can command. He is going to risk his skinny little neck to earn a little glory for himself, to increase the dividends of his firm's shareholders, and to give the assembled multitude a brief spectacle. He is compounded of superb pluck, extreme dexterity, a specialised intelligence, and a generalised ignorance.

Motor Cyclists of Other Types.

The other three gentlemen are equally typical. The large perspiring person is above all a conventionalist, though he would be remarkably irritated if you told him so. He is a motor cyclist of the knutty type, and as such wears a leather helmet with ear rolls and goggle attachment. Even when he is dismounted. Even on the Brooklands concrete with the thermometer at 100° in the shade. Moreover, he has not so much as removed his Ledux waterproofs. Consequently, he is bathed in perspiration, and, as our artist spotted him, some spectacle has arrested him in the act of mopping his brow. I am in a little doubt as to the nature of the attraction. Probably feminine. I *think* a fairy has glanced at him. He is the kind of fellow who takes every eye for a glad eye.

The perky little fellow on the saddle comes in a different catalogue. He is jealous for the credit of motor cycling. His sympathies go out to those French aristocrats who powdered their periwigs as they emerged from the Bastille on the last sad journey to where Madame Guillotine awaited them.

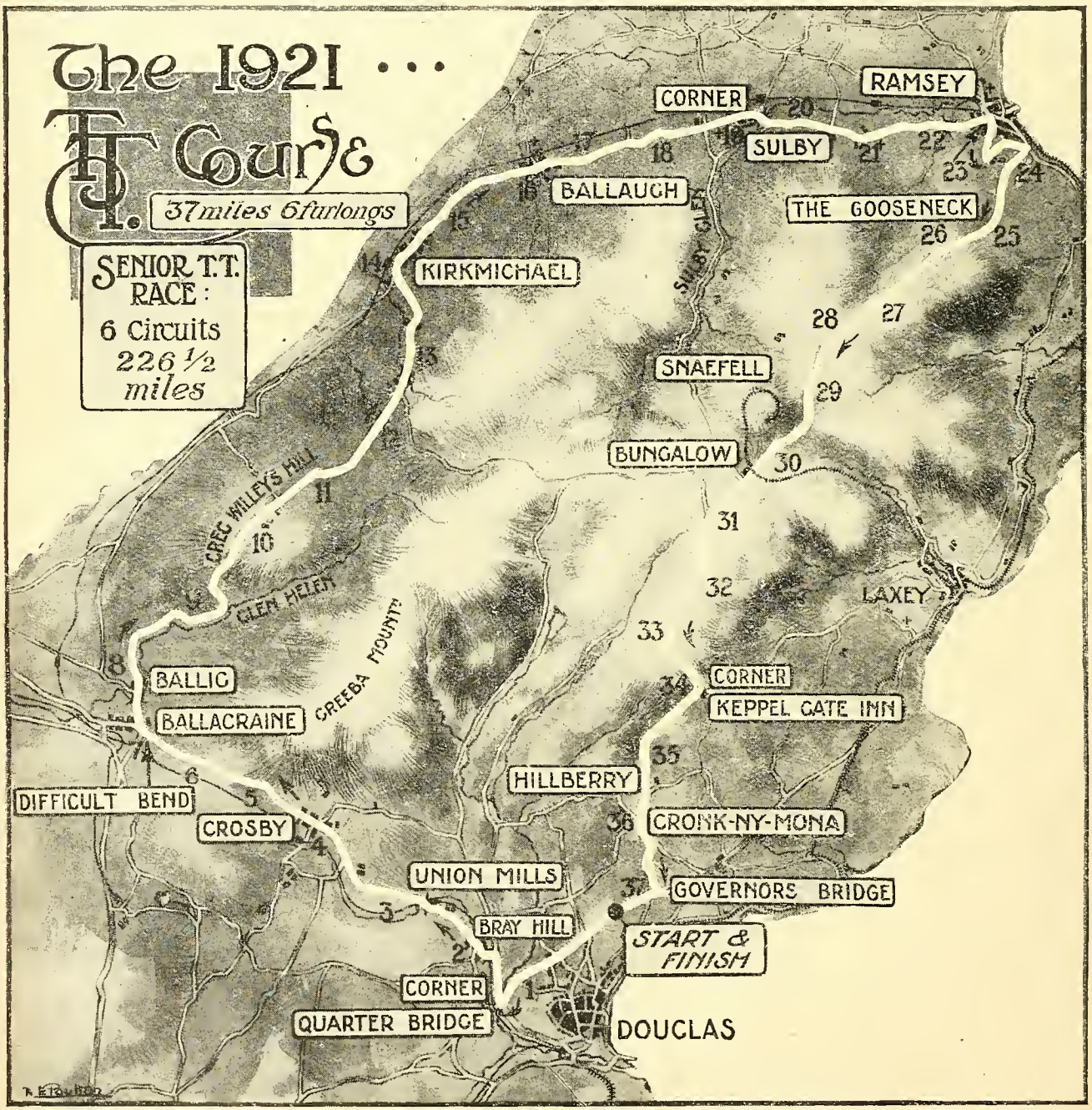


"One of England's last hopes in the 1,000 c.c. class . . plucky amateurs who attempt to maintain an unequal struggle."

Some Brooklands Types.—

So he is well-shaven, faultlessly attired, debonair to his finger tips. He sits up and jests, as if he did not know that at the end of his hour race he will be spattered with Castrol from head to foot.

The croucher is the last type on our list. He is one of England's last hopes in the 1,000 c.c. class, and he is burbling down the straight on quarter throttle ready to do battle against Le Vack, Temple, and Davidson on the huge 100 m.p.h. Yankees. We wish him luck. He will need bags of it. He is only an amateur, and his engine is merely a standard touring engine, readied with such skill as he and his local repairer can muster between them. Some day we hope to see a leading British factory consider the 7-9 h.p. racing class more seriously. Till then all honour to the plucky amateurs who attempt to maintain an unequal struggle.



Few thirty-seven mile circuits could be selected in any part of the British Isles which would give greater variety in riding conditions. Acute and dangerous corners are negotiated at Quarter Bridge, Ballacraine, Sulby Bridge, Ramsey, Keppel Gate, and Governor's Bridge. The first ten miles are undulating, but the next ten are almost level, slightly falling grades predominating. Ramsey Hairpin precedes a three-mile climb, which averages 1 in 11, and a slight upward grade follows for a further four miles at an average altitude of 1,500ft. above sea level. Finally come long sweeping descents *via* Keppel Gate, Craig na Baa, and Hilberry, where the highest speeds are accomplished.

C1.4

The Blue Riband of the Motor Cycle World.

Details of To-day's Great Race. Lap Times and Winners of Previous Competitions for the Senior Tourist Trophy.

TO-DAY the classic event of the motor cycle world will be decided. At 9.30 a.m. the first competitor in the Senior Tourist Trophy race will be despatched on his 226 miles race against time. The course is chosen to find out the most desirable features needed in the motor cycle for the man who would ride in ease and comfort without fear of mechanical trouble, for the racing machine of to-day is the father of the touring mount of to-morrow.

Every motor cyclist in this country and overseas will hope that the best man on the best machine will win, and that the fickle goddess of luck will play but a minor part.

PREVIOUS WINNERS.

1920. T. C. de la Hay, single-cylinder Sunbeam (85×88 mm.=499 c.c.), 51.79 m.p.h.

1914. C. G. Pullin, single-cylinder Rudge (85×88 mm. =499 c.c.), 49.4 m.p.h.

1913. H. O. Wood, 2-cylinder, 2-stroke Scott (69.8×63.5 mm.=486 c.c.), 48.2 m.p.h.

1912. F. A. Applebee, 2-cylinder, 2-stroke Scott (69.8×63.5 mm.=486 c.c.), 48.6 m.p.h.

1911. O. C. Godfrey, 2-cylinder Indian (70×76 mm. =584 c.c.), 47.5 m.p.h.

1910. C. R. Collier, 2-cylinder Matchless (85.5×58 mm.=666 c.c.), 50.6 m.p.h.

1909. H. A. Collier, 2-cylinder Matchless (85×65 mm =738 c.c.), 49.0 m.p.h.

1908. Singles: J. Marshall, Triumph (84×86 mm.= 476 c.c.), 40.4 m.p.h. Twins. H. Reed, Dot (75×75 mm.=662 c.c.), 38.5 m.p.h.

1907. Singles: C. R. Collier, Matchless (85×76 mm. =431 c.c.), 38.5 m.p.h. Twins: H. R. Fowler, Norton (75×75 mm.=662 c.c.), 36.2 m.p.h.

LIMITS OF MOTOR CYCLES IN PREVIOUS SENIOR T.T. RACES.

1907. Singles and twins raced separately. Singles were limited to one gallon of fuel per 90 miles; twins, one gallon for 75 miles.

1908. Singles and twins raced separately. Fuel limits. Singles, one gallon per 100 miles; twins, one gallon per 80 miles.

1909. Fuel limits abandoned. One class only. Capacity limits: 500 c.c. singles, 750 c.c. twins.

1910. One class only. Capacity limits: 500 c.c. singles, 670 c.c. twins.

1911. Capacity limits: 500 c.c. singles, 585 c.c. twins.

1912. Capacity limit, 500 c.c. for all types.

1913. Capacity limit, 500 c.c. for all types.

1914. Capacity limit, 500 c.c. for all types.

1920. Capacity limit, 500 c.c. for all types.

THE TYPES THAT HAVE WON.

1907.—Separate classes for singles and twins.

1908.—Separate classes for singles and twins.

1909.—1st, V twin; 2nd, V twin; 3rd, single.

1910.—1st, V twin; 2nd, V twin; 4th, single.

1911.—1st, V twin; 2nd, V twin; 3rd, V twin.

1912.—1st, twin 2-stroke; 2nd, single; 3rd, V twin.

1913.—1st, twin 2-stroke; 2nd, single; 3rd, V twin.

1914.—1st, single; 2nd, single and twin tied; 3rd, V twin.

1920.—1st, single; 2nd, single; 3rd, single.

SOME DETAILS OF THE 1920 RACE.

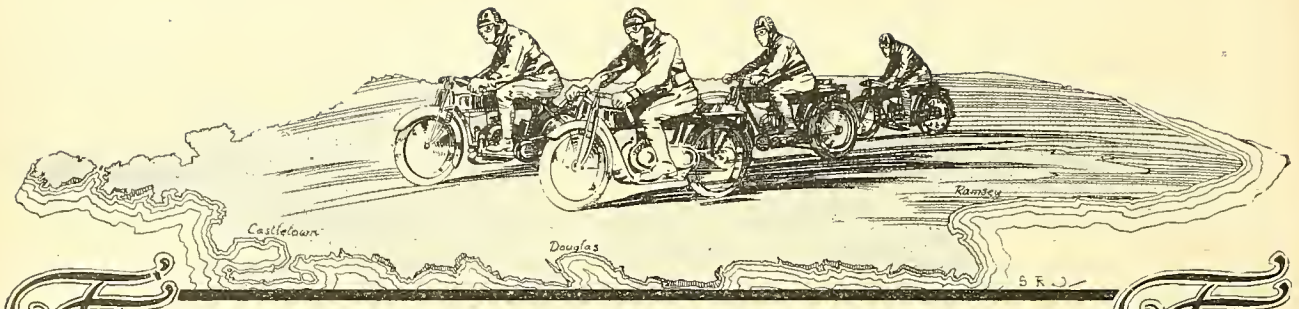
The winner's lap times:
1st, 44m. 6s. | 2nd, 44m. 58s. | 3rd, 45m. 7s.
4th, 43m. 16s. | 5th, 43m. 43s. | 6th, 44m. 56s.
Total: 4h. 22m. 23s. Average speed: 51.79 m.p.h.
Fastest lap of any competitor: G. Dance (3½ Sunbeam), 40m. 43s.=55.62 m.p.h. (record).

DATE AND TIME OF START: 9.30 a.m., Thursday, June 16th, 1921.
DISTANCE: Six circuits of 37¾ miles. Total distance, 226 miles 4 furlongs.
PRIZES: 1st, The Senior Tourist Trophy to be held for one year, £50 in cash and special gold medal; 2nd, £25; 3rd, £15.
TEAM PRIZE: To be won by a nominated team, who must all finish the course within 30 minutes of the winner.

TABULATED LIST OF 68 ENTRIES FOR TO-DAY'S SENIOR T.T. RACE.

52 Four-stroke Singles. 9 Four-stroke Twins. 6 Two-stroke Twins. 1 Two-stroke Single.

	Entrant.	Driver.	Make and H.P.	No. of Cyl.	Bore and Stroke.	Cubic Capacity.	Size of Tyres.
					mm.	c.c.	in. or mm.
1	John Marston, Ltd.	T. C. de la Hay	3½ Sunbeam	1	85 × 88	499	26×2¾
2	A. J. Stevens & Co. (1914), Ltd.	H. R. Davies	2¾ A.J.S.	1	71 × 81	349	26×2¼
3	Triumph Cycle Co., Ltd.	C. Sgonina	3½ Triumph	1	80.5× 98	498.78	26×3
4	Frank Whitworth, Ltd.	A. Jones	3 Ivy	1	75 × 79	348	26×2¾
5	G. A. Vandervell	Entrant	3½ Norton	1	79 ×100	490	26×
6	Eric Williams, Ltd.	Entrant	3½ Sunbeam	1	85 × 88	499	26×2½
7	Douglas Motors, Ltd.	J. Emerson	3½ Douglas	2	68 × 68	494	650×65
8	Norton Motors, Ltd.	D. Brown	3½ Norton	1	79 ×100	490	26×2¼
9	John Marston, Ltd.	A. Bennett	3½ Sunbeam	1	85 × 88	499	26×2¾
10	Scott Motor Cycle Co., Ltd.	C. P. Wood	3½ Scott	2	70 × 63.5	486	26×2½
11	B.S.A. Cycles, Ltd.	A. E. Taylor	3½ B.S.A.	1	85 × 88	499	650×65
12	W. H. Wells	H. R. Harveyson	3½ Indian	1	79.3×100.8	498.8	28×2½
13	R. Carey	Entrant	1 Blackburne	1	85 × 88	499	26×2¾
14	Triumph Cycle Co. Ltd.	F. C. Townshend	3½ Triumph	1	80.5× 98	498.78	26×3
15	Scott Motor Cycle Co., Ltd.	J. W. Moffat	3½ Scott	2	70 ×63.5	486	26×2½
16	J. O. Groves	Entrant	3½ Rudge	1	85 × 88	499	650×65
17	Vivian Olsson	Entrant	3½ Sunbeam	1	85 × 88	499	26×2¾
18	A. Pattioson	Entrant	3½ Triumph	1	80.5× 98	498.78	26×3
19	Norton Motors, Ltd.	N. C. Sclater	3½ Norton	1	79 ×100	490	650×65
20	Ilkley Motor Cycle & L.C.C.	G. Clapham	3½ Scott	2	70 ×63.5	486	26×2½
21	James Cycle Co., Ltd	G. Strange	3½ James	2	64 × 77	496	26×2¾
22	B.S.A. Cycles, Ltd.	F. C. North	3½ B.S.A.	1	85 × 88	499	650×65
23	T. Mallon	Entrant	3½ Sunbeam	1	85 × 88	499	26×2¾
24	Norton Motors, Ltd.	H. Hassall	3½ Norton	1	79 ×100	490	26×2¼
25	New Rover Cycle Co., Ltd.	R. Elliott	3½ Rover	1	85 × 88	499	26×3
26	Scott Motor Cycle Co., Ltd.	H. Langman	3½ Scott	2	70 ×63.5	486	26×2½
27	M. Edmunds	Entrant	3½ Triumph	1	80.5× 98	498.78	26×3
28	Scott Motor Cycle Co., Ltd.	R. W. Stanfield	3½ Scott	2	70 × 63.5	486	26×2½
29	Triumph Cycle Co., Ltd.	G. J. Sheman	3½ Triumph	1	80.5× 98	498.78	26×3
30	John Marston, Ltd.	W. R. Brown	3½ Sunbeam	1	85 × 88	499	26×2¾
31	Norton Motors, Ltd.	J. W. Shaw	3½ Norton	1	79 ×100	490	26×2¼
32	W. H. Wells	H. Le Vack	3½ Indian	1	79.3×100.8	498.8	28×2½
33	Wm. Atkinson & Sons, Ltd.	J. Whalley	3½ Sunbeam	1	85 × 88	499	26×2¾
34	Alexander & Co.	D. S. Alexander	3½ Norton	1	79 ×100	490	26×2¼
35	A. G. Miller, Ltd.	O. M. Baldwin	3½ Martin	2	64 × 77	496	26×2½
36	Triumph Cycle Co., Ltd.	S. Gill	3½ Triumph	1	80.5× 98	498.78	26×3
37	Norton Motors, Ltd.	Victor Horsman	3½ Norton	1	79 ×100	490	650×65
38	Douglas Motors, Ltd.	H. Thorpe	3½ Douglas	2	68 × 68	494	650×65
39	B.S.A. Cycles, Ltd.	H. Riddell	3½ B.S.A.	1	85 × 88	499	650×65
40	A. A. Jackson	Entrant	3½ Norton	1	79 ×100	490	26×2¼
41	B.S.A. Cycles, Ltd.	Gus Kuhn	3½ B.S.A.	1	85 × 88	499	650×65
42	B.S.A. Cycles, Ltd.	T. E. Greene	3½ B.S.A.	1	85 × 88	499	650×65
43	H. Minton	Entrant	3½ Norton	1	79 ×100	490	26×2¼
44	W. Hollowell	Entrant	3½ Norton	1	79 ×100	490	26×2¼
45	Douglas Motors, Ltd.	A. H. Alexander	3½ Douglas	2	68 × 68	494	650×65
46	G. Sutcliffe	Entrant	3½ Norton	1	79 ×100	490	26×2¼
47	Reg. Lucas	Entrant	3½ Scott	2	70 × 63.5	486	26×2½
48	Triumph Cycle Co., Ltd.	F. G. Edmond	3½ Triumph	1	80.5× 98	498.78	26×3
49	Eric Longden	Entrant	3½ Coulson	2	64.5× 76	496	26×2½
50	New Rover Cycle Co., Ltd.	F. Collard	3½ Rover	1	85 × 88	499	26×3
51	W. H. Wells	J. Malkow	3½ Indian	1	79.3×100.8	498.8	28×2½
52	New Rover Cycle Co., Ltd.	W. Brandish, Junr.	3½ Rover	1	85 × 86	499	26×3
53	Jack Thomas	Entrant	3½ Norton	1	79 ×100	490	26×2¼
54	R. J. Braid	Entrant	3½ Triumph	1	80.5× 98	498.78	26×3
55	W. Royle	Entrant	3½ Norton	1	79 ×100	490	26×2¼
56	B.S.A. Cycles, Ltd.	T. Simister	3½ B.S.A.	1	85 ×88	499	650×65
57	James Cycle Co., Ltd.	J. Lidstone	3½ James	2	64 × 77	496	26×2¾
58	James Cycle Co., Ltd.	G. E. Stobart	3½ James	2	64 × 77	496	26×2¾
59	A. J. Stevens & Co. (1914), Ltd.	O. Wade	2¾ A.J.S.	1	74 × 81	349	26×2¼
60	Triumph Cycle Co., Ltd.	J.A.Watson-Bourne	3½ Triumph	1	80.5× 98	498.78	26×3
61	H. B. Mylchreest	T. M. Sheard	3½ Sunbeam	1	85 × 88	499	26×2¾
62	L. Mitchell	Entrant	3½ Norton	1	79 ×100	490	26×2¼
63	Tommy Thompson	Entrant	3½ Douglas	2	68 × 68	494	26×2½
64	Victor Horsman, Ltd.	W. H. Hadfield	3½ Norton	1	79 ×100	490	26×2¼
65	W. H. Wells	F. W. Dixon	3½ Indian	1	79.3×100	498	28×2½
66	Burney & Blackburne, Ltd.	E. Remington	4 Blackburne	1	85 × 88	499	26×2¾
67	John Marston, Ltd.	G. Dance	3½ Sunbeam	1	85 × 88	499	26×2¾
68	Burney & Blackburne, Ltd.	E. Smith	4 Blackburne	1	85 × 88	499	26×2¾



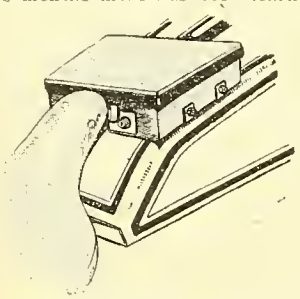
T.T. NOTES AND NEWS.

Summary of the Practising for To-day's Senior Race.

PRACTISING for the Tourist Trophy races was concluded on Monday of this week. The Junior competitors almost immediately handed in their machines for the preliminary inspection, the Senior riders submitting their mounts for the same purpose yesterday (Wednesday).

* * *

In viewing the practising each morning, one was greatly impressed by the improvement in the majority of machines since the last event. Mechanical troubles were surprisingly few, and were chiefly of only a minor character. Every day it was apparent that during the past twelve months more has been learned re-



Toolbag with armoured lid to fit the top tube on the Nortons.

garding engine design and weight distribution than in any similar preceding period.

* * *

There is little of the experimental in this year's race; yet most of the machines are entirely new to the public. There has been less of the last-minute decisions, and more evidence of a long pre-determined programme brought to a successful conclusion. Optimism reigns in every Island garage—optimism which in some cases is fully justified, in others borders on egotism. One can fully understand it. The best brains of each factory have, for nearly twelve months, been concentrated upon producing a motor cycle to win this race, and in most cases the speeds aimed at have been attained, and the expected stamina has been achieved. The difference between the winning machine and the others probably will be that the designers of the former aimed a little higher, for opinions are not unanimous regarding the maximum speed limit of the course.

* * *

Governor's Bridge, being handy to Douglas, was a popular spot for spectators in the early mornings of last week, but the hairpin is so sharp that it is impossible to negotiate it at speed, and those who attempted to take it fast usually took longer over the business than the steadier riders. Quite the prettiest performance in the practising at this spot was made by Tim Wood, who was accompanying Clapham on a Scott-Squirrel. The latter came rather too wide, and had to brake hard to avoid the wall. Meanwhile, Wood dropped neatly round on the inside, and the pair accelerated with a roar, rounding the second bend side by side. Many are disappointed that H. O. (Tim) Wood is not competing in to-day's race, as he is undoubtedly one of the finest riders in the Island. His win in 1913 is still remembered.

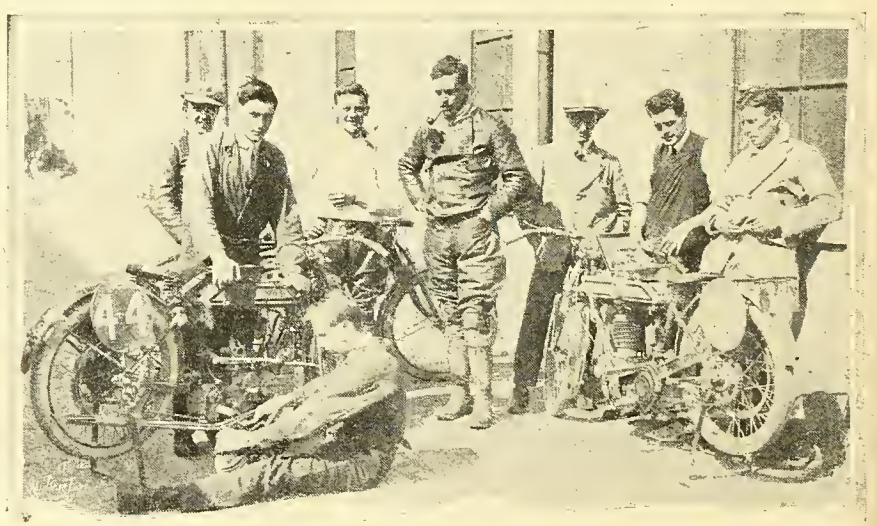
Several firms in both Junior and Senior events ran "dark" in practice. Their usual custom was to time from some particular point on the course and stop or slow down before the official finishing point. Others merely drove fast enough to learn the course, keeping a considerable reserve in hand. This custom made the estimation of form more uncertain than ever.

* * *

Some of the best cornering has been done by "Duggie" Brown (Norton), G. Dance ($3\frac{1}{2}$ Sunbeam), Denley ($2\frac{1}{4}$ Velocette), last year's winner, T. C. de la Hay ($3\frac{1}{2}$ Sunbeam), F. C. North ($3\frac{1}{2}$ B.S.A.), V. Ollson ($3\frac{1}{2}$ Sunbeam), and, of course, the Scott riders.

* * *

The new Scott retains the distinctive exhaust note which once heard is never forgotten. Expanding and spur gears are operated by separate pedals, and it is amusing to watch the process of changing gears on corners. Nevertheless, the results are most satisfactory and the Scott will start as one of the favourites.



Some of the Norton contingent. Very consistentwork on the course has been achieved by the riders.



A scene at the New Imperial garage in the Isle of Man.

Graham Walker is in charge of the Norton No. 2 team, and is optimistic as to the chances of some of his *protégés*.

* * *

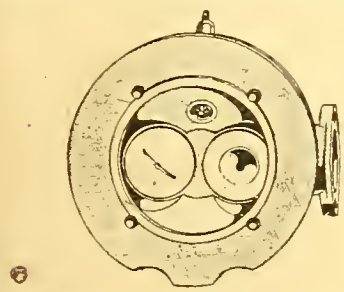
The popularity of the 250 c.c. machine increases. There were three times the number of competitors for *The Motor Cycle* Cup this year than in the 1920 race.

* * *

Owing to the coal strike, Massey-Arran were unable to complete their new frames which were to have embodied several striking features.

* * *

F. C. North (B.S.A.) has had a curious accident. In attempting to operate the oil pedal his foot slipped to the ground in front of the footrest. As a result he twisted his ankle, breaking a small bone. Happily he has progressed favourably, and was expected to ride to-day.



Underside of B.S.A. cylinder head, showing arrangement of valves and plug.

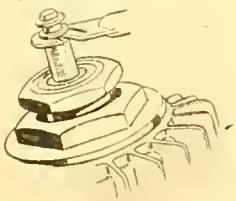
Noel H. Brown, the well-known Liverpool rider, will probably take the place of J. Malkow in the Indian team. The former put in two very useful laps within twelve hours of his arrival on the Island. Experience does count!

* * *

The Manx Motor Cycle Club did yeoman service throughout the practising. Keen members attended danger spots at 4 a.m. daily and swept the course before competitors arrived. In case of a fall both man and machine were removed from the fairway almost before they came to rest.

A.C.U. porters to assist in the removal of motor cycles from the boat are much appreciated; their only fault is—their scarcity.

* * *



Anderson quartz plug on Dixon's Indian. The explosion flame can be seen through the quartz top.

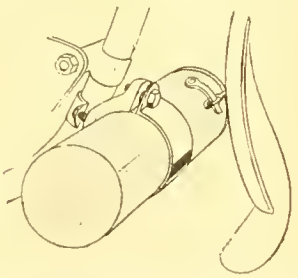
Unless J. O. Groves, the private owner Rudge entrant, starts there will be no belt-driven machine in the Senior race.

* * *

Rumour has it that one of the best known Senior riders averaged over 100 m.p.g. in practice, and that he can do the whole course without a refill.

* * *

A most interesting competitor for *The Motor Cycle* trophy was the Sun Vitesse lightweight. A rich mixture is drawn into the crank case *via* a rotary disc valve driven by the crankshaft. In addition air is drawn in through the normal inlet port,



The Indian tool-box consists of a metal case fixed to the loop frame immediately behind the front mudguard.

a control being arranged at this point. A Moss foot-operated three-speed gear is fitted.

* * *

There have been some complaints with regard to the state of the course, which is bumpy in places and loose in others. On the whole, however, it is not bad.

* * *

The Triumph riders have been taking things quietly. Nevertheless, Shemans has been timed from Ramsey to lap in 43m. 30s. (over 52 m.p.h.), and he was not really pushing his mount. On one occasion Sgonina finished a practice spin with a bad dent in his rear rim, but had not the faintest idea where the trouble had occurred.

* * *

The road at Keppel Gate was repaired during the practising period, and the new patch of tarmac made a considerable improvement.

* * *

Clapham (Scott), the Ilkley Club's nomination, and Jackson (Norton) come from the same district, and have a private match on. It is rumoured that they care not who wins the T.T. provided the match is settled to their satisfaction.



In the Rover stable. G. L. White, in the white jersey is one of the reserve riders.

T.T. Notes and News.—

A souvenir booklet, containing the history and results of the T.T. races from 1907 to 1921—the latter to be filled in, of course, on the blank pages provided—is being distributed by the Scott Motor Cycle Co., Ltd. There is a neat touch on the final page, which is devoted to "Personal Particulars." Against the space for insertion of "make of machine," an asterisk indicates the pertinent footnote, "If not Scott, why not?"

* * *

It is claimed that about 80% of the machines in both races are fitted with Brooks saddles. As the saddle becomes quite an important item after 200 miles at 50 m.p.h., this is an excellent testimony to the excellence of the two special models which J. B. Brooks and Co., Ltd., market for racing machines.

* * *

Entrants might, if they so desired, choose and supply their own racing colours. This provision was not very fully taken advantage of; probably the majority had too much to think about otherwise. Those who decided on racing under distinctive colours were as follows:

DOUGLAS.—Blue and white with white sleeves.

INDIAN.—Red.

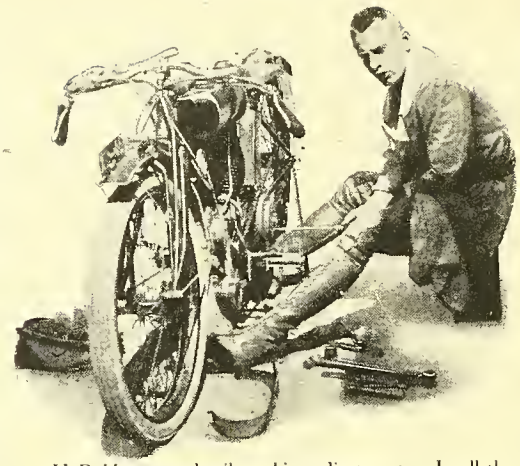
A.J.S.—Black and gold; gold cuffs, gold diamonds back and front.

EDMUND.—All white.

B.S.A.—Cream and green, vertical half and half.

JAMES.—Brown and gold: gold sleeves.

ERIC WILLIAMS, LTD.—Royal blue and gold.



H. R. Harveyson busily making adjustments. In all the garages both the riders and mechanics have taken the utmost pains with every part of the machines, knowing full well that the final result is often decided by attention or inattention to an insignificant detail

R. CAREY.—Light blue and dark blue (vertical, half and half); crest on pocket.

SUNBEAM.—Black and gold.

* * *

One of the most consistent cornerists is V. Ollson (3½ Sunbeam). Hassall (3½ Norton), on the other hand, gets round much faster, but relies on his brakes a good deal for corner work.

* * *

If all accounts are true, the present-day machines, even those of externally conventional design, have left behind the products of 1914. Even a side-by-side valve 250 c.c. Hobart-Jap was claimed to do practice laps at 47 m.p.h.

The Triumph side-by-side valve machines are badly handicapped by the absence of G. E. Stanley, the state of whose health prevents him taking charge of the new engine.

* * *

Several riders have fitted the new Easting handle-bar screen.

* * *

The 3½ h.p. twin James machines, which, by the way, are the standard type as sold to the public for several years past, seem to have excellent acceleration powers.

* * *

Several of the Nortons have Webb expanding front brakes, and O'Donovan has arranged separate levers so as to obtain both hand and foot gear control. Mitchell, a private entry, has put in much good work on his Norton, and has accomplished some useful lap times.

* * *

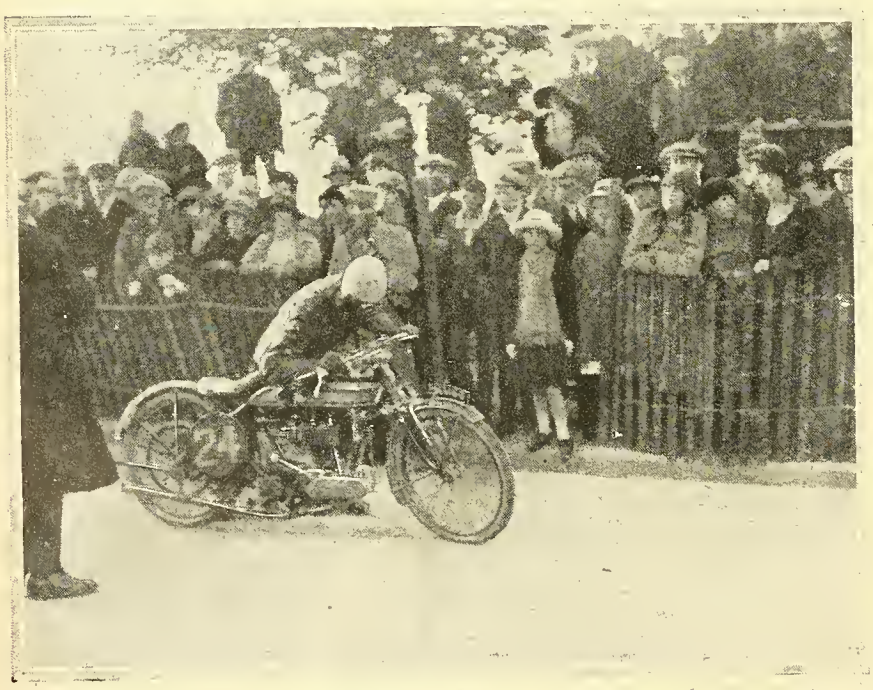
The Scott Squirrels are very much fancied; they are very fast, and corner as only Scotts can corner. Incidentally, they are practically the standard sporting mounts as sold to the public.

TIME AND SPEED ON THE T.T. COURSE.

Time per lap at speeds from 40 to 60 m.p.h.

40	*m.p.h.*	*56 min.*	*38 secs.*
41	*„*	*55 „*	*15 „*
42	*„*	*53 „*	*56 „*
43	*„*	*52 „*	*41 „*
44	*„*	*51 „*	*29 „*
45	*„*	*50 „*	*20 „*
46	*„*	*49 „*	*14 „*
47	*„*	*48 „*	*12 „*
48	*„*	*47 „*	*11 „*
49	*„*	*46 „*	*14 „*
50	*„*	*45 „*	*18 „*
51	*„*	*44 „*	*25 „*
52	*„*	*43 „*	*34 „*
53	*„*	*42 „*	*44 „*
54	*„*	*41 „*	*57 „*
55	*„*	*41 „*	*11 „*
56	*„*	*40 „*	*27 „*
57	*„*	*39 „*	*44 „*
58	*„*	*39 „*	*3 „*
59	*„*	*38 „*	*23 „*
60	*„*	*37 „*	*45 „*

Record lap, George Dance (3½ Sunbeam), 1929. Speed 55.62 m.p.h. Time 40 min. 43 sec.



Last week we mentioned the "little maids from school," whose enthusiasm runs so high. Here they are in the early morning hours, watching their favourites during practising. The Norton rider is H. Hassall.

Some of the best practice times were recorded fully a week before the races. Most of the riders endeavoured to get an idea of their capabilities in one "all out" lap and then conserved their energies. Unfortunately, they often tried to camouflage their true times. The following list is fairly informative, however:

	m. s.	m. s.	m. s.
De la Hay (Sunbeam) ..	44 5		
H. R. Davies (2¾ A.J.S.) ..	43 30	43 35	43 0
D. Brown (Norton)	48 39	46 4	
A. Bennett (Sunbeam) ..	42 35	42 40	
H. Hassall (Norton)	42 13		
H. Le Vack (Indian) ..	42 58	42 40	
J. Whalley (Sunbeam) ..	44 45	45 48	47 38
D. S. Alexander (Norton) ..	47 30	45 53	
F. W. Dixon (Indian) ..	43 15	43 50	41 35

Dixon's last time is equivalent to a speed of 54.5 m.p.h., and is nearing Geo. Dance's record lap made in the race last year of 55.6 m.p.h.

THE AUTO-CYCLE UNION GIVES VALUE FOR MONEY.

isation. It was shown at the annual general meeting of the Auto-Cycle Union that the governing body had worked at a loss during the last financial year, and while we should have liked to have seen a better financial position, it is gratifying to know that the Union spends its income instead of husbanding money which has been collected from riders. The administrative charges of the Auto-Cycle Union are small because so much of the work is honorary, and motor cyclists can realise from the financial statement of the Union that they are getting very good value for their subscription fees. It is the policy of the A.C.U. to spend its income on the movement which it controls. Last year the Tourist Trophy Races were run at a loss, and I daresay a number of other competitions cost the Union money, but that did not stop them from arranging a comprehensive programme for the forthcoming season. The Union just does not exist for profits, and if it piled up a nice little amount as a result of a particularly successful year, well, we could reckon on getting even greater advantages for our annual subscription during the next year. It seems to me that an organisation which lays no claim to a big holding in gilt-edged securities is either an unsuccessful body or else that it spends its income, and if, as in the case of the A.C.U., the latter obtains and the spending is done in the interests of motor cyclists, then we ought to congratulate ourselves on the fact that the balance sheet shows a loss.

Lawrence H. Cade, in "The Clarion."
25-3-21.

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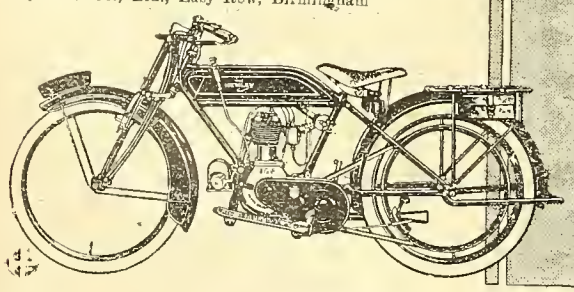
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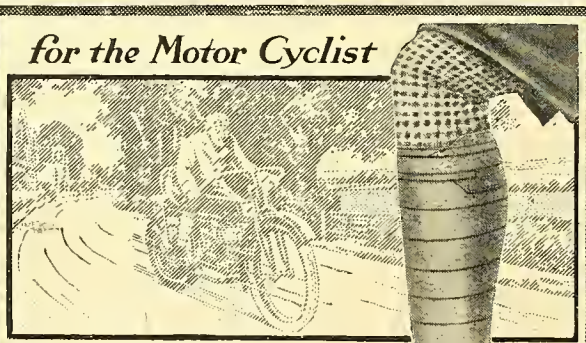
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FOX'S F.I.P. PUTTEES

I.T. Notes and News.—

Styles of cornering differ very widely, and, though many take the easier bends leaning out, almost every rider leans in on the really bad corners. At Quarter Bridge, for instance, there was no single exception to this rule during Friday's practice.

* * *

The practice of putting out a foot when cornering may be said to have disappeared. Only one instance has been noticed during the preliminary laps.

* * *

All Blackburne engined machines have been doing well in practice. To begin with, their riders took the course steadily, but later on lap times improved rapidly.

* * *

Perhaps the Ivy machines are as near to standard as anything on the course. A larger tank is almost the only modification.

* * *

Why should not the tourist be afforded the convenience of foot or handle-bar controlled oil pumps? Practically every machine in the T.T. is fitted with one or other system, and yet 99% of present-day touring machines lack this refinement.

* * *

B.S.A.'s have found some improvement in steering by the substitution of 26×3in. tyres for 650×65 mm. on the front wheel only; while Triumphs have been testing 3in. tyres all round.

* * *

The new T.T. Scotts are very fast, and can corner in true Scott style; the angle at which the machine leans over is terrifying to onlookers. B.S.A.'s also can be tilted to an extraordinary degree, but not quite so much as the Scotts.



F. W. Dixon will be a formidable competitor on his single-cylinder Indian. Very fast lap times have been made by him during practice.



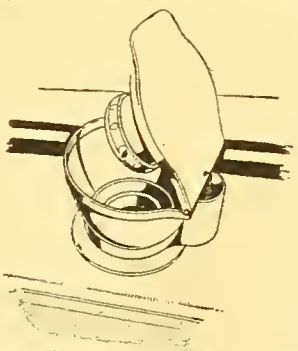
Victor Horsman, the Liverpool Norton rider, who has a splendid record for successes in track events, reliability trials, and the T.T. Liverpool expects him to take home the Trophy.

* * *

Friday's gale made a wonderful difference to the number of spectators, and the grandstand was almost empty. At Quarter Bridge also spectators could have been counted on the fingers.

* * *

A few entrants still had qualifying laps to complete on Friday.



Combined filler cap and funnel designed by S. L. Bailey for the Douglas T.T. machines

* * *

A strong wind down the mountain on Saturday morning caused several riders to overshoot Craig-na-Baa corner. In spite of one or two spills, no serious damage was done.

* * *

Graham Walker's engine had a mysterious accident during Friday night, both valves being hammered inwards at the base. If anyone had been tampering with the machine with a view to putting it out of the race he was disappointed, for Walker was out with the same engine on the following day.

Douglas filled up rapidly towards the end of last week. The approach of the races makes a great difference to the numbers in the town.

* * *

Last week Rovers changed their engines over into new frames, and are very pleased with the results. The new frame is lower, and has improved the team's corner work.

* * *

Isle of Man sheep are by way of being acrobats, but the one that jumped a wall in front of Douglas Alexander will never do it again. This rider had a narrow escape, and travelled nearly seventy-five yards with a buckled rear wheel after the impact.

* * *

A very noticeable improvement has been made in riding during the past few days. Several men new to the course are now cornering like old hands.

* * *

A practice lap of 47m. 4s. is no mean performance for a 250 c.c. engine. Nevertheless, Savage accomplished this feat on a little Hobart on Friday last.

* * *

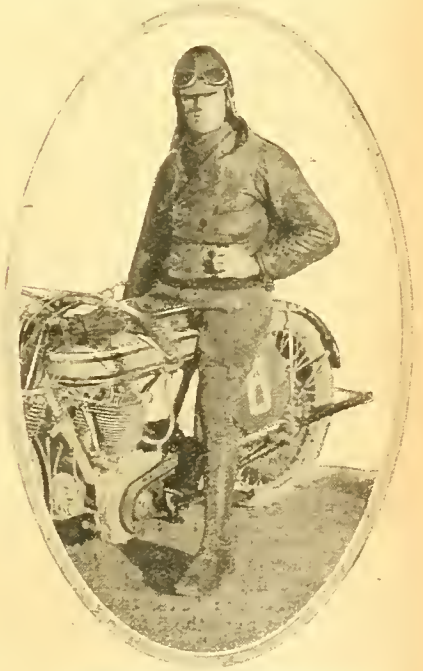
Dust has troubled the riders very considerably during practice, and the sharp grit and small stones on the mountain roads have been responsible for many tyre troubles.

* * *

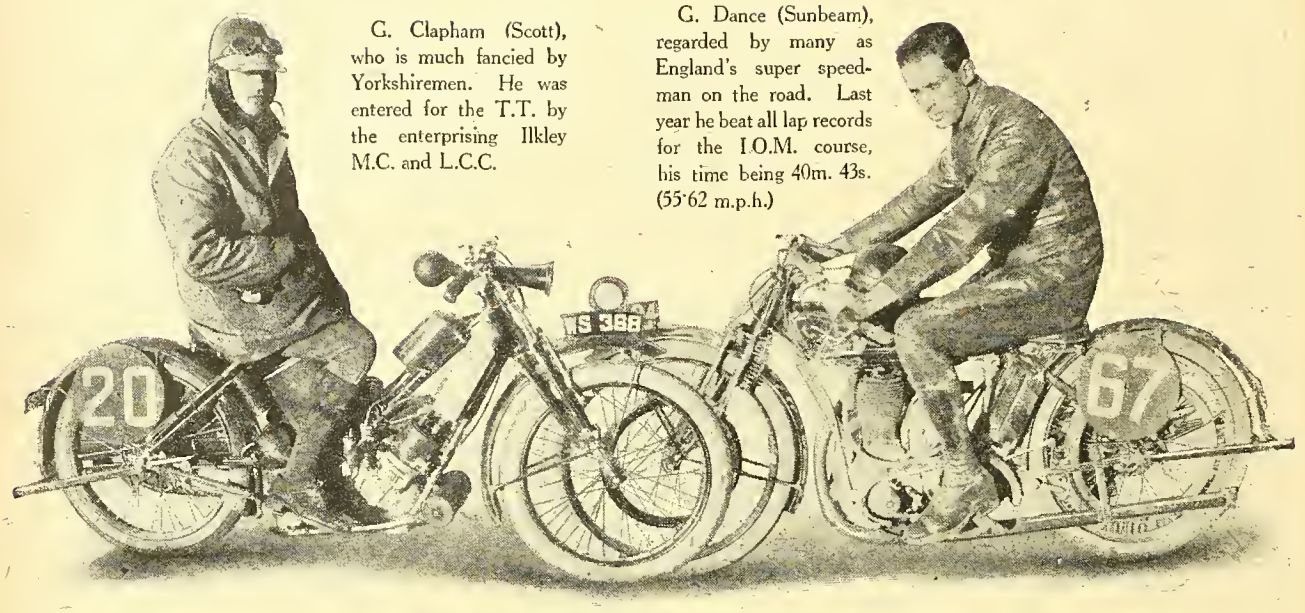
After D. Alexander's accident with a sheep—George Dance brought him into Ramsey (from Sulby) on the tank of his T.T. Sunbeam. Though duly grateful, Alexander feels happier in the more orthodox position!

* * *

Saturday's practice was taken very easily by most of the riders, the great majority of whom have qualified. Some of the A.J.S. men for Tuesday's race, however, were averaging 45m. for the lap.



L. Mitchell (Norton), a daring rider, well known to spectators at Northern hill climbs.



G. Clapham (Scott), who is much fancied by Yorkshiremen. He was entered for the T.T. by the enterprising Ilkley M.C. and L.C.C.

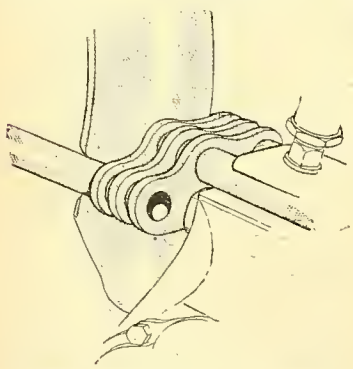
G. Dance (Sunbeam), regarded by many as England's super speed-man on the road. Last year he beat all lap records for the I.O.M. course, his time being 40m. 43s. (55·62 m.p.h.)

CORNERING IN PRACTICE.

NOTHING deceives the eye more easily than speed corner work. A man who rides quietly and creates no impression of speed may, and probably does, get round quicker than he who crashes up to a bend, puts on his brakes, dry-skids, and disappears in a cloud of dust amidst the cheers of the spectators.

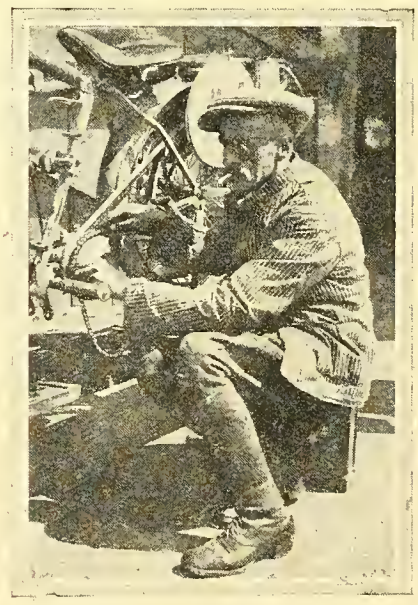
Perhaps the best exponent of the art of cornering in the Isle of Man is George Dance, yet he seldom appears to corner fast, except when he passes with another competitor. His stable mate (and last year's winner), T. C. de la Hay, is rather more showy, but a first-class hand. Bennett, another Sunbeam rider, is also good—in fact, there is hardly a weak spot in the Sunbeam camp.

Amongst the Indian entry, Le Vack and Dixon form a sharp contrast. The former, though he corners fast, gives little impression of speed, while the latter appears even faster than he is!



Ingenious steel plate bottom bracket on the T.T. Dot.

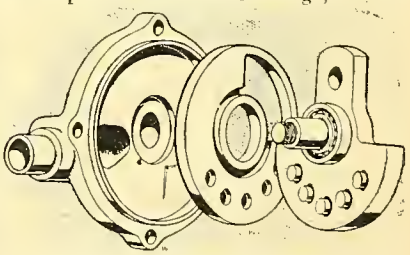
Scotts have a method of cornering of their own, for the low centre of gravity permits the machine to be heeled over to apparently impossible angles; but, though they are probably the best machines for cornering in the world, the sharp scream of the engine increases the effect of speed to a considerable degree. As an instance, one morning a Triumph, apparently rather high-geared, came down the mountain towards Hilberry at a very moderate speed, as far as the eye received the impression. It was followed at an interval by a Scott with the high, sharp crackle of a well-tuned trembler coil. The first machine attracted little notice on the bend, but a visible thrill passed through the spectators as the Scott flashed by. Yet the distance between the two was not decreased when the pair passed out of sight towards Signpost Corner.



The "father" of British competition riders. F. W. (Pa) Applebee, the oldest competitor in the races. As last year, his mount in the 250 c.c. class in the Junior race was a Levis, a machine on which he is very much "at home."

H. Hassall is a wonderful rider. He approaches even such corners as Quarter-bridge at a terrific speed, and relies on his brakes to an almost unprecedented degree; yet the marvel of his cornering lies in the fact that, even though the rear wheel be locked suddenly, he does not skid all over the road, but maintains a comparatively even curve throughout.

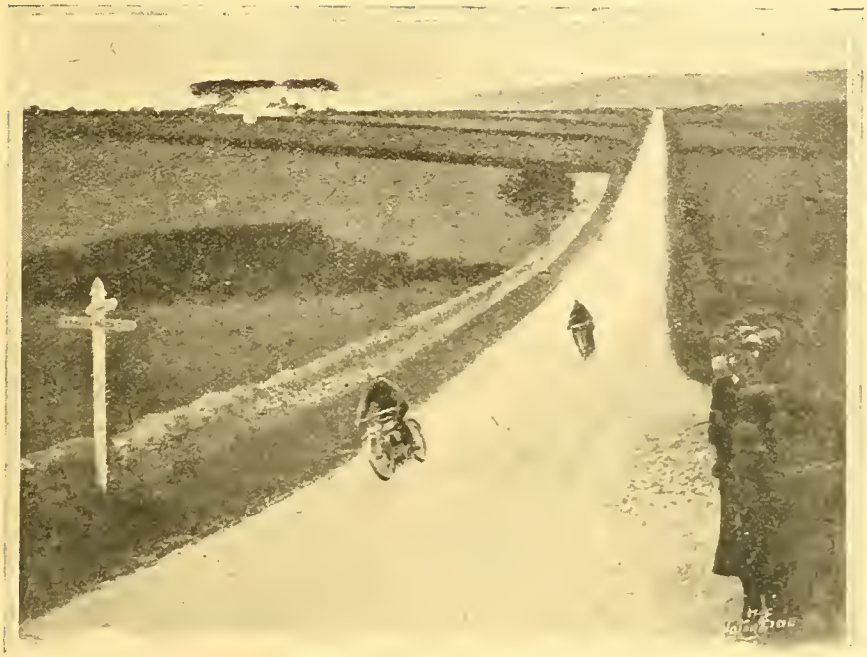
Dixon, for instance, will take Signpost leaning in on one morning, and on the next day he will whizz round Ballacraine leaning out. This entrant is one of the most versatile riders in the race; he appears to be immensely strong and active, and on one occasion, in the case of a spill at Governor's Bridge, he had picked up the machine and was in the saddle almost before one had realised that he was off.



Details of the rotary valve fitted to the Sun-Vitesse two-stroke. (Left) Crank case endplate. (Middle) Disc valve. (Right) Loose end of crank pin. Note the five pegs for driving valve disc.

During the early practice there was a lot of untidy work by newcomers to the course, who almost invariably attempt to get round too fast, and either "pile up" or make a very slow turn in disgraceful style. This sort of thing wears off with practice, and is quickly shown by the improvement in lap times.

The brothers Wood are, perhaps, the finest exponents of the Scott clan, and



A scene at Hilberry corner during practising in the early hours. Two Senior riders about to take the bend after a run down the fast straight stretch.

when Tim conducts his team round the course he attracts more attention by his clean cornering than most of the actual competitors. Clapham is new to the course, and yet on his second lap he took Hilberry at a speed which can seldom have been bettered and with never a flicker of the wheel track.

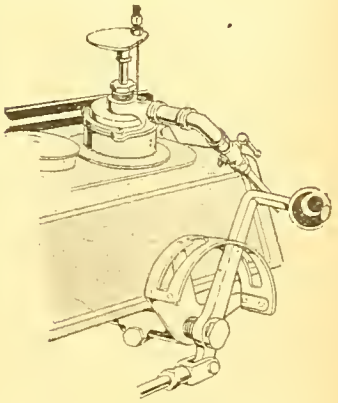
B.S.A.'s were largely designed for corner work, and, though not quite perfect, they more than make up in acceleration the little they lose in steering. Such old hands as Duggie Brown, the Alexanders, Noel Brown, Ollson, Horsman, and others of that ilk seldom make a mistake, though they are not often singled out by the unlearned spectator as star performers.

THE FINAL DAY'S PRACTICE.

MONDAY morning, the last day's practising, revealed nothing of particular interest. Most of the riders simply toured round the course. Stanfield (Scott) fell, and although his machine was wrecked he was little hurt.

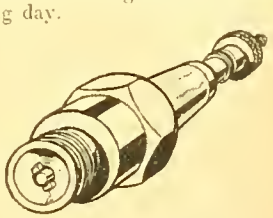
The weather was fine, but there were slight showers on the mountain road. Best laps were made by:

	m.	s.
De la Hay (Sunbeam)	43	45
L. Mitchell (Norton)	43	20



Gate quadrant for three-speed lightweight Burman gear box, and h.b. controlled oil pump on Massey-Arran.

The roads were much improved by the recent rain, and if the weather holds will be in excellent condition for both races. On Monday the Junior competitors handed in their machines for sealing in readiness for the great contest on the following day.



A Sphinx plug with copper wire electrode and corrugated internal insulation to prevent shorting by carbon deposit.

SUMMARY OF THE PRACTISING.

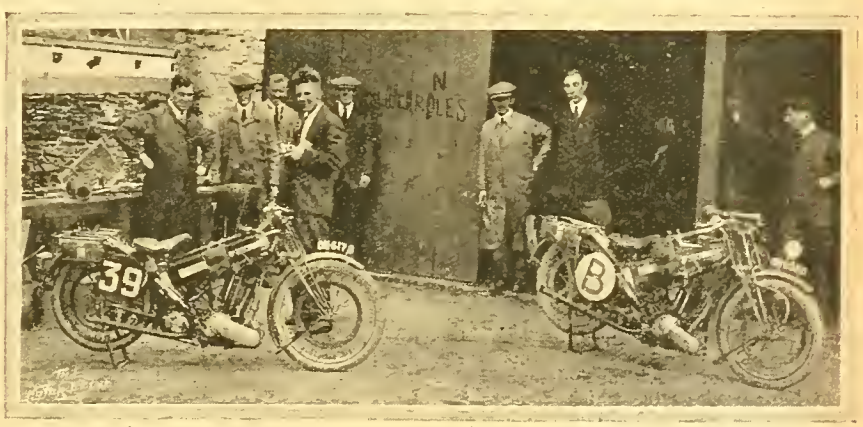
Impressions on the Eve of the Races. Senior Riders' "Form."

THAT there are rosy chances of anyone winning, and a feeling that it is anybody's race until the winner actually crosses the finishing line, is the impression gleaned as a result of an eleventh hour run round the depots at the beginning of this week.

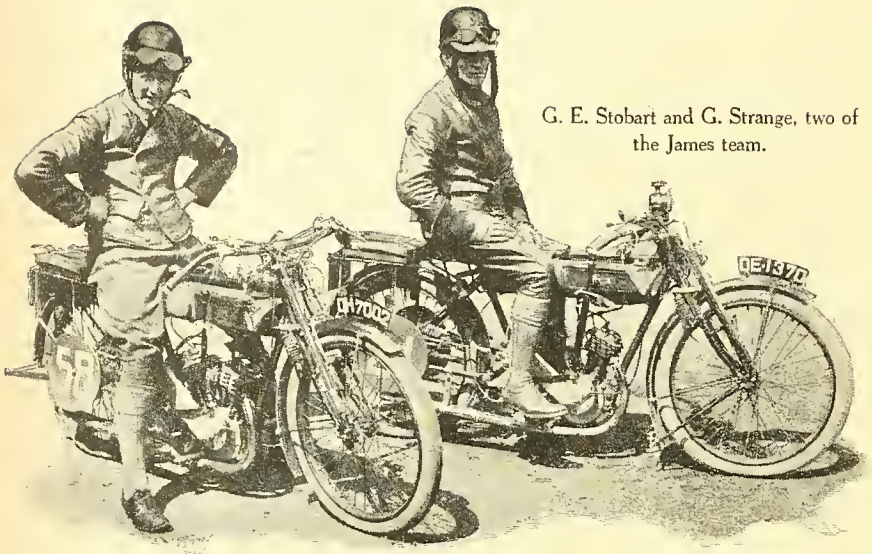
This tour proved distinctly interesting, for one saw competitors putting final touches to their machines, many of them quietly confident of success.

The fact that the motor cycle industry is so strongly represented this year, lends added importance to the race. Certainly no expense is being spared by the army of trade representatives in the Island in looking after the interests of the riders, their machines, and particularly their equipments. Depots are established at Ramsey, Peel, and Douglas, and, at these, riders and mechanics are busy with the final overhaul of their mounts.

Trouble has not been entirely absent. For instance, aluminium pistons have proved a source of worry, and new ones of different alloy have in some cases eased the riders' minds, particularly of those who use 4¼ to 1 gears. Most of the machines are fitted with tanks which are capable of holding over three gallons of



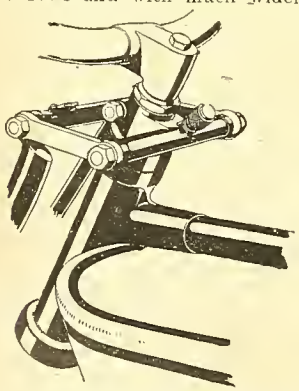
Men and machines at the B.S.A. depot. The striking design of the B.S.A.'s for the T.T. has caused comment wherever seen.



G. E. Stobart and G. Strange, two of the James team.

petrol and a gallon of oil. The use of such a tank will entail only one stop for replenishments.

The Triumph camp is in two sections—one concerned with the side-by-side valve machines, and the other with the now famous "hush-hush" Ricardo engined mounts. The latter type is faster; but the whole camp impresses one by its quiet confidence. All the Triumph riders are well content with the workmanlike two-speed gears, particularly with their behaviour on the mountain road. It is interesting to note that whereas the side valve machines have a hand-operated change-speed gear, the four-valve Triumphs have foot control for the change-speed mechanism. We observed that Druid forks had been fitted, and that the tyres also had been changed for the race. Most of these machines have new Dunlop flat base rims with staggered spokes, set in two rows and with much wider hubs



The new Norton head lug embodies extra large ball races, a single head clip with central handle-bar fixing, and a single greaser for the rear fork spindle.

than usual. Three-inch Dunlop Magnums are fitted on the rear wheels of the side valve model.

The Scotts, of which much is expected, have four-speed gears, which appears to give them a great advantage, and their corner work and acceleration is an "eye opener." Geoffrey Clapham and Clarence Wood are undoubtedly favourites amongst the Scott team. Incidentally, Wood is actually using 700×80 mm. Palmer tyres on the rear wheel.

In all the Ramsey camps, however, one hears much about the wonderful speed of the Indians, and particularly of Dixon's three whirlwind laps, which he got in during the morning's practice—an exceptional achievement during the limited time available.

Dark Horses?

At Peel we saw the O.H.V. Martin-M.A.G. undergoing its final test for fitness. These machines are sure to do well.

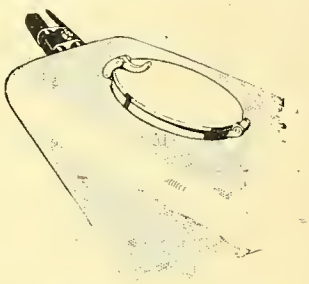
Excepting Eric Longden's Coulson-Jap, the James machines are the only other make in the Senior race with V twin engines. Strange, Lidstone, and Stobart, the James team, are all seasoned riders, and their consistently fast but steady lapping should put them well in the running for the team prize. Their mounts, too, appear to possess excellent accelerative powers.

Douglas claims the biggest percentage of competitors, for Nortons, Douglases, Sunbeams, Indians, and Rovers are quartered there. Amongst most of the riders the feeling prevails that the published practice times are no criterion, and that much bluffing as to speeds has occurred. Some riders have been in the habit of stopping on the course two or three times, and then continuing. All this indicates that several dark horses, of 80 m.p.h. calibre, exist, and records are practically sure to be broken.

If the day is fine, Hassall and "Duggie" Brown (Nortons) will be the most favoured men, but Sunbeam enthusiasts point to de la Hay, George Dance, Reg. Brown, and Eric Williams, and ask how can these be beaten.

The Indians' seasoned riders such as Le Vack, Harveyson, and Dixon, whose speeds have undoubtedly improved each day, have created a splendid last minute impression, whereby everybody's calculations have been upset.

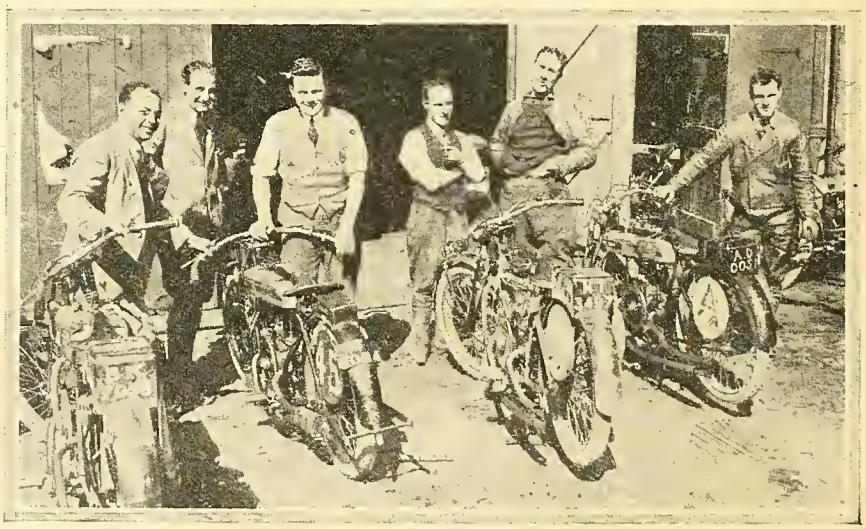
Thus, with such a representative and magnificent lot of riders, it is clear that the race is very open, and a win by any-



An enormous filler cap occupies the front end of the Scott tank.

one of ten men would occasion no surprise to experienced judges who have followed the practice form throughout.

Incidentally, Mr. Alec Ross soon got busy with his annual fund in aid of the Douglas hospitals, and at the beginning of the week already counted upon raising at least £100.



Smiles at the Douglas Garage. S. L. Bailey, on the extreme left, is pleased with the work that the "boys" have accomplished during the practising.

The Junior Tourist Trophy Race



AT CRAIG-NA-BAA CORNER

Eric Williams, on a 2¾ h.p. A.J.S., wins the Junior Tourist Trophy at 52 m.p.h.; H. R. Davies (2¾ h.p. A.J.S.) second; T. M. Sheard (2¾ h.p. A.J.S.) third. 2¼ h.p. New Imperial-Jap Four-stroke, ridden by D. G. Prentice, gains "The Motor Cycle" Cup. A.J.S. Riders awarded the Team Prize.

LAP AND TOTAL DISTANCE RECORDS BEATEN.

TUESDAY'S race for the Junior Tourist Trophy was strenuously fought out, and, as was expected, record speeds were attained. But for mist on Snaefell, the weather was ideal and the organisation excellent. A sweeping success was scored by the single-cylinder overhead-valved A.J.S. machines, which occupied first four places at the finish. Eric Williams, who won in 1914, again achieved victory, averaging 52 m.p.h., actually a greater speed than was made by the winner of last year's Senior race. Bad luck robbed James Whalley (who rode a Massey-Arran with a Blackburne engine, instead of Oates) of the leading position during the last few miles of a most strenuous race.

Successful Overhead Valve Engines.

The mountain stretch is always fraught with possibilities; this year was no exception.

Though A.J.S. machines were expected to win, no one anticipated such a runaway victory. Whalley's ill-fortune, which dropped him to fifth place, was a matter of general regret, for his handling of his machine was admirable. Douglases were confidently expected to give the A.J.S. men a close race, but they failed to live up to expectations.

The 1921 Junior Race in a Nutshell.

Starters—Sixty-five.

Completed the course—Thirty-eight.

Winner:

Eric Williams (2¾ A.J.S.)
3h. 37m. 23s. Average speed 52 m.p.h.

Second:

H. R. Davies (2¾ A.J.S.)
3h. 41m. 10s.

Third:

T. M. Sheard (2¾ A.J.S.)
3h. 41m. 19s.

250 c.c. class for "The Motor Cycle" Cup.

D. G. Prentice (2¼ New Imperial-Jap)
4h. 12m. 37s. Speed 44.9 m.p.h.

Fastest Lap.

H. R. Davies (2¾ A.J.S.)

Club Team Prize.—Wo cester.

Overhead valves were used by the first six riders. The J.A.P. engine on Howarth's Dot, which finished seventh, had side-by-side valves. Prentice on the 250 c.c. New Imperial-Jap was tenth, winning *The Motor Cycle* Cup at a speed of 45 m.p.h. To the Levis belongs the honour of the first two-stroke home; Davison was twelfth in the general classification.

Thirty-eight of the sixty-five starters finished the race.

Off!

Alfred H. Alexander (2¾ Douglas), who was enthusiastically cheered, probably made the best and speediest start, the distinctive note of his exhaust varying as he changed up through his four gears. The ovation accorded "Pa" Applebee (2¼ Levis), however, was even more vigorous.

It soon became patent to all that the race was going to be the fastest of any Junior event. Senior speeds were being attained by the speediest men, so there was a certain amount of overtaking even in the first two or three miles. Within the first seven miles Fairweather (Blackburne) quickly passed three of the 250 c.c. machines — Edwards (2¼ Levis), Savage (2¼ Hobart), and one of the Ivys.

The Junior Tourist Trophy Race.—

Alexander (Douglas), Davies (A.J.S.), and Harris (A.J.S.) also overhauled three or four riders before Ballacraine. Brown (New Scale), the first man away, succeeded in retaining his position, but on the next lap was caught by Fairweather before reaching Ballacraine.

At Ramsey different styles of cornering were witnessed. Even on the first lap Miller (Martin) took the hairpin in a very wide sweep. Whalley's cornering appeared clumsy at first sight, but he got round at good speed; this also applies to his performance at the other corners, where he invariably used his feet to steady himself. Several times there was considerable excitement on the Snaefell bends, when two or three competitors arrived in a bunch, but sportsmanship prevailed, and the men considered one another. Lord (Hobart), Newman (Ivy), and Young (Blackburne) formed one group at the hairpin, but the last-named got ahead by superior acceleration. Norris (Sun-Vitesse) got into the gutter, but made a good recovery. The magnificent riding of Davies was wonderful to watch on such corners as the Ramsey hairpin.

In the meantime, Whalley (Massey-Arran) was creeping up, and indicating that a win by a dark horse was not improbable. Harris and Davies were steadily gaining long before Ramsey was reached. At Craig-na-baa, Whalley had so increased his lead that it was apparent that all previous Junior records would be beaten, but all the A.J.S. machines were hot on his track, and were overtaking as many as a dozen men who had started before them. It occasioned no surprise, therefore, when it was known that Davies had made best time at a speed of 54.6 m.p.h. for the first lap, with his colleagues second, fourth, fifth, and sixth. Davies was only 46s. slower than Dance's record lap in the Senior race last year.

ERIC WILLIAMS, THE WINNER ON A 2¾ H.P. A.J.S.





Junior Tourist Trophy.

To win a hotly-contested race in 1914, and then again in 1921, is Eric Williams's record. Incidentally, he won the D.C.M. in 1914, and is a very successful rider in reliability trials. He won the Junior race on Tuesday in the record time of 3h. 37m. 23s., a speed of 52 m.p.h.

First Lap Times.

		m.	s.
1.	H. R. Davies (2¾ A.J.S.)	41	29
2.	H. F. Harris (2¾ A.J.S.)	42	19
3.	J. Whalley (2¾ Massey-Arran)	42	47
4.	G. Kelly (2¾ A.J.S.)	43	53
	E. Williams (2¾ A.J.S.)	44	0
	T. M. Sheard (2¾ A.J.S.)	44	15
	C. W. Fairweather (2¾ Blackburne)	45	55
	O. Wade (2¾ A.J.S.)	46	12
	R. Lucas (2¾ Coulson)	46	20
	D. Young (2¾ Blackburne)	46	34
	A. H. Alexander (2¾ Douglas)	46	35
	H. Thorpe (2¾ Douglas)	46	36

Sulby Bridge provided the usual quota of thrills. Savage (Hobart) was among those who, approaching it too fast and dry skidding, fell, narrowly escaping being run over by two A.J.S. riders following close on his heels.

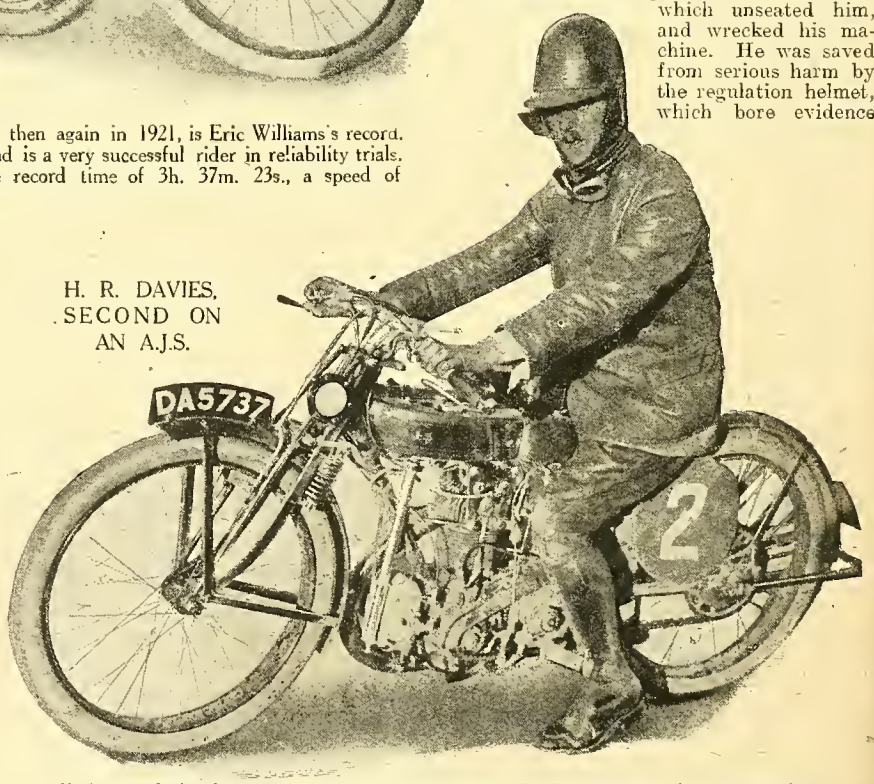
Albert Milner (Levis) was unfortunate. His number was 13, and on the first lap he sheared a sprocket key, and retired.

Brockbank (Brock-Blackburne) seized his engine at Governor's Bridge, and pushed his machine to his depot to retire. One of the cylinders of A. Alexander's Douglas was misfiring when passing the grandstand at the end of the first lap. Shortly after Ballig Bridge he ran on to the grass, and hit a stone, which unseated him, and wrecked his machine. He was saved from serious harm by the regulation helmet, which bore evidence



T. M. Sheard has ridden in every T.T. race since 1913. On Tuesday he was third on an A.J.S.

H. R. DAVIES, SECOND ON AN A.J.S.



If the race had only been six laps instead of five, H. R. Davies might have regained the leading position. As it was, he led in the first lap, was unplaced in the intervening circuits, but finished second, and only 3m. 47s. behind the winner.

The Junior Tourist Trophy Race—

of how he had fallen, and skidded along the ground on his head. His brother, J. R., on a sister mount, arrived at the depot with a broken rocker, and retired. However, he reconsidered his decision after replacing the broken part.

The weather, which had promised well at the start, became overcast, and on the mountain mist so bad was it that it was impossible to see 100 yards ahead. This naturally slowed competitors somewhat. Notwithstanding this, A.J.S. machines managed to come within a minute of their first lap times; in fact, Kelly was only 4s. slower, and Harris actually 5s. than their first laps.

The riders were now steadying down to a hard race, and took bends and bridges with greater care. Some evidence of the strain upon tyres and brakes imposed by the race was present in the very noticeable smell of burning rubber after each bunch of competitors had negotiated the sharper bends.

Cautious Covering.

After Craig-na-baa the cornering was not particularly spectacular. Riders approached cautiously, and accelerated immediately. Of a bunch of six riders who came round together, Prentice (New Imperial-Jap), winner of *The Motor Cycle* Cup, made easily the best performance. As was suggested might be the case by the fast times for the first lap, mechanical troubles became more prevalent on the second circuit. Horton, who had completed a circuit in 46m. 40s. on his 250 c.c. New Imperial-Jap, Eve (Martin), and J. Weatherell (R.W. Scout), dropped out through various causes at Sulby Bridge. The front brake of Olsson's A.J.S. came adrift, and he was thrown, fortunately without injury.

Second Lap Times.

		h.	m.	s.
1.	H. F. Harris (2¾ A.J.S.)	1	24	33
2.	J. Whalley (2¾ Massey-Arran)	1	25	35
3.	E. Williams (2¾ A.J.S.)	1	27	38
4.	G. Kelly (2¾ A.J.S.)	1	27	50
	T. M. Sheard (2¾ A.J.S.)	1	29	23
	C. W. Fairweather (2¾ Blackburne)	1	32	4
	O. Wade (2¾ A.J.S.)	1	32	36
	L. Horton (New Imperial-Jap)	1	33	0
	D. Young (2¾ Blackburne)	1	33	21
	J. Emerson (2¾ Douglas)	1	35	6
	H. R. Davies (2¾ A.J.S.)	1	35	35
	R. Carey (2¾ Blackburne)	1	37	25

Davies passed the grandstand on his third lap after some delay, though his engine had the same healthy crackle. It subsequently transpired that his front tyre had punctured, which dropped him back to the eleventh position. The leader, Harris, too, suffered delay, letting Whalley into first place. There was a buzz of excitement at this unexpected development.

The Alexanders' luck was certainly out, for "Duggie," on a twin Coulson, ran out of petrol at Craig-na-baa, and had to retire. Fairweather, who had been doing so well on his Blackburne, fell on the mountain during his third lap, but was not seriously hurt. After resting at the Bungalow he continued. Craig-na-baa and Hilberry Corner were favourite vantage points, and two successful methods of cornering were adopted. Some kept on the outside of the road till close to the Corner, then cut across close in; others cut in earlier. At Hilberry there is a bad bump, which lifted some riders out of the saddle. Harrison (Velocette) was extraordinarily neat; he did not cut out, but kept close to the Corner, maintaining high speed throughout. Humphreys, on a similar machine, was as good. Davies kept close in, and left the saddle on hitting the bump; nevertheless, he appeared fastest.

In the 250 c.c. race for *The Motor Cycle* Cup, the little J.A.P. four-strokes were going great guns, notably Prentice's New Imperial, which lapped in 49m. 40s.; Black's Omega, 49m. 53s.; and Boulton's New Imperial, 50m. 41s. Prentice actually enjoyed a non-stop run; and the two-strokes, at first, seemed quite out of it for speed, although Davison (Levis) and Harrison (Velocette) were running very consistently, whilst the Ivy machines always created good impressions as they sped past the stand.

Third Lap Times.

		h.	m.	s.
1.	J. Whalley (2¾ Massey-Arran)	2	11	16
2.	E. Williams (2¾ A.J.S.)	2	11	58
3.	T. M. Sheard (2¾ A.J.S.)	2	14	11
4.	G. Kelly (2¾ A.J.S.)	2	15	15
	H. R. Davies (2¾ A.J.S.)	2	17	55
	O. Wade (2¾ A.J.S.)	2	22	8
	D. Young (2¾ Blackburne)	2	23	18
	R. Carey (2¾ Blackburne)	2	27	10
	W. Howarth (2¾ Dot)	2	28	38
	D. G. Prentice (2¼ New Imperial-Jap)	2	30	35
	S. A. Newman (3 Ivy)	2	40	51
	D. S. Davison (2¼ Levis)	2	32	17

The telephone announced that Pugh had retired with a broken magneto spindle. Magnificent riding gave Davies the fifth position at the end of the third lap, so he was still to be reckoned with. Wade, Young, and Carey came next in order. Prentice had climbed to tenth position, and Davison (Levis) to twelfth.

With so many A.J.S. men as runners-up, it was clear that any untoward happening to Whalley would ensure another Wolverhampton victory. The slow Douglas laps robbed the event of much interest; their 2¾ h.p. engines in 3½ h.p. frames made a total weight of over 280 lb., a distinct handicap.

Booming of engines and the strains of a string band at the stand formed strange mixtures. A lap in 42m. 51s. gave Williams (A.J.S.) the lead at the end of four laps, with 68s. advantage over Whalley's Massey-Arran.

Fourth Lap Times.

		h.	m.	s.
1.	E. Williams (2¾ A.J.S.)	2	54	49
2.	J. Whalley (2¾ Massey-Arran)	2	55	57
3.	T. M. Sheard (2¾ A.J.S.)	2	57	31
4.	H. R. Davies (2¾ A.J.S.)	3	0	6
	G. Kelly (2¾ A.J.S.)	3	1	46
	O. Wade (2¾ A.J.S.)	3	10	6
	D. Young (2¾ Blackburne)	3	10	8
	W. Howarth (2¾ Dot)	3	16	2
	R. Carey (2¾ Blackburne)	3	19	36
	D. G. Prentice (2¼ New Imperial-Jap)	3	20	25
	S. A. Newman (3 Ivy)	3	20	56
	G. S. Davison (2¼ Levis)	3	22	52



D. G. Prentice, on the 2¼ h.p. New Imperial-Jap, with which he won *The Motor Cycle* Cup, thus securing this honour, which was gained last year by a two-stroke, for a four-stroke. His time was 4h. 12m. 37s



G. S. Davison (2¼ Levis) was second in the keenly contested 250 c.c. class. Last year a Levis won *The Motor Cycle* Cup.

Williams stopped for replenishments rather than risk another lap, and was told he was among the first three. Having speed in hand, he whisked off again in less than a minute. Davies and Kelly also changed places, but Wade and Young, riding very consistently, maintained their positions.

The spectators eagerly followed their times, recorded on the score-board, for their starting order was maintained right round to Craig-na-baa, when No. 23 was signalled. At that point, it seemed that Whalley might prove the winner by a few seconds, but his supporters were crestfallen as the precious minutes rolled by with no signs of the Massey-Arran rider. Cinema men formed a line to record his achievement.

Whalley's Hard Luck.

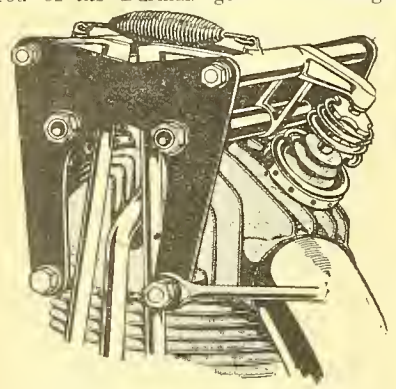
Whalley had to finish over 14½m. ahead of Williams. As the latter carried No. 52, watches were consulted, but it was soon clear something had happened, for, instead of Whalley appearing round the corner from Governor's Bridge, Williams dashed along a winner, and Whalley was not even in sight. When he did appear, it was evident that he was in trouble, for he cruised slowly round the bend with his rear tyre off the rim and steering an unsteady course. He told us his tyre had suddenly deflated at Windy Corner, five and a half miles from the finish, which unfortunate incident robbed him of a place among the first three.

Notwithstanding, he finished fifth, after a most plucky ride, and received a magnificent ovation.

The Junior Tourist Trophy Race.—

The Massey-Arran ran with clocklike regularity until the misfortune, the overhead valve Blackburne engine proving as healthy on its last circuit as at the start.

When Whalley fell the change-speed rod of his Burman gear was damaged

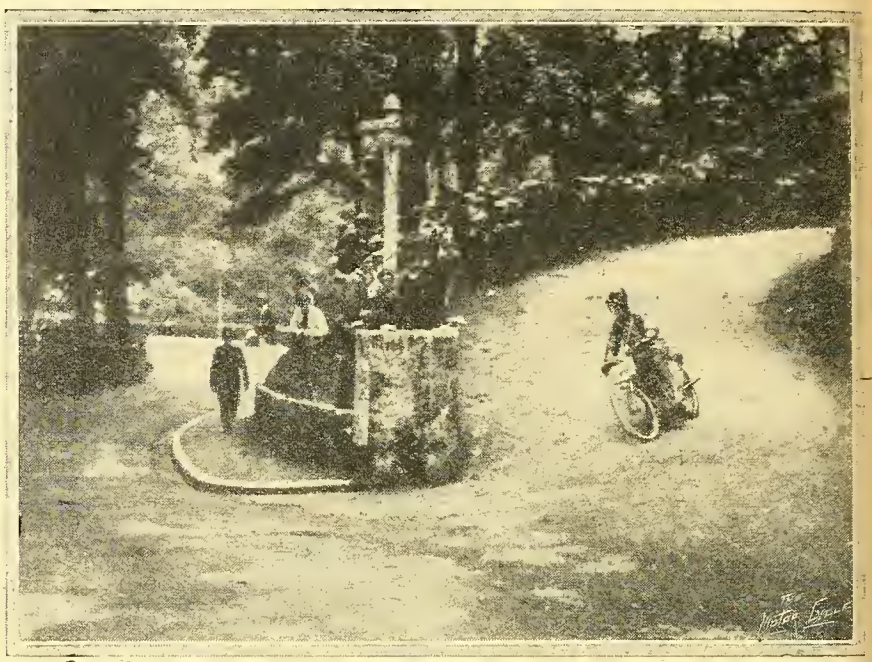


A.J.S. overhead valve gear, showing cooling ribs on head and valve guides.

and his exhaust pipe knocked adrift. Pulling himself together, his nose bleeding profusely as the result of his fall, he remounted, but found his middle gear only operative, so he had a treble handicap. Supporting the exhaust pipe, and with a flat tyre, his progress was slow and difficult to the finish.

Final Positions and Times.

		h.	m.	s.
1.	E. Williams (2¾ A.J.S.)	3	37	23
2.	H. R. Davies (2¾ A.J.S.)	3	41	10
3.	T. M. Sheard (2¾ A.J.S.)	3	41	19
4.	G. Kelly (2¾ A.J.S.)	3	49	22
	J. Whalley (2¾ Massey-Arran)	3	52	39
	O. Wade (2¾ A.J.S.)	3	59	2
	W. Howarth (2¾ Dot)	4	5	14
	H. F. Harris (2¾ A.J.S.)	4	9	0
	R. Carey (2¾ Blackburne)	4	12	14
	D. G. Prentice (2¼ New Imperial-Jap)	4	12	37
	G. S. Davison (2¼ Levis)	4	15	26
	W. G. Harrison (2¼ Velocette)	4	22	33
	F. W. Appleby (2¼ Levis)	4	29	7
	R. Humphreys (2¼ Velocette)	4	31	14
	E. A. Jacob (2¾ Coulson)	4	35	36
	S. A. Newman (3 Ivy)	4	39	28
	A. G. Miller (2¾ Martin)	4	39	59
	W. J. Lord (2¼ Hobart)	4	40	51
	G. Browne (2¾ New Scale)	4	42	4
	J. Emerson (2¾ Douglas)	4	42	43
	G. Denley (2¼ Velocette)	4	44	33
	N. Black (2¼ Omega)	4	48	41
	— Green	4	48	54
	S. F. Haden (2¼ New Comet)	4	50	39
	J. Holroyd (2¾ Massey-Arran)	4	52	19
	A. Jones (3 Ivy)	4	52	34
	G. Kelly (2¾ A.J.S.)	4	57	10
	G. N. Morris (3 Ivy)	4	58	33
	B. Bishop (2¾ Sun-Vitesse)	5	2	49
	J. Joynson (2¾ N.U.T.)	5	3	48
	A. Edwards (3 Levis)	5	8	48
	H. Petty (2¾ Coulson)	5	14	48
	C. Edwards (3 Ivy)	3	15	18
	F. Longman (2¾ Wooler)	5	29	29
	L. Vicary (3 Ivy)	5	30	58
	H. Martin (2 Martin)	5	38	40
	J. R. Alexander (2¾ Douglas)	5	57	54
	G. Jones (2¼ New Hudson)	5	58	2



Although this corner at Governor's Bridge slows even the most daring rider, H. R. Davies (A.J.S.) is not allowing the spectators very much time to admire his excellent corner work!



Another two-stroke was third amongst the "two-fifties." W. G. Harrison (2¼ Velocette) incidentally was a private entrant.

British Pluck.

Such a disappointing termination to a glorious ride has seldom been witnessed, and it seems to be one which qualifies him for the Nisbet award for pluck and endurance. Although, on the other hand, Jones (New Hudson), who was pitched into the river at Sulby, also qualified. He pluckily straightened out his forks, and against the doctor's orders proceeded to finish with the frame badly out of line.

So ended a most strenuous contest.

No trade team qualified for the team prize, but the club prize was won by the Worcester Club. Curiously enough, the Wolverhampton Club had nominated the same team, but the Worcester nomination was first received. The riders were Harris, Williams, and Davies, who all rode A.J.S. machines.

A CHAT WITH THE WINNER.

DURING a chat with the winner just after the race, Eric Williams, whose second win was extremely popular, said that his A.J.S. gave no trouble throughout, and that for three laps he ran on threequarter throttle, opening out for the last two laps. On the third and fourth laps he was considerably hampered by mist on the mountain road. Though he was told he was in the first three he was not aware that he was leading. He confessed that he ought not to have ridden, for, although only twenty-seven years of age, he suffers from rheumatism, and was in bed all Sunday. He rode with his arms swathed in Thermogene and felt very stiff, but finished his remarkable race at over 52 m.p.h. in fresh condition.

Williams fancied Davies as winner, though he regarded Whalley as a dark horse, and only on the previous day was greatly impressed by this rider's practice form.

Williams and Whalley.

Williams overtook Whalley near Signpost Corner on the very last lap. Supplies were taken aboard at the end of the second and fourth laps, but the later replenishment was only a precautionary measure. He saw Alexander's machine by the roadside, and could only wonder as to his fate. The winning A.J.S. had three ratios, viz., 4⅞, 5½, and 8¼ to 1. He was agreeably surprised when he learned of his high average, and was of opinion that very few of the Senior riders will beat it on Thursday. Incidentally, he confidently expected Davies's "2¾" to be in the first six.

Williams's progress in the race is interesting. Fifth in the first round, he was third in the next lap, second at the end of the third lap, and led for the last two laps, winning by 3m. 37s.

Questioned by *The Motor Cycle* regarding the possibility of the 2¾ h.p. A.J.S. being marketed, Mr. G. Stevens replied that the machine had proved so reliable both prior to and during the race that it was highly probable the firm would decide to market such a mount. A definite announcement might be expected shortly, and a decision in favour of such policy will be appreciated by all A.J.S. admirers.

CURRENT CHAT

Times to Light Lamps.

June 16th	... ...	9.46 p.m.
,, 18th	... ...	9.48 ,,
,, 20th	... ...	9.48 ,,
,, 22nd	... ...	9.49 ,,

Continental Show.

At the recent Prague exhibition motor cycles were exhibited by ten firms.

Attempts at Track Records.

On Saturday George Baker, on his 80 m.p.h. 2¾ h.p. A.J.S., will attempt to lower the track records at Herne Hill during the cycle race meeting of the Kentish Harriers.

Obituary.

We regret to announce the death, as the result of a motor accident, of Dr. John Downie, the president of the Wakefield M.C.C., and one of the founder members of the Bradford M.C. and L.C.C.

The Five Hundred Mile Race.

Entries for the 500-mile race on July 2nd for the Miller Gold Cup, cease next Wednesday, the 22nd. The address of the secretary of the B.M.C.R.C. is Mr. T. W. Loughborough, The Mill House, Warlingham, Surrey.

An Ingenious Fraud.

Representing that he is a Zenith test rider who has broken down and is short of money, a man has been stopping motorists in the neighbourhood of Birmingham and Worcester, and obtaining small "loans." Zenith Motors, Ltd., write warning our readers of the activities of this individual.

Entries for the Belgian Grand Prix.

Up to the present seventeen entries have been received for the Belgian Grand Prix, including three Nortons, four Saroleas, one Rudge, four Triumphs, a James, four B.S.A.'s, and a Sun. Of the Nortons, Graham Walker is riding one, and is so far the only English entry appearing in the list.

Yorkshire Club's Enterprise.

After setting an example to the motor cycle clubs of the country by entering one of their members for the Tourist Trophy Race, the Ilkley M.C. and L.C.C. has followed this up by nominating another member, Leslie Runton, for the Grand Prix. An enthusiastic rider, Leslie Runton is making a good recovery from his accident in the Harrogate Club's recent hill-climb at Otley.

T. T.
THE SENIOR RACE

Next Thursday's issue of

THE MOTOR CYCLE

Will contain a fully illustrated description of the Senior T.T. race, and further impressions and illustrations of the Junior event.

Where do Stolen Machines go to?

A Bristol reader (Mr. A. Sutcliffe) sends us cuttings and a photograph from the *Bristol Times and Mirror* describing and showing a huge batch of alleged stolen machines now resting at his local police station. He asks, "What protection is the new licensing scheme if such wholesale thefts can take place?"

Police Activity in Cheshire.

Surely the limit in persecution for trivial offences was reached when a Manchester reader was stopped by the police on the Wilmslow Road, Cheshire, for having *one shoe* missing on his front brake! Incidentally, the missing shoe in this case was known to have been in place eight miles previously. Evidently motor cyclists must ride with caution in this neighbourhood.



Facsimile of the ticket of admittance to the grandstand seats reserved by *The Motor Cycle* for the Grand Prix Race on July 24-6. Only a few remain, and those desirous of securing one should make application at once to the Editor. The price is ten francs.

Special Features.

THE JUNIOR T.T. RACE.
HOLIDAY TOURING—WHERE TO GO.

Freak Hill in the I.O.M.

Another freak hill has been discovered by *The Motor Cycle*. It is in the Isle of Man, in the neighbourhood of Laxey, and is in the nature of a staircase—about the same width, but nearly six hundred yards long! It has already been climbed, though the successful rider stuck with the crank case on the ground, and had to dismount in order to lift his machine over the hump.

Found.

Mr. E. Sidwell, of Alton Hall, Allesley, Coventry, on a recent Saturday picked up a pair of overall leggings on the road between Coventry and Allesley. The owner should communicate direct.

A reader reports finding a leather-bound case about five hundred yards from the Abingdon-Oxford cross roads, near Cumnor Hill, on Wednesday, the 25th ult. It was handed in at the Oxford Police Station.

The Future of the Paris-Nice Trial.

In view of the success of this year's Paris-Nice Trial, the Moto Cycle Club de France and its president, M. Hamon, have decided to extend the competition, and to run it on more ambitious lines. Next year it will be supplemented by a tour round France, divided up into fairly long sections to be covered at a good speed, while the competing machines will be exhibited in the various large towns visited. The Tour de France (as the event will be called) will probably take place from April 15th to May 10th, 1922, and these dates are being submitted for acceptance to the Union Motocycliste de France.

Reliability Trials in South Africa.

The course used by the Rand M.C.C. for its recent reliability trial started from a place called Baragwanath, a name not unknown to racing motor cyclists in this country. From this place competitors went to Potschefstroom and back to the starting point—a distance of about 120 miles.

The following competitors were successful: Arthur Hildebrandt (Hilda), D. A. Scott (A.J.S.), A. Long (Coulson B), P. Flook (Norton), J. R. Berry (Triumph), P. L. Evans (Coulson-B), C. D. Wulkswinkel (Harley-Davidson), P. Leishars (Excelsior), A. Langerhuis (Harley-Davidson), and E. Simon (Coulson-B).

Imports and Exports.

Owing no doubt to the clouded industrial outlook, both the import and export figures for motor cycles for May have fallen considerably, as compared with those for April. Only twenty-seven motor cycles were imported last month, while their total value is almost half the figure of the previous month. Over the same period exports were approximately 75% less. Detailed tables from the Board of Trade returns for April and May follow :

IMPORTS.

	April, 1921.		May, 1921.
Number of motor cycles	71	...	27
Value of machines and parts	£18,440	...	£9,415

BRITISH EXPORTS.

	April, 1921.		May, 1921.
Number of motor cycles	1,160	...	864
Value of motor cycles only	£92,823	...	£66,898
Value of parts	£26,785	...	£21,095
Total value ...	£119,708	...	£87,993

M.C.C. Inter-club Team Trial.

Twenty-five clubs have definitely entered teams for the M.C.C. inter-club team trial for *The Motor Cycle* Cup, to be held on Saturday, June 25th. It is possible that there may be two or three more late entries. A list of the competing clubs follows :

Leicester and District M.C.C.
Surbiton and District M.C.C.
Worcester and District M.C.C.
Coventry and Warwickshire M.C.C.
Brighton and Hove M.C.C.
Birmingham University M.C.C.
Motor Cycling Gipsy Club.
North-West London M.C.C.
Sheffield and Hallamshire M.C.C.
Banbury and District M.C.C.
Bucks County M.C.C.
Essex M.C.
Oxford M.C.
Woolwich, Plumstead, and District M.C.C.
Ealing and District M.C.C.
Brookdale Club, Catford (Motor Section).
City and Guilds Engineering College, M.C.C.
North London M.C.C.
Norfolk M.C. and L.C.C.
Rochester, Chatham, and District M.C. and L.C.C.
Camberley and District M.C.C.
Luton and South Beds A.C.
Herts M.C. and L.C.C.
Ilkley M.C. and L.C.C.
Basingstoke M.C.C.

Volunteer Officials Wanted.

Motor cyclists in the neighbourhood o Bournemouth, Blandford, Shaftesbury and Wimborne, who would be willing t assist in an official capacity in th Bournemouth Club's open trial on Jul 2nd, are asked to communicate with M E. L. Herring, at 44, Middle Road Bournemouth West. Reasonable expense would be allowed.

The Small Four-wheeler.

We believe (says *The Autocar*) tha there is a great future for the very smal four-wheeler of a type considerabl lighter and with a smaller engine tha that which represents what is generall known as a "light car."

CLUB NEWS. (Continued from page 745.)

Manchester M.C.

On Saturday next the club will hold a reliability trial for the Ferodo Cup (presented by Mr. Herbert Frood). The course will be a secret one of 80-100 miles.

Coventry and Warwickshire M.C.

Awards in the recent twenty-four-hour trial to Torquay and back have now been announced, and are as follows :

Gold Medals.—R. A. Player (4 Triumph) and T. H. Meakin (4 Triumph sc.).

Gold Centre Medals.—L. Crisp (4½ Humber), D. Atkin (5-6 Rover sc.), C. N. Green (5-6 Rover sc.), H. A. Smith (4 Triumph sc.), F. Yates (4½ Humber sc.), H. R. Caswell (5-6 Coventry Victor sc.), R. Grindlay (4½ Humber sc.), W. A. Fell Smith (8 Rex sc.), and T. R. Gibbons (8 Acme sc.).

Halifax and District M.C.C.

Held over a course that proved "too easy," and was voted dull by the competitors, the recent reliability trial nevertheless aroused great interest locally. B. Hanson (3½ P. and M.), F. E. Jackson (7-9 Harley-Davidson sc.), and A. Hinchcliffe (G.N.) tied for first place. Next in order of merit came C. Adams (4 Triumph sc.), W. Smith (5-6 A.J.S. sc.), and B. Barber (7-9 Harley-Davidson sc.).

Redditch and District M.C.C.

Formula and time results of speed trials held on June 1st, have now been decided, and are as follows :

TIME CLASSES.

350 c.c. Solo.—1, F. Wood (2¾ Verus) and T. Ward (2¾ Verus), tie; 2, T. Weaver (2¾ Verus); 3, Gem Smith (2¼ Morris).

600 c.c. Solo.—1, W. E. Smith (3½ Norton); 2, Gem Smith (3½ Martin); 3, F. Simmonds (3½ Norton).

Unlimited Solo.—1, W. E. Smith (3½ Norton); 2, T. Weaver (5-6 Verus); 3, F. Simmonds (3½ Norton).

750 c.c. Passenger.—1, W. E. Smith (3½ Norton sc.); 2, T. Weaver (5-6 Verus sc.).

Unlimited Passenger.—1, W. E. Smith (3½ Norton sc.); 2, T. Weaver (5-6 Verus sc.).

Fastest Time of Day.—W. E. Smith (3½ Norton).

FORMULA CLASSES.

350 c.c. Solo.—1, J. Dosher (2¼ Enfield) and T. Ward (2¾ Verus), tie; 2, T. Weaver (2¾ Verus) and F. Wood (2¾ Verus), tie; 3, C. Hull (2¼ Levis) and T. Weaver (2¼ Verus), tie.

600 c.c. Solo.—1, W. E. Smith (3½ Norton); 2, J. Dosher (2¼ Enfield); 3, Gem Smith (2¼ Morris).

Unlimited Solo.—1, J. Dosher (2½ Enfield); 2, W. E. Smith (3½ Norton); 3, G. Hull (2¼ Levis).

750 c.c Passenger.—1, W. E. Smith (3½ Norton sc.); 2, T. Weaver (5-6 Verus sc.).

Unlimited Passenger.—1, T. Weaver (5-6 Verus sc.); 2, W. E. Smith (3½ Norton sc.); 3, S. Bright (6 Enfield sc.).

Berwick and District M.C.

Results of the President's competition, which took the form of a consistency hill-climb, were as follows :

1, J. McLauchlan (4 Triumph), ⅝s. error; 2, W. H. Dodds (4 Triumph), 1s. error. Fastest time of day, W. Murray (3½ Sports Sunbeam).

Lewes and District M.C.C.

The club's first reliability trial was a great success, attracting nineteen competitors. There were very few failures, and the run was voted a most enjoyable one. Results :

SIDECARS.—1, S. Dunford (7-9 Harley-Davidson sc.), Matchless Cup; 2, G. W. Blakey (7-9 Harley-Davidson sc.), silver medal.

SOLOS.—1, G. E. Stacey (2¾ Verus), Enfield gold medal; 2, L. Holt (2¾ Verus), silver medal; 3, R. Arblaster (4 Coulson-B), bronze medal.

Taunton and District M.C. and L.C.C.

Buncombe Hill was again chosen as the venue of a hill-climb on Thursday last. Twelve classes drew sixty-eight entries from the Barnstaple, Bridgwater, Dorchester, Exeter, Taunton, Weston-super-Mare, and Yeovil clubs. An excellent afternoon's sport resulted, and some very fast times were recorded. The results were as follows :

TAUNTON CLUB ONLY.

Solo up to 270 c.c.—1, S. Crowhurst (2¼ Cedos), 1m. 7⅘s.; 2, F. Hewin (2¼ Cedos), 1m. 10⅘s.; 3, W. G. Churchill (2¼ Verus), 1m. 25⅘s.

Solo up to 350 c.c.—1, J. F. Anderson (2¾ A.J.S.), 47⅘s.; 2, W. G. Churchill (2¾ Verus), 50⅘s.; 3, W. H. Colman (2¾ Douglas).

Solo up to 600 c.c.—1, L. G. Williams (3½ Norton), 42s.; 2, S. W. Easton (3 A.B.C.), 42⅘s.; 3, S. Goodman (3½ Sunbeam), 44s.

Solo up to 1,000 c.c.—1, W. H. Colman (8 New Imperial), 39⅘s., fastest time of the day; 2, C. A. Pollard (8 Zenith), 40s.; 3, L. G. Williams (3½ Norton), 40⅘s.

Sidecar up to 600 c.c.—1, S. Goodman (3½ Sunbeam), 58s.; 2, W. H. Colman (4½ Quadrant), 1m. 20s.

Sidecar up to 1,000 c.c.—1, S. Goodman (3½ Sunbeam), 58⅘s.; 2, J. Skinner (6 Martinsyde), 1m. 8⅘s.

OPEN TO ALL CLUBS.

Solo up to 275 c.c.—1, F. Hewin (2¼ Cedos), 1m. 12s.; 2, W. G. Churchill (2¾ Verus), 1m. 26⅘s.

Solo up to 350 c.c.—1, S. F. Anderson (2¾ A.J.S.), 47⅘s.; 2, W. G. Churchill (2¾ Verus), 50⅘s.; 3, W. J. S. Bament (2¾ Douglas), 55s.

Solo up to 600 c.c.—1, V. G. Tucker (3½ Norton), 39⅘s.; 2, L. G. Williams (3½ Norton), 41s.

Solo up to 1,000 c.c.—1, C. A. Pollard (8 Zenith), 40s.; 2, L. G. Williams (3½ Norton), 40⅘s.

Sidecar up to 600 c.c.—1, S. House (3½ Norton), 51⅘s.; 2, S. Goodman (3½ Sunbeam), 57⅘s.

Sidecar up to 1,000 c.c.—1, S. House (3½ Norton), 51⅘s.; 2, C. A. Pollard (8 Zenith), 53s.; 3, S. Goodman (3½ Sunbeam), 58⅘s.

Birmingham M.C.C.

Thirty-two competitors started on th week-end trial to Llangollen on the 4t inst. There were few failures, and a lightweight sidecar outfit—a 2¾ h.p. Veru —completed the course and climbed every hill without loss of marks.

Standard M.C.C.

On Saturday a very successful tria was held, with the Maudes Challeng Shield and gold medal as premier award From an entry of seventy-eight ther were sixty-nine starters, but a course which included the ascent of Sun Rising twice, weeded the finishers to thirty-five

Romford and District Reliability Trial.

At the recent reliability trial to Cambridge and back, the best performance was made by W. Sharpe (3 A.B.C.), who lost only six marks, thus winning the Rhodes Cup and a gold medal. Second and third were W. G. Crabb (7-9 Indian) and D. S. Maitland (3½ Scott).

Warrington M.C.

S. Doward, on a 7-9 h.p. Indian, made the best performance in the recent reliability trial, losing only four marks. W. T. Haddock (2½ Thrasher), W. Moore (2¾ Douglas), and J. Bardsley (6 Martinsyde sc.) were first in their respective classes; while "amateur" prizes were won by W. Powell (2¼ Connaught), E. Tryer (4 Triumph), and C. Bingham (6 Enfield sc.).

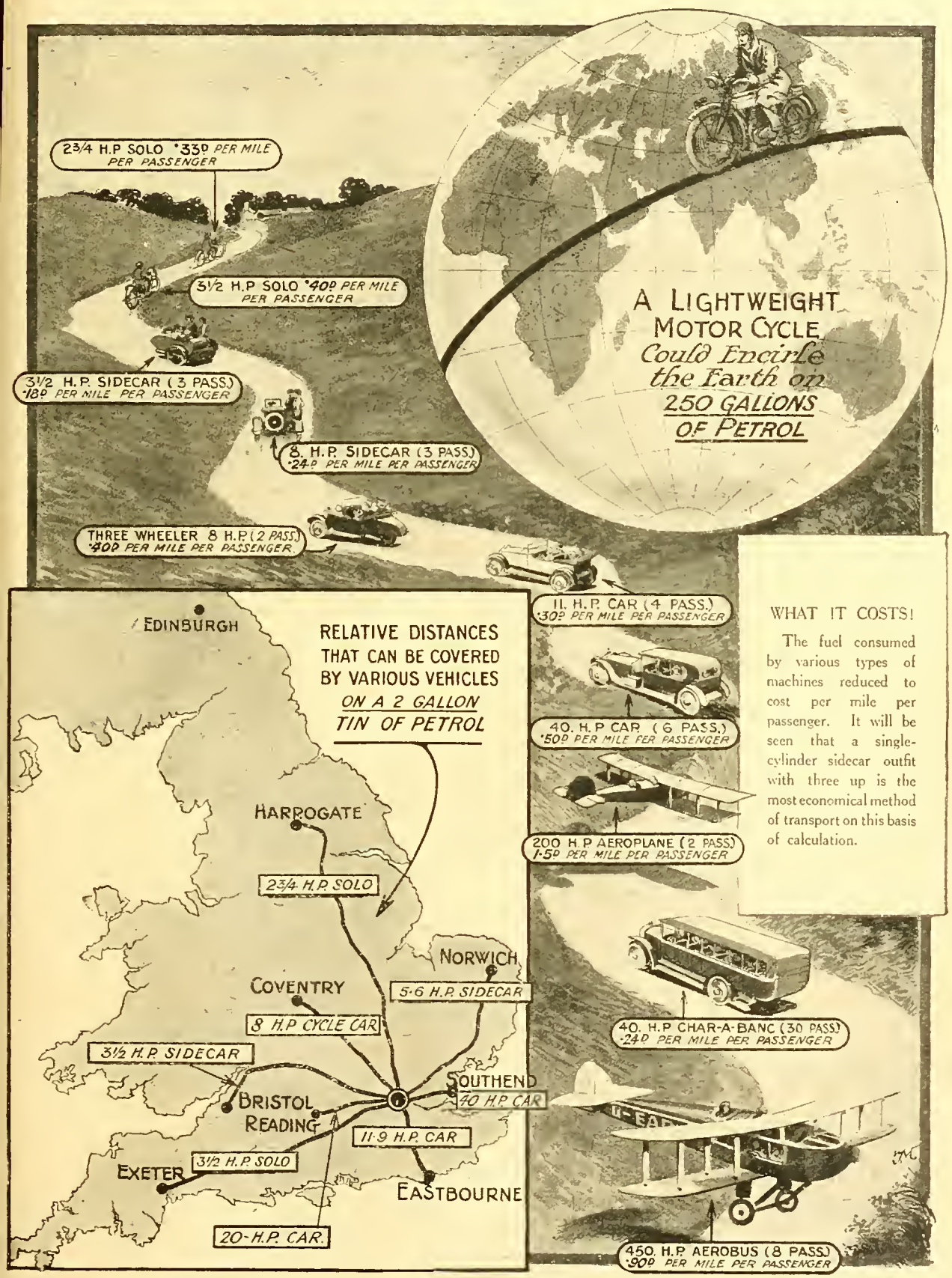
North London M.C.C.

The slow hill-climb held at Handpost Hill on Saturday resulted in a victory for four-stroke machines. The event took the form of a knock-out competition, competitors ascending the hill in pairs. The results were as follows :

SOLO.—1, R. R. Bowen (4 Triumph), silver medal); 2, R. W. Greaves (4 Norton), bronze medal; 3, J. F. Hull (2¾ Wooler), an accessory.

SIDECAR.—1, R. L. Richardson (6 B.S.A.), silver medal; 2, C. N. Noel (4 Blackburne), bronze medal.

The attendance was good, and in view of the increasing attendance at club events it has been decided to make an award to the member who puts in the largest attendance for the second half of the year.



WHAT IT COSTS!

The fuel consumed by various types of machines reduced to cost per mile per passenger. It will be seen that a single-cylinder sidecar outfit with three up is the most economical method of transport on this basis of calculation.

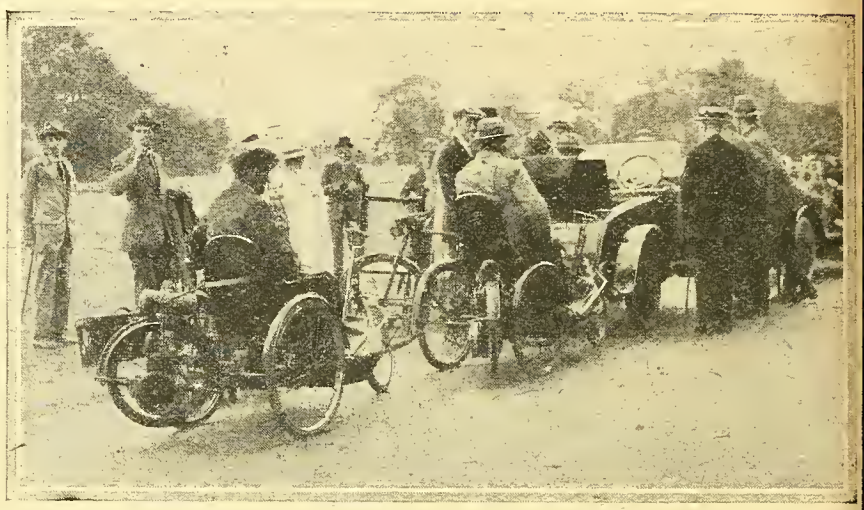
COMPETITIONS FOR THE DISABLED.

Rally of the Disabled Drivers' Association at Richmond Park.

AN encouragingly large number of disabled ex-soldiers, including several sidecarists, assembled at Richmond Park, Surrey, on Saturday last to take part in the Disabled Drivers' Rally, the first meeting of the recently organised Disabled Drivers' Association.

The programme for the afternoon, which followed the assembly at Richmond Park, included a gymkhana at the rear of the grandstand on the Epsom Downs, and a hill-climb on the gradient in front of the stand, preceded by tea at Woodcote Park.

It was surprising but gratifying to see the ease by which these men, disabled by the war in hand or foot, were able to control their machines. Cycle cars and light cars, of course, are more easily adapted to the particular requirements of these limbless heroes, since the element of balance is eliminated. Sidecar outfits, however, figured prominently amongst the vehicles lined up at the rendezvous. A particularly ingenious arrangement of controls had been fitted to a Rover outfit for a rider who had lost the use of his right leg. Two large bicycle type handlebar levers were fitted, the left one controlling the clutch, and the right connected to the band brake, which was also operated by a long lever on the off side of the machine. Both controls, however, could be actuated independently. The kick-starter had been substituted by another long lever, whilst the valve lifter had been fitted to the top tube of the tank.



A scene in Richmond Park, last Saturday, where a rally of disabled ex-service men took place.

Another system was exemplified on a 4 h.p. H.B. outfit. The starter was again in the form of a long lever, whilst the rear rim brake was also lever-operated.

The new organisation is an excellent scheme, and should enable the members to enjoy the sporting runs and competitions which have previously been exclusive to the more fortunate. It is hoped that this event will be followed by many more such runs, and also that all drivers maimed in the war will come forward to swell the ranks of the new club.

ENTRIES FOR THE GRAND PRIX.

ENTRIES at ordinary fees for the French Grand Prix motor cycle race, which will be held at Le Mans on July 24th, have now closed, and fifty machines have been accepted. British makes are well represented. As entries are received by the Union Motocycliste de France at double fees (800 francs per machine) until the last day of June, it is likely that there will be sixty starters. The competitors comprise nine in the 250 c.c. class, eight in the 350 c.c. class, and thirty-three in the 500 c.c. class.

The following is the full list of entrants :

250 c.c.—Alcyon, Moto Solo (Clech), Moto Solo (Cottin), Labor, Velocette (two), and Griffon (three).

350 c.c.—Alcyon, Douglas (Isodi), Douglas (Schlée), Douglas (Gambini), D.F.R. (Pierre), D.F.R. (Dubost), Verus-Jap, and Thomann.

500 c.c.—B.S.A. (Pickering), B.S.A. (Gibbs), B.S.A. (Poole), B.S.A. (Chappaz), Norton (V. Horsman), Norton (H. Hassall), Norton (G. Walker), Alcyon (three), Bianchi (G. Maffeis), Sunbeam (two), Peugeot (Pean), Peugeot (Gillard), Peugeot (Benoit), Triumph (three), Douglas (Alexander), Douglas (Emerson), Douglas (Thorpe), Janoir (Duverne), A.B.C. (Naas), A.B.C. (Bartlett), A.B.C. (Finzi), A.B.C. (Rolly), A.B.C. (Bernard), A.B.C. (——), Griffon (Vuilliamy), Sicam (Trebla), Rover (Delarbre), and another not named.

As is generally known, the French Motor Cycle Grand Prix is being held in conjunction with the Car Grand Prix on a triangular course specially prepared for these two races on the outskirts of Le Mans. The motor cycle race profits enormously by this combination, for the entire course, which is about 10¾ miles round, has been relaid, and will be barricaded and guarded by troops for its entire length on the day of both of the races.

By being held on the eve of the big car race, the motor cycles will have the advantage of a perfect road surface; and, as the course is practically level with but three right-angle turns, the highest speeds can be attained.

NOVICES' OPEN TRIAL IN LEINSTER.

AN open novices' reliability trial, promoted by the Leinster Motor Cycle Club (Dublin), held on the 4th inst., attracted an entry of sixty riders, of whom fifty-four competed, and forty-two completed the course.

SPECIAL PRIZE for Best Performance of the Day.—T. F. Slevin (2¼ Velocette).

FIRST-CLASS AWARDS.

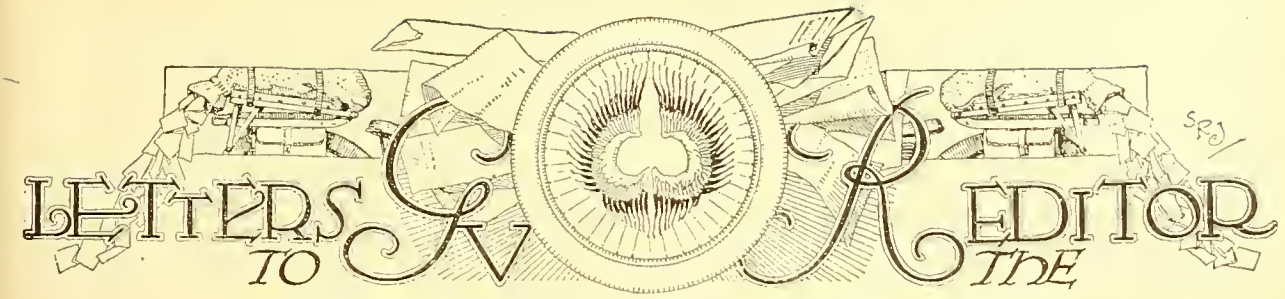
SILVER MEDALS.—T. F. Slevin (2¼ Velocette), S. Payne (2¾ Sun), G. Duggan (3½ Norton), G. M. Eccles (4 Omega), F. C. Felton (4¼ B.S.A.), N. Whitton (7-9 Indian), W. Jones (6 Enfield sc.), H. F. Moloney (3 Enfield), C. Callaghan (2¾ Royal Ruby), G. Callaghan (4 Triumph), H. L. Phillips (7-9 Harley sc.), W. F. Malcolmson (G.N.), and J. C. Donaldson (3½ Rudge).

BRONZE MEDALS.—R. H. Hill (2¾ Douglas), C. Maguire (2¼ Enfield), L. Forsyth (7-9 Indian sc.), C. Bradford (3½ Rudge), C. R. Jones (4 Douglas), W. H. Osborne (3½ P. and M. sc.), H. G. Ellerher (2¾ Douglas), Dr. T. F. Broderick (2¼ Levis), H. B. Evans (2¾ Douglas), G. Briggs (2¾ Douglas), D. McCrea (3½ Rudge), W. G. Rogan (2¾ Hobart), A. Deverell (3½ B.S.A.), W. N. Kyle (2¼ Enfield), H. McClintock (3½ Premier), G. A. Graham (8 Enfield sc.), F. C. Parkes (4 Triumph), J. T. Cathcart (2¼ James), W. J. Fagan (5 Indian), and F. N. Draper (2¼ Velocette).

CHOSEN ROUTES FOR THE ILKLEY TRIAL.

BY the manner in which it organised the one day open trial under the A.C.U. last year, the Ilkley Motor Cycle and Light Car Club earned for itself a high reputation, providing one of the most sporting day's rides that has yet been enjoyed in the North. This year, by the manner in which it is entering upon the arrangements for the open trial, to be held on July 16th, it looks like adding materially to that reputation.

The solo riders climb Middle Tongue Hill in Nidderdale, Summer Lodge (famous as the hill which caused the "strike" in last year's Six Days Trial), and Preston Scar in Wensleydale. The sidecar men miss these delights, but, as a compensation for Summer Lodge, they are sent round by the Buttertubs Pass. The total mileage for the solo machines will be 168¾, and for the sidecar riders 174½.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

FOLLOWING THE SPORT ON PAPER.

Sir,—I was much pleased to see that one of the opening articles in a recent issue related to "following the sport on paper." I know quite a number of readers in my locality who are not only content to but really enjoy following the sport on paper.

I am really writing this note (there are hundreds thinking the same thing, but not writing) to let you know that we (readers, but not riders) are exceptionally pleased to see that you appreciate us so much. I am writing from a knowledge of readers in this district, and I feel sure it will stand good all over the country.

I might also mention that the technical side of your paper is most interesting, but for the benefit of your less learned readers a small explanation of the more scientific and algebraic terms sometimes used would make *The Motor Cycle* the best that money could buy. STRANRAER.

Stranraer, Scotland.

SIDECARS FOR DISABLED DRIVERS.

Sir,—Referring to a letter on page 650 requiring information on sidecars for disabled riders, and signed "1914-1919," you will be interested to hear that we recently adapted the Connaught £100 outfit for a man who has lost his left leg.

In his case we had to transfer the foot brake (already on the left) to the right hand side. We made a few other minor alterations, and, as a result, he is riding the outfit daily without difficulty. WARLAND DUAL RIM CO., LTD.

Sir,—Replying to "1914-1919's" letter I may say that I had the misfortune to lose my leg in the war—the left leg, 4in. above the knee.

I am riding a 4 h.p. Triumph and sidecar, and I find that there is no discomfort in using the ordinary saddle.

The brake pedal is, as you know, on the left, and cannot be transferred very easily. This difficulty was surmounted by having two straps passing through the hole in the brake pedal, and making them into two loops into which I insert my artificial boot, and while keeping the foot in place I find that by having a stronger spring on the back brake the weight of the leg does not put the brake on until such times as is necessary, when it can be manipulated with the greatest ease. In fact, the leg being always in contact with the brake makes for a quicker action in emergencies. I have arranged the foot rest on that side so that it does not interfere with the brake.

Does anyone know if the Triumph brake pedal could be made to operate from the right?

NORMAN D. BROOKS.

Sir,—On my 1920 5-6 h.p. Rover sidecar, which is entirely hand controlled, the straightforward design of the machine lends itself more easily to alteration of controls than many makes, and, further, has the advantage of being of good weight, having large wheels, long wheelbase, and, most important, a low saddle position.

The clutch and brake controls (standard being foot) are operated by levers on the handle-bars and working by $\frac{3}{16}$in. stranded cable in rigid metal tubing. A lever brake is also fitted, acting on a friction principle. The gear change is central. The footboards require edgings round to keep one's feet from bouncing off.

Further, a substantial saddle cover is necessary to save one's trousers from wear due to contact between the hard artificial leg and saddle. (This from experience, alas!) An ordinary large size Brooks saddle is very comfortable.

A lever starting gear is fitted to the kick start spindle, discarding the crank. The exhaust lift lever is fitted to the top main tube in a suitable position.

These alterations were satisfactorily carried out by Mr. P. W Surplice, of Bournemouth, after about six weeks experimenting. Needless to say I have no trade connection with him, but can thoroughly recommend him, as he has fitted out other machines for one-legged riders, mine being his first double case, for I have lost both legs.

The tax is only 5s. for a converted machine. R.G.P.

Parkstone.

JOURNAL BEARINGS FOR MOTOR CYCLE HUBS.

Sir,—Mr. A. J. Hobdell wishes to know the experience of those who have used journal bearings in the front wheels. This is my experience. I fitted a journal hub in 1919, with the result that the set of bearings in when fitted and two sets since are worn out. A fourth set is now wanted badly. The two new sets cost me, at least, 25s. per set. I have used both single and double rows of balls, but there is no adjustment, and they have "gone wobbly" very soon indeed.

Manchester. S.W.

Sir,—I am very surprised to see that Mr. Hobdell's letter in a recent issue has not received the attention it deserves—not only at the hands of motor cycle manufacturers, but by the makers of the bearings themselves, who, one would imagine, would be in the best position to speak authoritatively on the subject.

As a humble member of the motor trade, it has interested me greatly to note the gradual adoption of roller and ball bearings for gear boxes and engines, and I suppose the change will eventually be made with motor cycle hubs.

I am in agreement with Mr. Hobdell, that with a sidecar machine, the side pull will be considerable, and, personally, I do not think the usual bearing would deal with this. A thrust bearing would be required.

Perhaps the bearing makers will enlighten us as to the ability of journal bearings (both roller and ball) to deal with such loads.

Do we take another lesson from car practice? Makers of car hubs are effecting the change now even with the cheaper makes. The better cars have been so fitted for years.

Orsett. W.B.S.

CONSIDERATION FOR THE DANGEROUSLY ILL.

Sir,—With a son lying dangerously ill, and with straw on the road for fifty yards in front of my residence to deaden the sound of traffic, as a motorist of twenty-five years' standing I have been surprised to find that my fellow motorists, in a very large proportion, seem to be lacking in all thought or consideration for those who are suffering the tortures of pain and distress.

The sight of straw or peat covering a road is surely an indication to the meanest intellect to refrain from noise, yet car drivers and motor cyclists—the latter the greatest offenders—have blown hooters, opened exhaust cut-outs, and shown by the expression in their faces that the straw obstruction was a nuisance to them, and that the suffering of a fellow creature was of little consequence.

May I, as an old motorist, ask you to suggest the adoption of a code rule amongst those who drive cars or motor cycles that straw or peat covering a road should in future be recognised as a road sign, and indicate to all to go slowly, make the least noise, and refrain from hooting within five hundred yards? R. A. OSMAN.

AIR COOLING AND OIL COOLING.

Sir,—*Re* Mr. Granville Bradshaw's article on cooling of motor cycle engines, I had a peculiar experience while driving a Napier lorry in the M.T., A.S.C. One day while proceeding from Crowborough to Tonbridge the lower joint of the radiator burst, leaving the engine absolutely dry. I went some four or five miles before I became aware something was wrong. After waiting an hour and rejointing, I filled up with water and started up. The engine started, ticking very nicely—much quieter than before, as previously it had been badly carboned up.

I attributed the fact that neither bearings, valves, pistons, or cylinders were damaged to consistent over-oiling, as I was new to lorry driving, and thought I had to keep the engine smoking! Also, I was using Wakefield's Castrol, as the depot had run out of everything but motor cycle oil.

Glasgow. M.T.

Sir,—On reading the first instalment of Mr. Bradshaw's article, I gather that air-cooling at its best, with natural draught, is, as we may say, barely good enough for its purpose. Water-cooling is all right, but too cumbersome and complicated. May I, then, enquire—and I would be very glad of Mr. Bradshaw's reply—whether the use of a simple compromise, in the form of a Perkin tube, has ever been seriously considered?

Since it is not everyone who knows what a Perkin tube is, I may say that it consists of a strong walled tube partly filled with water and hermetically sealed at both ends. It was used in a motor car radiator system some ten or fifteen years ago by, I think, the Lune Valley Engineering Co., of Lancaster, but in that case it complicated rather than simplified the cooling system. It acts, of course, as a very efficient means of transmitting heat at temperatures above boiling point only, and is ever so much more efficient than rods of any metal. That it would stand the high temperature of an air-cooled cylinder is clear from the fact that it has been used with one end in a furnace and the other in the ovens in which bread was baked. That was used, of course, for heating rather than cooling, but the principle is the same. My question to Mr. Bradshaw would be as to whether he thinks it would be practicable and worth trial to embed the lower ends of a series of Perkin tubes (say ¼in. outside and ⅜in. inside diameter) in the cylinder walls and head, and to fit the upper ends with cooling gills.

Having no means at disposal for making such an experiment, but in the belief that the method would have certain distinct advantages even over water-cooling, I would be very glad to know that the matter was being considered by others who want to see petrol engines improved. J. H. LESTER.



"O wad some power the giftie gie us,
To see oursel's as ithers see us!"—*Burns.*

AVERAGE AND MAXIMUM SPEEDS.

Sir,—I have been very much interested in the letter from Mr. R. C. Atcherley, *re* the speed of 60 m.p.h. which he asserts he has obtained from a 1919 Triumph, and should advise him to take up speed in earnest, as this is really remarkable from a standard Triumph. I am afraid I am a little late in answering his letter, but I have only just returned from a 900 mile journey, and, being the possessor of a quite good sporting 'bus, which is really fast, I am especially interested, as, although I was a D.R. from 1914 until 1919 (riding only Triumphs—in that time I had nine new machines, and since demobilisation have had three of that make), it was, I always thought, a very good "tub" that would do fifty. Whilst I am a great admirer of the Triumph as being a bicycle for every-day work, I shall want a lot of convincing *re* his mile a minute machine, as, although on paper, and in conversation, sixty is often mentioned, I think I am not far wrong in saying that it is like the fish the angler talks about, very much exaggerated. I would suggest that Mr. Atcherley verifies the truth of his speedometer. Let us pass on to the letter of Mr. L. W. E. Hartley, *re* averaging thirty. On a recent Saturday, starting at 10 a.m. and finishing at 6.30 p.m., including stops for petrol, I covered a distance of 219 miles, which works out somewhere about 25 m.p.h.; and I did not stop to admire any scenery nor to pick daisies, but just kept going. Although I am as fond of speed as anyone, I really do not think that on a really hard day's running one can average much above this.

The machine I am at present riding is my eleventh since being "demobbed" (and three I had pre-war), and I think I can honestly claim I have ridden every class of motor cycle barring a big four-cylinder 'bus. I am immensely fond of speed, I love speed, I even thrive (up to the present) on speed; and the reason I have had so many changes is that I am always on the lookout for a faster 'bus, and, as I do quite a lot of riding (4,600 miles in the last three months), I think I may claim to know a little of road speeds, averages, and the speeds of standard machines.

I also use a fairly accurate speedometer, and do not do my riding with large exhaust pipe, leather coat, and blasé attitude, round the local park, as so many of our 60 m.p.h. speedmen do! RELKCUB.

Cardiff.

EAST END CHILDREN'S OUTING.

Sir,—Permit me to thank you for your kind support of Mr. Loughborough's recent appeal for motor cyclists who would volunteer to convey children from Bow to Hertfordshire for a day in the country, and to express my most grateful thanks to those who so kindly responded and so enabled the effort to be carried out successfully.

When each contributed according to his power, it may seem invidious to mention names, but I must especially thank Mr. A. J. M. Ivison, of Mill Hill, to whose untiring efforts the success of the outing was mainly due, and Mr. Duncan Watson, chairman of the Harley-Davidson Co., who most generously presented a large box of chocolates to each of the sixty children.

May I venture to add the hope that this effort will be improved upon by others?

A day's happiness in the country, to a child of the slums, is worth a little self-sacrifice—and I have found that motor cyclists are good-hearted sportsmen always.

THE HOST OF THE OCCASION.

Harpenden.

RETAINING OIL ON THE MAGNETO CHAIN.

Sir,—I have had the same trouble as Mr. Willoughby, only my "'bus" used to pull up and stop. If first the chain is taken off and cleaned in paraffin, and boiled in a mixture of tallow and blacklead for a few minutes (so that this lubricant will get under the rollers), and then when in place smeared with plenty of Prices' Bermoline it should not cause any more trouble. G. E. JACKSON.

Sir,—I notice that one of your readers has been troubled with magneto chain lubrication. I think the following method, if carried out, will overcome that difficulty.

Remove the chain cover, smear the chain with graphite; replace cover very tightly after seeing that both faces are clean. From the flywheel side of the engine, a small opening will be noticed in the chain cover against the magneto sprocket wheel; oil freely here, making the chain cover act as an oil bath. LUBRICATION.
Worksop.

Sir,—Referring to the letter by Mr. J. L. Willoughby, *re* "Retaining Oil on the Magneto Chain," a friend and I had the same trouble on a 1920 two-stroke. An unusual stiffness in the engine was traced to the magneto chain, which was found bone dry with the links standing up like the teeth of a saw, and bright red rust exuding from every bearing surface. The chain was soaked in paraffin, carefully eased, and well brushed over with engine oil, but after about thirty miles it was as bad as ever. The alignment of the magneto was tested and found O.K. by the agent, who replaced the chain free. This promptly went the same way, so we drilled a hole in the casing (pressed steel), and injected plenty of oil before every run without any improvement. "Stewing" in graphite grease cured the trouble for about one hundred miles.

It looks to me as if the chain, after slinging the lubricant off, gradually heats up, until, on a long run, it becomes practically *red hot*, which would explain the bright coloured rust working out from the inner surfaces of the chain. Stewing in graphite grease every one hundred miles, a really well-fitting oil bath case or a liberal drip feed are my only suggestions. Perhaps the makers or the chain manufacturers can cast some light on the subject.
E. A. L. PARKER.

Sir,—As most of my riding has been, and is being, done on a Villiers-engined machine, Mr. J. L. Willoughby's letter naturally caught my eye. His trouble in keeping the chain oily is, I think, shared by many, but is, in many cases, an example of "what the eye does not see," because I daresay that, had the rattle not drawn his attention to it, Mr. Willoughby would have forgotten the existence of the chain altogether. Chemico chain lubricant should be better than oil, I should imagine, and can be recommended. As regards the rattle, I should imagine that the chain is out of line, and, perhaps, also one of the sprockets eccentric. This rattle once worried me on a 1914 Villiers. On that engine the magneto rested on two rails cast on to the silencer ends. The cure was effected by new type engine plates and magneto platform. OE 1382.
Harborne.

MORE ABOUT THE ARBUTHNOT TROPHY TRIAL.

Sir,—In reply to "K15's" letter about last year's Arbuthnot Trophy Trial, published in *The Motor Cycle* of June 2nd, is he not rather hurriedly drawing conclusions when he describes it as a machine smashing trial?

I gather that he was at the finish of the trial and heard the competitors' accounts, which would, no doubt, have exaggerated the poor state of some of the roads. He states that he saw the machines at the finish. Did he see them at the start? I was unable to compete in last year's event, but, judging from the account in *The Motor Cycle*, and knowing something of the district in which the trial was held, I concluded that most of the failures were due to the machines not being properly prepared, and that some were due to bad luck. Owing to the wet weather, the course was stiffer than it might have been, but, even so, the roads were good compared to those in several other trials, where, not only do machines complete the course, but also several gain gold medals and are in a fit state for riding at the end. Surely, therefore, the Arbuthnot Trophy Trial cannot be accused of "machine smashing."

I have only been able to compete in a few of the easier type of trials, but only on one occasion have I smashed up my machine, and that instance was entirely due to my own stupidity.

I do not think "K15" is justified in calling the roads in question "a collection of rocks and boulders," as is suggested in his last paragraph.

Last year's course was ideal for the class of competitor concerned. I am sure that "K15" will agree with me that the course must be stiff enough to find a winner without falling back on acceleration tests, etc., the results of which depend so largely on the machine, when, as far as possible, only the personal element should be tested in a trial of this nature.

Trials are one of the best sports extant, and I think it is up to all naval officers who are at all keen on motor cycling, to make every effort to compete in this year's event and make it a real success. I am sure they will enjoy it.
H. F. FELLOWES, Lt. R.N.

Sir,—I have just read a letter in your issue of June 2nd, which is distinctly liable to frighten off intending competitors in this year's Arbuthnot Trophy Trial, who know nothing of competition riding.

I saw in *The Motor Cycle* of May 27th that the course to be followed this year is to be much the same as that of the A.C.U. one-day trial. As a competitor in the latter event, and an intending competitor in the Arbuthnot, I would like to assure everyone that there is nothing included which might be considered of a "machine smashing" nature even by gentlemen with such a lively imagination as "K 15." Let him by all means bring along a pocketful of corks if he wants to; they are such useful things!

I think if more "N.O.'s" realised what a thoroughly sporting and enjoyable event the Arbuthnot Trophy is they would do everything in their power to compete every year. A better two days for a keen amateur motor cyclist cannot be imagined, and there is no risk whatever of smashing one's machine. HALF LITRE.
Penally.

SUMMARY OF CORRESPONDENCE.

Referring to "Puzzled's" letter last week under the heading "Solution Next Week!" the cause of his trouble was that the piston had been replaced with the baffle the wrong way round.

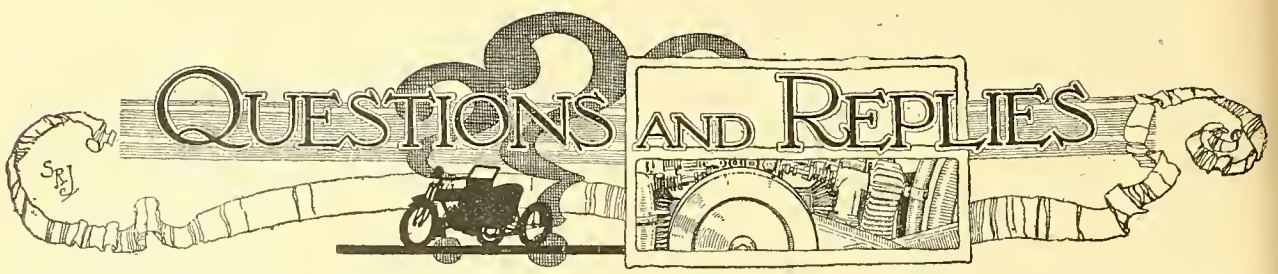
An Irish correspondent recently went to considerable trouble to help a stranded B.S.A. rider who broke an exhaust valve outside our reader's house. It was a very wet day, and, amongst other things, the motor cyclist borrowed an overall coat. He has not yet returned this. The address of our correspondent is Killinear House, Drogheda.

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A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects. ROUTES.—By special arrangement with the Automobile Association and Motor Union, readers of "The Motor Cycle" desiring routes may enjoy the benefit of the Road Service Department of that organisation. Queries should be addressed to the Editor in the ordinary way (enclosing a 2d. stamp), and will be dealt with by the A.A. and M.U., who are regularly in receipt of reports from their representatives all over the country as to the existing state of the roads in any particular locality.

FITTING A GEAR BOX.

Please state whether it is possible to convert satisfactorily a 1910 3½ h.p. fixed engine Triumph into a three-speed kick-starter model by fitting a gear box, etc., on to the bracket between the mudguard and engine bearers?—T.B.

It will be impossible to fit a countershaft gear box on your 1910 Triumph unless you have new rear stays fitted to the frame; the new stays must have a special bracket suitable for carrying the gear box.

CARE OF 4 H.P. DOUGLAS.

Kindly advise me on the following concerning my 4 h.p. Douglas. (1.) What brand of lubricating oil do you recommend for engine, gear box, and timing gear respectively? (2.) Does the multiple disc clutch require lubrication? If so, what is the best lubricant? (3.) The Amac carburetter is at present fitted with a No. 28 jet. What adjustments are necessary for using benzole?—L.T.

(1.) A good quality oil of medium body will suit the engine and gear box, although a slightly thicker oil would perhaps be preferable in the latter. There is no need to lubricate the timing gear separately, as it receives the necessary amount of oil automatically. (2.) The clutch does not require lubrication. (3.) It may be necessary to lower the level slightly when using benzole, and possibly a slightly smaller jet will be an advantage.

A SILENT MACHINE WANTED.

As a regular reader of your paper, I should be glad if you would advise me on the following point. I have a 7-9 h.p. 1919 Powerplus Indian, which is most noisy. What can I do (even with slight loss of power) to remedy the fault? Would you recommend an aluminium silencer?—T.P.R.

These machines are not usually noisy, and we can only think that the silencer on your machine has either become damaged or has been altered in some way. (We assume, of course, that you are not driving permanently with the spark retarded.) It is doubtful if you can obtain any silencer which may be readily fitted to your machine, as considerable alteration to the existing exhaust pipes would be necessary.

CONVERTING A TWO-SPEED CONTROL.

I have a 3 h.p. Enfield two-speed and kick-starter, but I do not like the present method of engaging the gears. (1.) Could these be made foot-controlled as the Scott? (2.) If this is not possible, could it be done from the handle-bars?—A.L.

It would be extremely difficult to make the Enfield gear control suitable for foot operation, although a good mechanic with workshop facilities could no doubt devise a method. Handle-bar control also does not lend itself to adaptation in this case, as the force required to engage the gears would very quickly cause flexible wire mechanism to become out of adjustment; the design of a control would also be difficult.

FAULTY JOINTS ON TWO-STROKE.

An American two-stroke engine which I overhauled recently will not start except for an occasional explosion, but the spark appears very good, and the carburetter is so simple that I cannot see how any fault could be there. On turning the flywheel there is a hissing between the cylinder and crank case. Should this be gas-tight? (1.) Could you suggest a possible cure? (2.) Will benzole damage the cork float of the carburetter?—G.F.

(1.) There should be no leakage between the cylinder and crank case, and you must remove the former and remake the joint with thick brown paper, smeared with seccotine. (2.) Unless the cork float is periodically varnished with shellac, it will be damaged eventually by benzole.

REAR PLUG OILING-UP.

(1.) The back plug of my Douglas is continually sooting up. I have just had new piston rings put in, and I drained all the oil out, thinking there might be a stoppage in the overflow. I have also had a new plug in, but none of these things cure it. The machine runs well until the plug soots up; when the plug is cleaned it goes off again without a hitch. It is a 1919 machine, and I have been using petrol. I have had no trouble up to about a month ago. (2.) Would paraffin or a mixture (say half and half) of paraffin and petrol be injurious to the engine of the above machine?—E.M.C.

The trouble is evidently due to over-lubrication of the back cylinder; this is a common occurrence on horizontally-opposed engines, which should not be over-oiled. You might limit the supply of oil slightly, and it would be advisable to increase the gap of the sparking plug points in the offending cylinder: it will do no harm if you open them about $\frac{1}{16}$in. or even $\frac{1}{10}$in. (2.) A mixture of half paraffin and half petrol would not injure the engine in any way, although the running might be a little harsh.

Important Dates.

Thurs. June 16th—Senior T.T. Race.
Sat., June 18th—North-Western Centre A.C.U. Open Speed Trials
Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup
Fri., July 1st, and Sat., July 2nd—Arbuthnot Trophy Trial.
Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.
Sat. July 2nd—500 Mile Race at Brooklands for the Miller Gold Cup.
Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials
Sat., July 9th—St. Andrews Speed Trials
Sat., July 9th—Cardiff M.C.C. and associated clubs Open Hill Climb.
Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.
Sat., July 16th—Ilkley M.C. and L.C.C. Open Reliability Trial.
Sat., July 23rd—East Midland Centre A.C.U. Open Speed Trials.
Sun., July 24th—Motor Cycle Grand Prix Race in France.
Sat., July 30th—Newcastle and District M.C. Open Speed Trials.
Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.
Sat., Aug. 6th—B.M.C.R.C. Open Brooklands Meeting.
Sat. Aug. 6th—North Wales M.C.C. Open Reliability Trial.
Fri. Aug. 12th—Motor Cycle Grand Prix in Belgium.
Sat., Aug. 13th—Cumberland M.C.C. Open Reliability Trial.
Sat., Aug. 20th—Western Centre A.C.U. Open Speed Trials.
Thurs. Aug. 25th—Ystalyfera and Carmarthen M.C.C. Open Speed Trials.
Mon., Aug. 29th, to Sat., Sept. 3rd—A.C.U. Six Days Trial.
Sat., Sept. 17th—Grand Prix Race for Cycle Cars.
Fri., Sept. 23rd, to Tues., Sept. 27th—Anglo-Dutch Reliability Trial.

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W. Cunningham on 2¾ h.p. VERUS .....FIRST PRIZE.

LEWES & DISTRICT M.C.C. RELIABILITY TRIAL, June 5th.
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This Week's Selection.

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25/5/21.

Dear Sirs,

I must write and tell you how extremely pleased I am with my 1920 James 2¼ h.p. 2-stroke. Last Easter I went to Croydon (10 miles far side of London). The journey from Rochdale is 210 miles. This I did in 10 hours, without any trouble whatsoever. I emptied the petrol tank at commencement, and put one gallon in. This ran out at Stony Stratford, 140 miles away. On the return journey, which I did the day following, I repeated the performance, *i.e.*, a non-stop run home, 420 miles, and not one hitch.

I have done roughly 5,000 miles with this machine, and have yet to have my first trouble. I have not even had a sooted plug, I use the machine daily for business, and beyond filling up with oil and petrol, and lubricating machine, I have never needed to touch it. It has so far been a **wonderful machine.**

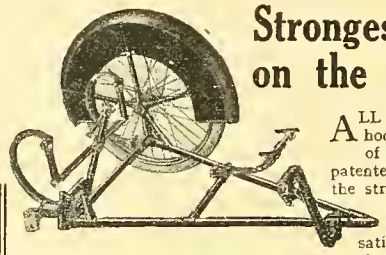
I have also done 200 miles with a passenger on carrier, 11 stone 6 lbs., and no signs of heating up.

Wishing you every success.

A satisfied owner,
EDWARD S. DUNCAN.

Any Manufacturer can make wild unsupported statements concerning his own machines. The words "best," "fastest," "most reliable," etc., are becoming positively wearisome.
We propose, therefore, to publish—week by week—in this space an unedited letter from a private owner and rider selected from our weekly post, with a view to giving the motor cyclist a fellow rider's opinion of the machines we turn out.
Write for Illustrated Catalogue.

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Strongest lightweight on the road

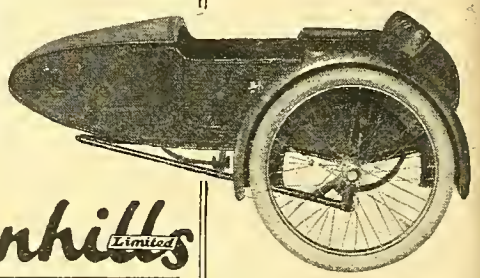
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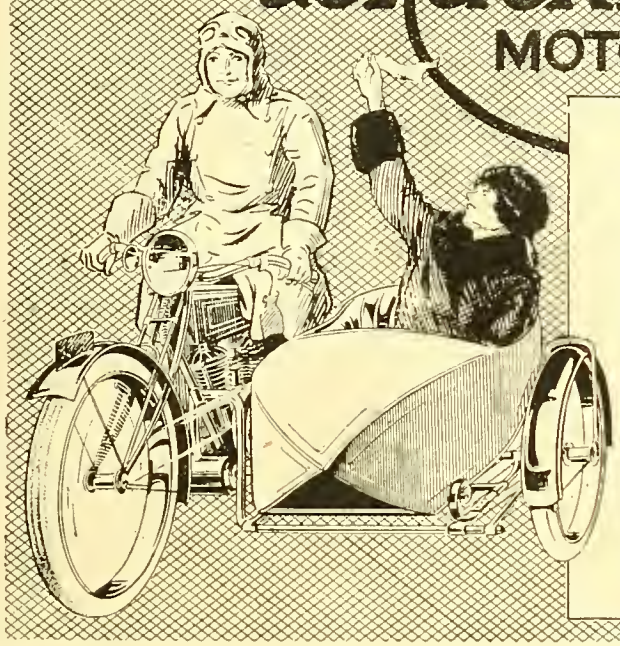
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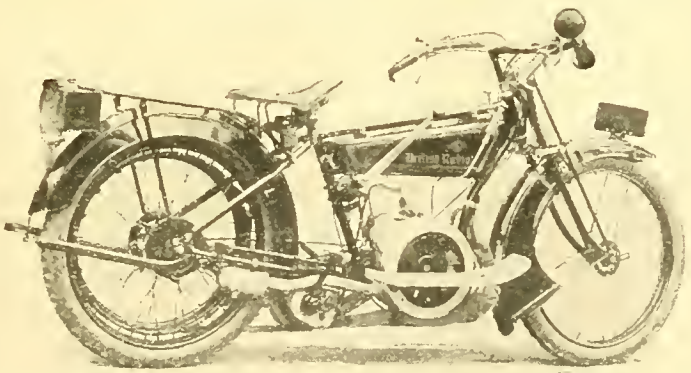
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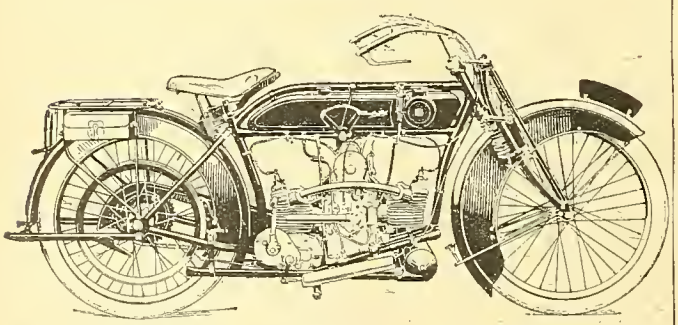
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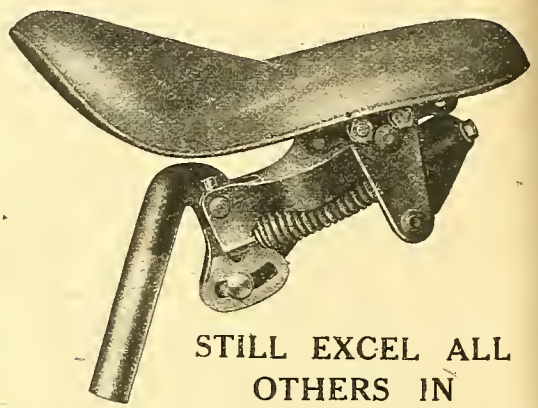
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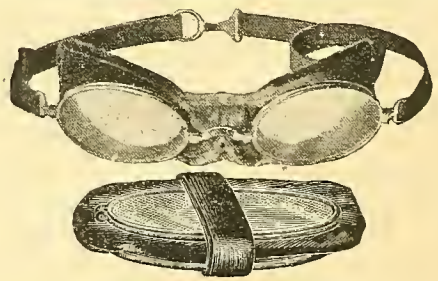
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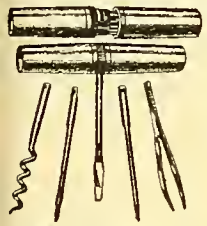
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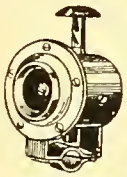
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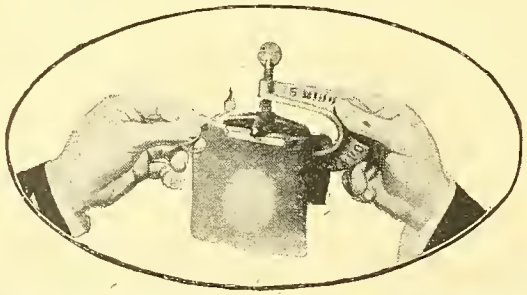
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It's perfectly simple—anyone can produce a clean, firm, permanent tube repair at the first attempt. No expert knowledge of vulcanising is needed—and the resultant repair becomes part of the tube itself. The

SHALER Five Minute Vulcaniser

is used with perfect success by more than a million motorists all over the world. Use the Shaler, and save time, trouble, and money.

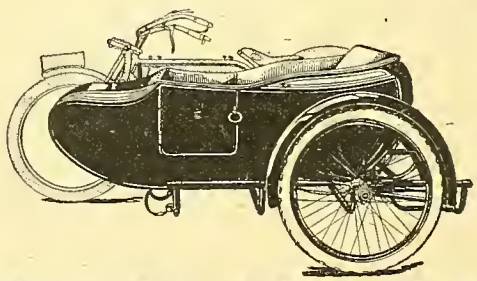
With 12 patch and heat units, **Price 10/6**

Renewals: 12 Round patch and heat units, 5/6: 12 Oblong, 5/6; 25 Extra Long, 18/-.

OBTAINABLE THROUGH ALL MOTOR DEALERS.

B.M.T. OIL.
Compare the price — The quality is incomparable.

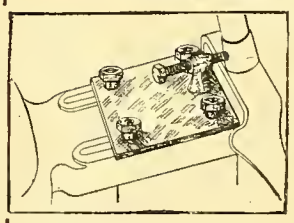
A. E. Newton, Ltd.
Albert E. Newton, Man Director (27 years with the Vacuum Oil Co.),
50, Pall Mall, London, S.W.1.
'Phone: Gerrard 8800.
'Grams: "Anewtoyle, Charles, London."
St. James's 14



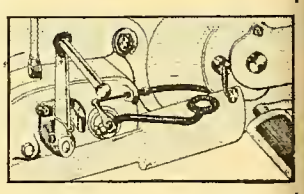
WHITLEY SIDECARS.

Produced for the MAN who must have the BEST.

Catalogues from all reputable Garages.



CHAIN ADJUSTER.
Price **6/6** post paid.



CLUTCH CONTROL PEDAL.
Price **5/-** post paid.

For use with Sturmey-Archer Gear Boxes.

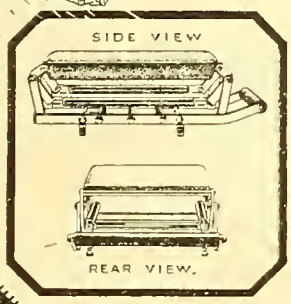
THE WHITLEY MANFG. CO., LTD.,
LONDON ROAD, COVENTRY.
'Phone: No. 835. Wires: "Whitcars."



Introducing The

Townshend

PILLION SEAT.

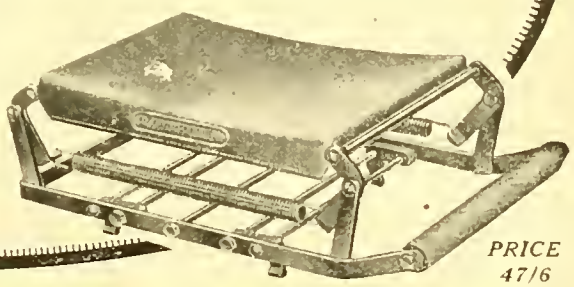


THIS is the Seat you need.

It completely solves the problem of perfect Pillion riding. Scientifically designed to assure maximum comfort and safety, it has a substantially-made frame of particularly handsome build and finish. No sharp corners or projecting metal edges. Well padded seaped Seat on stout metal base. Very strong, double-action Clip fastening. Fitted on any carrier in 3 minutes.

The spring-action is through rocker arms at each corner on strong lateral springs, the whole seat moving vertically ONLY, hence NO-END—OR SIDE SWAY. NO-BOUNCING OR BUMPING is possible, and all danger of steering-wobble is eliminated. No moving parts to pinch the fingers. Handle at rear for passenger's assistance, and for lifting machine on to Stand. Send for fuller particulars. Obtainable of all Dealers and Garages.

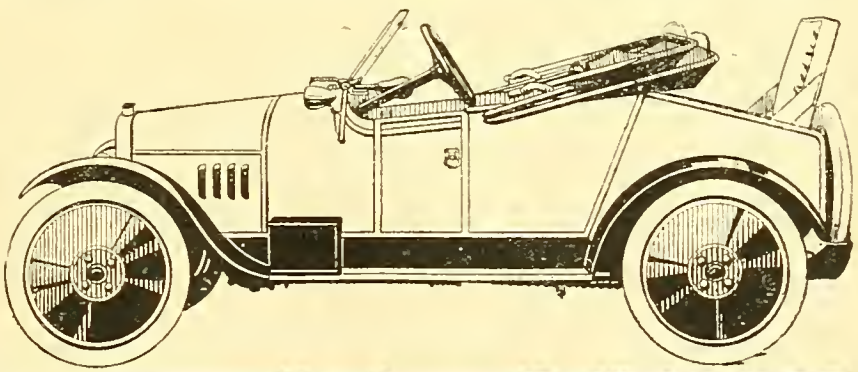
The
LEATHERIES, LTD.,
Sampson Rd., North,
Birmingham.



Sole Manufacturers of
"Empire-de-Luxe"
SADDLES

PRICE
47/6

The 1921 LM



Yours for £70 down

YOU may begin enjoying possession of this dainty little car NOW, the makers having decided on a Deferred Payment Plan in response to universal demand. You pay £70 down and thereafter 11 monthly instalments of £17 and one of £16—260 Gns. in all. To the **Cash Price, 250 Gns.,** only 10 Gns. (4%) is added for deferred payment. Write below for specification and particulars.

Sales Dept.
LITTLE MIDLAND LIGHT CAR CO. (1920), LTD.,
Southgate Works, PRESTON.

2-Seater and roomy single dickey; 8 h.p. J.A.P. engine, WATER-COOLED; three speeds and reverse; electric lighting; Michelin detachable wheels. Tax £9. FULLY EQUIPPED.

London and Home Counties Agents:
VIVIAN HARDIE & LANE, LTD.,
24, Woodstock Street, New Bond Street,
LONDON ——————— W.1.
To whom all enquiries from London and Home Counties should be addressed.

EXCELSIOR REAR WHEEL OPERATION

EXCELSIOR DETACHABLE LEG GUARDS

"Excelsior"

EXCELSIOR LUGGAGE GRID & LOCKER

EXCELSIOR PATENTED "V" WINDSCREEN

MODELE DE LUXE SUCCESSES.

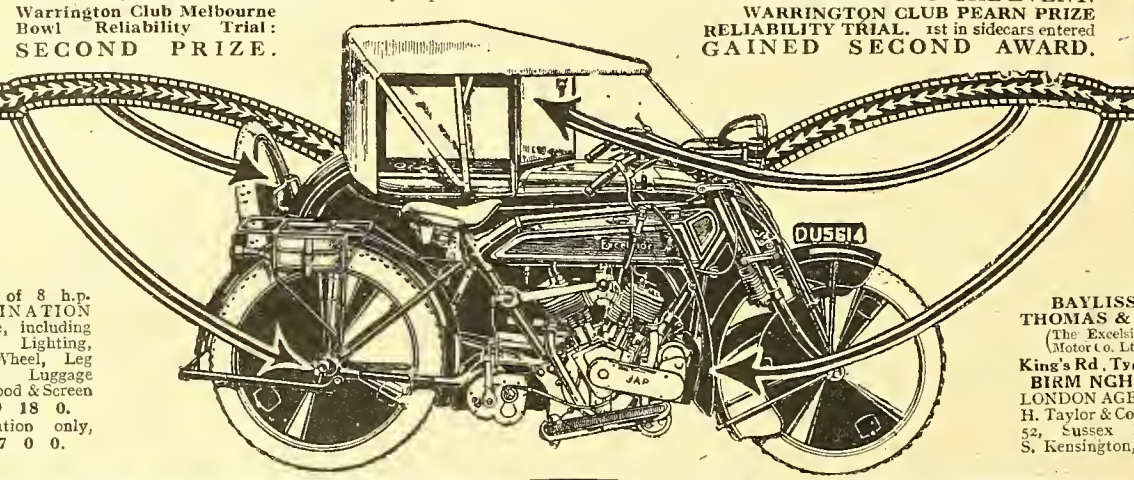
To yet another PRIVATE OWNER, Mr. J. H. GREEN, riding his standard 8 h.p. "EXCELSIOR" Combination in each event, are credited the following results:

The MEAD MARTIN CHALLENGE CUP — **LIVERPOOL CUP TRIAL** — The *only* Sidecar Entered — **1ST CLASS AWARD.**

This success is all the more praiseworthy in that, owing to the severity of the course, the "EXCELSIOR" was the *only* sidecar machine entered, yet proved THE ONLY WINNER OF AN AWARD IN THE EVENT.

Warrington Club Melbourne Bowl Reliability Trial: SECOND PRIZE.

WARRINGTON CLUB PEARN PRIZE RELIABILITY TRIAL. 1st in sidecars entered GAINED SECOND AWARD.



PRICE of 8 h.p. COMBINATION complete, including Electric Lighting, Spare Wheel, Leg Guards, Luggage Grid, Hood & Screen **£239 18 0.**
Combination only, **£187 0 0.**

BAYLISS, THOMAS & CO., (The Excelsior Motor Co. Ltd.) **King's Rd, Tyseley, BIRMINGHAM.**
LONDON AGENTS: H. Taylor & Co. Ltd., 52, Sussex Place, S. Kensington, S.W.

APOLLO REG.D
tubular box spanners

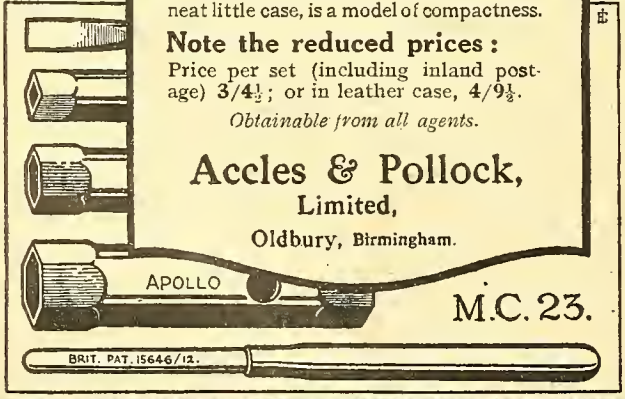
The motor cycle set No. M.C. 23.

This handy little set, ready for immediate use, makes small adjustments a pleasure. Consisting of three spanners to fit six sizes of nuts, a screwdriver, and a telescopic tommy-bar; the set, when fitted into its neat little case, is a model of compactness.

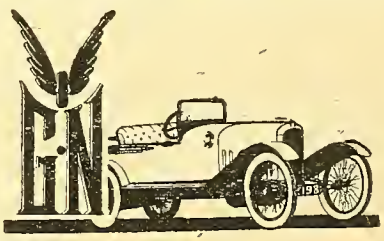
Note the reduced prices:
Price per set (including inland postage) **3/4½**; or in leather case, **4/9½**.

Obtainable from all agents.

Accles & Pollock, Limited,
Oldbury, Birmingham.



M.C. 23.



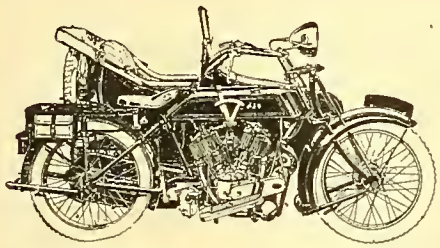
POPULAR MODEL
fully equipped, ready for the road,
£198

THE CAR YOU **CAN** AFFORD

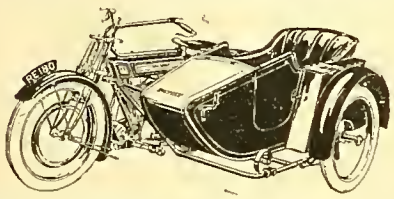
LONDON to EDINBURGH,
5 GOLD MEDALS.
1 SILVER MEDAL.

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NORTHUMBERLAND and DURHAM:
GRIMSHAW, LEATHER & Co.,
LIMITED.
Barras Bridge, Newcastle-on-Tyne. Union Street, Sunderland.
Reed Street, West Hartlepool.

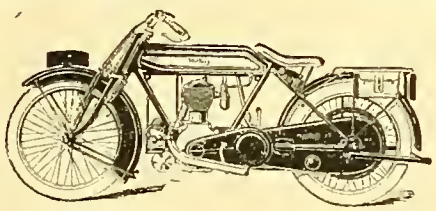
Raymond M.



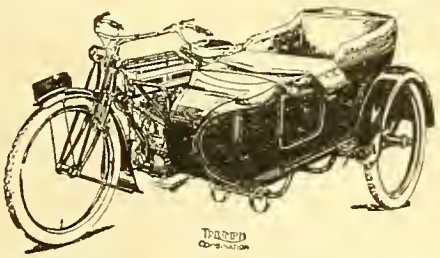
7 h.p. A.J.S. .. .. £215.
Dynamo Lighting Set £28 extra.



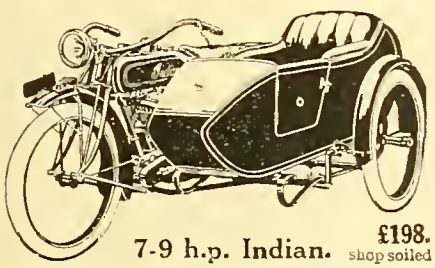
8 h.p. Royal Enfield Combination £160.
2¼ h.p. Lightweight .. £65.



4 h.p. Norton .. .. £135.
Ditto with de Luxe Sidecar £177.



4 h.p. Triumph Combination £165.
Ditto, Chain-Drive Model £175.
Solo .. .. £115 and £125.



7-9 h.p. Indian. £198. shop soiled
With Electrical Equipment and Speedometer.

CASH. EXCHANGES.
DEFERRED PAYMENTS.



'Grams: "Lytcar, B'ham." — 'Phone: Mid. 2910. —

It's Worth While!

Expert advice to assist you in deciding upon your new motor cycle may save you pounds! Here, at The Birmingham House for Motorists, the pick of the motor cycle world is arranged for your inspection. Expert disinterested advice is yours for the asking.

Agencies Include :—

A J.S., Enfield, Triumph, Rover, Norton, New Imperial, Humber, James, Massey-Arran, Edmund, B.S.A., Blackburne, Calthorpe.

P. J. EVANS

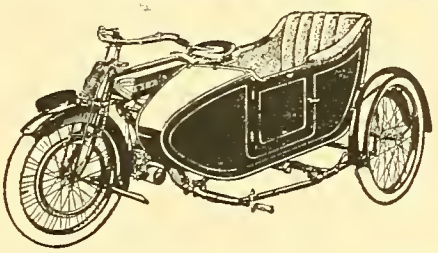
(Winner Junior T.T. 1911)

THE BIRMINGHAM HOUSE FOR MOTORISTS.

Showrooms: 81-91, JOHN BRIGHT STREET.
Service Depot: 14-22, SEVERN STREET.

BIRMINGHAM.

Any Make of Motor Cycle Supplied.



4¼ h.p. B.S.A. Model K .. £123.
4¼ h.p. „ „ H .. £126.
Complete with Sidecar as illustrated.

The Tourist Trophy Races.

HERE'S TO THOSE WHO MAKE MOTOR CYCLING WORTH WHILE !

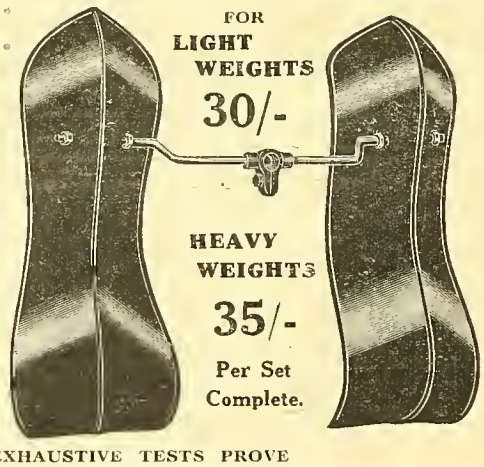
COOPER SIDECARS • BELGRAVE ROAD • BIRMINGHAM.

SPEEDWELL

PATENT 33617/20.

V LEG SHIELDS

TO SUIT ALL MACHINES.



FOR LIGHT WEIGHTS **30/-**

HEAVY WEIGHTS **35/-**

Per Set Complete.

EXHAUSTIVE TESTS PROVE
Complete Protection, Increased Power, and Fuel Economy, Through Engine Cooling Without Wind Resistance.

If unobtainable through your agent apply direct :

SPEEDWELL GEAR CASE Co., Ltd.,
Broad Street, Birmingham. Lamb Street, Coventry.

BARTHOLOMEW'S MAPS

Readers are invited to send for a copy of new eight-page list, giving particulars of Maps and Plans for all Districts in England, Scotland and Ireland. A copy will be sent free on application to the :: :: Publishers. :: ::

JOHN BARTHOLOMEW & SON, LTD.
The Geographical Institute,
DUNCAN STREET, EDINBURGH.

NORTH'S BRITISH MADE
Watford

SPEEDOMETERS for Motor Cycles.

Model 42 *(as illustrated)* — Black finish. Nickel-plated bezel. Indicates speeds to 60 miles per hour. Total mileage counter to 10,000, and repeats. Quickly reset trip-counter.
Price £6 5s. 0d.

Model 40 corresponds in other details but is without trip mileage counter.
Price £5 15s. 0d.

Back wheel drive for "Triumph," **5s.** extra. Back wheel drive for "Indian" or "Harley-Davidson," **10s.** extra

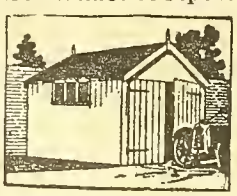


Manufactured by
NORTH & SONS, Ltd
WATFORD,
and 14, Soho Square, London, W.1.

FINAL CLEARANCE SALE

Reductions of from 25 to 75% off usual list prices.
When once cleared cannot be repeated at the price.

MOTOR CYCLE HOUSES FROM £7 15 0



MOTOR CAR HOUSES FROM £10 2 6

Every Article is New, Perfect, and Complete as list.
Send for F.S. Catalogue No. 85, Post Free.

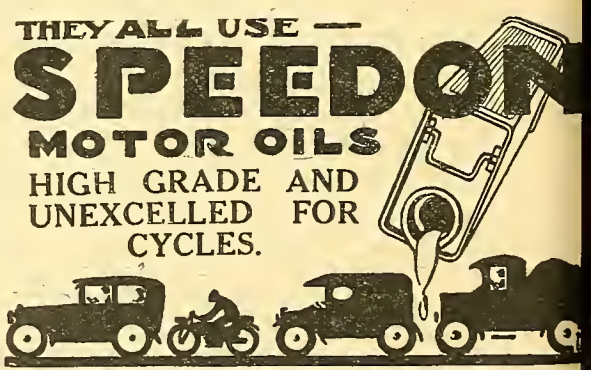
T. BATH & CO., LTD., 18, SAVOY STREET, LONDON, W.C.2.
OUR NEW SHOWROOMS ARE NOW OPEN.

THEY ALL USE —

SPEEDON

MOTOR OILS

HIGH GRADE AND UNEXCELLED FOR CYCLES.



John S. Morris & Son (Oils), Ltd., Cross Lane Oil Works, Manches

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed & Co. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street E.C.4. *Readers who reply to Box No. advertisements are warned against sending remittance through the post except in registered envelopes; in all such cases the use of the Deposit System is recommended, and the envelope should be clearly marked "Deposit Department."*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

☞ DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, ½%. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

1920 A.B.C., Lucas dynamo lighting, speedometer; £105.—8, Manor Rd., Coventry. [X3876

A.B.C., 1,054 miles, dynamo lighting, speedometer, etc.; cash bargain. £115.—Collier's Motorics, Horton St., Halifax. [3801

1920 A.B.C., complete, lamps, horn, tools, new tyre, tax paid, splendid condition; £95.—Jackson, London Rd., Horsham. [2663

THE SPEED TO PLEASE AND THE NEED OF EASE

ARE CATERED FOR BY THE

EASTERN GARAGE COMPANY.

Our stock lists embrace all types of machines, both new and second-hand, and, if desired, payment can be made by a quarter down, and twelve monthly instalments.

We are also prepared to arrange exchange transactions.

May we have the pleasure of dealing with your enquiry?

Eastern Garage Co.,

Official Repairers to
R.A.C., A.C.U., A.A. & M.U.

418, ROMFORD ROAD,
FOREST GATE, E.7.

Telephone: 490, East Ham.
Telegrams: "Egaraco, London."

MOTOR CYCLES FOR SALE.

A.B.C., guaranteed as new, done 500 miles, owner got car; inspected any time; £100.—Black Bull, Market Place, York. [X3340

A.B.C. 1921 Combination, brand new, guarantee. £135; licensed, all lamps, horn, etc., £141/10.—Derrington, Grafton Rd., New Malden. [4710

1921 A.B.C. Machines in stock, complete stock of spares stocked.—W. Luther J. Davies, 71, Commercial St., Newport, Mon. 'Phone: 2488. [0639

1920 A.B.C. and Special Sidecar, speedometer and accessories, small mileage, condition as new; nearest £120.—Bolton, 29, Blenheim Place, Leeds. [4008

1921 A.B.C., due from works this week, complete with kick start, Lucas lamps, and tax paid; £115.—54, St. James' St., Ashted, Birmingham. [X3866

A.B.C. Combination, 1921, superb turnout, every equipment; £140; owner must realise.—302, London Rd., Thornton Heath. 'Phone: 2237 Croydon. [4625

A.B.C., dynamo lighting, electric horn, kick starter, Cowey trip speedometer, etc., small mileage, condition as new, tax paid; best offer for cash.—14, Goodison Av., Walton, Liverpool. [4513

A.B.C. Combination, Dec., 1920, kick start, Cowey, electric lights, T.T. bars, like new, done 500 miles; £115, or exchange late model lightweight and cash.—West, 50, Maldon Rd., Acton, W.3. [4297

A.B.C., delivered July, 1920, as new, only done 1,300 miles, including accessories, speedometer, mechanical horn, tax and insurance policy; £90.—Dodson, 3, Akenside Rd., Hampstead, N.W.3. [0592

A.B.C. 4-speed 1920 Model, fitted for sidecar, run 400 miles only, perfect condition; best offer over £100 accepted for quick sale; owner going abroad.—Write Gates, 138, Gloucester Terrace, W.2. [3565

Abingdon.

1919 Abingdon King Dick 6-7h.p. Combination, Canoelet, 3-speed, countershaft, fully equipped, licensed, first-class condition and appearance, any trial or inspection; £125.—34, Basnett Rd., Battersea, S.W.11. [4140

Acme

ACME 1921 J.A.P. 8h.p. Combination, 3-speed Sturmey-Archer, spare wheel, interchangeable, brand new; £160.—Luck, Earlsdon, Coventry. [X3747

ASTONISHING Value.—One only brand new 8h.p. Acme combination, detachable wheels, spare wheel, makers' list price £213; reduced to £170 spot cash.—The Premier Motor Co., Aston Rd., Birmingham. [X3776

A.J.S.

JULIANS of Reading have 1921 A.J.S. in stock 0532

DAN GUY, Weymouth.—1921 A.J.S. in stock; £215. [0549

JULIANS, of Reading, have 2¾h.p. A.J.S. model in stock. [0637

PICKERING, Shrewsbury.—A.J.S., new and second-hand; exchanges. [X3846

1921 7h.p. A.J.S. Outfit in Stock; £215.—Cross, Agent, Rotherham. [X3756

1921 2¾h.p. A.J.S. in stock; list price.—Caffyns, Ltd., Agents, Eastbourne. [3587

2¾h.p. A.J.S., new 1921 model, actually in stock; £105.—Crow Bros., Guildford. [4044

A.J.S.: All models and all spares stocked.—Merrick's Stores, Listerhills Rd., Bradford. [2492

A.J.S. Spares; prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [8592

A.J.S. 1920 Combination, excellent condition; £150, or nearest offer.—Lieut.-Colonel C. Hawkes, Burgess-ton, Pembroke. [X3687

A.J.S. 1916 Combination, perfect condition; bargain, £100.—72, Grand Parade, Harringay. 'Phone: Hornsey 1646. [4114

DAN GUY, Weymouth.—A.J.S. 6h.p. combination, 1917, recently re-enamelled, splendid condition throughout; £120. [0553

2¾h.p. A.J.S. 1916 Sports, 3-speed, good condition, very fast; £70.—Wallington, The Nook, Grappenhall, Cheshire. [4555

A.J.S.—London and Walsall agents; immediate delivery; exchanges or deferred payments.—Maudes' Motor Mart, London and Walsall. [2420

1921 A.J.S. Combination, Lucas dynamo lighting, cost £248 a few weeks ago, run a few hundred miles only, tax paid; £218.—114, Brixton Hill. [4331

1921 7h.p. A.J.S. Combination, 3 lamps, hood and cover, speedometer, spare wheel, side screen. After 5.30 p.m.—J. W. Wood, 46, Glen St., Colne, Lancs. [3535

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B27
Motor Cycles advertised by private owners are, when desired, marked (P).

MOTOR CYCLES FOR SALE.

A.J.S.

1920 A.J.S., Lucas Magdyno lighting set, hood, screen, exceptionally fine outfit, perfect condition; 180 gns.; Midlands.—Box 696, c/o *The Motor Cycle.* [X3774

DAN GUY, Weymouth.—1920 6h.p. A.J.S. Combination, purchased November, as new, guaranteed condition, fitted Lucas Magdyno, small mileage, tax paid; £195. [0596

A.J.S. Combination, 1921 model, as new, not driven 50 miles, complete with dynamo lighting, and tax paid; £225.—The Eastern Garage Co., 418, Romford Rd., Forest Gate, E.7. [2871

A.J.S. 6h.p., 1920 (Dec.), combination, beautiful condition, small mileage, lamps, speedometer, spare wheel, licensed, expert inspection invited; £158.—Crow Bros., Guildford. [4554

A.J.S. 1913 6h.p. Combination, engine thoroughly overhauled, in really good condition; £80.—The Layton Garages, 30, Holywell St., Oxford. 'Phone: 581. Tel.: Integrity, Oxford. [4567

A.J.S. 6h.p. Combination, 1916 model, interchangeable wheels, hood, screen, electric lighting, speedometer, horn, luggage grid, spares; £120.—May Villa, London Rd., Harleston, Norfolk. [3781

A.J.S. Lightweights, 2¾h.p. Can now supply from stock. Book your orders now and save disappointment. Official agents for this famous lightweight.—F. E. Wootten, Ltd. High St., Oxford. [3695

A.J.S. 6h.p. Combination, purchased September, 1920, large Lucas lamp and horn, Watford speedometer and wind screen, spare wheel, perfect order, very little used; £170, or best offer.—J. Elliott, Ardress, Loughgall, Co. Armagh. [4152

A.J.S. 2¾h.p., 2-speed, hand clutch, kick starter, all-chain, fully enclosed, semi-T.T. wide handle-bars, Lucas head lamp and horn, in good condition and excellent running order, completely equipped; £60.—G. H. Murchison, Fulford, York. [4318

1920 A.J.S., Grindlay spring wheel sidecar, 5 lamps, electric and gas, Low's generator, spare wheel, screen, Watford trip speedometer, luggage grid, tools and spares, splendid condition, bargain, buying car; £160 lowest.—65, Lawrence Rd., Southsea, Hants. [4365

LATE 1914 6h.p. A.J.S. Coachbuilt Combination, fully equipped, hood, screen, luggage grid, etc., appearance exceptional, condition perfect throughout, little used, taxed £100 level; exchange cycle car, A.V. bicar preferred.—5, Howard Rd., Bromley, Kent. [4027

A.J.S. Combination, £215; dynamo lighting model, £243, family model, £220/5; also 1920 combination, beautifully equipped, £190; deferred payments if desired.—Lamb's, 151, High St., Walthamstow, 50, High Rd., Wood Green, N., and 387, Euston Rd., London, N.W. [3818

A.J.S. 1920 Combination, 6h.p., low mileage, spring pillar seat, hood, cover, screen, storm apron, knee grips, P. and H. lamps, horn, speedometer, spare wheel (unused), tax paid, exceptional condition throughout, perfect running order; £160.—1, Oxford Rd., Hay, Hereford. [4402

A.J.S. 1921 (March) 7h.p. Combination, Lucas dynamo lighting, electric horn, Cowey speedometer, hood, special celluloid side screen, spare wheel, unpunctured, mileage 2,000, perfect condition, licensed for year; price 210 gns.; no offers.—Apply, Eccles, The Oaks, Sulhamstead, nr. Reading. [4334

A.J.S. 7h.p. 1921 Model, with special Henderson sidecar, screen, large locker, luggage grid, spare wheel, dynamo lighting, electric horn, Bonnikeen speedometer, disc wheels, watch, semi-T.T. bars, Brooks leaf-spring saddle, legshields, Binks carburetter, B. and L. mechanical oil pump, all tools, spares, etc., a magnificent outfit, absolutely as new; any trial or examination; £225, or exchange lower power and cash.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: 3155. [4734

A.J.S. 4h.p., 1916, scarcely used till 1919, engine just rebushed, gears new December, also chains, chain cases, sprockets, 5 good covers, tank and sidecar just repainted, spare wheel, spring seat-pillar, Cox Atmos, Tan-sad, Easting, hood, Cowey speedometer, horn, F.E.W. valves, sidecar check springs, electric lighting, Speedolite, Hunt's lamps, 6 volt accumulator, handle-bar muffs, spare clutch plates, chains, valves, etc., owner buying car, ride 50 miles to probable purchaser; £100.—Capt. Cardew, Survey, Larkhill, Surrey. [3572

Alldays.

PICKERING, Shrewsbury.—Agent for Alldays Allon; exchanges arranged. [X3847

E. KICKHAM for Allon, sole agent for Bristol and district.—Stokes Croft, Bristol. [3356

ALLDAYS Allon, 1918, 2¾h.p.; £42, or nearest offer.—56, St. Luke's Rd., Clapham, S.W. [4489

ALLON, late 1920, condition and tyres perfect, tax paid; £62/10, offers; after 6.—195a, Albany St., N.W.1. [3956

ALLDAYS Matchless, 2-stroke, S.A. 3-speed clutch, new tyres, belt; £35.—150, Garratt Lane, Wandsworth. [4287

ALLON 2½h.p., 2-speed clutch, all accessories, perfect condition, tax paid; nearest £50.—Stacy, 6, Grosvenor St., Camberwell. [4295



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1920 Allon de Luxe, 2¾h.p., 2-stroke, 2-speed, kick start, best accessories, 600 only, as new; £65.—Collins, Telephone Exchange, Filton, Bristol. [4316

ALLDAYS Allen, 2-speed, clutch, guaranteed as new, heavy Dunlops, legshields, lighting sets, etc.; trial; £70.—Smith, 48, Bristol Rd., Birmingham. [X3632

ALLDAYS Allon, 2¾h.p., 1919, lamps, horn, pump, tyres as new, legshields, tax paid, mechanically perfect; £55.—Benson-Dare, Gloucester Rd., Ross, Herefordshire. [4412

ALLDAYS Allon 1920 (July) 2¾h.p., speeds, K.S., clutch, leg shields, heavy Dunlops, lighting set; nearest £67/10.—Harper, Penelve, 4, Wanlip Rd., Syston, Leicester. [3895

1918 Allon 5h.p. Sporting Combination, Sturmey countershaft, Binks 3-jet, E.I.C. mag., Lucas dynamo lighting and horn, spare wheel and tyre, carrier, etc., fast and sound; best offer; lightweight taken in part.—47, Bishops Rd., Peterborough. [4461

American X.

AMERICAN X., 1916-17, 3-speed, K.S., clutch, tax paid, lovely combination; 75 gns.—50, Royal Av., Chelsea, S.W. [4404

THE Last One at this Price.—Brand new 1921 American X 7-9h.p., 3-speed, with Milford bulbous back model de luxe sidecar, 27×3½ tyres, list price £217; offered at £175 cash.—The Premier Motor Co., Aston Rd., Birmingham. [X3777

Ariel.

JULLANS of Reading have Ariels in Stock. [0533

DAN CUY, Weymouth.—Ariel agent; early delivery dates. [0550

1914 Ariel, T.T. model; bargain, £39.—Ross, 86, High Rd., Lee, S.E. [3986

NEW 3½h.p. Ariel, 3-speeds and kick-start; £100.—3, Parker Lane, Burnley. [X3512

CYRIL WILLIAMS for immediate delivery of all model Ariel.—Chapel Ash Depot, Wolverhampton. [X3793

3½h.p. Ariel Coach Combination, 3-speed C.S., K.S.; bargain, 69 gns.—Claremont Garage, Blackpool. [4019

ARIEL 3½h.p., 1920, countershaft, 3-speed, lamps, horn, pillion, spares, licence; must sell, £90, or offer.—Seen 8, Little Coodge St., W.1. [3772

ARIEL 4h.p., countershaft, mechanically perfect, trial pleasure, tax paid; £32/10; lightweight sidecar part.—7, Cowdrey Rd., Wimbledon. [4062

NEW 1921 Ariel 3½h.p. Combination, 3-speed, etc., in stock; list price £135; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [8742

ARIEL 3½b.p., actually in stock, at new reduced price; also other good makes, both new and second-hand.—Autoveyors, Ltd., Service Depot, 12, Palmer St., S.W.1. [0468

1920 3½h.p. Ariel Combination, tools, Lucas lamps and horn, licence, excellent condition; £100, or reasonable offer.—Statham, 45, Warrington Crescent, Maida Vale, W.9. [4184

ARIEL 1920 3½h.p. Combination, lamps, and usual equipment, including licence; £105.—The Layton Garages, 30, Holywell St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [4571

ARIEL.—This is the machine for reliability. We are practical riders and gold medal winners with this wonderfully efficient and reliable motor cycle. We can give you immediate delivery from stock. All spares in stock. Trade supplied.—Jones' Garage, Muswell Hill, and at Woodside Parade, N. Finchley. [0378

3½h.p. Ariel C.B. Combination, 3-speed, kick start, new heavy tyres, lamps, horns, toolbags, discs, wind screen, hood, pillion seat, etc., just been thoroughly overhauled, gold medal Scottish Six Days, tax paid; £65.—152, Peckham Park Rd., Peckham, S.E.15. [4359

Armis.

NEW 6b.p. Armis-Jap Combination, 3-speeds and kick start; 145 gns.—3, Parker Lane, Burnley. [X3511

Bat.

6-8h.p. Bat Coachbuilt Combination, 2-speed, kick start, spring frame; trial; £76, offers.—Smith, Feroview, Redbourne, Swindon. [4514

BAT-J.A.P. 5-6h.p. Countersbalt, Sturmey 3-speed, splendid condition, £70; 2¾h.p. Douglas, running, £14.—Perrin, 6, Etna Rd., St. Albans. [4594

BAT 8h.p. and Montgomery Sidecar, 1920, Easting, tools, lamps combined acetylene and electric, spares, in best running order; £135, or offer.—Ivens, Bacombe Cottage, Wendover. [4381

BAT, 6h.p., Model 4, 3-speed clutch, kick starter, as makers' specifications, 1920 model, shop-soiled only; bargain, £110, for cash only.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [3797

Beardmore.

BEARDMORE, done 377 miles, unscratched, P.H. lamps (new), Bonniksen, etc.; best offer over £70.—19, Dorset Rd., Harrow. [4058

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E. KICKHAM for Cedos, sole agent for Bristol and district.—Stokes Croft, Bristol. [3357

FOR Sale, Cedos motor cycle, absolutely new; £60. —Box 4,671, c/o *The Motor Cycle*. [4213

Chater-Lea.

CHATER-LEA 8h.p. Combination, Model 10; £160; catalogue on request.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. [1854

CHATER 6h.p. Combination, Sturmey 3-speed hub gear, handsome 2-seater sidecar; £45.—44, Whyteville Rd., Upton Lane, Forest Gate. 'Phone: Stratford 283. [4437

CHATER-LEA Combination, 3½h.p., Bosch mag.; £30, or near offer.—Apply, 3, Wedderburn Rd., Hampstead. Can be seen at Saunders' Garage, 30, High St., Hampstead. [3626

CHATER-LEA No. 7 8h.p., 3-speed countershaft, handle start, new C.B. tandem sidecar, hood, recently overhauled, sound condition; £90.—111, Southampton St., Camberwell. [4077

CHATER-LEA New Model No. 10 Sidecar Combination, 8h.p., 3-speed, the best value on the market; £160. Have you seen it? Write for leaflet.—Chater-Lea, Ltd., Banner St., London, E.C.1. [3142

Chater-Lea-Jap.

CHATER-LEA Combination, 8h.p. J.A.P., 3-speed countershaft; £55.—17, Heatou Rd., Mitcham. [4452

6h.p. Chater-Jap, 3-speed, clutch, overhauled and re-enamelled; £45.—22, Gould Rd., Twickenham. [4429

3½h.p. Chater-Jap, Bosch mag., spring forks, low, fast; bargain, £26; sidecar £4.—Seller, 16, Mason St., Walworth. [4749

CHATER-J.A.P. 4h.p., N.S.U. 2-speed, lamp, Klaxon, Tan-Sad, tax; any trial; £50.—44, Okeburn Rd., Tooting. [3944

Chater-Lea-Precision.

CHATER-LEA-PRECISION 4½h.p., Bosch mag., new Dunlops, good running order; £35, bargain.—Gower's Drug Stores, 162, South St., Ponders End, Middlesex. [3566

Cleveland.

1920 3h.p. Cleveland, 2 speeds and kick start, chain drive; 60 gns.—30, Talbot St., Burnley. [X3513

Clyno.

CLYNO 2-stroke, tax paid, all on; £38.—75, Richmond Rd., Barnsbury, N. [4292

1914 Clyno Combination, spare wheel, lamps, tax paid; £95.—Ross, 86, High Rd., Lee. [3987

8h.p. Clyno-Jap, running, less chain cases; £40.—Banister and Botten, 341, Upper St., N.1. [4632

CLYNO Lightweight, 2 speeds and clutch, overhauled by makers, new tyres; £35.—Terry, Northdown, Wrotham. [3514

2¾h.p. Clyno, 1919, 2-speed, hand clutch, perfect, tax paid; £45, near offer.—356, York Rd., Wandsworth. [3602

CLYNO Combination, 3-speed, kick start, 2 spare wheels, fully equipped, tax paid; £90.—57, River Av., Palmer's Green, N. [4208

1920 2¼h.p. Clyno, 2-speed and clutch, very little used; £50; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [4698

1920 Clyno 2¼h.p., 2-speed, clutch, mileage under 600, in perfect condition; £50, or nearest.—3a, Standen St., Tunbridge Wells. [4109

CLYNO 1920 2-stroke, 2-speed and clutch, lamps, horn, tools, licensed; £55.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [3880

CLYNO Combination, 3-speed, kick start, chain drive, any trial; £88; take lower power part.—67, Kenbury St., Camberwell, London. [4421

CLYNO Combination, 1916, 6h.p., 3 speeds, etc., spare wheel, just overhauled, and fully equipped; £90.—270, Westborough Rd., Westcliff. [3938

1921 Clyno 8h.p. 3-speed Spring Frame Combination, guaranteed as new, very small mileage; £200.—Marshallsay, Baker, Chickerell, Weymouth. [0622

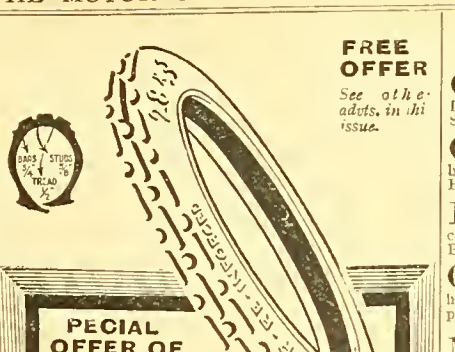
CLYNO 5-6h.p., 1915, with brand new Bowser 2-seater sidecar, good running order; what offers.—King Edward Garage, Church End, Finchley. [4499

CLYNO Combination, 5-6h.p., lamps, horn, all accessories, splendid condition, any trial; £80, or offer. —Rev. O'Connell, St. Michael's, Shepton Mallet. [4153

CLYNO 5-6h.p. Standard Combination, spare wheel and tyre, hood, lamps, excellent condition; £75.—13, Carlyle Sq., S.W.3. Tel.: Kensington 898. [4276

6h.p. Clyno Combination, electric lighting, 4 wheels, splendid condition, ride away, cash required, must be sold; best offer.—15a, Deansfield Rd., Eltham. [3919

CLYNO Combination, 1914, 3 speeds, clutch, and kick starter, spare wheel, fully equipped, and perfect condition; £78.—62b, Highgate Rd., Kentish Town. [4143



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CLYNO 6h.p. Combination, 3-speed, detachable wheels, 2 new tyres, lamps, horn, etc., just been overhauled and repainted; sacrifice £80.—1, Havelock St., Forest Hill, S.E.23. [4030

1917 Clyno 5-6h.p. Combination, spare wheel, lamps, screen, recently overhauled, excellent condition, tax paid; owner abroad; 100 gns.—Blondell, 30, Warrender Rd., Tufnell Park. [4456

CLYNO 5-6h.p. Combination, 3-speed, kick start, spare wheel, interchangeable, thoroughly overhauled, new chains, splendid condition, insurance, tax paid; what offers?—Latham, Ratby, Leicestershire. [4423

MISS E. DOOLEY.—1916-17 5-6h.p. Clynos, W.D. models, K.S., clutch, renovated, £65 each, with new mag. and carburetter. Please look to my advertisement under Miscellaneous for Clyno spares, etc., etc.—Please apply for the above to Miss E. Dooley, 33, Killyon Rd., Clapham, S.W.8. [4695

CLYNO 6h.p. Combination, hood, Bluemel screen, Cowey speedometer, Stewart mechanical horn, electric light, 4 interchangeable wheels, 2 covers new, pillion seat and platform, spare petrol can fitted, sidecar step, luggage carrier, 3 tool upboards, tax paid, fully insured, any trial; nearest £100; appointment.—J., 67a, Colle Rd., Forest Hill, S.E. [4490

Connaught.

PICKERING, Shrewsbury.—Connaughts in stock; prices from £47/10. [X3850

1920 Connaught, complete lamps, horn, licence paid, 2 speeds; £45.—White House, King St., Wrexham. [X3630

CONNAUGHT 1920 2½h.p., single-speed, new, shop-soiled only, fully guaranteed; 40 gns.—P. J. Evans, 81-91, John Bright St., Birmingham. [3925

CONNAUGHT 1921 Combination, accessories, tax, insurance, not done 100 miles; £95; cost £120; owner leaving country.—111, Gt. Portland St., W. [3890

CONNAUGHT 1920 2½h.p. 2-stroke, 2-speed, very good condition; £45.—The Layton Garages, 30, Holywell St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [4580

CONNAUGHT (late) 2½h.p., Amac, E.I.C., variable ignition, Dunlops, Druids, lamps, accessories, licence, brand new condition; £38; exchange 2¾h.p. Douglas.—63, Solon Rd., Brixton [4701

CONNAUGHTS.—All models in stock from £47/10 cash, or £25 down and 11 payments of £2/7/5.—Lamb's, 151, High St., Walthamstow, 50, High Rd., Wood Green, N., and 387, Euston Rd., London, N.W. [3815

Cotton.

1921 Cotton-Blackburne in stock, fastest time and record for hill 350 class Eastern Valley M.C.C., June 9th.—South Wales Distributer: W. Luther J. Davies, 71, Commercial St., Newport, Mon. 'Phone: 2488. [0641

Coulson.

PICKERING, Shrewsbury.—West Shropshire agent for Coulson; exchanges. [X3849

LATE 1920 Coulson B, 4h.p., licence, Lucas lamps and horn; 70 gns.—54, St. James St., Ashted, Birmingham. [X3862

COULSON B 1921 Models in Stock.—Sole Wiltshire Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5007

COULSON, 1920, 2¾h.p. Blackburne, 2-speed, equipped, taxed, perfect condition; £65.—R. B. Clark and Co., 7, Exhibition Rd., South Kensington, S.W.7. [3970

COULSON B 4h.p., 1920, shop-soiled, as makers' specification, at bargain price of £100 for cash only.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [3792

1920 2¾h.p. Coulson-Blackburne, guaranteed mechanically perfect, small mileage, trial invited; £70, or exchanges considered.—C. Patey, Brasenose College, Oxford. [3849

COULSON-B., 1919, semi-T.T., spring frame, smart Miller lamp, tax, overhauled, smart and sporty little 'bus; £65, or offers.—Gordon, Lancing College, Shoreham-by-Sea. [3628

NEW 1921 2¾h.p. and 4h.p. Coulson B, 3-speed, kick starter; list prices, £117/10 and £126; in stock; exchanges entertained. — Bambers', Easthank St., Southport. Tel.: 607. [8741

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Coventry Eagle.

PICKERING, Shrewsbury.—Coventry Eagles in stock; exchanges arranged. [X3851

COVENTRY EAGLE, Dec., 1920, Villiers 2-stroke, excellent condition, equipped, licensed; offers; seen week ends.—38, Leslie Rd., Northampton. [3631

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Coventry Eagle.

COVENTRY EAGLE 1917 2¾h.p., splendid condition, 2 speeds, very fast; £48, including accessories, tax paid.—Doré, Barn, Ripley, Surrey. [X3873

COVENTRY EAGLE-J.A.P., 1920, 2½h.p., 2-speed, ideal little lightweight, practically unused; £60 cash; exchange, or arrange convenient payments.—Bunting's Motors, Wealdstone. [4640

1920 3½h.p. Coventry Eagle, complete with lamps and horn; £100; new model, shop-soiled only, listed £116 complete.—S. Lewis, 19a, Upper Charlton St., Carburton St., off Gt. Portland St., W.1. [4308

COVENTRY EAGLE-J.A.P. 1920 2¾h.p., 2-speed, clutch, kick starter, mileage 1,500, thoroughly sound condition tax and insurance paid for year; £65; trial, Rochester.—Box 4,674 ,c/o *The Motor Cycle*. [4674

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DAYTON 2-stroke, good order, recently overhauled, tax paid; £26.—B. Kelly, 19, Devonshire Rd., Stratford, E.15. [4285

De Dion.

DE DION 3½h.p., C.A.V. mag., good running order; £17.—Wingrove, Old Sarum, Salisbury, Wilts. [2438

Diamond.

DIAMOND-VILLIERS, brand new; to clear, £39.—Clark, 7, Exhibition Rd., South Kensington. [3977

E. KICKHAM for Diamond, sole agent for Bristol and Bath district.—Stokes Croft, Bristol. [3355

CYRIL WILLIAMS for immediate delivery of all models Diamond.—Chapel Ash Depot, Wolverhampton. [X3817

1919-20 Diamond-Jap, Enfield gear, as new, speedometer, tax, insurance; £60.—49, South Lambeth Rd., London. [2933

DIAMOND, 1920, J.A.P., Enfield gear, original tyres unmarked; £50.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [3971

DIAMOND 1920 2¾h.p. 2-stroke, lighting set, tax paid, as new, guaranteed, gift; £39.—Willetts, Rookery, Lanesfield, Ettingshall, Wolverhampton. [X3788

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DOUGLAS 4h.p., 1917, in perfect order; £55.—56, Park Lane, Kidderminster. [3544

4h.p. Douglas Combination; £86.—Speechley, 86, Churchfield Rd., Acton, W.3. [3846

E. KICKHAM for Douglas and spares; trade supplied.—Stokes Croft, Bristol. [3351

2¾h.p. Douglas, 2-speed, very nice order; £50.—1, Bellingham Terrace, Catford. [4264

2¾h.p. Douglas, 1915; 38 gns.; engine just overhauled.—Philpott, Chailey, Sussex. [3721

DOUGLAS 2¾h.p., single-speed, good condition, taxed; £20.—17, Heaton Rd., Mitcham. [4453

W.D. 2¾h.p. Douglas, 2-speed, good running condition; from £40.—114, Brixton Hill. [4329

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DOUGLAS Combination, 1918, perfect; any trial after 7.30; must sell, 72 gns.—66, Umfreville Rd., Harringay, N. [4349

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1921 New Flat Twin Harley, sporting sidecar, £145; also 1920 model, £140.—Ross, 86, High Rd., Lee. [3995

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HARLEY-DAVIDSON, late 1920, C.B. sidecar, screen, hood, grid, Tan-Sad, discs, electric, perfect; price £185, or offer.—'Phone: Battersea 1730. [2524

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HARLEY-DAVIDSON 1920 Special "We Kan Opit" Model, perfect, very complete; £180; all on.—Colonial Motors, 104a, Finchley Rd., N.W.3. Hamp. 7822. [4688

1920 Harley-Davidson Electric Combination, 7-9h.p., mileage only 1,100, owner abroad, tax paid, as new; £150, lowest.—Barnett, c/o Boyces, 329, Archway Rd., Highgate, N. [2984

HARLEY-DAVIDSON 1920 4h.p. Model, Swan sporting sidecar, electric lighting, good condition, as new; £185.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3670

HARLEY-DAVIDSON, 1919, 7-9h.p., speedometer, lamps, horn, in good condition; £97/10.—The Layton Garages, 30, Holywell St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [4575

HARLEY-DAVIDSON 1918 Combination, lamps, horn, mirror, mechanical condition, enamel, plating, and tyres as new, tax paid; £105, cash bargain.—Sharp, Underhill Farm, Barnet. Tel.: 186. [3530

1920 Harley-Davidson and Sidecar, electric model, Tan-Sad, etc., £150, perfect; 1919 Harley-Davidson, new sidecar, hood, Tan-Sad, etc., £120.—Soames, 2, Petersham Terrace, Gloucester Rd., London. [3657

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HARLEY-DAVIDSON Genuine 1919 Combination, de luxe sidecar, as new, wind screen, speedometer, lighting set, tax paid, etc., owner going abroad; £155, or near offer.—50, Bath St., E.C. [3923

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7-9h.p. Harley-Davidson 1918 Combination, mag. model, excellent condition, new luxurious sidecar, hood, wind screen, year's insurance, tax paid; £140, near offer.—Mess Secretary, St. Mary's Barracks, Chatham. [3934

HARLEY-DAVIDSON, 7-9h.p., 1918, mag. model, luxurious combination, special sidecar, Easting, Lucas dynamo lighting, horn, fine appearance, perfect everywhere, tax paid; £150, or offer.—38, Lordship Lane, S.E.22. [X3767

1919 Harley-Davidson Combination, large bulbous car hood, screen with wings, leg shields, full set lamps, speedometer, tools, tax paid, in good condition and very smart appearance; £160, or offer.—Bushey View, Hampton Wick. [3951

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HARLEY-DAVIDSON and New Twin Mills-Fulford Sidecar, 7-9h.p., 1919, accumulator electric lighting, mechanical horn, licence paid, new appearance and condition; £150.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [3823

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2¾h.p. Hobart, first-class running order, tax paid; £28.—H. McFadyen, North Esk Rd., Montrose. [3510

HOBART-VILLIERS 2-speed, complete, in splendid condition; £45.—Bolton, 29, Blenheim Place, Leeds. [4009

HOBART-J.A.P. 2¾h.p., clutch, K.S., Sturmey-Archer, lamps, speedometer, Cowey, new July, 1920, done 400; best offer; must sell.—92, High Rd., Ilford. [3776

Humber.

2h.p. Humber, good condition, ride away; £18; exchanges.—76, London St., Chertsey. [4215

3½h.p. Humber, 2-speed, Canoelet sidecar; £35; separate.—Tegg, Camille, Pangbourne. [4350

2¾h.p. Humber Twin, fast, sporty, recently renovated; £32.—Steevens, Lyme St., Axminster. [4417

2¼h.p. Humber, Bosch, Amac, round tank; bargain, £20.—Blake, 216, Westbourne Grove, W. [3241

3h.p. Humber, overhauled (cost £12), re-enamelled, plated, everything perfect, tax paid.—Parsons, Bedworth. [X3807

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F.O.C.H. have a 2¾h.p. Humber, cheap, £28; also several other lightweights from £30.—5, Heath St., Hampstead (nr. Hampstead Tube Station). [3865

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HUMBER 4½h.p. Flat Twin, noted for reliability, immediately; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [4240

4h.p. Humber Coachbuilt Combination, 3-speed, clutch, perfect condition, all on, tax paid; £55; apply between 8 a.m. and 7 p.m.—62, Plashet Rd., Upton Park, E.13. [3766

HUMBER 3½h.p. Combination, licence paid, splendid condition; wanted, small motor van or higher powered combination, or sell.—Bishop, Woodbine Cottage, Stonecot Hill, Sutton, Surrey. [3770

HUMBER and Corvette Sidecar, 1919, 3½h.p., Stewart speedometer, Lucas horn, electric lamp set, only ridden 3,000 miles, mechanical condition guaranteed, appearance excellent; £90.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [3824

Imperi.

3h.p. Imperi, Eisemann, B. and B., automatic pulley, lamps, horn, low, comfortable, tax paid, ride away; £17.—Dodd, 135, Bathurst Gardens, Willesden, N.W.10. [4387

Indian.

E. KICKHAM for Indian, sole agent for Bristol and district.—Stokes Croft, Bristol. [3353

7-9h.p. Indian Combination, sporting sidecar, tax paid; 58 gns.—Claremont Garage, Blackpool. [4017

1919 7-9h.p. Indian, 3-speeds and kick-start, spring frame; £80.—3, Parker Lane, Burnley. [X3514

1921 Indian Scout, shop-soiled only, list £157; accept £132.—3, Parker Lane, Burnley. Tel.: 1032. [X3771

INDIAN 7-9h.p., perfect condition, new tyres and chains; bargain, £65.—14, Gloucester Rd., Ealing, W.5. [4072

£52.—7-9h.p. Indian, new condition, equipped, tax paid; sacrifice.—13, Pindock Mews, Maida Vale, W.9. [4269

INDIAN and Sidecar, 7-9h.p., 2-speed, lamps, etc.; £55.—Speechley's 86, Churchfield Rd., Acton, London, W.3. [3710

4h.p. Indian, electrically equipped, spring frame, speedometer; £65; sidecar cheap.—Florizel, Kingsway, Woking. [4168

1918 Indian, 7-9h.p., 2-seater C.B. sidecar, perfect; best offer; not done 500 miles.—15, Argyle Rd., Tottenham, N.17. [4520

7-9h.p. Indian Powerplus, brand new, and Canoelet sidecar; bargain, £105.—Pike, 102a, Church St., Chelsea. 'Phone: Kensington 137. [4358

INDIAN 7-9h.p. Combination, 3-speed, electric lamps and horn, hood, screen, accessories, excellent order; £100.—58, Cavendish Rd., N.W.6. [4093

1916 7-9h.p. 3-speed Indian, Swan sporting sidecar, like new; £75.—44, Whyteville Rd., Upton Lane, Forest Gate. 'Phone: Stratford 283. [4438

MOTOR CYCLES FOR SALE.

Matchless.

1920 Matchless M.A.G. Combination, lamps, horn, speedometer, spare wheel, wind screen, mileage under 3,000, overhaul just completed; £160.—Philpot, Motors, Canterbury. [4228

1920 8h.p. Matchless, Magdyno, hood, screen, leg-shields, sidecar step, speedometer, Pillion seat, spares, splendid condition; £175.—Smith, 175, New North Rd., Islington, N.1. [3538

MATCHLESS, late 1920, M.A.G., Magdyno, ammeter, hood, screen, speedometer, interchangeable wheel, etc., perfect condition; £165, or near offer.—Carlyle, 116, Duke St., Liverpool. [4487

NOTE.—We are agents for every leading make of motor cycle, but no better value can be found to-day than the Matchless at £185.

PLACE Your Order Now with the popular Matchless agent, satisfaction guaranteed, at your service always.—'Phone: Greenwich 751.—Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [4643

LATE 1920 Matchless H Model 8h.p., hood, screen, spare wheel, lamp, speedometer, Tan-Sad, horn, shields, tax, insurance paid, perfect condition; £170.—240, High St., East Ham, E.12. [4447

MATCHLESS-J.A.P. 8h.p., 3-speed clutch, coach-built sidecar, wind screen; £60; would consider exchange useful article; appointment.—Newman, 48, Camberwell Grove, Camberwell, S.E.5. [4633

LATE 1920 8h.p. Matchless Combination, complete with hood, Easting screen, all lamps, spare wheel and tyre, tools, spares, guaranteed perfect and as new; first cheque £155 secures.—Day, Okehampton. [3966

MATCHLESS.—I can give immediate delivery of 1921 Model H Matchless combinations at latest reduced prices. I also have on view the latest Matchless sports model; inspection invited.—Ross, 86, High Rd., Lee. [4002

MATCHLESS At Reduced Prices, £185, dynamo lighting £22/10 extra; 2-seater, £6/10 extra; 6 models in stock; demonstration freely.—Lamb's, 151, High St., Walthamstow, 50, High Rd., Wood Green, N., and 387, Euston Rd., London, N.W. [3810

MATCHLESS, Aug., 1920, 8h.p. J.A.P., spare wheel, grid, screen, lamps, etc.; following lately fitted: Sidecar hood, rear drive speedometer, leg-shields, and complete Tan-Sad, licensed, insured, perfect order, owner going abroad; bargain, £148.—Hancock, Lynwood, Truro. [4491

1918 Victory Model Matchless Combination 8h.p., purchased 1919, horn, lamps, mirror, Tan-sad, wind screen, storm apron, tools, leg guards, discs, spare wheel, also camping outfit, a luxurious turnout, in excellent condition, tax paid; £165, or nearest offer; inspection invited.—F. Cadwallader, 18, Park St., Pembroke Dock. [3615

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock, for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0381

Maxim.

MAXIM-DALM, Dec., 1920, 3h.p. 2-stroke, absolutely new, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, £52; ditto with clutch, kick start, £58/10.—224, Pentonville Rd., London, N.1. [4292

Metro.

METRO-TYLER 2¾h.p., 2-speed, 1919 (Aug.), as new; £45.—C. Taylor, Trumpet Hotel, Stafford. [3506

METRO-TYLER 1920 2¾h.p., 2-speed, Type S, new, shop-soiled only; £65.—P. J. Evans, 81-91, John Bright St., Birmingham. [3926

1920 2¾h.p. Metro-Tyler, 2-speed, discs, lamps, horn, Tan-sad, etc., tax paid, perfect condition; £45.—Hare, 21, Mostyn Gardens, Kensal Rise, N.W. [4235

Minerva.

2¼h.p. Minerva, Amac, coil, footboards, lamps, horn, suit learner; £22, or offer; after 6.—16, Christie Rd., South Hackney. [4112

3½h.p. Minerva, B. and B. carburetter, Simms mag., good tyres, £25; Wall auto wheel, as new, £10.—47, Acklam Rd., W.10. [4738

Mohawk.

MOHAWK Cycles, new or second-hand, at lowest possible prices for cash or easy payments.—Mohawk Cycle Co., Ltd., 2-8, Alexandra Rd., Hornsey. [3698

Monarch.

MONARCH-VILLIERS 2-stroke 2¾h.p., 2-speed, late 1920, lamps, tax paid, etc., etc., almost new; any test.—371, Earlsfield Rd., London, S.W.18. [4097

MONARCH, 1920, 2¾h.p. Villiers 2-stroke, single gear, lamps, licence paid; £37 10.—The Layton Garages, 30, Holywell St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [4581

Motosacoche.

MOTOSACOCHE 2h.p., incomplete, good condition; £10.—124, Grove Rd., Bow. [3651

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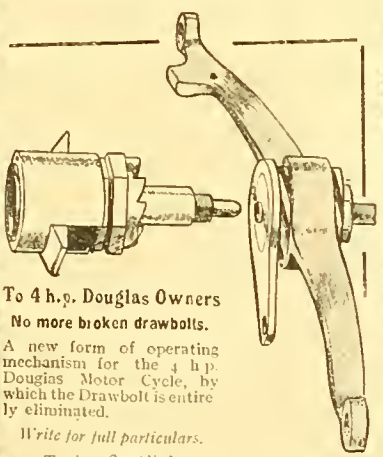
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MOTOR CYCLES FOR SALE.

Motosacoche.

2h.p. Motosacoche Lightweight, lamps, tax paid, in perfect condition; £20 for quick sale.—Cox, 21, Hobson St., Cambridge. [3783

New Hudson.

JULIANS of Reading have all New Hudson models in stock. [0534

4h.p. New Hudson, 3-speed clutch; £40.—Bass, High St., Amersham. [4688

1914 3-speed New Hudson, fine condition; £36.—Ross, 86, High Rd., Lee. [3993

BARGAIN, 4h.p. 1919 New Hudson, bulbous equal new; £105.—15, St. Paul's Rd., Bedford. [3543

1920 New Hudson Lightweight, 2-speed, excellent condition, tax paid; £55.—Rogers, 42, Church Rd., Hendon. [4504

NEW HUDSON 1917 2¼h.p., 2 speeds, perfect order, legshields, tax paid; £35.—Box 698, c/o *The Motor Cycle*. [X3823

NEW HUDSON Combination, 4h.p., 3 speeds, clutch, kick start, fine condition, Tan-Sad; £60.—Murrell, Old Schoolhouse, Barkingside, Ilford. [3672

NEW HUDSON 1918 2¼h.p., 2-speed countershaft, all on, tax paid, excellent condition; bargain, 40 gns., nearest.—152, Glenarm Rd., Clapton, E.5. [4083

1914 2¼h.p. New Hudson, stored till 1919, under 3,000, excellent order, go anywhere, lamps, etc., bargain, £28.—Barrington, 51, Castle St., Battersea. [4386

NEW HUDSON (June, 1920) Tourer, 2¼h.p., lamps, horn, year's tax paid, mileage 300, absolutely perfect; £60, offers; appointment.—Kitching, 16, Rowley Rd., Hurringay, N.15. [3678

NEW HUDSON C.B. Combination, 3½h.p., 3-speed, rebushed and reupholstered, perfect mechanical order, speedometer, etc., smart; take £40.—75, Mallwood Rd., Leytonstone, E.11. [3939

6h.p. New Hudson C.B. Combination, 1914, 3-speed countershaft, clutch, K.S., fully equipped, nearly new tyres, good condition; bargain, £70.—Taylor, Tanyard, Hollingbourne, Maidstone. [3619

BIG Six New Hudson, Armstrong 3-speed, coach-built sidecar, fitted hood, screen, 3 lamps, perfect order for Humberette or other 2-seater, cash adjustment.—12, Wadham Rd., Portsmouth. [4430

1914 New Hudson Combination, 3½h.p., 2-speed, excellent condition, 2 tyres (new), complete with accessories; bargain, £55; without sidecar, £45.—7, Norwood Rd., Herne Hill, S.E.24. [4525

£54.—1914 4h.p. New Hudson Combination, 3-speed, clutch, K.S., lamps, horn, generator, Bosch, B. and B., tax paid, just repaired (£10); owner going abroad.—13, Norbury Av., Norbury. 'Phone: Streatham 27. Evenings. [3627

£35.—New Hudson 2¾h.p. J.A.P., completely overhauled, re-enamelled and plated, 3-speed gear, kick start, tyres, tubes, and all fittings brand new, tax paid; a real bargain.—20, Heath Rd., Twickenham. 'Phone: Richmond 96. [4234

NEW HUDSON Lightweights, all models, on view: Popular, 50 gns.; de luxe, 65 gns.; Acc, 75 gns. Spares for 2¼h.p., 3½h.p., and 6h.p. machines stocked. Catalogues and any information by return.—New Hudson Depot, 45, Gray's Inn Rd., Holborn, W.C.2. [4756

New Imperial.

JULIANS, of Reading, have New Imperial 2¾h.p. 3-speed model in stock. [0638

NEW IMPERIAL 1919 C.B. Combination, 8h.p., perfect condition; £110.—88, Kew Rd., Richmond. [4324

NEW IMPERIAL, 2¾h.p., shop-soiled only, 2 speeds, kick starter, hand clutch; to clear, £70.—Philpot, Motors, Canterbury. [4224

1921 New Imperial Lightweight, countershaft gear, kick starter, 250 miles only; £69/10.—Collier's Motories, Horton St., Halifax. [3800

£42.—New Imperial, 2¼h.p. J.A.P., 2 speeds, as new, aluminium disc, speedometer, lamps, taxed, pillion seat, perfect condition.—143, Ravensbury Rd., Earlsfield, S.W. [4620

NEW IMPERIAL 1920 8h.p. Combination, Easting, all lamps, etc., spare cover, perfect condition; £145, or near offer.—Colonial Motors, 104a, Finchley Rd., N.W.3. Hamp. 7822. [4667

NEW IMPERIAL 8h.p. J.A.P. Combination, 1920 all-chain drive, Lucas lamp sets, Easting screen, licences paid, perfect condition throughout; £125.—Dominy and Co., Winchester. [3809

IMMEDIATE Delivery of any New Imperial Model; cash or deferred payments; book your order now and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0506

NEW IMPERIAL, 1919, 2¾h.p. J.A.P., 2-speed, clutch, K.S., lamps, horn, in good condition; £50.—The Layton Garages, 30, Holywell St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [4579

New Scale.

NEW SCALE 1920 3½h.p., Burman 2-speed gear, Precision engine, Watsonian sidecar; £80.—Hewins' Garages, Ltd., the Real Service Firm, Taunton. [3875

MOTOR CYCLES FOR SALE.

Norton.

PREMIER Motor Co. for 1921 Nortons.

ANY Model Norton delivered to your address, carriage paid, within 24 hours.—The Premier Motor Co., Aston Rd., Birmingham. [0625

JULIANS of Reading have Norton 16H. in stock.

JULIANS of Reading have Norton Model 9 in stock. [0489

DAN GUY, Weymouth.—Norton official agent; early deliveries. [0595

NORTON 1921 Famous 3½h.p. from stock; £132.—Gibb, Gloucester. [0444

PICKERING, Shrewsbury.—All Norton models from stock; exchanges. [X3855

NORTON T.T., Philipson, h.c., condition as new; £65.—Hughes, Mental Hospital, Bexley. [4374

NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [4029

CYRIL WILLIAMS for immediate delivery of all models Norton.—Chapel Ash Depot, Wolverhampton. [X3820

NORTON 1921 Models.—Sole district agents, Wessex Meters, Ltd., 60, Catherine St., Salisbury. 'Phone: 72. [5005

NORTON.—Sole Walsall agents; exchanges or deferred payments.—Maudes' Motor Mart, Walsall Garage, Walsall. [2421

NORTON, B.R.S., renovated as new, Philipson, real hot stuff, lamps; £60; after 6 p.m.—156, Browning Rd., East Ham. [3752

FRANK WHITWORTH, Ltd., of Birmingham, have Nortons ready for immediate delivery; also a fine second-hand 3½h.p. Norton. [X3864

NORTON, Model 16H, 3½h.p., fully equipped, tax paid, used twice only; £120, no offers; Whitstable.—Box 697, c/o *The Motor Cycle*. [X3806

NORTON 1921 Motor Cycles, brand new, all models in stock, immediate delivery.—Palin, Sole Agent, Bourne St. (nr. Spot), Osmaston Rd., Derby. [3181

1920 Big Four Norton, sporting sidecar, Cameo, lamps, Cowey horn, spares, tax paid, excellent condition; £145.—Box 704, c/o *The Motor Cycle*. [X3790

NEW 1921 3½h.p. Norton, 3-speed, kick start, 16H model, in stock; list price £132; exchanges entertained.—Bambers', Easthaek St., Southport. Tel.: 607. [8739

NORTON 1921 3½h.p., T.T., fully equipped, speedometer, tax paid, indistinguishable from new; £100.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3673

NORTON Big Four, Swan sidecar, splendid condition, Easting, Binks, spring seat, leg shields, electric lamps; £125; New Enfield wanted.—Smith, 27, Prince's Av., Hull. [3852

NORTON 1919-20 Big Four, De Luxe sidecar, speedometer, all lamps, perfect condition, licensed for 1921; £135.—Mattock Motor Co., Mattock Lane, Ealing, W.5. [4445

NORTON Agents.—Motor cyclists in or near Oldham call. Our Mr. Mitchell will demonstrate to you the finest machine in the world.—Bulloughs Motors, Waterloo St., Oldham. [2050

MAY, 1921 Big Four Norton combination, as new, only done 500 miles, fully equipped, Henderson sidecar; £165; 700×80 tyres.—Greaves, 43, Lithos Rd., Hampstead, London. [4116

NORTON 16H 3½h.p., 3-speed, all chain, 1921, not done 200 miles, licence paid, horn, knee grips; cheap, £125; owner going in for car.—Apply, Jones, 100, Cambridge Rd., Southport. [4214

16 H Norton, all accessories, good tyres, 140 m.p.g. sole, Cancelet sporting Triplex; £120 solo; £135 combination, or offers.—Write, Williams, 20, Willoughby Rd., Hampstead, N.W.3. [9376

POTHUNTERS.—Certain winner every time; 10-80 m.p.h. on top; 1920 Norton 3½h.p., 3-speed, indistinguishable from new, equipped, licensed; £98, no offers.—20, Treen Av., Heggers Corner, Barnes. [4220

NORTON 1921 3½h.p., 3-speed, all-chain, perfect, tax paid, just returned from makers, having been specially tuned for competition work; price £120.—Howard Davies, Bryn Golau, Ruthin, N. Wales. [X3133

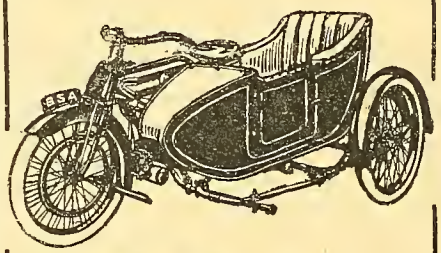
NORTON 1921 Big Four Combination, wind screen, Tan-Sad, spring seat pillar, cover, sprocket, etc.; £160; exchange Raleigh or sports Sunbeam solo; cash adjustment.—Williams, West St., Congleton Cheshire. [X3764

NORTON 1921 Big 4 Combination, special sidecar with large lockers, Triplex screen, oversize tyres, only 6 weeks old, and perfect in every way, licensed: £170.—Hewins' Garages, Ltd., the Real Service Firm, Taunton. [3877

NORTON Big 4 Combination, delivered February last, splendid machine, Ride Easy sidecar, Easting, all lamps, mileage not over 1,500; £140.—Colonial Motors, 104a, Finchley Rd., N.W.3. Hamp. 7822. [4666

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NORTON 1921 Big Four Model, Henderson sidecar, Lucas Magdyno lighting, Cameo wind screen, oversized tyres, tax paid, insured, indistinguishable from new; £170.—Parker's Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3674

1920 Big Four Norton, de luxe sidecar, 700×80 tyres, electric lighting (accumulator), Watford trip speedometer, heed, Cameo screen, removable dickey seat for child and many spares; £150.—Lloyd, Staplegrove, Taunton. [4472

LATE 1920 Big Four Norton and Henderson sidecar, Cowey horn, speedometer, large P. and H. electric rear, and sidecar wind screen and cover, mileage 4,000, condition perfect; £135; any trial; privately owned.—R. Fenn, 11, Harsnett Rd., Colchester, Essex. (D) [2603

NORTON 1920 Model H, mileage 5,000, last year's Isle of Man machine, special close ratio gear box, Lucas lamp set, Cowey horn and speedometer, an exceptional engine and machine, in perfect condition, licence paid; £135, no offers.—Crane, Mount Hermon, Woking. [3659

3½h.p. Norton Combination, 1917, 3-speed, Sturmey-Archer, lamps, horn, tools, in good running order, fast machine, blue sporting Canoelet sidecar, very comfortable; £85 first cheque; owner ride 50 miles for sale; going abroad.—Gordon, 4, Walton Crescent, Oxford. [4469

N.S.U.

3½h.p. N.S.U., perfect, ride away; £34.—Birch, Swan Lane, Selliadge, Kent. [4173

N.S.U. 1914 2¾h.p. Twin, tax paid; best offer accepted; after 6.—21, Southbrook Rd., Lee, S.E.12. [4392

6h.p. Twin N.S.U., 2-speed, Bosch, Amac, coachbuilt sidecar, tax paid; £50.—Blake, 216, Westbourne Grove, W. [3240

5-6h.p. N.S.U. Combination, 2-speed, clutch, Bosch, B. and B., discs; bargain, £50, offer.—30, Streathbourne Rd., Balham, S.W. [4171

N.S.U. 4½h.p., Burman gear, K.S., H. clutch, new frame, tyres, lamps, C.B. sidecar, good condition; £50.—Rowley, Orsett, Essex. [4750

1914 N.S.U., 2h.p., 2-speed, F.E., complete, all accessories, recently overhauled, splendid condition; £28.—10, South St., Hammersmith. [4146

£19.—3½h.p. N.S.U., Errieson mag., B. and B., adjustable pulley, horn, H.A.H. lamp, running order.—Lewis Tayler, West End Rd., Golcar, Huddersfield. [3526

N.U.T.

N.U.T. 1920 Electric, licence, new back tyre, spare tube; bargain, £120.—Ripley Strong and Co., Farnborough. [3773

N.U.T., twin racing overhead valved engine, very fast, sporting solo mount, disc wheels, lamps, horn; £55.—Brown, 84, Ceres Rd., Plumstead. [4293

A 4h.p. N.U.T.-J.A.P. Combination, variable gear, accessories; £55, or near offer, for quick sale.—King, 2, Westwell Rd., Streatham, S.W. [3761

N.U.T. 1920 3½h.p., dynamo lighting, tax paid, indistinguishable from new; £125.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3675

N.U.T.—Sole agents for nine counties; special exchange or deferred payment terms; immediate delivery all models; trade supplied.—Maudes' Motor Mart, London, Exeter, and Walsall. [2422

N.U.T. 2¾h.p., 3-speed, special o.h.v. racing twin, enamel and plating as new, engine completely rebushed, horn, and electric lighting; £70; tax paid; after 6.30 p.m., or week-end.—7, Blenheim Crescent, S. Croydon. [3596

1920 N.U.T. 3½h.p., sports model, 3-speed S.A. gear, Magdyne, Cowey speedometer, trip, Palmer tyres, horn, knee-grips; cost £155 April 1st this year, done about 1,000 miles; 95 gns., for quick sale.—11L, Kramer Mews, West Brompton, London. [3357

O.K.

JULIANS of Reading have all O.K. models in stock. [0481

O.K. 2½h.p., 2-speed, 4-stroke, licensed, equipped; £35, offers.—5, Home St., Friudsbury, Rochester. [4340

O.K.-VILLIERS 2¾h.p., late 1920, 2 speeds, new condition; £42.—Eagles and Co., 275, High St., Acton, London. [4614

O.K. 2h.p., 4-stroke, 2-speed, in splendid condition, speedy and reliable; £30.—3a, Standen St., Tunbridge Wells. [4108

1920 (Aug.) O.K.-Union 2½h.p., lamps, horn, perfect, tax, mileage 500; £42.—170, Winchester Rd., Higham's Park, E.4. (After 7.30.) [4092

O.K. (late), 2¼h.p. M.A.G., Albion 2-speed countershaft, Druids, lamps, footboards, licence, new condition; £38; exchange 2¾h.p. Douglas.—63, Solon Rd., Brixton. [4704

O.K.—All models in stock from £50/8 cash, or £14/3/6 down and 11 payments of £3/12/9.—Lamb's 151, High St., Walthamstow, 50, High Rd., Wood Green, N., and 387, Euston Rd., London, N.W. [3814

MOTOR CYCLES FOR SALE.

Rudge.

RUDGE, 3½h.p., Senspray, Mabon clutch, lamps, horn; £27.—8, Barmouth Rd., Wandsworth. [4278

1915 Rudge Multi, 5-6h.p., fast, reliable, good tyres, lamps; £40, or offers.—Davies, 83, Newbold Rd., Rugby. [2841

RUDGE 3½h.p., N.S.U. gears, climb anything, tyres, etc., perfect, gift at £35.—Riley, Elkstone, Buxton, Staffs. [4459

1921 Rudge Multi, T.T., new, tax paid, insured, best accessories; £85.—168, Wellington Rd. South, Hounslow. [4299

RUDGE 1913-1914 3½h.p. Clutch Model, Bosch mag., fine condition; £35.—580, Wandsworth Rd., Clapham, S.W.8 [4096

RUDGE 3½h.p., 1914, new Dunlop cover, new belt, all on, sound condition; £54.—11, Hadley Gardens, Chiswick. [4395

1919 Rudge Multi Combination, licensed, lamps, smart Henderson sidecar, licensed; a very cheap lot at £80.—Welford, James St., Brighton. [3741

1920 Rudge Multi, sloping top tube, all accessories, licence paid, perfect condition; £75.—The Premier Motor Co., Aston Rd., Birmingham. [X3784

LATE 1920 7-9h.p. Rudge Multi Combination, Cowey trip speedometer, Easting, lamps, etc., tax paid; nearest £140 secures.—136, High St., Battersea. [4407

1921 Rudge Multi 3½h.p., pedal starter; £85; delivery this week.—Clifford Wilson Mfg. Co., 177, Westminster Bridge Rd., S.E.1. Tel.: Hop 210. [4611

RUDGE Multi 5-6h.p., 1915 model, first-class condition, tax paid; £42/10.—Newnham Meter Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 20. [4241

RUDGE, 1914, T.T., clutch, all accessories, top-hole condition; exchange entertained; £48.—Apply, Ralph and Co., 7-8-9, Cambridge Place, Paddington. Tel.: Padd. 688. [3788

1920 (late) Rudge Multi, I.O.M., lamps, trip speedometer, Klaxon, knee grips, tools, spares, leg shields, long exhaust, tax paid; £75.—Spencer, Drittway, Faroham. [4010

RUDGE Multi Combination, 7-9h.p., June, 1920, fully equipped and apares, condition perfect; any trial; £110, or offer.—Jones, 60a, Leytonstone Rd., Stratford, E.15. [3930

THE Very thing.—3½h.p. T.T. Rudge, clutch model, lamps, horn, etc., long plated exhaust, knee grips, fast, excellent condition; £36, offers.—Barnes, 83c, Trinity Rd., Tooting, S.W.17. [4528

1916 3½h.p. T.T. Rudge Multi, handle-bar clutch, kick-starter, C.A.V., Senspray, lamps, accessories, licence, new condition; £58; 2¾h.p. Douglas part.—53, Solon Rd., Brixton. [3020

1920 Rudge Multi, new T.T. I.O.M. Model, complete with lamps and horn; £85 to clear.—S. Lewis, 19a, Upper Charlton St., Carburton St., off Gt. Portland St., W.1. [4307

SACRIFICE.—1918 Rudge Multi combination, 3½h.p., mechanically perfect, with brand new Dunlop Magnum tyres; first cheque for £55 secures.—Butler, St. George's Rd., Bexhill-on-Sea. [3674

RUDGE, I.O.M. 1914 T.T. winner, immediate delivery at £85; demonstrations of this model or 7-9h.p. Multwin with pleasure.—Meeten Meters, Rudge Specialists, Dorking. 'Phone: 163. [4465

1920 Rudge Multi 3½h.p. Combination, Millford sidecar, Klaxon, acetylene lighting, insured to Oct., high overalls, good condition; £90 cash, or nearest offer.—Write, E. Ellis, Parkside, Barking. [4394

SPECIAL Sporting 1920¾ I.O.M. T.T. Rudge Multi, enlarged inlet and exhaust ports, special cam, extra high compression, 2 plugs per cylinder, very fast, as new, guaranteed, licensed; £74.—186, London Rd., Twickenham. [3954

BRAND New 1921 Rudge Multi T.T. Model 499 C.C. 3½h.p., front, rear lamps, screecher, generator, tools, being delivered from workks, splendid bargain, all new: £81/10; list price £93.—Box 4,601, c/o *The Motor Cycle*. [3593

RUDGE Multi, 1919, 3½h.p., horn, acetylene, tools, licensed, front tyre unpunctured, beautiful condition, £68; or with 1921 Grindlay sporting sidecar, £90; any trial.—Write, Carus-Wilson, 5, St. Peters-burgh Place, London, W.2. 'Phone: Victoria 9390. After 9.30. [4478

Scott.

SCOTT, 1910, mechanically perfect, tax, and all on; offers.—Sowerby, Beelsby, Grimsby. [1537

SCOTT, 3¾h.p., 1921, from stock, £130; or with Watsonian sidecar, £152/10.—Gibb, Gloucester. [0445

1920 Scott Combination, all lamps, engine No. 4555; a very cheap lot at £100.—Welford, James St., Brighton. [3740

SCOTT C.B. Combination, 1916, lamps, wind screen, speedometer, perfect; £65.—88, New Rd., Richmond. [4323

SCOTT and Sidecar, perfect condition, tax, Lucas lamps, horn, etc.; £110.—19, Littledale Rd., Egremont, Ches. [4496

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SCOTT 1915 Combination, re-enamelled, lamps, horn, semi-T.T., spare touring, no tool kit, tax paid; £75.—Keeble, 90, Croxted Rd., Dulwich, S.E.21. [3599

1920 Scott, new 1921, splendid condition; £95; by appointment if possible.—Watkins, 71, Cairo Rd., Church Hill (near Hoe St. Station), Walthamstow. [4198

SCOTT 1920 Combination, sidecar, 1921, electric light, luggage carrier, Easting, tyres good, tax paid, excellent condition; £135.—C., 2, Madeira Court, Madeira Place, Brighton. [3668

SCOTT Sports Model, 1920, 2-speed gear, slightly shop-soiled, and unused; at £130.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0510

SCOTT 2-speed Standard Model, May, 1920, under 1,000 miles, appearance and tune perfect, all accessories, licensed; sacrifice £93, or close offer.—12, Leaside Av., Muswell Hill, N.10. [4730

1920 3¾h.p. Scott Combination, complete with lamps and horn, speedometer, tax paid for 1921, in nice order and condition; £125; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [4697

Singer

3½h.p. Singer, clutch model, Bosch, B. and B., perfect; £35.—Blake, 216, Westbourne Grove, W. [3242

Sparkbrook.

SPARKBROOK 1915 2½h.p., 2-speed, accessories, tyres almost new, in good condition, licence paid; £38.—Pascoe, Chantry Cottage, Kemsing, near Sevenoaks, Kent. [3749

SPARKBROOK 1920 2¼h.p., 2-speeds, as makers' specification, shop-soiled only; two of these at the bargain price of £50 each for cash only.—Mobes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [3794

Stan.

38 GNS.; 2½h.p. Stan 2-stroke motor cycle, Dunlop studded tyres, B.B. carburetter, Arden spring fork.—Stan Motor Co., Westwood Heath, nr Coventry. [X3411

Sun

SUN-VILLIERS 2½h.p. 2-stroke Motor Cycle, single-speed, perfect order; price £35.—Apply, J. Sparling, Rathkeale, Co. Limerick. [3771

1920 2½h.p. Sun-Vitesse, licensed, 2-speed countershaft gear box, lamps, and horn; first 50 gns. secures.—A. Curtis, Station, Moulton. [3561

SUN-VILLIERS 2¾h.p., like new, tax paid, little used, P.H., Goodyear, fully equipped, must sell; real bargain, £30.—46, Inchmery Rd., Catford, S.E.6. [4218

1920 Sun-Vitesse 2¾h.p., 2-speed, perfect in every way, electric lighting, new aluminium disc wheels, Tan-Sad, new tyres; £60, or nearest.—3a, Standen St., Tunbridge Wells. [4106

1920 Sun-Vitesse 2½h.p., 2-speed, complete with P. and H. lamps, mileage about 500; for £56, or offers, very swift, and appearance as new.—E. Burrows, The Elms, Wisbech, St. Mary's. [3666

2¾h.p. Sun-Vitesse, 1917, 2-stroke, single-speed, fully equipped, licensed and insured, makers' overhaul last Feb., faultless condition; best offer ever £30.—L., Waverley, West Byfleet, Surrey. [4556

Sunbeam.

E. KICKHAM for Sunbeam, sole agent for Bristol and district.—Stokes Croft, Bristol. [3352

1920 Sunbeam Combination, 3½h.p., fully equipped, tax paid; £155.—Philpot, Meters, Canterbury. [4227

1918 8h.p. Sunbeam Combination, spare wheel, all on, as new; £145.—Sprawson, 21, Holbeach Rd., Catford. [3872

SPORTS Model Sunbeam, 145 gns.; 3½h.p. touring model, 148 gns., in stock.—Cross, Agent, Rotherham. [X3757

SUNBEAM 2¾h.p. Solo, done 300 miles, speedometer; what offers?—Akeroyd, Victoria Hotel, Bridlington. [4320

3½h.p. Sunbeam Combination, 3-speed, coach sidecar, splendid order; 95 gns.—Claremont Garage, Blackpool. [4015

2½h.p. Sunbeam (late 1920), used very little, practically new, fully equipped; offers.—Box 4,320, c/o *The Motor Cycle*. [3699

1919 (Sept.) 3½h.p. Sunbeam, hardly scratched, engine perfect, well equipped; £115.—Lieut. Northfield, March, Cambs. [3843

1919 3½h.p. Sunbeam Combination, tax-insurance paid, electric lights, hood, perfect; £110.—Foster, 341, Upper St., N.1. [4630

1921 3½h.p. Sunbeam Combination, in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

SUNBEAM, 2¾h.p., 1914, 2 speeds, clutch, kick starter, lamps, etc., registered, perfect order; £55.—302, London Rd., Thornton Heath, S.E. [4626

MOTOR CYCLES FOR SALE.

Sunbeam.

1920 Sunbeam Sports Model, mileage 300, Lucas lamps, Bonniksen, Cowey, legshields, condition as new; £130.—Chiroey's Garage, Harpenden. [3502

SUNBEAM, 1916, with 8h.p. M.A.G. engine, will take 3 almost anywhere on top gear, fast, lamps, horn, tax paid, etc.; £130.—35, Upper Albert Rd., Sheffield. [3520

1921 (April) 3½h.p. Sunbeam, mileage 1,300, lamps, speedometer, new condition; £140.—Graham, East Lodge, Wargrave Manor, Wargrave. [4471

SUNBEAM 3½h.p., semi-sports model, entirely equal to new, with Lucas lamps, horn, knee-grips, licensed; price £138.—Tupling, Ltd., New St., Whitchurch. [4517

SUNBEAM 8h.p. Combination, late 1920, electric lighting, spare wheel, new tyre, hood, screen, equal to new, tax paid; £250.—Dominy and Co., Winchester. [3898

SUNBEAM 3½h.p., late 1919, leg shields and apron, Millford 1920 sidecar, Easting screen, excellent condition; £125; seen Hampstead.—Box 4,698, c/o *The Motor Cycle.* [4748

1915 3½h.p. Sunbeam Combination, overhauled by makers, hood, screen, Lucas lamps, horn, tax paid for year, perfect order; £120.—Byfleet Automobile Co., West Byfleet. [2548

SUNBEAM 1915 3½h.p. Model with Sidecar, complete with all accessories, excellent condition; £110.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3671

SUNBEAM 6h.p. Combination, all as new, interchangeable wheels, magnificent sidecar, all accessories; £145.—Birmingham Vulcanising Co., Key Hill, Birmingham. Tel.: 248 Central. [X3869

1919 (May) Sunbeam 3½h.p., with Grindlay sidecar, excellent condition, lamps, horn, Sunbeam tools, tyres, tubes new, licensed; £135.—Leyland, 4, Liverpool ..., Weaste, Manchester. [3540

SUNBEAM 3½h.p., late 1919 combination, makers' sidecar, speedometer, all new Michelins, full equipment, perfect order; £130.—Geary, Butler's Garage, 65, Queen's Rd., St. John's Wood, London. [4602

SUNBEAM 3½h.p. (late 1920 Touring Model, P. and H. lamps, Lucas horn Watford trip speedometer, genuinely soiled only; exceptional value, £130.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [3826

1919 Sunbeam 8h.p., double seater Henderson sidecar, Ace discs, Klaxon, speedometer, electric lighting, 2 new spare retread tyres, tax paid, recently overhauled; owner purchased car; price £150.—Ernest Hobbs, Little Faringdon, Lechlade. [3557

6h.p. Sunbeam Combination, 1914, brand new sidecar chassis, thoroughly overhauled, complete with spares, Cowey speedometer, Cameo wind screen, apron, Klaxon and lamps, tax paid, everything in perfect order; £115; London.—Box 4,695, c/o *The Motor Cycle.* [4760

SUNBEAM 1916 3½h.p. and Skiff Sidecar, good lamp set, horn, mirror, speedometer, screen to sidecar, licence paid, guaranteed mechanically sound and good appearance; £105.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [3822

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T.D.C. 1920 2-stroke, Albion 2-speed, licensed, insured, equipped, go anywhere; £36.—Farmer, 7b, South Yale, Upper Norwood. [3885

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1918 Triumph, countershaft, guaranteed perfect, fully equipped.—204, Ladbroke Grove, W.10. [3529

1920 Triumph, 3-speed perfect condition, equipped; £95.—144, Ladbroke Grove, W.10. [3121

TRIUMPH (Baby), new condition, guaranteed; £45.—51, Kendall Rd., Beckenham, S.E. [4127

£22.—3½h.p. Triumph, splendid appearance, good running order.—King, Egrove Farm, Oxford. [X3801

1919 Triumph, new condition, hot stuff; £75, quick sale.—Wilton, White Swan, Upper Norwood. [4718

TRIUMPH, 1917, renovated, fast mount, £55; Triumph, 1918, condition excellent, £65.—Below.

TRIUMPH, 1918, in perfect condition, no accessories; £58, no offers.—135, Edgware Rd., W.2. [4762

£34.—1913 3-speed 3½h.p. Trinmph, clutch, fully equipped.—King, Egrove Farm, Oxford. [X3802

1918 Countershaft Triumphs from £52.—Braemar, 17, St. Quentin's Av., North Kensington. [4300

DAN GUY, Weymouth.—1921 Triumph all-chain combination; £175. Baby 2-stroke, £70, from stock. [0623

£59.—1918 Triumph, snip, lamps, tools, general condition perfect.—282, South Lambeth Rd., S.W.8. [3769

1914 Triumph, 3-speed, clutch, excellent condition; £40.—1, Antill Rd., Tottenham, N.15. [3756

TRIUMPH 3½h.p., tax paid, all on, any trial, ride away; £28.—4, Abinger Rd., Bedford Park, W.4. [4068

1920 4h.p. Triumph Combination, electric lamps, Easting, tax paid; £125.—114, Brixton Hill. [4330

TRIUMPHS.—Fine assortment at prices to suit all; 3 months' guarantee given.—Ross, 86, High Rd., Lee. [3994

TRIUMPH, 1914, Gloria sidecar, perfect running order; £85.—Particulars, 41, Central Drive, Blackpool. [X3792

1919 Triumph 4h.p., new condition, accessories complete; sell £90.—Hutchings, Hilmarton, Calne. [3763

TRIUMPH Combination, late 1919, hulbous sidecar, exceptional outfit; £125.—Cook, Jeweller, Newark. [3571

TRIUMPH, 1911, 3½h.p., splendid running order £28; tax paid.—382, York Rd., Wandsworth, S.W.18. [4277

1920 Junior Trinmph, as new, fully equipped, licensed; £60.—Brown, Stoke Mandeville, Aylesbury, Bucks. [3891

1910-11 Triumph, complete less wheels, stand, bars; £15, or nearest; splendid condition.—8, Ashley Park, Bristol. [3888

3½h.p. Triumph, 2-speed and free, all on, excellent condition, fast; £37.—Malcolm, Brooklyn, Hards Grove, Worsley. [3614

TRIUMPH 3½h.p., 1913, clutch model, good order £35; private owner.—Apply, 51, High Rd., East Finchley. [4373

BABY Triumph, late 1920, beautiful condition, all accessories; £55, or nearest.—29, Gap Rd., Wimbledon. [4028

TRIUMPH 1913 C.B. Combination; £48, genuine bargain.—19, St. Michael's Rd., Stockwell, S.W. (2 knocks). [4270

TRIUMPH 3½h.p. Combination, 2-speed, Bosch lamps, tax paid; after 7; £50.—1, Alexandra Av., Battersea. [4313

TRIUMPH Combination, 1918, all accessories; £85 exchange I.O.M. Rudge.—139, Wallwood Rd., Leytonstone. [4209

TRIUMPH 1914 3½h.p. 3-speed, good condition, £35, or best offer.—Dollis Automobile Co., Church End, Finchley. [3681

1921 4h.p. Triumph Model H., £115, with Canoelet sidecar £145.—Shepherd, Enfield Highway. Tel. Waltham Cross 31. [0340

£33.—Trinmph 3½h.p., excellent condition, tyres, belt and lamps, practically new, Bosch mag.—Goring, Shortwood, Staines. [3761

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4h.p. Triumph Coachbuilt Combination, 3-speed clutch, perfect condition; £60.—St. Olaves, Eastworth Rd., Chertsey. [3591

TRIUMPH 3½h.p., clutch, K.S., T.T. bars, new tyres, Tan-Sad, all on; £46.—92, Tennyson St., Battersea, S.W.8. [4441

TRIUMPH, 1918, thoroughly overhanled, new coachbuilt sidecar; £76.—Clark, 7, Exhibition Rd., South Kensington. [3971

MAY, 1919, Triumph 4h.p., 3-speed countershaft, trial, tax paid; £83, or near offer.—Jones, Wellington Court, Hereford. [3661

1920 (late) Triumph Combioation, perfect condition, 3,000 odd miles, tools, spares; £125.—41, Bedford Av., Barnet. [4121

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Triumph.

TRIUMPH 4h.p. Countershaft Coachbuilt Combination, 45541, accessories, tax paid; £72.—39, Ellis Park, Finchley. [4179

1918 Triumph Combination, lamps, tools, ride away; leaving Kennington; sell £80.—'Phone: 7839 Central. Appointment. [3727

TRIUMPH 1913 3-speed 3½h.p., exceptional condition, licence paid, any trial; £55, or nearest.—Uppen, Marden, Kent. [4132

TRIUMPH 3½h.p., 1912, tax paid, 3-speed hub, clutch, cylinder, Fellows mag., new; £38.—Scott, Old Farm Rd., Guildford. [4060

NEW Triumph Latest 4h.p., Lucas accessories; cost £140, sacrifice £112; bought car.—77, Wicklade Rd., Swindon. [3762

1918 Countershaft Triumphs, from £52; combination, £72; all perfect.—24, Balliol Rd., Oxford Gardens, North Kensington. [4204

TRIUMPH 1914 (December) T.T., 3-speed hub gear, Lucas lamps, horn, licence paid; £50, bargain. Bacon, Wellington, Salop. [3541

1914 4h.p. Triumph-Gloria Combination, open to expert examination and trial; £50.—Bevan, Tucania Buildings, Llanelly. [3854

1919 Triumph Combination, licensed, perfect condition, equipped, any trial; £95.—Farmer, 7b, South Vale, Upper Norwood. [3884

3½h.p. Triumph Combination, 3-speed, 1913, wicker sidecar, any trial, tax paid, lamps, and kit; £50.—153, Terry Rd., Coventry. [X3596

TRIUMPH, 1914, 3-speed, clutch, all on, licence, stored 4 years, perfect condition; sacrifice, 44s.—30, Carlton Rd., Leytonstone. [4646

1917 4h.p. 3-speed Countershaft Triumph, ride away; £50.—44, Whyteville Rd., Upton Lane, Forest Gate. 'Phone: Stratford 283. [4436

1960.—Triumph W.D. model, rebuilt, Sturmey-Archer 3-speed gear box, 4h.p. engine; sacrifice.—Jackard, 11, Radford Rd., Leamington Spa. [X3868

3h.p. Triumph Combination, October 1919, speedometer, lamps, mirror, perfect condition; £118.—Ion, 81, Bolingbroke Rd., Coventry. [X3878

1914 3½h.p. Triumph, clutch, Philipson, new tyres, all on, engine overhauled, new back wheel, tax Old.—Penny, P.O. Road, Cobham, Surrey. [4296

1918 Triumph 4h.p., kick start, 3 speeds, clutch, mechanically perfect, equal new, ride away; £55.—Brawn, 94, High St., Beckenham. [4356

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TRIUMPH.—All models for immediate delivery; exchanges.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [4239

3h.p. Triumph Combination, 1914, 3-speed and clutch, all on, excellent condition, recent improvements; £5; evenings.—32, Dacres Rd., Forest Hill. [3726

M.O.C.H. are Triumph Agents.—Combinations and solos, new and second-hand, in stock.—5, Heath, Hampstead (near Hampstead Tube Station). [3862

TRIUMPH-GLORIA Combination, 1918, fitted 1920 sidecar, perfect condition throughout; £100.—o Accessories Co., 306, High Rd., Lee, S.E.13. [3601

1914 T.T. 4h.p. Triumph, 3-speed, clutch, just been replated, re-enamelled, and overhauled throughout; £50.—17, North Everard St., King's Lynn. [4758

TRIUMPH 4h.p., 1918 model, countershaft 3-speed, all accessories, excellent condition, licensed; £5.—Wise, 171, Church St., Kensington, W.8. [3550

1920 (July) Baby Triumph, nearly new, lamps, etc., and tax paid; £59/10, close offer.—Seen Graham's Garage, Church St, Enfield Town. Tel.: Enfield 82. [3961

SPORTING 3½h.p. Triumph, wide bars and tank, excellent order and appearance; £35, or exchange oughs.—Luff, 1, Pewsey Rd., Marlborough, Wilts. [3613

FOR Immediate Sale, W.D. Triumph and sidecar, newly overhauled, with full equipment; £85, or nearest offer: London.—Box 4,667, c/o *The Motor Cycle*. [4103

TRIUMPH 3½h.p., perfect running order, spares, lamps, speedometer, any test, insured; letter prefered.—Grantham, 139, Wakeman Rd., Kensal Rise. [3623

1921 Triumph Combination, mileage 300, Easting. Fallolite lamps, D.A. cylinder, etc., tax paid; fect, £155, no offers.—Moulton, Holt, Norfolk. [3624

TRIUMPH 1918 4h.p. Countershaft, Millford-Sunbeam sidecar, Easting, all on, tax paid, perfect dition; £95.—M., 6, Priory Gardens, Highgate, N.6. [4371

1½h.p. Triumph, 3-speed, clutch, and Bosch, handle-bar control, all equipment, spares, licence, perfect condition, trial.—69, Redlands Rd., Penarth, Cardiff. [4462

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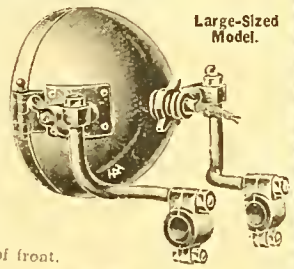
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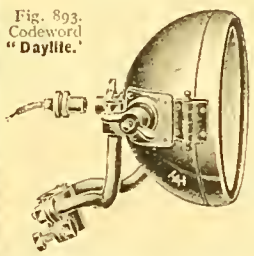
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Fig. 573. Shows red danger signal, lights No. plate. Complete with switch, bulb, wire, clip, etc. Price 9/6 each.
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TRIUMPH, countershaft, renovated by makers March, 1921, still under Triumph's guarantee, unscratched; genuine machine.—Offers to 53, Christchurch Rd., Reading. [3790

1919 Countershaft Triumph and Sidecar, fully equipped, tax paid, engine No. 62193, guaranteed not W.D.; £95.—Fitt, Wear Pikes, Church St., Chelsea. [4193

TRIUMPH, 1920, Gloria sidecar, hood, screen, lamps, speedometer, horns, perfect condition; expert inspection requested; £135.—6, Park Rd., East Twickenham. [1831

1920 Triumph Combination, Montgomery purple sidecar, electric lighting, speedometer, etc., excellent condition; £120; exchange higher power combination or good solo.—4, Kenilworth Gardens, Seven Kings, Essex. [4133

1920 Sporting Triumph Combination, electric lights, disc wheels, speedometer, knee-grips, hood and screen, etc.; £125.—Perry House, Empress Av., Woodford, Essex. [X3689

1914 Triumph 4h.p., 3-speed, fast machine, just been completely overhauled, in splendid condition, licence paid, speedometer, etc.—Barnes, Broadlands, Chesham. [4391

TRIUMPH, freshly overhauled, late W.D. models; £57; all first-class, new tyres; only few left.—R. B. Clark and Co., 7, Exhibition Rd., South Kensington, S.W.7. [3972

1920 4h.p. Triumph and Millford Sidecar, perfect condition, lamps, speedometer, horn, spares, and licence; £100. Brock Bros. (Burnham-on-Sea), Ltd., Burnham, Somerset. [3785

TRIUMPH Combination, 1918, 1921 Sandum sports sidecar, enamel and plating good, 2 horns, lamps, gas, electric, tools and spares, tax paid; £105.—73, Eltham Rd., Lee, S.E. [4089

1916 (October) Triumph Countershaft Combination, just completely overhauled by makers and re-enamelled; trial; £77/10, or near.—3a, Standen St., Tunbridge Wells. [4110

1918 Countershaft Triumph, with sidecar, wind screen, lamps and horn, complete, guaranteed perfect condition; no offers; £76.—Beecher, 472, Archway Rd., London, N. [3837

TRIUMPH Combination, 1918, fully equipped, Easting screen, the whole outfit renovated as new; bargain for quick sale.—304, Fulham Rd., S.W.10. 'Phone: Kensington 2372. [3562

TRIUMPH, 1921 models, in stock for immediate delivery at makers' reduced prices; exchanges arranged, or deferred payments.—Eagles and Co., 275, High St., Acton, London. [4613

TRIUMPH, 1913, 3½h.p., 3-speed hub, clutch, all accessories, nice appearance, mechanically perfect; £45, or exchange T.T. big twin or single.—G. A. Warren, Hindon, Wilts. [4172

1914 (late) Triumph C.B. Combination, 3-speed hub, clutch, speedometer, lamps, horn, tax paid; must sell, best offer accepted.—Gardner, 2, Breams Buildings, E.C.4. [4722

TRIUMPH 2¼h.p., 2-stroke, 1920, new condition, Lucas lamps, horn, tax, insurance paid, footboards or foot-rests, Xl'all saddle; £62/10.—Hadfield, Webheath, Redditch, Worcs. [X3629

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TRIUMPH Baby Junior, 2¼h.p., 1920 model, lamps, horn, panaier bags, tools, spare belt, new back tyre, front as new, tax paid; £60.—Benson-Dare, Gloucester Rd., Ross, Herefordshire. [4413

BARGAIN.—1917 Triumph countershaft combination, electric lighting, new hood, Cameo, overhauled, ready tour, guaranteed perfect; £75.—89, East Hill, Wandsworth, S.W.18. [4124

TRIUMPH, 1915, Swan C.B. sidecar, excellent condition, completely overhauled, stored during war, lamps, spares, tax paid; £95; after 6 p.m.—Tiltman, 3, Randolph Rd., Maida Vale, W.9. [3856

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TRIUMPH 1920 4h.p. and Henderson new lightweight sidecar, perfect condition, fully equipped, luggage grid, indistinguishable from new, tax paid; £129.—Edwards, Bryn Helyg, Newcastle, Emlyn. [3715

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1919 Triumph Gloria, hood, screen, speedometer, electric horn, spares and cash for 1919 or 1920 8-10h.p. Zenith combination or sell; £130.—19, Croydon Rd., Elmers End, Beckenham, Kent. [4506

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TRIUMPH 4h.p. 1914 Combination, Gloria sidecar, 3-speed, kick-starter, lamps, tools, recently over hauled, in perfect condition; £75.—45, Cornwall Rd., Brixton Hill, S.W.2. 'Phone: Brixton 3088. [3621

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TRIUMPH 1921 4h.p., 3-speed, clutch, K.S., lamps, horn, licence paid, knee grips, W.D. bars, long exhaust, almost as new, very fast; £100.—The Layton Garages, 30, Holywell St., Oxford. 'Phone 581. T.A.: Integrity, Oxford. [4585

£56.—Triumph, 4h.p., 1914, Sturmey 3-speed, clutch, hub gear, cylinder rebored and new piston fitted, all parts replated, tax paid, machine and tyres in excellent condition throughout.—5, Third Av., Selly Park, Birmingham. [4128

£65.—1916 4h.p. Triumph 3-speed countershaft coach-built combination, electric light, Klaxon horn, various spares; any trial; owner bought car; first cheque secures; real bargain.—Major Ellershaw, Playhatch House, Sonning, Oxon. [3703

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WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Triumphs, all models in stock, new chain drives, new chain-cum-belts, solos and combinations; also 4h.p renovated models, £90 and £95; immediate delivery, supplied on easiest of easy terms; trade supplied. [4537

1920 Triumph, 4h.p., 3 speeds, countershaft, polished discs, indistinguishable from new, perfect running, £85; or with new unused 1921 Montgomery sidecar, £115; the best looking Triumph in London.—35, St. Clement's Mansions, Lillie Rd., Fulham. [4380

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TRIUMPH, 1920, countershaft, racing and standard piston and cams, 3 sprockets, close ratio and standard gears, plated tank, crank case and covers buffed, lamps, horn, speedometer, new back tyre, belt, and many spares, guaranteed over 60 m.p.h., machine has performed conspicuously in reliability and speed trials; £110; tax and insurance paid.—C. Moser, Ashburnham Grove, Bradford. [3933

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TRUMP-J.A.P. 1914, 4h.p., 3-speed, clutch, kick start, excellent condition, all on; £47.—Willcocks, Wyebrook House, Oxford Rd., High Wycombe. [4192

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JULIANS, of Reading, have 1921 Velocette in stock. [0486

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1921 Velocette, Lucas lamps, Clayrite horn, licence, excellent condition, 600 miles; £72.—Terworth Parsonage, Bawtry, Yorks. [3828

VELOCETTE, 2-stroke, 2-speed, chain drive, thorough mechanical condition, accessories, insurance, tax; bargain £35.—288, Sangley Rd., Catford, S.E. [4118

VELOCETTE 1920, 2-speed, licence paid, Lucas lamp, horn, almost new, cost over £80; price £65.—The Layton Garages, 30, Holywell St., Oxford. 'Phone: 581. Tel.: Integrity, Oxford. [4564

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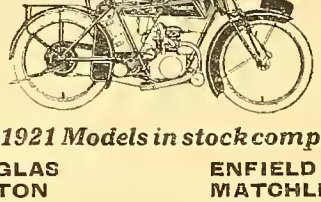
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Victoria.

PICKERING, Shrewsbury.—All models Victoria in stock; exchanges. [X3858

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WILLIAMSON 8h.p. Combination, air-cooled, equipped regardless, engine rebushed, new crankshaft, bill shown; £100, or near.—29, Selkirk Rd., Tooting, London. [4681

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2¾h.p. Wolf-Jap, lamps, horn, tax paid, ride away bargain, £22/10.—Banister and Botten, 34, Upper St., N.1. [4631

WOLF Combination, King Dick 4h.p., all-chain, countershaft, late 1916; £85; tax paid; genuine appointment.—21, Deans Rd., Hanwell, W.7. [4331

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WOOLER, 1920, as new; 63 gns.; exchange furniture.—10, Clarendon Rd., Notting Hill. [X3811

1921 Wooler Touring Model; first cheque 60 gns tax paid.—Particulars, 66, Adelaide Rd., Ealing [X3655

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J. C. PICKERING, Shrewsbury.—Zeniths from stock, exchanges arranged. [X3858

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ZENITH 6h.p. Combination, kick start, clutch, all accessories, tax paid; £75.—Rogers, 42, Church Rd., Hendon. [4501

F.O.C.H. for Zeniths.—New and second-hand machines in stock.—5, Heath St., Hampstead (near Hampstead Tube Station). [3861

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8h.p. Zenith, 1919, kick start, Dunhill, S.C., all accessories, tax paid; £110.—4, The Hawthorns, Finchley, N.3. [4151

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ZENITH Flat Twin, new May, only used week-ends; 79 gns.; tax paid; owner bought car.—120, Granksome Rd., Brixton. [4129

ZENITH 1917 4h.p., lamps, Klaxon, speedometer, licence, good condition; £50.—Gould, 56, Plimsoll Rd., Finsbury Park, N.6. [4182

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ZENITH 6h.p., 1913, coachbuilt sidecar, good condition; tax paid; £65.—Andrews, Camden House, New Dalton St., St. Albans, Herts. [3620

ZENITH-GRADUA 1915 3½-4h.p., fully equipped, Tan-Sad, excellent condition; £45.—Sunnyside, Upper Colfe Rd., Forest Hill, S.E. [3677

1916 4h.p. Twin Zenith, kick start, clutch, semi-T.T. bars, a sporty mount; perfect, £58.—20, Church Lane, Charlton, London, S.E.7. [4011

ZENITH Combination, 6h.p., K.S., C.S., J.A.P., Bosch, lamps, overhauled, tax paid, trial; £85.—4, North Side, Wandsworth Common, S.W. [4427

ZENITH Late 1919 3½h.p., single-cyl., exceptional condition, lamps, horn, and licence paid; £68, or nearest.—H. Wade, Junr., Marden, Kent. [4131

ZENITH-GRADUA, 1914, 6h.p. J.A.P., overhauled, Swan sidecar, luggage grid; £72; tax paid.—Eagles and Co., 275, High St., Acton, London. [4616

ZENITH Combination, 5-6h.p., late model, run only 1,000 miles, complete with lamps, horn, etc., tax paid; price £110.—Baker, 33, High St., Dorking. [4071

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£110.—Zenith late 1920 8h.p. sports, mileage 1,200, specially good engine, fast but flexible, new appearance, speedometer, knee-grips; any inspection and trial.—G.C., Trinity College, Oxford. [2585

1920 6h.p. Countershaft Zenith, Canoelet £40 sidecar, all accessories, wind screen, Watford trip, etc., small mileage, original tyres; £175, near offer.—Hutchings, Hockley Heath, Warwickshire. [X3796

ZENITH 1920 5h.p. Sporting, lamp, horn, rubber and leather belts, all tools, licence, insured, only done 2,000 miles, perfect condition; £100, or near offer.—Sinnett, University College, Oxford. [3917

ZENITH 1916 6h.p., makers' overhaul, new £50 sidecar, fully equipped, licensed, 85 m.p.g., excellent condition throughout; £88; exchange lightweight and cash.—126, Queen's Rd., Dalston. [4175

ZENITH 1920 6h.p. Combination, Lucas head, rear, and sidecar lamps, Cowey speedometer, knee grips, Ace disc wheels, luggage grid, equal to new; £160.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X3672

ZENITH 90 bore Combination, 1914, countershaft, clutch, kick-start, new sidecar last year, Easting wind screen, new tyres, lamps, horn, tools, discs, tax paid, good condition; what offers?—Box 4,609, c/o *The Motor Cycle*. [3638

1916 6h.p. Zenith Combination, countershaft, kick start, C.B. sidecar, complete with all accessories, tax paid one year, good running order; £70.—Scotia Motor Works, 80, Upper Tooting Rd., London, S.W.17. 'Phone: Streatham 2707. [4372

ZENITH 8h.p., sporting model, with Bramble underslung sidecar, exceptionally fast combination, mechanical condition guaranteed perfect, tax paid, equipped, reason sale, room wanted; nearest offer £80.—2, Langley Court, Long Acre, W.C.2. [4376

LATE 1920 8h.p. Zenith Combination, countershaft, kick start, Henderson sidecar, recently overhauled, wind screen, speedometer, electric lighting, all spares; cost £225; done under 2,000 miles, guaranteed perfect; sacrifice 125 gns.—H. Mason, Ivy House, Thomas St., King's Lynn. [4767

ZENITH 5h.p. Sports Model C., mileage negligible, condition and appearance as new, complete makers' equipment, with additional spares, an ideal fast touring solo machine; any trial or examination; tax and insurance paid; for immediate cash 90 gns.—Dickinson, Country Life Hotel, Datchet, Bucks. 'Phone: Windsor 453. [4289

1920 (August) 8h.p. Sports Zenith. This machine is special throughout, and was built for J. V. Prestwich, Esq. Special features include special pistons, plated tappets, timing case and silencer, Rudge foot ring, large oversize Palmer cord tyres, electric lighting complete, old type Amac, Cowey mechanical horn and speedometer, John Bull knee grips, Pedley handle-bar grips, licence paid and fully insured, just decarbonised and in perfect condition; £135.—Enquiries to Oxford House, St. Andrews, Norwich. [3575

AS a Lady's Motor Cycle, the Ivy is It.—Send for details from the Midland agents, Frank Whitworth, Ltd., Birmingham. [X3867

1920 2¾h.p. Lady's Calthorpe-Jap, Enfield 2-speed, free engine, mileage 300, perfect; 60 gns.—Holdsworth, 28, Leeds Rd., Harrogate. [X2958

LADY'S Douglas 2¾h.p., 2-cyl., 2-speed, kick start and clutch, Binks carburetter, tyres unpunctured, in splendid condition, running order, all on, tax paid; £60.—205, Normanton Rd., Derby. [X3655

Miscellaneous

5-6h.p. Motor Cycle, new tyres; £20.—29, Conington Rd., Lewisham. [4203

5-6h.p. Chater-Jap, clutch, £22; sporting Humber, tax paid, £12.—14, Phœnix St., Euston, N.W.1. [4272

1920 Combination, Lucas lamps, Cowey horn, as new; £120.—48, Warlock Rd., Paddington. Tel.: Willesden 1744. [4408

3½h.p. Twin, speed, excellent tyres, spare, handlebars, accessories; £48, bargain.—Pwllycrochan Hotel Garage, Colwyn Bay. [X3518

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RICHMOND Park Garage, 110, Upper Richmond Rd., East Sheen, S.W.14 ('Phone: Putney 2622), have some exceptional bargains.—Below.

R.P.G.—4-cyl. F.N. 5-6h.p., 2 speeds, hand clutch, dropped back frame, late model; £35.—Below.

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MOTOR CYCLES FOR SALE.

Miscellaneous.

BARGAINS.—New O.K.s, Ariels, Harleys, Omegas, Quadrants; exchanges entertained. — Booths Motories, Halifax.

BARGAINS.—New 4½h.p. Quadrant and sidecar £125; new 7h.p. Ariel combination.—Booths Motories, Halifax.

BARGAINS.—1920 Indian combination, dynamo lighting, screen, £165/10; 1919 7-9h.p. Harley-Davidson combination, £135/10.—Booths' Motories, Halifax.

BARGAINS.—G.W.K. 1915 car, detachable wheels, £185/10; 3½h.p. Ariel, free engine, accessories, £35/10; 1914 P. and M., £45/10; 1920 Scott, £87/10; 1920 O.K., £35/10.—Booths' Motories, Halifax.

BARGAINS.—Clyno 2-stroke, 2-speed, clutch, £35/10; 1919 Rudge Multi, £67/10.—Booths' Motories, Halifax.

BARGAINS.—New 1921 Rudge Multi, £85; 1915 Douglases £42/10; 4h.p. Douglas, £69/10; 4h.p Douglas, with new sidecar, £95/10; 1919 Royal Ruby combination, £110/10.—Booths' Motories, Halifax.

BARGAINS. — Shop-soiled 1920 models: 2¾h.p O.K., £43/10; ditto 2-speed, £54/10; 2¾h.p. Omega-Jap, 2-speed, £67/10; Harley-Davidson and sidecar, £189/10; 6h.p. Ariel combination, £149/10; exchanges entertained Pay us a visit.—Booths Motories, Portland Place, Halifax. Tel.: 1062. [7544

£15.—Combination, 4h.p., 2-speed, handle start, complete less engine, excellent condition.—Box 4,662, c/o *The Motor Cycle*. [4036

8h.p. J.A.P.-Enfield 2-speed Combination, £95; also Scott sporting combination, £65; 4½h.p. countershaft Premier solo, £50; offers, or exchange modern 2-seater.—Iron Bridge, Newport Pagnell. [4531

SUNBEAM, new condition and appearance, complete lamps, horn, speedometer, long copper exhaust; also Douglas 2¾h.p., 2-speed, requires slight attention, £95 the two.—Sydney House, Caterham Valley. [3755

A1 Opportunity.—Exceptional bargains in shop-soiled motor cycles and combinations for cash or the easiest of easy terms, no extra charge.—Write, 'phone, or call at Wauchope's, Shoe Lane, London. [4535

8h.p. Clyno-Jap Combination, all on, tax paid, £85; 6h.p. Jap twin Calthorpe, as new, £45; 2¾h.p. Royal Ruby, 2-stroke, 2-speed, good order, £35; 2¾h.p. Sun-Villiers, cheap, £28 lowest.—E. De Cort, 39, Essex Rd., Islington, N.1. [4509

F.O.C.H. for second-hand cycles, combinations, and runabouts at bargain prices; exchanges arranged; any new motor cycle combination or car supplied, cash or easy payments.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3867

BARGAINS, in excellent running condition.—Alldaya Alloa, 2-speed and clutch, £35; Royal Ruby, 2-speed, £30; Hobart, 2-speed, £30; Sun-Villiers, 2-speed, £27; Levis, £27; Connaught, £27; Hobart, £22; T.D.C., £20. Evenings between 5 and 8.—Grioyer, Island Row, back 634, Commercial Rd., E. [4725

BARGAINS.—N.S.U. 5h.p. twin, 2-speed pulley, castor sidecar, lamps, etc., old, but in good running order and condition, take 3 anywhere, unlicensed, cheap, £27; Auto-Wheel, good running order, complete, for £8; New Hudson lightweight, J.A.P. engine, Bosch, 3-speed clutch hub fitted with new parts, good running order, cheap, £18.—Keen, Leominster. [4351

VICTORY Garage. - Victory Garage—Triumph 4h.p., 1918, countershaft, lamps, horn, tax paid, £75; Douglas 2¾h.p., 1916, unscratched, brand new gear box and mag., absolutely as new, £52/10; Norton 3½ h.p., B.R.S., 1919, 70 m.p.h., Philipson, lamps, horn, discs, knee grips, tax paid, £85; Triumph 1918 countershaft and light sporting sidecar, fully equipped, tax paid, £95; Indian 1919 7-9h.p., coachbuilt sidecar, electric lighting, £130; Zenith 1914, 90 bore, and sporting sidecar, lamps, horn, wind screen, brand new covers throughout, clutch and K.S., tax paid, £110; Quadrant 3h.p., good goer, £25; mechanical horns, new, 17/6; tyres, tubes, lamp sets, etc., at bargain prices; machines overhauled and tuned. Write or call.—2b, Denmark Rd., Camberwell. [4074

MOTOR ATTACHMENTS.

AUTO-WHEEL, brand new, in crate; £18. — 308, King's Rd., Chelsea. [4368

£11.—Auto-Wheel and strong Humber cycle, tax paid. —King, Egrove Farm, Oxford. [X3803

AUTO-WHEEL, new tyre, tax paid, wants slight attention; £10.—Box 4,683, c/o *The Motor Cycle*. [4681

AUTO-WHEEL, tax paid, perfect condition; £10, bargain.—2, Woodhall Terrace, Thornbury, Bradford. [3712

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MOTOR Cycles, solo, Saturday to Monday, 42/6; 1 week, 85/-; combination 52/6 and 110/-; write for further information.—Maudes', 100, Gt. Portland St., W.1. [X2672

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INVALIDS' Tricycles and Motor Tricycles; catalogue free.—Rayner, 10-12, George St., Blackpool. [X7038



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STANDARD, 11.6 h.p., 2-seater	£675	0
AIREDALE, 11.9 h.p., 4-seater	£470	0
AIREDALE, 11.9 h.p., chassis	£400	0
LAGONDA, 11.9 h.p., 4-seater	£420	0
CALTHORPE, 2-seater. Reduced price	£420	0
CALTHORPE 4-seater. Reduced price	£450	0

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COVENTRY PREMIER 3-wheeler	£250	0
ACME-J.A.P. 8 h.p. all-chain Combination, spare wheel and tyre	£190	
ROYAL ENFIELD 8 h.p. Combination	£160	0
EDMUND-BLACKBURNE, sp. frame	£96	0
ROYAL RUBY, 2¾ h.p., 2-speed, sports	80 gns.	
NEW IMPERIAL, 8 h.p., and Sidecar	180 gns.	
NEW IMPERIAL, 2½ h.p., c/shaft, k.-s.	77 gns.	
SCOTT Combination	£170	
SCOTT, new Squirrel model	£130	0
BRADBURY, 6 h.p., and Sidecar	£165	0
TRIUMPH, chain drive, and Sidecar	£165	0
B.S.A. twin Combination	£175	0
B.S.A. 4½ h.p. all-chain Combination	£152	10
SUNBEAM, 3½ h.p., new type, Sporting	£152	5
SUNB AM, 3½ h.p., Touring	£156	8
NORTON Big 4, 3-speed	£135	0
NORTON, 3½ h.p., single-speed	£98	0
*DOUGLAS, 2¾ h.p., 2-speed	£85	0
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EDMUND, 2¾ h.p., 1920, 300 miles	£69	10
ALLDAYS-ALLON, 1916, 2½ h.p., 2-sp.	£47	10
BROUGH, 1916, 3-speed, countershaft	£69	10
COVENTRY-EAGLE, 1920, 3½ h.p., Sturmey c/shaft 3-sp., very smart	£95	0
DOUGLAS, 1919, 2¾ h.p., 2-sp., Tax pd.	£65	0
ENFIELD, 1920, 2¾ h.p., 2-sp., Tax pd.	£67	10
CLYNO, 1920, 2-speed, lightweight	£55	0
SCOTT, 1920, well equipped, Tax paid	£105	0
MINERVA, twin, spring forks	£35	0
ARIEL, 1920, 3½ h.p., 3-speed c/shaft	£84	10
VINDEC, 7-9 h.p., 2-speed, F.E.	£42	10
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SUNBEAM, 1920, 3½ h.p. Combination	£160	0
MORGAN, 8 h.p., sporting. Tax paid	£115	0
MORGAN, 1915, sporting	£130	0
NEW IMPERIAL 1921 8 h.p. Combination. Tax paid; 400 miles	£157	10
PREMIER, 3½ h.p., 3-sp., and Sidecar	£65	0
BRADBURY 6 h.p. 1920 Combination	£135	0
ARIEL 3½ h.p. 1920 3-sp. Combination	£98	10
HENDERSON 10 h.p. 4-cylinder Combination, very smart condition	£195	
HARLEY 1920 Combination, electric	£180	0
HARLEY, 1916, & s/car, very smart	£105	0
INDIAN 3-speed twin Combination	£85	0
INDIAN, ditto, wants slight attention	£50	0
RUDGE 5-6 h.p., Multi-Rudge Sidecar	£65	0
BRADBURY, 3½ h.p., 3-speed, sidecar	£59	10
SCOTT, 1920, with new sidecar	£135	0
TRIUMPH 3-speed 4 h.p. Coach Comb.	£75	0
ALECTO 1920 Coach Combination	£82	10
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New Magnetos for Triumph, Douglas, B.S.A., and other makes	£5	17	6
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New "Perfection" Sidecar, scilcd..	£19	10	0
New Miller's Lamp Set	£2	4	0
New "Perfection" Sidecar Body	£6	15	0

TRICYCLES FOR SALE.

ARGSON Hand and Motor-propelled Tricycles, for invalid and disabled.—Particulars, Argson Eng. Co., Ltd., 3, Kendalls Mews, George St., W.1. [2647

MOTOR SCOOTERS.

SCOOTER, Auto-Wheel unit, all on, tax paid; £18.—B., 11, Holmwood Rd., Ilford. [3509

A.B.C. Skootamota, 1921, new; £33.—Frank Whitworth, 139, New St., Birmingham. [X3861

A.B.C. Skootamota, 1921, as new; accept £30.—Jones, 126, Bristol Rd., Birmingham. [X3791

MOTOR Scooter, 20in. wheels, in perfect condition; £14/10.—158, Nottingham St., Sheffield. [4312

AUTOGLIDER, Model A, 2¾h.p., shop-soiled; 30 gns., bargain.—Christie, Cycle Agent, Torquay. [2440

SKOOTAMOTA A.B.C., 1920, as new, splendid running order; 30 gns.—Thornbank Statham, Lymm, Ches. [4209

1921 Skootamota, just received from works, in crate; £31/10. — 54, St. James St., Ashted, Birmingham. [X3860

KINGSBURY Scooter, with seat, carrier, horns, tools, as new; £25 lowest.—Rogers, 42, Church Rd., Hendon. [4503

KINGSBURY Scooter, 2¼h.p., seat fitted, as new; cost £48, accept £28.—Holdsworth, 28, Leeds Rd., Harrogate. [X2959

SKOOTAMOTA, A.B.C., brand new, in crate, latest model, complete; 35 gns.—Bradshaw's Motor House Preston [8551

AUTOGLIDER, new, carries 2, 47 gns.; exchange with cash, combination.—57, Kenbury St., Camberwell, London. [4419

WHIPPET Scooter, in good running order, scarcely been used, licensed; sacrifice £21.—F. Avey, 44, Queen's Rd., Teddington. [3582

AUTOPED Scooter, unused, complete with lamps; £18/10.—Speechley, 86, Churchfield Rd., Acton, W.3. 'Phone: Chiswick 1902. [3845

AUTOGLIDER, seat attached, carries 2, little used, new end of 1920; £40.—Capt. S. Pritchard, Oakfield, Poynton, near Stockport. [3667

UNIBUS Scooter, 2½h.p., 2-speed, clutch, practically new, only 50 miles; owner deceased; £60.—Riden, 95, Howarth Rd., Plumstead, London. [3639

AUTOPED Scooters, 1920 shop-soiled model, complete with dynamo lighting, head, tail lamp, etc.; £20.—P. J. Evans, 81-91, John Bright St., Birmingham. [3928

TWO A.B.C. Skootamotas, as new; £30 each, or £55 the two; owners selling, as have bought car; trial by appointment.—Write, W., 9, Temple Fortune Lane, N.W.11. [3889

A.B.C. Skootamotas, 35 gns.; Mobile Pup scooters, 25 gns.; all brand new at these special prices; delivered free anywhere in Great Britain.—Egertons, Northgate, Ipswich. 'Phone: 962 [3335

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A.J.S., side screen, brand new; £1/5.—10, Rayleigh Rd., Wolverhampton. [3946

HOOD, B.S.A., new, £3, or exchange Easting screen.—97, Sydney St., Chelsea. [4357

SANDHAM'S make thousands of hoods every year; 50/- each. First quality twill waterproof.

SANDUMS.—The Sandum Patent Wind Screen of 100 positions, as shown at Olympia. Finest screen on the market; 90/-.

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SUPERIOR Sidecar Hoods, cheap; repairs, upholstering, cushions.—Henney, 371, Queen's Rd., New Cross, London. [4279

TOLEDO Hood, highest grade, brass fittings, 47/6; fittings, twill, etc.—Henry Jones, 778, High Rd., Tottenham, London. [4754

GREAT Reductions.—Hoods at 45/-, 72in. twill 11/6 per yard, celluloid 17/- per sheet; come and inspect our latest models.—Hercules Hood Co., 698, Seven Sisters Rd., Tottenham. [3539

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The 1921 Tourist Trophy Races.

IN any review of last-week's T.T. races the outstanding feature was the success of the rider of a Junior 350 c.c. machine in the Senior 500 c.c. class. Such a result was little expected in most quarters, though the fact of last year's Senior winner's time being handsomely beaten in the Junior race on Tuesday of last week foretold that Senior mounts would be hard put to it to equal the fleetest 350 c.c. machines. Many consider that the 500 c.c. machine is at a disadvantage on such a tortuous course, and that the race is not won on sheer speed on the level, but upon corner work. Be that as it may, the winner was in no sense a reckless rider, and, possessed of a mount which held the road magnificently, he was able to prove what we suggested after last year's Senior race, viz., that the present limit of 500 c.c. might reasonably be cut down to 350 c.c., Junior machines to 250 c.c., and genuine lightweights to 200 c.c. without loss of speed. After all, as we have long argued, if we gain anything by the T.T. it is in efficiency from a given capacity, and instead of piling on weight to cope with the increased speed attainable, and producing heavy solo machines (some scaled over 300 lb.), the natural course seems to be gradually to continue the restriction of engine "c.c.," and so gain the advantage of greater engine efficiency by *reducing weight*. Many question whether the ideal solo mount is a machine of 80 m.p.h. calibre scaling 300 lb.; yet that was a fairly common specification of Senior machines. Speed is only of real value when opportunities for its employment are available.

After all, when a 350 c.c. machine is capable of winning the Senior event, the Tourist Trophy races are well on the way to attaining their real objective, and, since the Isle of Man course may be considered as typical of average British road conditions, it is unlikely that the solo tourist will require more speed or power than is provided by the modern 350 c.c. engine.

Single-cylinder Engines.

This year, overhead valve single-cylinder engines scored decisively, but in saying this and without any desire to detract from the Senior winner's performance, certain 500 c.c. side-by-side valve machines which came within an ace of winning the Trophy failed from reasons of ill luck. According to the winner, his maximum speed was about 73 m.p.h., yet it is known that Senior machines in the race were capable of 80 to 85 m.p.h. It is the uncertainty of a non-stop run in such a long distance event which vests so much interest in the T.T., and in this connection it is significant that in the Junior race of five laps, thirty-eight of sixty-five starters survived the course, whereas in the Senior event of six laps, only twenty-four of sixty-four starters completed the course within the allotted time. The efficiency of modern single-cylinder engines is remarkable. In the races they greatly outnumbered twins. Such considerable strides towards the lightening of reciprocating parts have been made possible by recent research, that one of the main disadvantages of the single-cylinder engine has been dissipated, since considerations of strength and rigidity render it difficult to produce pistons and connecting rods of equivalent relative weight for very small twin or multi-cylinder engines. The first 350 c.c. twin occupied twentieth place in the Junior race, and the first 500 c.c. twin (a two-stroke) was seventeenth in the Senior event.

Three-speed countershaft gears were the rule on the machines of the leaders, yet it cannot be overlooked that a machine which for four laps made the fastest circuit had but two speeds, and was checked by temporary trouble on the two remaining laps. Chain drive is, of course, now firmly established as the best form of drive for fast motor cycles, and in the Senior event every machine was thus equipped.

A technical review of the races will be found in another part of this issue, and also a graphic description of the Senior event.

An Index to the advertisements in this issue will be found on page 62

Occasional Comments



The Value of Racing.

YES, it is certainly true that the T.T. costs a mint of money, and that in the final issue every half-penny of the cost comes out of *our* pockets. But just as racing developed the British 500 c.c. machine—the world's best general utility machine—so the Junior T.T. is ultimately going to provide us with a roadster machine which will be handier than the 3½ h.p., and cheaper to buy, without being any slower on the level or any weaker uphill. The proof is that in 1921 the A.J.S. covered five laps in less time than four laps occupied twelve months ago. This is intensive culture with a vengeance.

F.I.C.M.

THE International Federation of Motor Cyclists has a rule that events held under its regulations must be open to all nations. So ex-enemy stuff was not barred in the T.T. There was precious little of it about, but one rider still treasures a pair of pre-war Bosch plugs, which have long been the apple of his eye. The massed battalions of plug manufacturers could not bully-bribe or argue him into a change. So he was the only starter who used German plugs. Presently he fell by the wayside. Eagle-eyed emissaries of British firms side-stepped the marshals to inspect the derelict machine. Great was the glee when one of the Bosch plugs proved to have given way in lap one to a British article.

If the Island Went Dry?

THE T.T. is an event which suggests—and generally receives—a certain amount of celebration. The Island has always resembled Thrums in that its population includes a large percentage of the unco' guid. There are rumours—*horrid* rumours, as most motor cyclists regard them—that the Island may go "dry" before 1922. In fact, one eminent member of the trade is already designing a petrol tank with a false bottom, so that he may take over his whisky ration if all the Manx bars close down. Others are discussing the possibility of a new course somewhere else, and at least one crack rider says he would rather T.T. in Ireland with the risk of bombs and chessboard holes at every hairpin than put up with lemonade at his pit in the third lap. I don't think there is any real fear. Some of the Manx folk have their prejudices, no doubt: but at least they all know how to tempt us over there, and how to denude our pockets on arrival. The Island will *not* go dry: but if it does, the dryness will continue to display a suspicion of moisture in T.T. week.

The Singletons.

IN the Junior T.T. there were eight solitary representatives of eight different makes. Two failed to finish, but all honour is surely due to the following singletons:

7th. W. Howarth (Dot-Jap).
19th. G. Browne (New Scale).
22nd. N. Black (Omega).
24th. S. F. Haden (New Comet).
38th. G. W. Jones (New Hudson).

H. G. Hawker completed the octet, but never went to the Island.

Average Speed.

I WISH some first-class rider would do a lap of the Manx course with a recording speedometer fitted, giving a graph of his speed variations, like those Negretti and Zambra—barographs, do they call them? For example, Howard Davies laps at just over 55 m.p.h. He does a few yards at 5 m.p.h. round Ramsey hairpin and Governor's Bridge, and slows to 20 m.p.h. momentarily at many lesser curves. What does he touch in the mad drop off the mountain—80 m.p.h. or more? What is he really doing at Ballacraine, at Craig-na-baa, at Hilberry? It would be extremely interesting to have a full graph of the actual speed variations which go to compose a fastish lap. Will somebody please carry out this stunt next year?

The "Oil Pump."

MOST machines in the Island get a *sobriquet* of sorts, generally abusive and sometimes positively improper. The nicknames are taken in good part, and the Wooler is rather proud of being hailed as the "Flying Banana," while the Sun Vitesse, being remarkable for its engine balance, answers to "St. Vitus" without protest. But a certain sparking plug maker persisted with marked venom in alluding to a nameless machine as "that blinking oil pump." I

Occasional Comments.—

questioned him. "The darned thing smokes like a gas attack. There are umpteen of them entered. Every man jack of them intends to carry ten spare plugs in the race, and they think they are fast enough to change two plugs a lap and win. I don't mind giving plugs by the dozen, but when it comes to grosses . . . !"

An Anti-motorist.

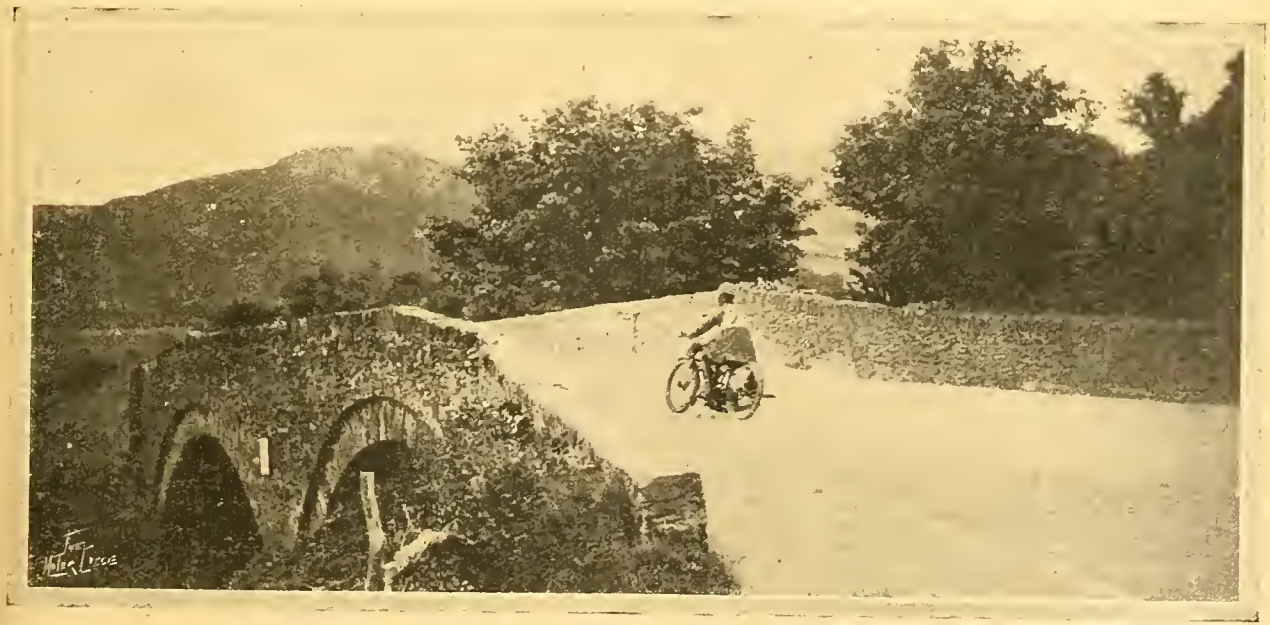
ON the Princes landing stage at Liverpool there is a veteran porter of some seventy summers. One of his jobs this year was to embark a 7·9 h.p. Harley without assistance. There was a 10in. step up on to the gangway. He stubbed the front wheel against this step, found the machine had become immovable, and sought relief by waggling the gear lever. Thus, he got the Harley into bottom gear on full compression against the step. Behind him a crowd were fighting to board the *s.s. Mona*. Before him a bevy of blasphemous porters were struggling to get down the gangway for fresh loads. Our elderly friend is now a rabid anti-motorist.

On a Rudge.

I MAKE it a point every summer to wangle a really long run on either a Rudge or a Zenith. Sidecars or trials' secretaries have driven most of us to accept the chain drive and the double figure gear ratio as our ordinary nourishment. But we still have the sense to recognise that for solo work in country where hills are hills (and *not* gymnasia for training young chamois), the infinitely variable gear with the belt drive knows no rival. So last week I borrowed a Rudge, and ripped off 150 miles across country in one piece with infinite relish. Non-stop, of course. My one complaint was that the 500 c.c. Rudge has grown so hearty of late years that in an ordinary English county a solo rider does not really need the gear lever at all—you can romp up anything you meet by a touch of the throttle. It *is* a nice 'bus. A pal has offered me a heavy wager that I will not get a gold on it in the English or Scottish Six Days. I am half inclined to take it on. If the present gorgeous weather were likely to last, I am sure I would risk my money. But I hear that Secretary Loughborough is mapping out routes in Devon, and, as for the Scottish—well, some of us know what Applecross is like in pouring rain. So perhaps I would feel safer on something heavy with a chain to it, and one of those beastly but inevitable competition gear boxes with a low ratio of about 22 to 1.

Comfort First.

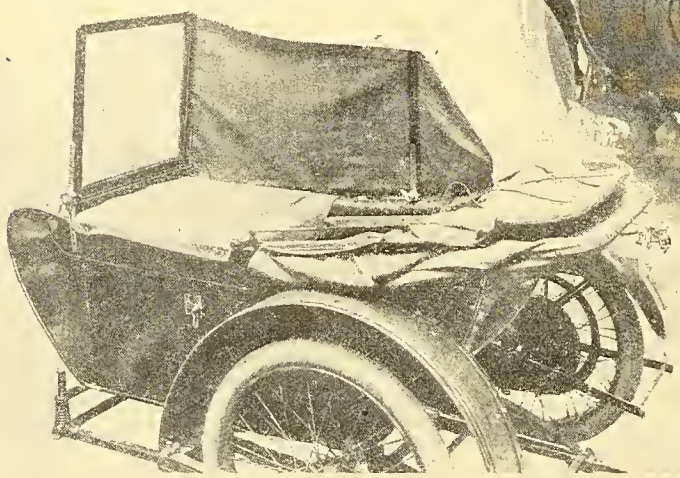
THERE is probably no feature in which various makes of motor cycle are more differentiated than that of comfort. I have recently been carrying out some private tests on the point. I began by selecting a car with good springing and approximately the same maximum speed as the average 3½ h.p. motor bicycle. A route was then laid out which included surfaces varying from superb to atrocious, and a typical assortment of straights, corners, and gradients. The car was then sent over the route in the hands of a driver who was instructed to go as fast as was (1) safe and (2) comfortable. Three separate makes of motor bicycle were sent over the same course under similar driving orders, no watches or speedometers being carried on any of the four vehicles. An almost identical average speed (rather a high one) was recorded by the car, by a spring framed motor bicycle, and by a motor bicycle with 3in. tyres. The fourth machine, which had a rigid rear frame and 2⅜in. rear tyres, was 7 m.p.h. slower over the course than the other trio, and its rider complained on arrival that a legal limit average would be grossly uncomfortable over the course on the machine in question.

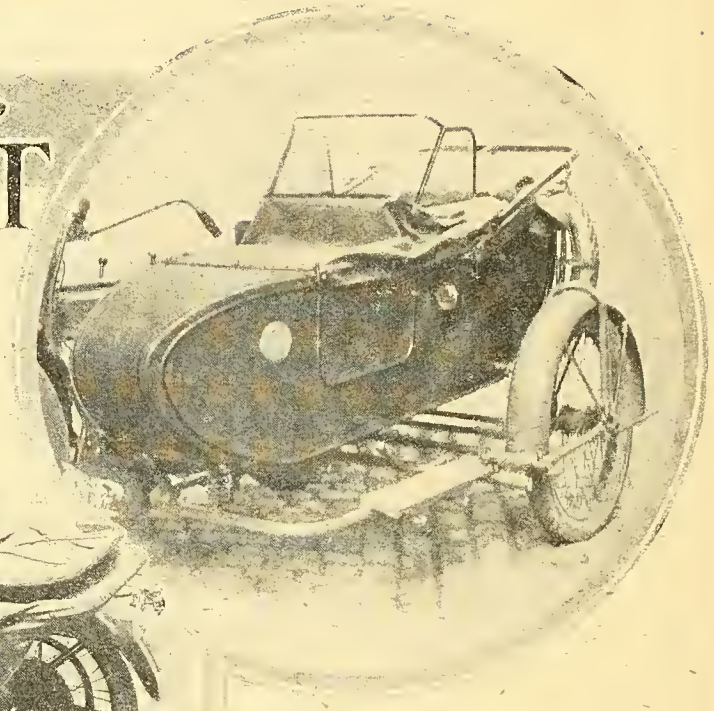


Although Sulby Bridge is one of the most picturesque spots on the course, greater interest attaches to this picture because it depicts J. Whalley (2¾ Massey-Arran-Blackburne), the "hard luck" man of the Junior, on his fourth lap, and still holding a leading position.

SIDECAR COMFORT

Modern Sidecars and their Screens and Cushions discussed from the Passenger's Point of View.





(Left) A screen and side curtain arranged to provide full protection from draughts on a tandem-seated Grindlay sidecar.

(Right) This Matchless outfit has been ingeniously equipped with two screens—a Bluemel and an auxiliary screen which is concealed under the apron.

SIDECAR owners appear to be divided into three distinct classes: those who appreciate the requirements of their passengers and provide for their comfort, those who do not, and the inexperienced.

The first group requires no reminder regarding the many little points which so add to enjoyment of the pleasures of the open road as a sidecar passenger, and the number of *de luxe* outfits in commission nowadays indicates that this class is in the majority. The inexperienced may learn by observation how to provide that comfort enjoyed by such a large number of sidecar enthusiasts.

On the other hand, the second category of sidecar owners may require weaning from the idea that they owe to their passengers more than is provided by a sidecar body, a chassis, a wheel and an apology for a cushion.

A 'Busman's Holiday.

Actual experience is more convincing than argument. The sidecar driver whose usual passenger is less enthusiastic than she was wont to be should undertake a long journey as passenger in his own sidecar. If a passenger has complained of undue fatigue at the end of a journey, has a pain in the nape of the neck or the shoulder, or is subject to headaches, something is at fault, and something which usually can be remedied. The driver who takes a 'busman's holiday will discover these things—discomforts which perhaps his passenger has suffered unnecessarily, in silence and perhaps in ignorance that all sidecars are not alike.

We will imagine a fast machine equipped with a light sidecar which has been produced without full consideration of the service it is intended to fulfil. Probably the motor cyclist on his 'busman's holiday will discover that the body is a little too narrow and, perforce, he is compelled to use the "topsides" as arm rests, in which case it may be found that the seat is a little too low—a combination that produces at least three distinct discomforts. First, the arms have partially to support the weight of the body, and after a journey over indifferent roads, one suffers from that stiffness such as experienced after unaccustomed exercise in a gymnasium; secondly, with arms "abimko," it is almost impossible to use the rear cushion as a back-rest; and thirdly, should it rain, the elbows are "out in the wet."

The Position of the Sidecar Cushion.

The remedy is obvious. A wider body is desirable; but no doubt the majority of those possessing such sidecars will prefer to render the existing body more comfortable. In this event, much benefit will accrue from a little patient experimenting with different heights and angles of the seat cushion.

Owners of single-cylinder machines who have submitted themselves to the test as passengers no doubt will have been impressed by another form of discomfort, *i.e.*, the noise of the exhaust. The bark of a healthy engine heard by the passenger is a very different sound from that which the driver may have enjoyed.

If the 'busman's holiday be undertaken on a day when rain is encountered, the passenger *pro tem.* will

Sidecar Comfort.—

find that the rain that beats in his face as a driver is nothing compared with the stinging mixture of rain and fine grit which is thrown into the passenger's face when splashed up by the front wheel.

One such trip should convince the temporary passenger that a windscreen, which he may have regarded as a speed destroying luxury, is an absolute essential. He should bear in mind that all cars—even semi-racers—are fitted with screens; yet the occupants of a car are very much higher from the ground and further away from the wheels than the sidecar passenger. It is interesting to know that *The Autocar* considers that a screen for the rear seats of a four-seater is as necessary as the driving screen in front.

Of all the types of windscreens available for fitting to sidecars, the least serviceable is that which is merely a pane of glass or celluloid in a rectangular frame.

Especially is this the case when it is placed too far forward. This type, however, can be made to provide the necessary comfort if it is fitted with a side screen of hood material, which should be more than a triangular curtain from the top of the screen direct to the sidecar. The method shown in the illustration (of the Grindlay sidecar on the preceding page) indicates how a side curtain should be fitted in conjunction with a square screen placed well forward—as it must be where a child is carried in front of the adult passenger (unless two screens are used).



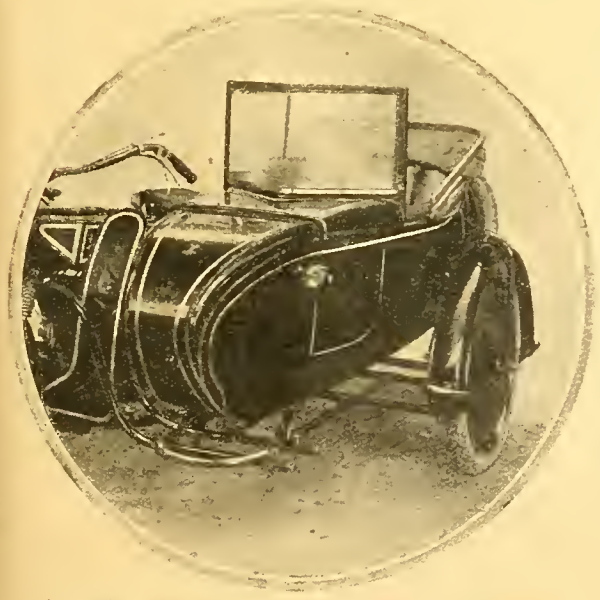
T. Weaver, who has demonstrated the power and reliability of the modern 2¾ h.p. sidecar outfit. His mount is a Verus, and he survived a recent strenuous two days' trial without loss of a mark.

Members of *The Motor Cycle* staff have used two screens with success, and one of the best arrangements has been found to be a small rectangular screen at the fore end of the well, to protect the juvenile passenger, and a Bluemel screen for the rear seat. One of the illustrations on the previous page depicts a Matchless family sidecar so equipped. When the front seat is not in use the forward screen is placed in a horizontal position under the apron.

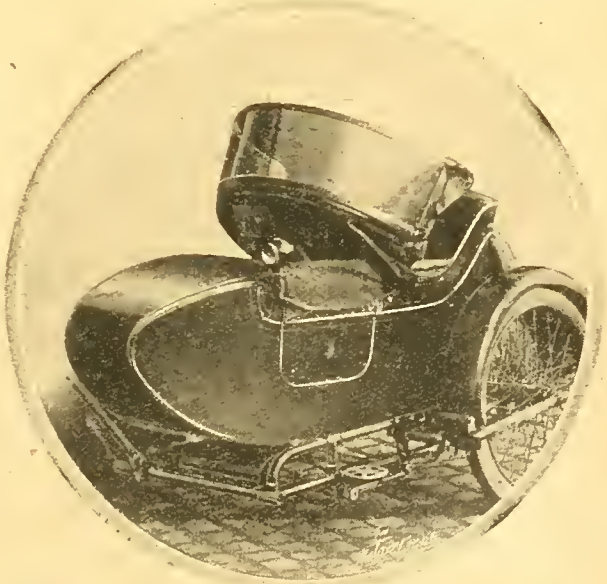
The Bluemel screen is constructed of steel and celluloid and has side wings which eliminate the necessity for a side screen, as *the main screen can be adjusted* as desired, both in its height and its "fore and aft" position. The latest model is an excellent fitment in service and neat in appearance, large enough for the most commodious sidecar, and yet not out of place on a body of the sporting type.

The Royal model Easting screen is another fitment which should be carefully considered. The comfort provided by this type of screen is now well-known to many thousands of motor cyclists, but all are not cognisant with the latest model, which is carried on rods pivoted at the forward end of the sidecar, so that access and egress are greatly facilitated. The Easting can also be used in lieu of a hood by tilting it well back over the passenger's head. A small window is fitted in the apron.

We have mentioned before that the forward position is not ideal for a glass screen, and several makers now

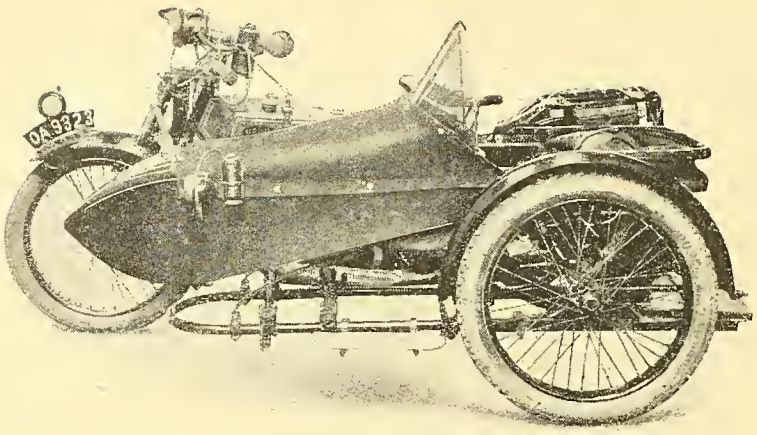


A graceful design of V-fronted screen mounted on the hinged dashes of the 8 h.p. Excelsior outfits.



When the Royal Easting is used as a hood, a small mica window in the apron takes the place of the transparent screen.

Sidecar Comfort.—



A small sporting sidecar, possessing all the refinements of the leading heavier models—the 2¾ h.p. Verus-Canoelet.

market machines with screens fitted on a hinged dash. Notable among these is the A.J.S., where, however, it has been found advantageous to fit a small side curtain. In fact on the latest model, the manufacturers offer a side screen of celluloid.

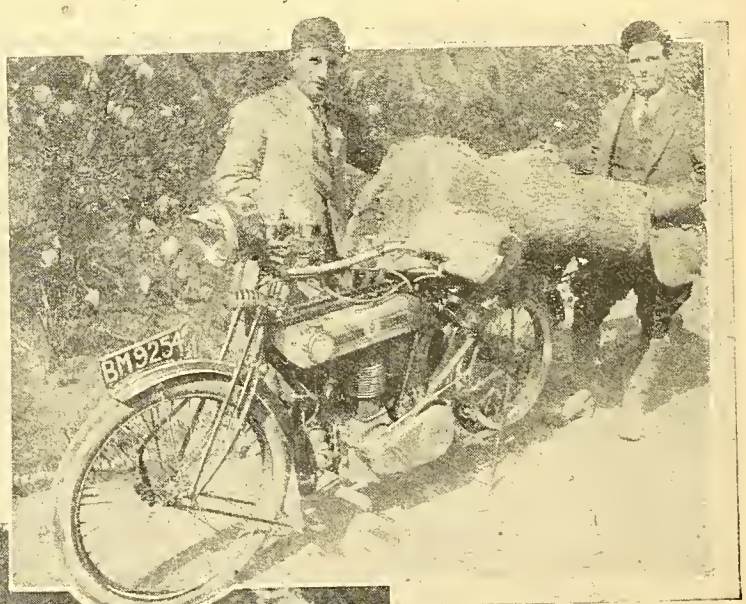
The 8 h.p. Excelsior outfit screen has been developed a little further. Not only is the front screen fitted to the hinged dash, but it is V shaped and has a side screen incorporated.

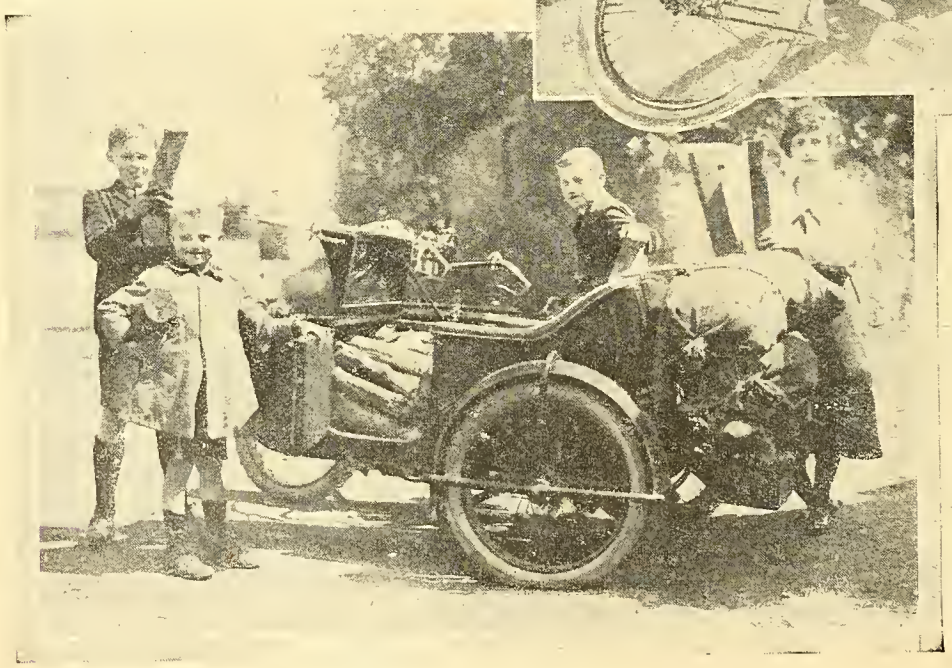
Even the smallest sporting sidecar needs a screen, and some owners go so far as to fit a hood. One of the best equipped sporting sidecars we have seen is illustrated. It is a Verus-Canoelet, a sidecar particularly suitable for use with such machines as the Verus and other 2¾ h.p. Blackburne engined mounts. It will be noted that it is fitted with a step, a luggage grid, and a hood and screen.

Incidentally, the lightweight sidecar outfit is becoming more popular every day, for such is the power of the average 350 c.c. engine, that machines so fitted are found quite suitable for serious touring. As an example of this, we may mention that a three-speed 2¾ h.p. Verus and sidecar survived the recent Two Days Trial of the Birmingham Club without the loss of a mark. This, too, is not an isolated example of what can be accomplished with the lightweight sidecar.

The question of weight is a vital one. But as the power - weight ratios of engines are decidedly improving, refinements may be added to the sidecar without unduly burdening even the smallest engine.

Finally, it should be remembered that not always does such a fitment as a windscreen slow a machine. Very often the reverse is the case.





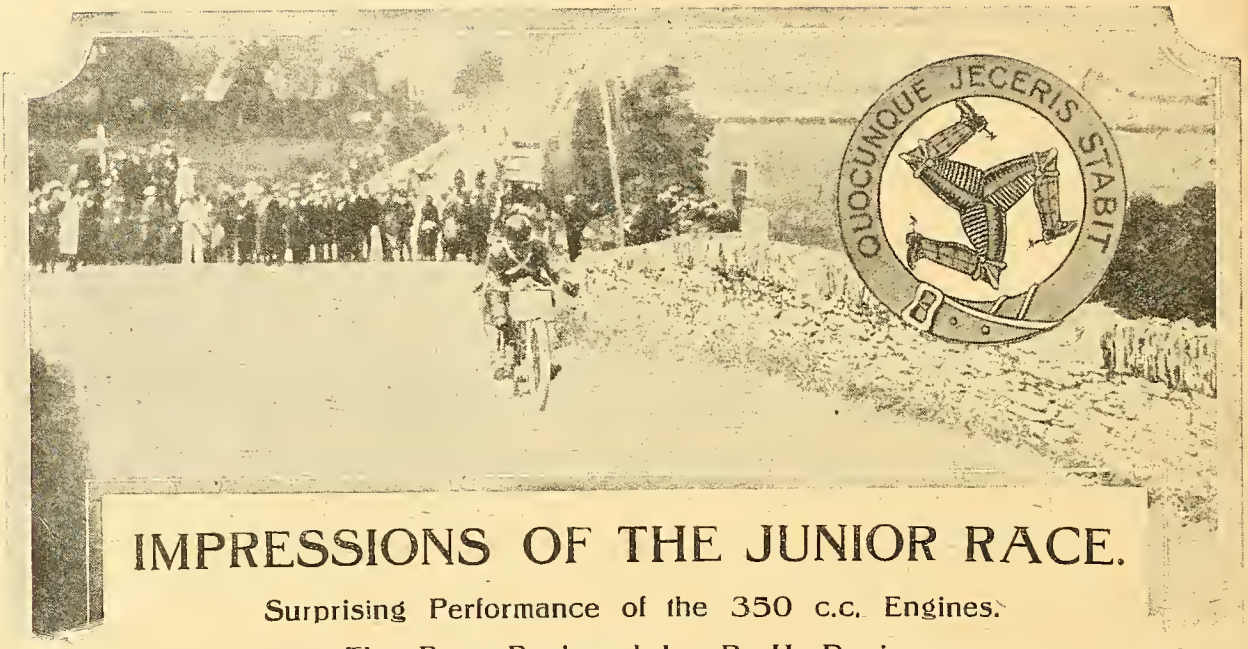
TO KEEP THE HOME FIRES BURNING!

(Left) Every little helps. An A.J.S. sidecar is pressed into service for the conveyance of the domestic fuel.

(Right) A case where the "willing horse" was badly abused. It need hardly be stated that this load was not conveyed under power to its destination.

ATTITUDES AND EXPRESSIONS.





IMPRESSIONS OF THE JUNIOR RACE.

Surprising Performance of the 350 c.c. Engines.

The Race Reviewed by B. H. Davies

WE have had more exciting spectacles than this year provided in the Junior T.T., but we have never had better cause for congratulation, or more food for thought. The race is a regular sermon preached to the trade, the rider, the press, the engineer, the financier, and the advertising expert. Unlike the average church sermon, it will not send its auditors to sleep.

Text No. 1 is the power of a sound technical brain. Ten firms enter for the 350 c.c. trophy. One of them triumphantly annexes six of the first eight places on the list, though the other nine unquestionably had the will to win if they could. It follows that text No. 2 is the value of prolonged preparation. The A.J.S. people got their small single out in a hurry for the 1920 race, and snatched a lucky victory by the skin of their teeth, after a series of smashed vital parts. By 1921 they have "summered and wintered" the 'bus, as they say in Sussex, and consequently prove invincible. By 1922 some of their leading rivals will have had time to develop full stamina, and to polish up a little more speed. Then we may see a real race, and not a walk over.

Unprecedented Reliability.

Third in point of interest I set the miraculous reliability of the machines. The stay-at-home student may fail to see anything very marvellous in the fact that thirty-eight machines completed the course out of sixty-five starters—a percentage of fifty-eight. I am writing away from my files, but I cannot recall any race—car or cycle—which produced such a fine percentage of finishers. I never saw the huge A.C.U. scoring board so packed with lap times from end to end and from top to bottom. In an international motor car race nobody is surprised if only 30% of the starters complete the distance. This splendid record of 58% reliability at record speeds over a vilely dangerous and difficult course has been achieved by what one may call the Ugly Duckling of the motor cycle world, *i.e.*, the tiny machines which until recently were the butt and the bugbear of most practised riders. Even to-day Great Britain is the only country which takes them seriously.

One Hour Faster than Last Year.

Next in order we must digest the phenomenal speed of the race—roll it on our palates and scent its aroma like a good wine. One solid hour faster than last year! Fifty-two miles an hour—and, at that, the winner did not open out till after the half distance, and was possibly not the fastest man in the race! A Junior record lap of 41m. 4s., when the previous Senior lap record put up by that king of speedsters, George Dance, in 1920, was no better than 40m. 43s.! This record means over 55 m.p.h. round a course which has been likened to a skein of Berlin wool after an eel has had an epileptic fit in it. It is hard to say whether the sheer achievement of such speeds from a 350 c.c. engine or the astounding acceleration of a whole hour over five laps within twelve months is the more amazing feature. Nor must the 2¾ h.p. machines be allowed to overshadow the babies. Prentice's New Imperial is not a member of the medium roadster class like the 2¾ h.p. Douglas and others which have long been welcomed in the Tourist fraternity. It is a beggarly little 249 c.c. Its weight only just topped the 200 lb., and in averaging better than 44 m.p.h. it had to clamber up the seven-mile ascent out of Ramsey. We shall have to watch the 2¼ h.p.: it may yet loom as large in the industry as ever the 3½ h.p. has done. The one unalterable demand of the motor cycling public is a certain minimum performance in respect of speed and climb. Give them that. The less the machine weighs, the less the machine costs to buy and to run, the better most of them will be pleased.

In estimating the high factor of reliability displayed in the race, we ought not to overlook the petty items

Impressions of the Junior Race.—

which are regarded as mere accessories to an engine—a gear box and a dashing rider. Take tyres, for example. Tyres are often mentioned by astute riders to camouflage some mechanical trouble, so that a tale of tyre trouble cannot always be taken at its face value. Still, this year's Junior affords a very good demonstration of tyre quality. The roads were unusually dry and flinty. The speed was phenomenally high. Yet only two men encountered serious tyre disasters. Howard Davis was possibly deprived of victory by a puncture. Whalley was decelerating as the race progressed, so it is probably fair to say he lost second place rather than victory through a puncture. But there were 130 covers in the race, and well over 100—possibly over 120—of them stood the racket nobly. Or take another accessory—plugs. A plug expert told me he never feels any anxiety about plugs at Brooklands where full speed is sustained, but that he considers the Manx races are an acute problem with the ever-varying speed, frequent cut-outs, and so on. Yet the lap times prove that a good modern plug will stand unlimited heat, plus unlimited oil.

Turning to the actual incidents of the race, I frankly admit that my fullest sympathy goes out to Howard Davies, although after his Thursday's triumph he probably does not want much! I set out the lap times of the three men who had some chance of winning.

	Eric Williams.			H. R. Davies.			J. Whalley.		
	H.	M.	S.	H.	M.	S.	H.	M.	S.
1st		44	0		41	29		42	16
2nd		43	38		55	6*		43	19
3rd		44	20		41	20		45	41
4th		42	51		42	11		44	41
5th		42	34		41	4		56	42*
Total ...	3	37	23	3	41	10	3	52	59

*Tyre trouble on these laps.

Now, if we credit Davies and Whalley with five laps covered at the average speed of the four laps in which they did *not* puncture—41m. 31s. per lap for Davies, and 43m. 59s. for Whalley—the first three riders would have been:

	H.	M.	S.
1. Davies	3	27	35
2. Williams	3	37	23
3. Whalley	3	39	56

These conjectures are pure "hot air," in a sense, but they suggest that Davies was genuinely unlucky not to win, for his four non-stop laps averaged over 54 m.p.h. Whalley was also extremely unlucky, but he was not robbed of an easy victory by his fall. Moreover, if he had won, the Massey-Arran luck would have been incredible—to score at the first essay, with a proprietary engine fitted to a new 'bus, and ridden by a man secured by a fluke on the eve of the race! I hope and expect to see Whalley win a good race in the near future when luck serves him better: he is a rider of the extremely select, top-notch class. Incidentally, the times indicate what a positive chasm divides the crack rider from the ordinary man. It is as impossible as it would be unkind to identify all the men who enjoyed non-stop runs: still more so to name those who might have had five non-stops if they had done nothing silly in the way of machine control, engine control, gear control, or oil management. But it is no exaggeration to say that a rider like Howard Davies could give ten minutes per lap to a good many racing men, even if they were mounted on machines as good as his own. He can give two minutes a lap to anybody outside a very select coterie, whose names will occur to my readers; and he could give twenty minutes a lap to many amateurs who have carefully built up small local reputations as speedsters.

Turning to the babies. I hope my good New Imperial friends will not feel hurt if some of us almost wanted



J. Joynson (2¾ N.U.T.) on the Gooseneck—one of the dangerous twists of the course. At this point it was most interesting to watch the various styles of cornering adopted by the riders.

Impressions of the Junior Race.—

the Levis to head the lightweight class, just for the sake of auld lang syne. The Butterfield brothers were almost the only men in England who believed in the tiny engine through thick and thin—they are very largely responsible for the fact that a "flyweight" class exists. Poetic justice would have been satisfied by a Levis victory. Still, their turn may come again, and the New Imperial-Jap performance was certainly hot enough for anything. It is not many years since the fastest lap in the Senior was under 50 m.p.h., and a 250 c.c. New Imperial ridden by Prentice in 1922 will lap at 50 if he gets a non-stop. The Velocette toyed with the Six Days Trial last year, and, like Alexander (the great, not "Duggie" or "Alfie" or "J.R."), is now sighing for new worlds to conquer. It could not quite conquer this this year, but it finished three machines out of four, and the trio's joint average approached 42 m.p.h. Good enough, eh?

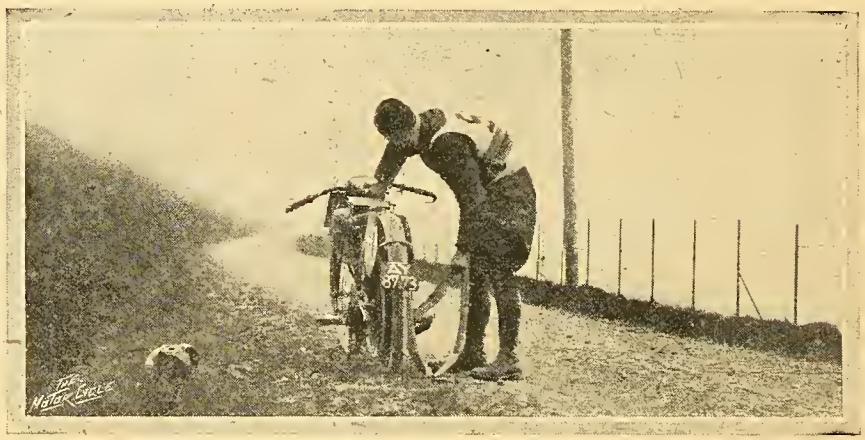
Cornering.

Some observers found the cornering disappointing. I feel nothing but a vivid dislike for the ghoulish type of spectator who goes to Sulby or the Governor's Bridge with a sneaking hope of witnessing a bad crash. My own judgment is that the corner work was superb. Take Governor's Bridge as a sample. The men approached the first angle of this terrible Z very fast. They slowed down so accurately that the machines practically came to a standstill at the point of the wall, so that they could be wrenched round in their own length. In the getaway for the C bend which follows, they were deceptively fast, judged by the roar of their engines; they were lying over at a steep angle with the wheels only a few inches from the gutter all the way round. In other words, there was just the perfect combination of dash and restraint.

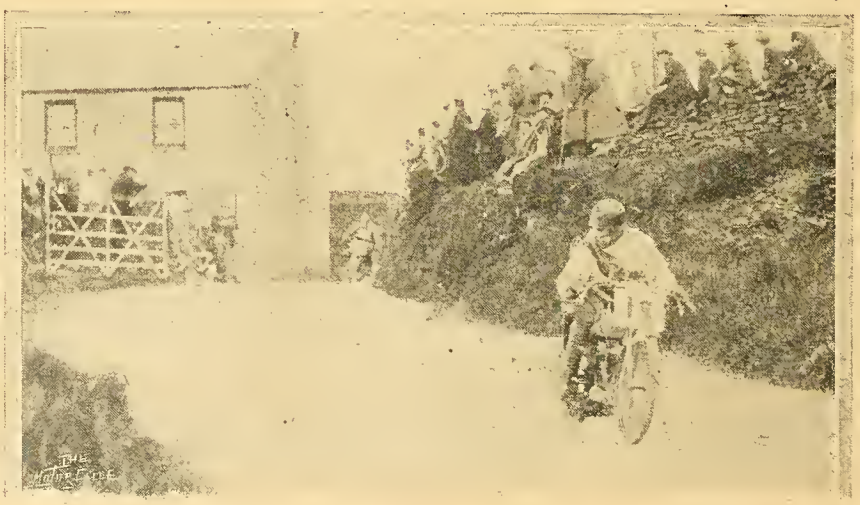
The Douglas *débacle* was naturally the chief disappointment of the day. We trusted them to threaten the A.J.S. monopoly, and make a real breath-catching race of it. They had five machines, all ridden by good men,



Lined up for the start of the Junior race—for the competitors, a most trying half-hour, reminiscent of waiting for "zero" or the dentist's ante-room.



——!——!! Our photographer did not report what H. Petty said when the rear tyre of his 2¾ h.p. Coulson went flat. Only those who have suffered in similar circumstances can fully sympathise with the victim.



Looking back—but why? Apart from the danger of the practice there is a superstition that it brings bad luck. Possibly W. J. Lord (Hobart) is wondering what would happen if Kepple Gate were to swing shut!

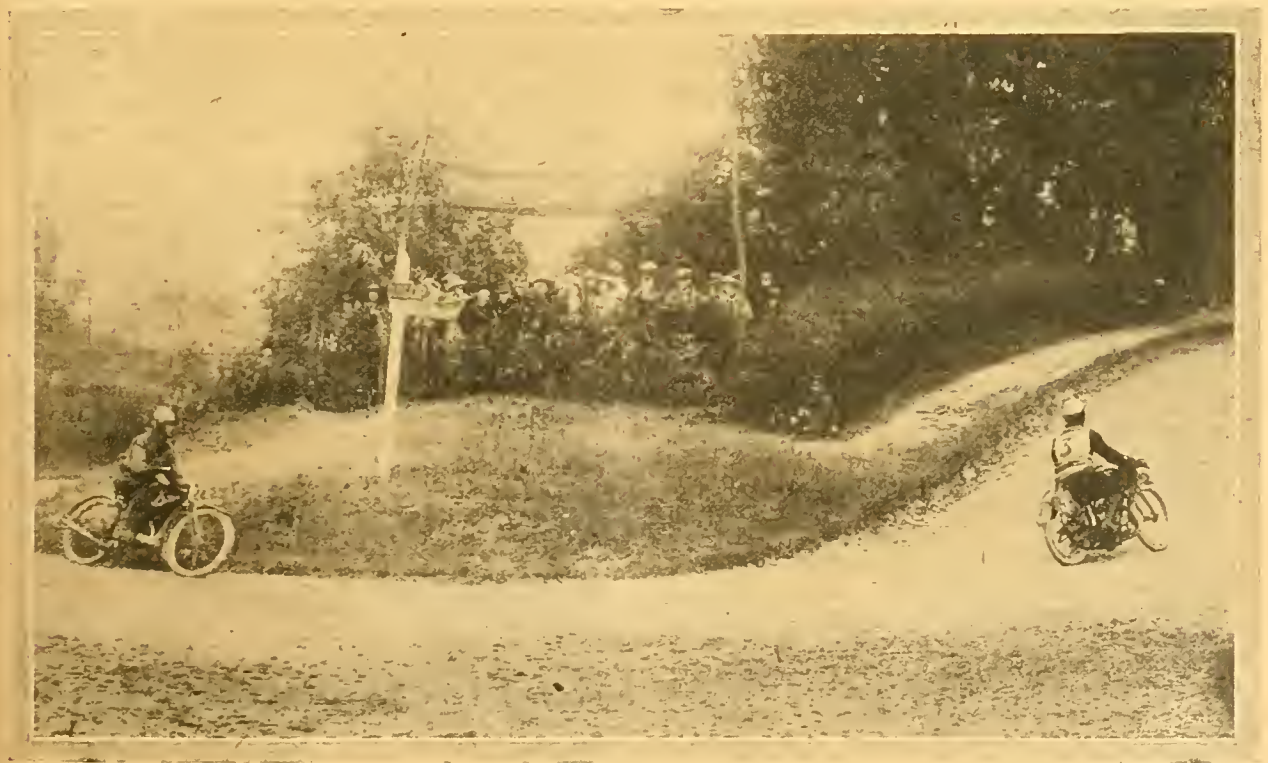
Impressions of the Junior Race.—

and their two finishers could do no better than twentieth and thirty-seventh. In South Africa there is a thorn bush called "waacht ein beetje," or whatever is the Cape Dutch for "wait a bit." It expresses the mood of the Douglas camp. They have been so frightfully busy since the war that they started preparations for the Junior rather too late. In plain English, they had a thumping good Junior engine, but they had not got a Junior frame. So the eager little engine had to be dropped into a walloping Senior chassis, and was set to pull over 280 lb. up the mountain. Remember the thorn bush when 1922 comes round.

"Subsidies."

It is perhaps hardly my province to mention one rather objectionable feature of the secret history of every T.T. race, but it deserves a line or two, because it is a great nuisance to everybody except the riders, and is liable, under certain circumstances, to hoodwink the public. I refer to the eternal chaffering in which most riders indulge with regard to the equipment of their machines. The fact that—let us say—Spuggins's split pins were used on the victorious machine is a useful advertisement to Mr. Spuggins. So he and the other manufacturers of split pins—Muggins, Buggins, and the rest—bid against each other for the custom of the various riders. So it comes about that the more mercenary riders are perpetually bargaining and changing—let us say—their make of tyre lever or tank enamel until the last moment allowed by the rules. It follows that these subsidies allow a quite undistinguished private rider to make his expenses and a bit over, whilst the winner, if he be a smart man of business, might conceivably net four figures. The A.C.U. is doing its best to repress the business by compelling equipment to be specified in advance. I dislike it, because—well, if I happened to manufacture a second-rate belt or chain or plug or tyre or magneto, and had sufficient capital at my disposal, I might get my wares on to nearly every machine in the race, and so create a wholly false impression. Up to the present no harm has been done. No firm has exploited the system to fob off a bad article on the public. This does not alter the fact that the system is rotten. This system helped to kill British magnetos in pre-war days, and will always ensure the failure of any novelty which does not enjoy heavy financial backing.

In conclusion, no firm in the trade need begin to regard the Junior T.T. as the private preserve of the A.J.S.—a kind of walled-in park, with "Trespassers will be prosecuted" placarded all over it. Give the A.J.S. full credit for three successive wins. But if the tin-tack—or whatever it was—which checked Whalley on his fifth lap had elected to afflict Williams instead, the race would have been won at the very first time of asking by the Massey-Arran—a machine of which very few have been made: a fine engine, but one which anybody can buy in duplicate on the open market, and an amateur rider picked almost at random. It follows that the A.J.S. team—though formidable—is not invincible. Several concerns mean to set it a tough proposition in 1922.



A SCENE IN THE JUNIOR RACE.

G. Prentice (2¾ h.p. New Imperial-Jap), who won *The Motor Cycle* Cup, and E. A. Jacob (Coulson), who successfully completed the five laps, cornering well at the Ramsey Hairpin.

Technical Aspects of the Junior T.T.—

the 250 c.c. class to the efficiency and easy change of their gear box; and the new light Burman three-speed (which was fitted to Whalley's Massey-Arran) appears an admirable job. Certain manufacturers experienced considerable gear box trouble during practice, but overcame these initial worries before the race. Douglases and Scotts used four-speed gears, though the gear on the latter machines was used as a three-speed, since two of the ratios were very close together.

Perhaps the most notable two-speed entry was that of the Triumph Co. Their own two-speed box is an admirable piece of work, and the wonderful slow pulling and acceleration of the overhead valve engine compensates for the lack of the third ratio; while the performance of the side-by-side valve engine in putting up a lap in 40m. 8s. does not appear to indicate any loss from this cause.

TRANSMISSION STATISTICS.

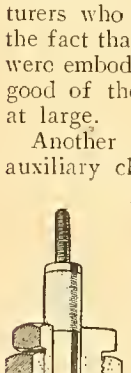
	JUNIOR RACE.		SENIOR RACE.	
	1920.	1921.	1920.	1921.
Direct belt	4	3	1	0*
Chain-cum-belt	17	21	1	0
All-chain	11	41	27	67

*Omitting non-starting Rudge.

Frames.

Only two new frames made their appearance in this year's races—the T.T. Scott, with its cleverly-arranged triangulation and its detachable sub-frame carrying engine and gear unit; and the sloping frame (giving an extremely low position) of the new B.S.A. As regards breakages, frames seem to have made considerable strides, but more than one manufacturer has discovered that where high speeds are concerned there is more in designing a good steering machine than good forks and low centre of gravity. This lesson, taught by the general increase in speeds, should prove valuable, and it is to be hoped that those manufacturers who encountered steering troubles (in spite of the fact that the best known principles of frame design were embodied) will continue their experiments for the good of the trade and the motor cycling community at large.

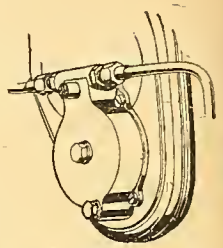
Another noticeable feature was the fitting of auxiliary chain stays by Sunbeam and Velocette—a feature which is worthy of special consideration for maintaining lateral rigidity.



Part section of small K.L.G. plug as used on Levis and other machines

Carburetters.

Although the majority of entrants competed with standard types of carburetter, the Amac two-lever being the most usual, there are two points worthy of special notice. A.J.S. machines, as before mentioned, used an additional extra air on the engine side, and several riders, including the winner of *The Motor Cycle* Trophy, employed Cox-Atmos single-lever carburetters with admirable results. On the other hand, the Indian machines, usually fitted with a single lever carburetter, reverted to two levers for the T.T., and certain other automatic carburetters were fitted with a second control lever.



An oscillating oil pump on the Sunbeam magneto chain case.

Bearings and Lubrication.

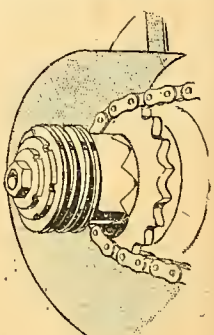
In view of the prevalence of ball and roller bearings on racing engines, it is interesting to note that, with the exception of a double row roller big end, the A.J.S. is a plain bearing engine throughout, which supports the contention that, provided the crankshaft is properly constructed, and that regular lubrication is ensured, there is but little friction loss with this type of bearing. Mechanical lubrication is making headway, Sunbeam, Rover, Velocette, and B.S.A. designers being amongst its supporters, and it is likely to make many more converts in the near future. In this connection, it is interesting to note that the Velocettes used just about one and a half pints of oil for the whole course, so regular and satisfactory is their pump. This fact also provides the main cause of the regular two-stroking, even down the mountain, of this fascinating little mount. Handle-bar or foot-controlled oil pumps are almost universal for racing purposes; and, until mechanical lubrication becomes standard practice, there seems no reason why touring machines should not be so equipped.

Flywheels.

With the exception of two-strokes and flat twins the Blackburne was the only outside flywheel engine in the races. Nevertheless, a proper realisation of the merits and defects of each type appears to be gaining ground. For instance, outside flywheels were kept as close as possible to the crank web so as to avoid torsional oscillation, and inside flywheels were given much greater clearances from the crank case so as to avoid oil drag—$\frac{1}{4}$ to $\frac{5}{16}$ clearance being given in most cases instead of $\frac{1}{16}$ to $\frac{1}{8}$. The Ivys had steel rims shrunk over the crank webs, which, in addition to raising the crank case compression, assist steady running by centralising the rotating masses.

Brakes.

Fewer auxiliary brakes were fitted than usual, but the Webb expanding front brake has made great headway, as it deserves to do, not only lightweights, but, in many cases, 500 c.c. machines being equipped in this way. Good brakes are vital to the security of the rider, and, in addition, save many seconds per lap by enabling corners to be approached at higher speeds. It is encouraging, therefore, to find that standard brakes were considered to be sufficient in so many cases. The A.J.S. expanding brake undoubtedly proved its value. Convenience was also considered in the design and position of the brake pedals—quite an important point.

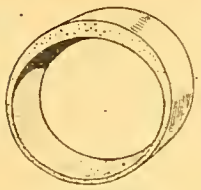


The adjustable shock absorber on the engine-shaft of the 350 c.c New Imperial.

Technical Aspects of the Junior T.T.—

Tyres.

There was a noticeable increase in tyre sizes, 700 × 80 mm., 28 × 3in., 26 × 3in., and 650 × 65 mm. being common sizes; while only Levis, New Hudson, and Velocette machines remained faithful to 24in. wheels. Three ribbed and rubber-studded tyres divided the honours fairly evenly, and it was not uncommon to find studded tyres on the rear wheel with three-rib on the front, while the front tyre was occasionally of smaller section than the rear. This arrangement is probably ideal for the T.T. course, though the tourist naturally prefers interchangeable tyres.



Section of special Hutchinson tube in use in both Junior and Senior events.

Ignition.

K.L.G. plugs almost monopolised the entry, and it is a tribute to their excellence that so little plug trouble was experienced in spite of high compressions and oily engines. High-tension magnetos were universally employed, but it was noticeable that some of the small machines fitted a larger sized magneto for the race. Scotts were fitted with the Lucas two-spark instrument.

Congratulations.

In conclusion, it is clear that the Junior, Senior, and lightweight trophies were carried off by a combination of superb design and workmanship and exactness and care in tuning. The speeds which were accomplished, especially in the Junior event, were such an improvement over last year's as to indicate an enormous advance in motor cycle design and construction. Had the Senior event been run on a typical French course, with long straight stretches and comparatively few corners, the results might have been different, but in any case Messrs. A.J.S. are to be most heartily congratulated on designing and building what is probably the fastest road racing machine suitable for the British Isles. We may feel assured that the very valuable lessons which they have learned will be incorporated in their touring machines, and it is even to be hoped that the T.T. machine may be placed on the market.

OVERHEATING.

Is the Defect Misnamed? Heat, in itself, does not lessen Efficiency.

I HAVE two machines. One of them appears to get almost red hot—so far as actual temperature goes. It fairly sizzles! Yet this engine never overheats. It will haul a sidecar up the interminable passes of the Highlands, pulling better at the top than at the bottom. The temperature it attains is something colossal. I have seen flies drop dead in the air on approaching within a yard of it!

The second engine runs remarkably cool. One can hold one's hand on the cylinder without discomfort, yet after two miles of low gear work it pinks itself out—and that at a much lower temperature than the first normally runs at. In other words, one gets hot but does not overheat, while the other keeps cool and does overheat. A paradox surely.

A Matter of Distortion.

This, I conclude, is purely a matter of distortion. The first engine "distorts evenly," the second distorts in such a way as to lose its compression—or at all events, to upset itself. Overheating, then, in the ordinarily understood sense, is not in this case so much a matter of attaining a high temperature as it is of the engine retaining its proper shape at the maximum temperatures it reaches.

One might argue from this that it does not very much matter of what metal cylinders are made so long as they are the right shape. If pre-ignition and excessive oil consumption could be washed out, a hot running engine would be every bit as good as a cool running engine. In other words, the only real reason why an engine should run cool is because we are accustomed to regarding motor cycle cylinders as such badly designed articles that unless they do run cool they warp out of shape. Make the cylinder symmetrical, and I venture to think that it would not matter a great deal whether it were made of aluminium or cast iron, or any other reasonably suitable material. Indeed, if it were possible to make the cylinder and piston absolutely symmetrical, the only advantage of aluminium or machined steel would be its lightness.

Why "Overheating" is Difficult to Cure.

My own experience, mentioned in the first paragraph, makes it easier to understand why "overheating" is often so difficult to cure. We may not be trying to cure overheating at all; we may be trying to cure warping. And since some engines begin to lose power through warping at a much lower temperature than others, it will be seen at once that under certain conditions no number of auxiliary radiators, etc., are of very much use.

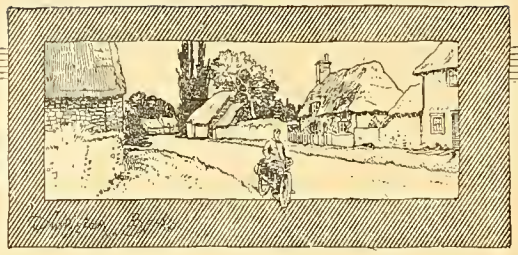
Personally, I have adopted my old friend "Ixion's" tip, and find it very effective. When "Ixion" buys a new machine he flies at full throttle round the entire countryside, till his engine is absolutely and utterly blued. He then takes it home, and by dint of a coal hammer and a blacksmith's file he trues up the piston in a vice—a thing that "Ixion" might do, but which we would not recommend anyone else to try.

After the First 1,000 Miles.

With my own new machines I blue them in utterly during the first 1,000 miles, then return them to the makers, pointing out that the cylinder and piston are warped, and will they please have the engine machined up and trued, as the compression is rotten. This well and scientifically done, it is impossible thereafter to take a rise out of that engine. Miles of full throttle have no effect upon it, and I may add that my present hot engine was subjected to this treatment, while the cool runner which overheats has not been back to the works. It will go in due course, and I guarantee that when it comes back it will prove as impervious to overheating as its excellent stable mate.

H. MORTIMER BATTEN.

CURRENT CHAT



Times to Light Lamps.

June	23rd	... ...	9.49 p.m.
,,	25th	... ...	9.49 ,,
,,	27th	... ...	9.49 ,,
,,	29th	... ...	9.49 ,,

Overwhelmed!

Messrs. A. J. Stevens (1914), Ltd., Wolverhampton, ask us to insert the following note: "As it is quite impossible for us to thank individually all who congratulated us upon our recent success in the T.T. race, we trust they will accept this as an acknowledgment of their good wishes."

A Beauty Spot in the I.O.M.

On the Island last week many visiting motor cyclists took advantage of the hospitality of Mr. H. H. Crippin, who invited them to tea at his hotel at Glen Helen, and gave them permission to roam through the very beautiful glen.

C. and M.T. Benevolent Day at Manchester.

On Monday subscriptions for the Manchester Centre of the Cycle and Motor Trade Benevolent Fund will be sought by an energetic committee, led by the chairman, Mr. Fred Webster, and assisted by a band of volunteers. It has always been the custom in the past for sympathisers to express their appreciation of the work of the fund by means of donations on that day, and it is hoped that on this occasion those who have previously assisted in this way will forward their donations to the centre hon. treasurer, Mr. A. Freeman, Lucas, Ltd., Manchester, in order that their contributions may go to swell the total for the day. The adequate organisation of the outlying districts is one of the problems of the scheme, and the services of those who can spare an hour for this purpose will be appreciated by the hon. secretary, Mr. N. Randolph, Dunlop Tyres, Manchester, who will furnish all particulars.



THE MAN WHO KEPT THE JUNIOR RACE INTERESTING!

The end of a plucky ride. J. Whalley, with flat rear tyre and with silencer adrift, after finishing a ride remarkable for fine riding, bad luck, and sheer grit.

Special Features.

THE SENIOR T.T. RACE.
TECHNICAL ASPECTS OF THE RACES.
IMPRESSIONS OF THE JUNIOR EVENT.

Popular Machines with the Clubs.

An analysis of the makes of motor cycle entered by the various clubs in the M.C.C. Club Team Championships for *The Motor Cycle* Cup, to be held on Saturday, provides some interesting information. There are 23 Triumphs, 17 Nortons, 13 Harleys, 13 Sunbeams, and 11 Indians.



1914 AND 1921 T.T. WINNER.

Eric Williams's tired smile of victory would indicate that he would enjoy much more a quiet bath and a few hours rest than the enthusiastic demonstrations of his admirers.

Reliability of Overhead Valves.

Overhead valves swept the board in the Junior race. The most violent critic can hardly object that properly designed overhead valve gear is unreliable after the consistent performance of all the A.J.S. machines. The average tourist at any rate, will hardly break valves that withstand five and six laps of the Isle of Man course at over 52 m.p.h.

Safety in Night Driving.

There is still room (says *The Autocar*) for improvement in the rules and regulations governing the position of lights on modern road vehicles. When trucks and trailers are being drawn by a traction engine each should carry a light upon its right-hand side, so that other road users can see plainly exactly what they are meeting. Also when an engine is towing trucks, etc., every truck should be provided with a red light to the rear; and when any part of a load projects more than three feet beyond the rear light the load itself should also carry a red light

SUCCESSES

3rd

ior Race

TEAM PRIZE

th &

ior Race

NSON

TROPHY



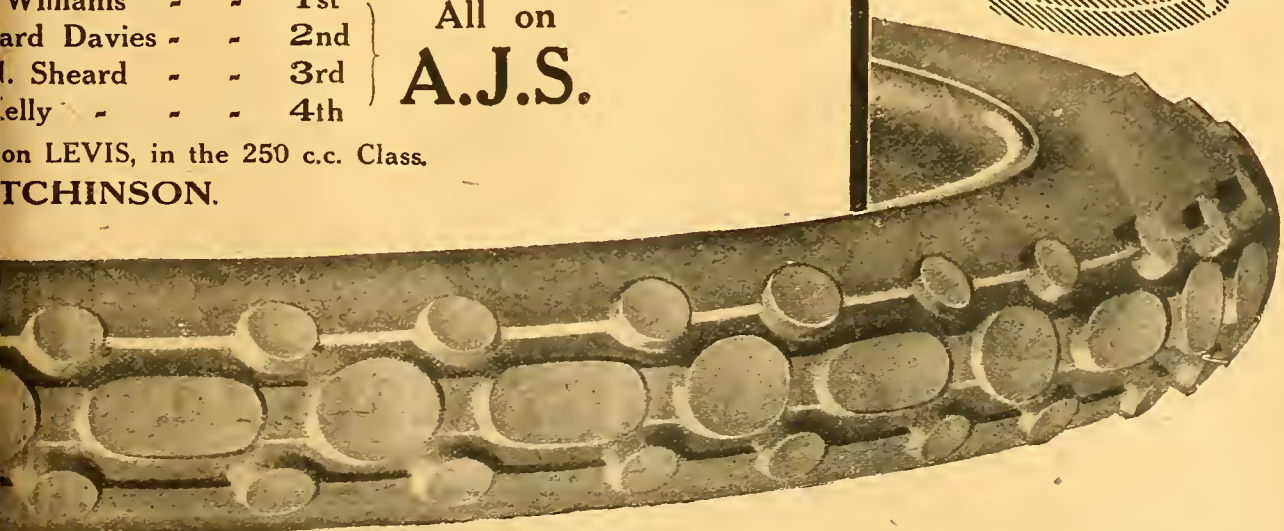
INE LIVES

JUNIOR RACE:

Williams	1st	All on
ard Davies	2nd	
. Sheard	3rd	A.J.S.
elly	4th	

on LEVIS, in the 250 c.c. Class.

TCHINSON.



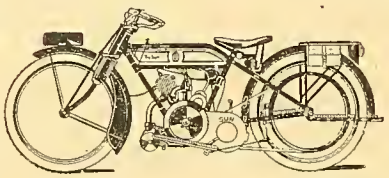
Tourist Trophy, June 14th, 1921.

2 SUN VITESSE Motor Cycles

were entered, 247 c.c. Two finished the Course—

G. N. NORRIS - 4 hours, 58 mins., 33 secs.
M. BISHOP - - 5 ,, 2 ,, 49 ,,

Averaging 37½ miles to the hour. Thus keeping up its reputation for reliability. Forty machines have been entered in Competitions since October, 1920, but on no occasion has there been a mechanical fault—all have finished, getting many First Awards.



Sturmey Gear Model
Clutch and Kick-starter.
£66-10-0

Machines weighed 200 lbs. on scales before Race, comparing with others 40 lbs. lighter.

Facsimile machines can be supplied to riders for the road.

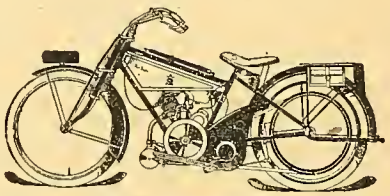
We will forfeit £100 if any part of our T.T. Model was of a Freak Nature.

2 T.T. Models sent over were used to qualify, and, without alteration, finished the course as above.

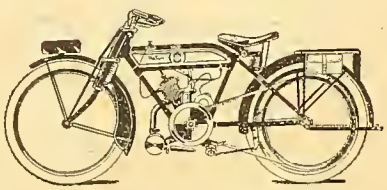
THE SAME AS YOU CAN BUY

With apologies to F. E. Baker.

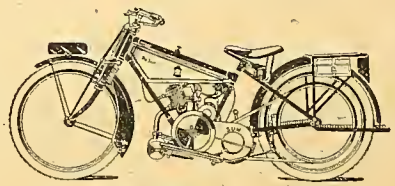
Send for our List of Agents.



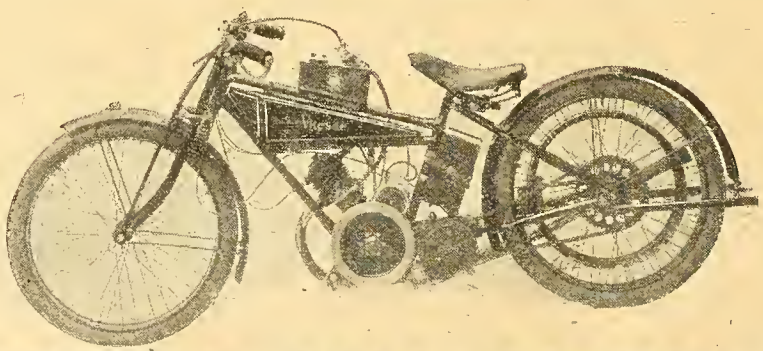
Lady's Steering Gear
Clutch and Kick-start Model.
£69-7-0



Single-speed Model.
£49-17-6



Gent's Sturmey-Archer
Clutch and Kick-starter.
£69-7-0



T.T. Model

Price, with Chain Drive, 73 guineas.

THE SUN CYCLE & FITTINGS Co., Ld.

Established 1885. BIRMINGHAM.

SPEED—AS RECORDED BY THE CAMERA.



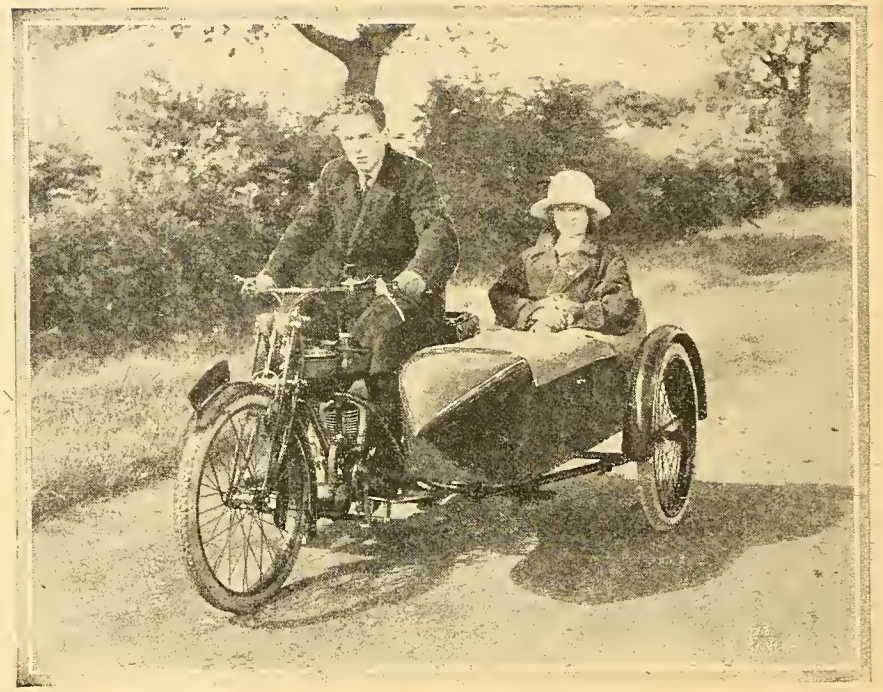
(Top) A fine impression of F. Boulton (New Imperial) and J. Emerson (Douglas) taking the bend just beyond Ramsey, during the Junior T T.

(Bottom) Eric Williams, the winner of the Junior Trophy, in a characteristic racing attitude at Hilberry Corner.



ROAD TESTS OF NEW MODELS.

The 2¾ h.p. O.K. Sidecar.



A lightweight sidecar outfit designed to meet the requirements of those to whom economy in upkeep is a consideration—the 2¾ h.p. O.K. Junior.

WHEN it is realised that the five leading 250 c.c. lightweights in the Junior T.T. race finished the 188 mile course at speeds varying from 42 to 45 m.p.h., one cannot wonder at the growing popularity of this type of motor cycle for light sidecar haulage. Machines that make such fine performances as these *must* possess a reserve of power much above the requirements of the ordinary 20 m.p.h. solo rider.

This is no new discovery, of course. The ultra-lightweight sidecar outfit is now an established type, and more and more makers of genuine lightweights are turning their attention to the sidecar hauling possibilities of their products. Messrs. Humphries and Dawes, Ltd., the makers of the 2¾ h.p. O.K., form a case in point; although in this instance it has been decided to adopt an engine of slightly larger capacity, and the frame has also been modified—it has not been redesigned—to meet the additional claims on power and reliability entailed by the extra passenger. That by doing so they have not lost the daintiness and low weight one expects (but does not always get) from such outfits was proved to us recently on the occasion of a short road trial of the new model.

An Impression of Solidity.

On first mounting the saddle, and even before starting up the engine, one gets the impression that this lightweight outfit is a serious proposition and not a toy. The riding position is comfortable, and—an important point—even a fairly tall rider is not cramped, and the designers have succeeded in making a small machine "feel" like a big outfit (as regards the rider's position) and yet have retained perfect symmetry in the general outline.

Starting up, any lingering qualms and suspicions that, after all, the O.K. outfit would be underpowered for the heavy load we were to impose upon it were quickly dispersed. A pleasing purr from the engine might have been produced by almost any two-stroke—although there was a noticeable absence of vibration—but on "opening out" the power and acceleration were unmistakable, and top gear was engaged in a very short space of time indeed, considering the conditions—an up-grade and a heavy passenger.

Our favourable initial impression of the power of the engine remained during the run, which included only one gradient that called for the lower ratio. This change-down we had fully expected, but had the road been clear we think that, actually, we might have just got up on top.

As we mentioned earlier, the engine is of a greater capacity than the one normally fitted to the O.K., being a Union two-stroke of 70 × 76 mm. (292 c.c.). It is a workmanlike design of the three-port type, and is chiefly notable for the novel magneto drive—a universal coupling from the main shaft. Otherwise it follows conventional lines.

Excellent finish characterises the whole outfit, including the sidecar body. Regarding comfort from the passenger's point of view, we found that some experiments with different angles of the seat were necessary to find a really easy position.

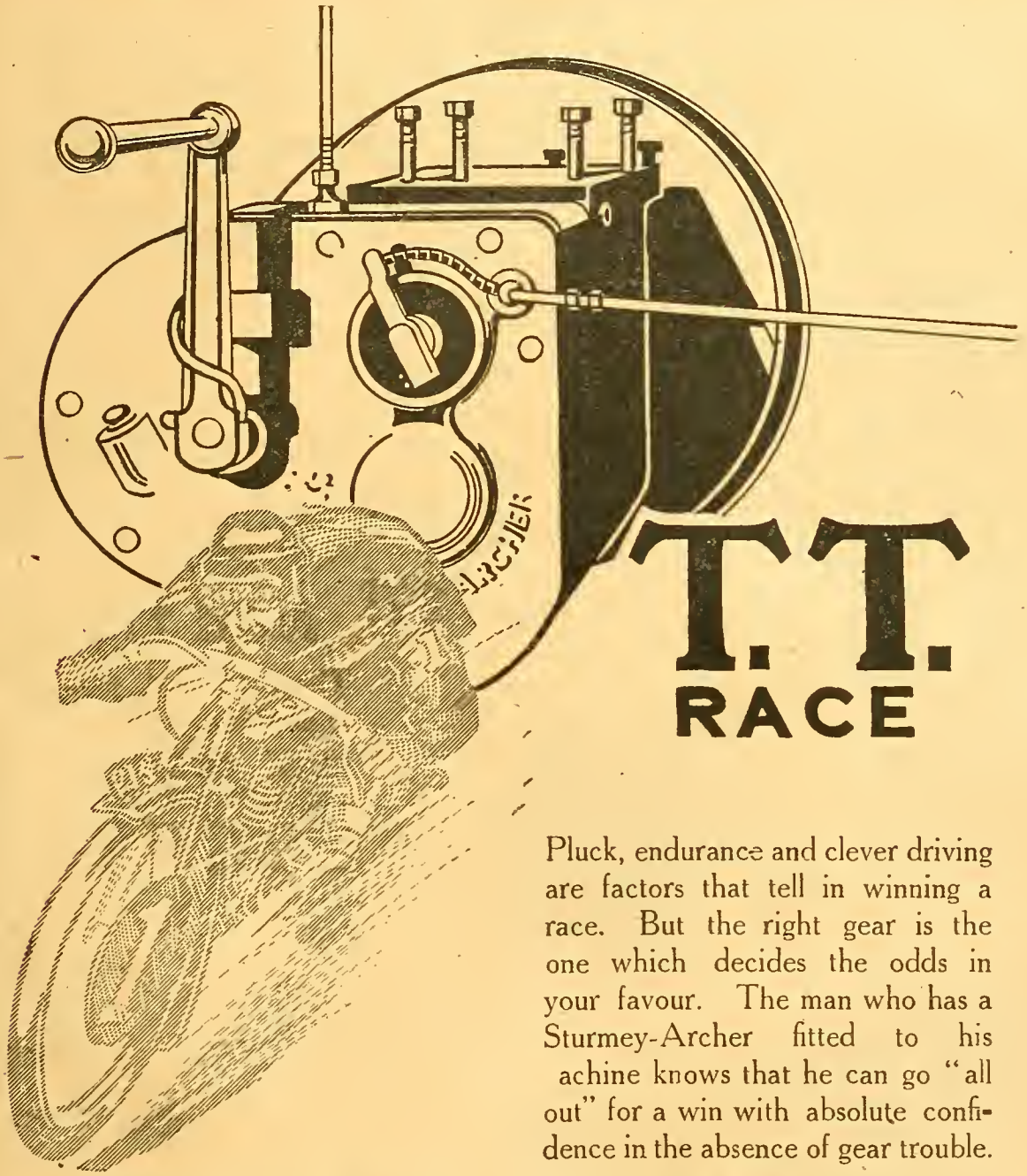
Considering the price, which is only 92 guineas for the outfit, the O.K. sidecar will, we predict, rapidly take a leading position in its class.

AN A.C.U. OBSERVED TRIAL.

THE longest observed trial yet undertaken by the A.C.U. will take place shortly after the T.T. races, when two Excel motor bicycles will complete a run from John-o'-Groat's to Land's End without stopping the engines, in charge of eight drivers, each man taking a 200 miles section.

Although there is nothing difficult in the way of hills on the course, which is about 889 miles in length, the trial is one which will test any machine.

Of the two machines, one will be fitted with a 4 h.p. Blackburne engine and the other a 4 h.p. single-cylinder J.A.P., 550 c.c. We hope to make reference to these machines in an early issue.



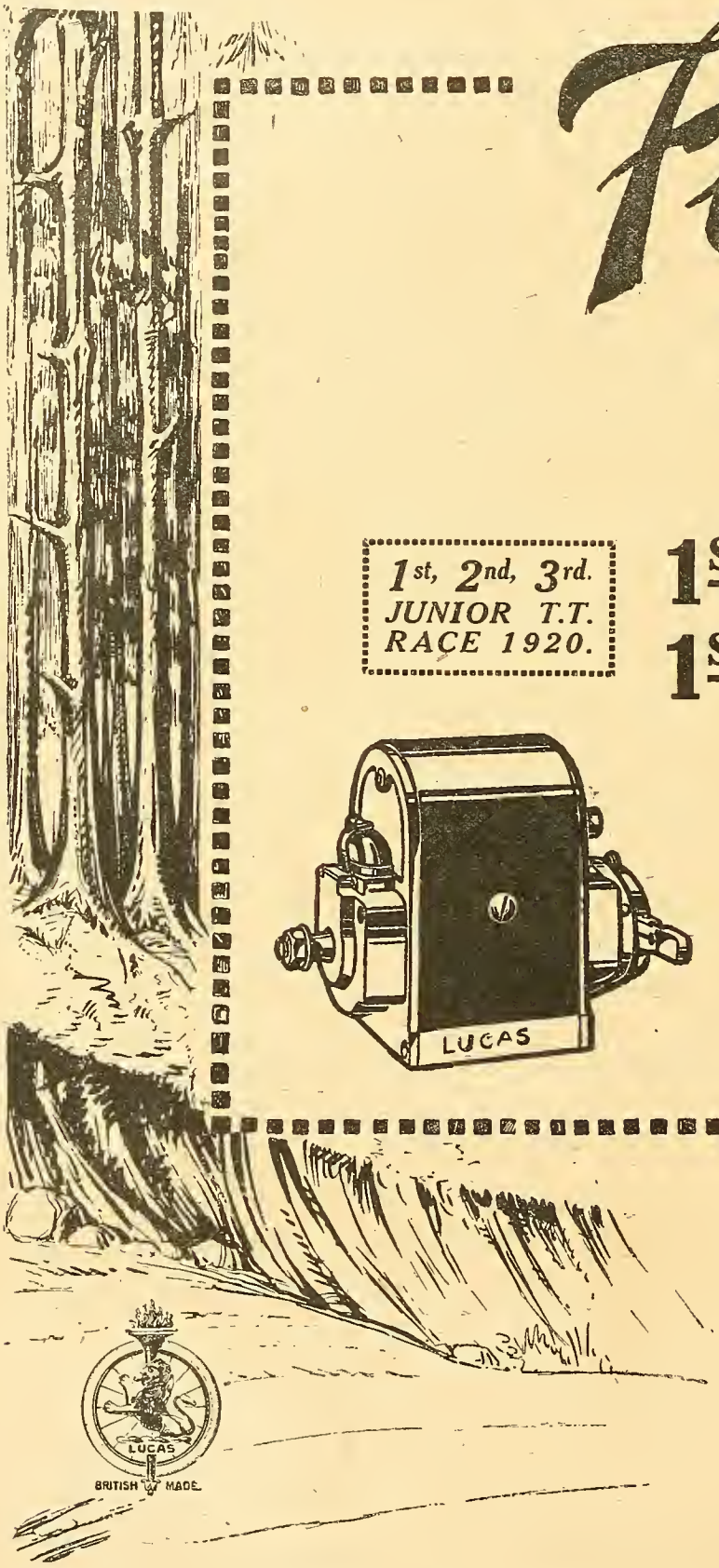
T.T. RACE

Pluck, endurance and clever driving are factors that tell in winning a race. But the right gear is the one which decides the odds in your favour. The man who has a Sturmey-Archer fitted to his achine knows that he can go "all out" for a win with absolute confidence in the absence of gear trouble.

Sturmey-Archer Gear Oil, specially prepared for countershaft gears, gives the best results. In quart tins 3/3 each.

STURMEY-ARCHER GEARS, Ltd.
NOTTINGHAM.

STURMEY ARCHER
COUNTERSHAFT GEAR



First

Lucas Magnetos (formerly
the winning machines in b

1st, 2nd, 3rd.
JUNIOR T.T.
RACE 1920.

1ST SENIOR T.T. RACE, A

1ST JUNIOR T.T. RACE, A

The 2nd, 3rd, 4th, 6th, a
this Race by machines fit

THIS SWEEPING SUCC
CONSISTENT RELIABILITY
MAGNETO IN THE MOST
——THE BLUE RIBAND

Lu

MANUFACTU

JOSEPH

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THE LUCAS E
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LUCAS
BRITISH MADE

of Victory

he First 15 MACHINES in the Junior T.T. Race were

K.L.G. Plugs

8 riders who finished, sed K.L.G. Plugs.

reatest success in the history of this classic event.

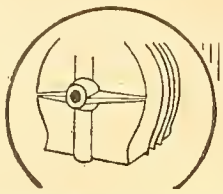
All were available—K.L.G. were chosen."

Sole Manufacturers:

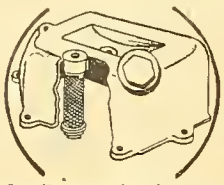
THE ROBINHOOD ENGINEERING WORKS, LTD.

PUTNEY VALE, LONDON, S.W.15.

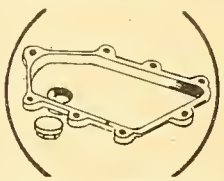
Joint Distributors and Sole Export Agents:
S. SMITH & SONS (M.A.) LTD., CENTRAL WORKS, CRICKLEWOOD.



Crank case—oil passage drilled through web to driving side of crankshaft.



The oil sump, showing gauze filter through which the oil is forced to the crank-shaft with every downward motion of the piston.



Base of lubricator with screw cap which gives access to the gauze filter.

Automatic Lubrication Features largely

in the undoubted superiority of the £60 Hawker Lightweight over machines costing twice as much. You fill the sump with lubricant, and the running of the engine forces the oil to every point of friction. No worry—no waste—no mess. 1,200 miles to every gallon of oil.

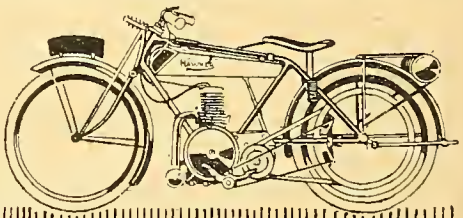
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2-STROKE, 2-SPEED LIGHTWEIGHT

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Club News

Sutton-in-Ashfield M.C.C.

A class reserved for ladies in the recent reliability trial was won by Miss B. Dove (2¼ O.K.), with Miss W. Parnell (4 Douglas sc.). General results of the trial were :

1, J. Savory (2¾ Douglas); 2, H. Buttery (8 Rex sc.); 3, E. Oscroft (4¼ B.S.A.).

Doncaster and District M.C.C.

Results of the most successful gymkhana held recently at Cusworth Park were as follows :

QUARTER MILE RACE (Two-strokes Only, 275 c.c. and Under).—1, H. C. Dodds (2½ Radco); 2, A. B. Dodds, Jr. (2½ Levis).

QUARTER MILE RACE (Solo, 350 c.c. and Under).—1, H. Christian (2¾ Douglas); 2, R. B. Hepworth (2¾ Douglas).

EGG AND SPOON RACE (Solo, Unlimited c.c.)—1, J. E. Slater (3½ Sunbeam); 2, H. Harper (2¾ Coulson B.).

MUSICAL CHAIRS (Solo or Sidecar, Unlimited c.c.—1, J. E. Slater (3½ Sunbeam); 2, H. Christian (2¾ Douglas).

QUARTER MILE RACE (Solo, Unlimited c.c.).—1, H. Christian (2¾ Sunbeam); 2, J. J. Lister (2½ Norton).

BALLOON BURSTING COMPETITION.—1, J. J. Lister (3½ Norton); 2, R. B. Hepworth (2¾ Douglas); 3, S. Leach (4¼ B.S.A.).

Bristol M.C.C.

On a recent Saturday afternoon the club carried out a very successful trial for amateurs. A course of twenty-six miles, starting and finishing at Keynsham, was covered twice. It included several stiff hills, and touched Farmborough, the outskirts of Bath, and Lansdown. A number of secret checks were taken, to afford a definite means of finding a winner. Thirty-five started, and about twenty-three finished the course, the provisional result being as follows :

1, and King Cup, A. B. Fuller (2¾ Douglas); 2, J. Baynton (4 Blackburne); 3, S. G. C. Walters (7-9 Harley-Davidson sc.).

SPECIAL SIDECAR PRIZE.—H. J. Hobbs (4 Blackburne sc.).

SPECIAL GOLD MEDAL (for Best Lightweight Performance).—J. Bartholomew (2½ Verus).

Week-end Club Events.

June 25.—Barrow and District M.C. Gymkhana.
June 25.—Ulster M.C.C. Reliability Trial.
June 25.—Edinburgh and District M.C. Speed Trials.
June 25.—Bradford M.C. and L.C.C. Freak Hill-climb for the Wilson Cup.
June 25.—Luton and South Beds. A.C. Social Run and Old Crocks' Hill-climb.
June 25.—Northern M.C. Gipsy Run to Steward Peel.
June 25.—West Kent M.C.C. Captain's Cup Night Trial.
June 25.—Exeter M.C. and J.C.C. Club Run to Budleigh Salterton.
June 25.—Bristol M.C.C. Reliability Trial.
June 25.—North Wales M.C.C. "Follow the Leader" Competition.
June 25.—Kidderminster M.C.C. Speed Trials.
June 25.—Dewsbury and District M.C.C. Reliability Trial.
June 25.—Central London M.C.C. Club Run to Shenley.
June 25.—Ivy M.C.C. (Wolverhampton) Club Run to Highgate Common.
June 25-26.—Walverhampton M.C.C. Reliability Trial.
June 25-26.—Loughborough and District M.C.C. Week-end Run to Skegness.
June 26.—Hartlepool M.C. Carlton Cup Reliability Trial.
June 26.—Doncaster M.C.C. v. Leeds Motor Union. Inter-club Team Trial.
June 26.—N. Western Centre A.C.U. Blake Cup Inter-team Trial.
June 26.—Bishop Auckland and District M.C. Club.
June 26.—Newcastle and District M.C. Johnston's Trophy Reliability Trial.
June 26.—Taunton and District M.C. and L.C.C. Club Run to Cheddar.
June 26.—Coventry Triangle M.C.C. Club Run to Stourport.
June 26.—North Lindsey A.C. Club Run to Monsal Dale.
June 26.—Wakefield and District M.C.C. Club Run to Ilkley.
June 26.—Leeds and District M.C. Club Run to Filey.
June 26.—Canterbury and District M.C.C. Paper-chase.
June 26.—Sheffield M.C.C. Club Run to Thorne.
June 26.—Reigate, Redhill and District M.C.C. Reliability Trial.
June 26.—Holwood M.C.C. Club Run to Guildford.
June 26.—Glasgow Western M.C.C. Open Non-stop Trial.
June 26.—Central London M.C.C. Club Run to Ivinghoe Beacon.
June 28.—Berwick and District M.C. Vice-president's Run.
June 30.—Aberdare and District M.C.C. Illtydd Williams Cup Trial.

Taunton and District M.C. and L.C.C. Club.

Taunton, Bournemouth, Barnstaple, Bridgwater, Dorchester, Exeter, Yeovil, and Plymouth clubs were all represented by teams in the Yeovil to Land's End reliability trial. The Exeter team, consisting of A. M. Knill (4 Indian Scout), G. R. Claridge (4 Triumph), and E. H. Williams (4 Triumph sc.), won the premier award. Medals were awarded as under :

SIDECAR MACHINES.

SILVER MEDALS.—F. Skinner, Taunton (6 Martinsyde sc.); Chas. Forward, Barnstaple (4 Douglas sc.); F. J. Blackwell, Dorchester (4 Triumph sc.); H. S. Williams, Exeter (4 Triumph sc.); T. V. Hook, Yeovil (4 Douglas sc.); E. A. Wright, Yeovil (7-9 Indian sc.); J. Glanville, Bridgwater (4 Norton sc.); and E. H. Williams, Exeter (4 Triumph sc.).

BRONZE MEDALS.—R. Sparrow, Yeovil (4¼ James sc.); T. Fallow, Plymouth (7-9 Harley-Davidson sc.); L. S. Potter, Taunton, (6 Martinsyde sc.); and F. A. M. Dodd, Dorchester (4 Coulson-B sc.).

LIGHTWEIGHTS.

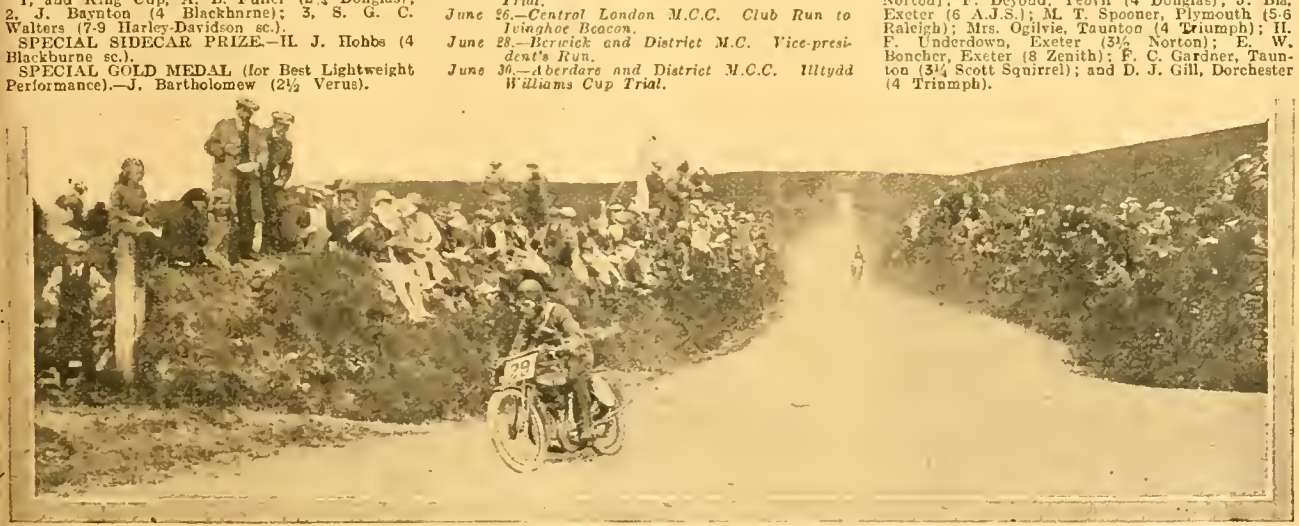
SILVER MEDALS.—W. J. Bailey, Dorchester (2¾ Douglas); J. F. Anderson, Taunton (2¾ A.J.S.); J. P. Webber, Barnstaple (2¾ Douglas); R. E. Waterman, Yeovil (2¾ Douglas); and H. A. Newton, Yeovil (2¾ Douglas).

BRONZE MEDALS.—C. R. Gage, Yeovil (2¾ (Zenith); Miss N. Phillips, Plymouth (2¼ Connaught); P. V. Hare, Taunton (2¾ Douglas); F. Hewin, Taunton (2¾ Blackbird); and S. H. Crowhurst, Taunton (2¾ Cedos).

SOLOS FOR 350 C.C.

SILVER MEDALS.—A. M. Knill, Exeter (4 Indian Scout); G. L. Morrish, Yeovil (3½ Sunbeam); S. H. Shattock, Taunton (3¾ Scott Squirrel); S. Goodman, Taunton (3½ Sunbeam); F. G. Vincent, Taunton (3½ Sunbeam); G. R. Claridge, Exeter (4 Triumph); A. J. Trenchard, Dorchester (4 Triumph); A. E. Hann, Dorchester (3 A.B.C.); B. V. Tucker, Bridgwater (3½ Norton); C. G. Clapshaw, Yeovil (4 Douglas); S. House, Bridgwater (3½ Norton); and R. J. Symonds, Dorchester (3¼ Lea-Francis).

BRONZE MEDALS.— R. B. Robins, Dorchester (4 Triumph); S. W. Easton, Taunton (3 A.B.C.); O. Ford, Exeter (4¼ B.S.A.); K. Delve, Barnstaple (4 Triumph); D. S. Southcombe, Yeovil (3½ Norton); F. Deyond, Yeovil (4 Douglas); J. Bia, Exeter (6 A.J.S.); M. T. Spooner, Plymouth (5-6 Raleigh); Mrs. Ogilvie, Taunton (4 Triumph); H. F. Underdown, Exeter (3½ Norton); E. W. Boncher, Exeter (8 Zenith); F. C. Gardner, Taunton (3¼ Scott Squirrel); and D. J. Gill, Dorchester (4 Triumph).



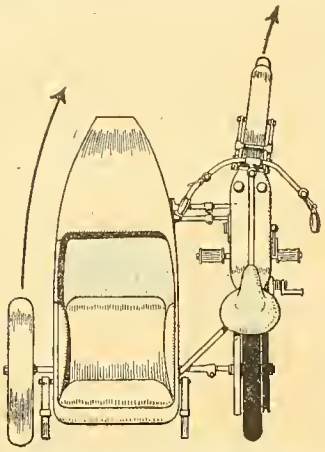
FOUR-STROKE v. TWO-STROKE IN THE JUNIOR.

Many of the spectators are so busy consulting programmes and watches that they hardly notice this little duel between D. Young (2¾ Blackburne) and L. Vickary (3 Ivy) at Craig-na-baa.

CONCERNING SIDECAR BRAKES.

Systems that are Dangerous and those that are not. The Experiences of a Well-known Rider.

THE coming of the sidecar taxicab has once more brought to the front the question of fitting a brake to the sidecar wheel. There is an idea abroad that these brakes are dangerous *per se*. In the case of the independent passenger-operated brake, this may be admitted at once without much fear of contradiction; but there are other types, notably the driver-operated compensated brake, which should not be condemned without thorough investigation.



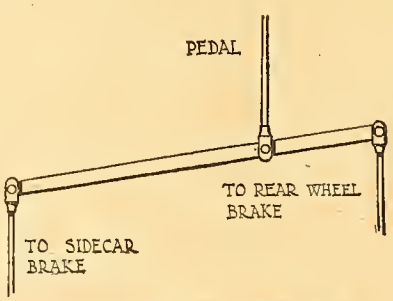
When the brake is applied to the driving wheel the tendency is for the sidecar outfit to swerve to the right.

Before venturing to detail experiences with sidecar brakes, it may be desirable to trace causes and effects when brakes are applied. Take, in the first place, the ordinary sidecar outfit with a rear brake on the motor cycle but none on the sidecar. When the rear brake is applied the cycle is retarded, but the sidecar must still tend to run on. As the attachment is anchored to the cycle, it is safe to assume that it must try to run round it, pivoting to the right. (In these notes I assume throughout that the sidecar is on the left of the cycle.) I suggest, therefore, that the sidecar must exert a push to the right. We are, however, so accustomed to this effect, accepting it as part and parcel of sidecar driving, that we do not notice it, but correct it automatically.

Independent Brakes Undesirable.

At the other end of the scale is the outfit with an independent brake fitted to the sidecar wheel. When this type of brake is applied, the effect is the exact opposite to that prevailing when a brake is applied to the driving wheel. The sidecar is retarded and the cycle attempts to swing round it. The result is a very decided pull to the left, difficult to correct.

If a brake is required on the third wheel, then it is obvious that we must have the sidecar brake interconnected with that on the driving wheel, but so designed and adjusted that application of the brakes exerts less retarding effect on the sidecar than on the motor cycle. This is commonly called a compensated action. It is easily rigged up for experimental purposes by introducing a yoke-bar at some point in the control. If the pull rod is attached to the centre of the yoke, there is still a decided pull to the left. Unequal distribution of power is obtained by moving the pull away from the centre.

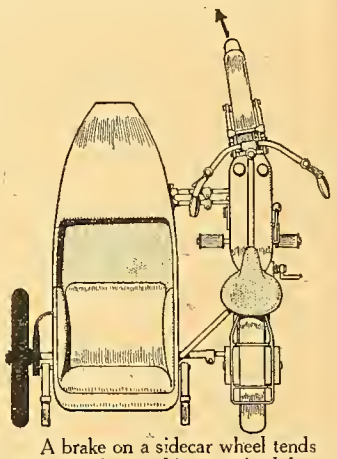


Compensating lever arrangement for actuating rods of rear wheel and sidecar brakes suggested by our contributor.

Experiences with Compensated Brakes.

I had precisely such a brake on my Clyno outfit for the Scottish Six Days Trial of 1914. If I remember rightly, I found about three-fifths power to the motor cycle brake and two-fifths to the sidecar brake was a satisfactory distribution.

When I first fitted this brake I felt a slight sensation of "pull to the left" whenever I applied it. But this feeling quickly disappeared, and at no time was it at all pronounced, still less dangerous. The fact, however, remains that other riders always noticed it when they drove my outfit, but they also ceased to feel it after the first few miles. Now comes my main contention. I believe this "pull to the left" is nothing more than an absence of the "push to the right," which I have suggested is inherent in all ordinary cases.



A brake on a sidecar wheel tends to turn the machine to the left—hence the desirability for brakes on each of the rear wheels operated by a compensating lever.

A System Worth Adopting.

Until I am convinced of some better interpretation of my experience, I cannot help thinking that every ordinary sidecar oufit *does* tend to "swing right" whenever the brake is applied. We are, however, so used to it that it does not occur to us to isolate the phenomenon. In spite of the risk of being scarified by the high brows of the technical world, I will go so far as to propound a theory I suggest that a driver-operated compensated sidecar brake of the type described, so far from being dangerous, is superior to having brakes on the motor cycle alone, because: (1) It corrects the "push to the right" inherent in every non-sidecar-braked outfit and (2) increases greatly the total retarding effect obtainable before wheel-lock supervenes which is the important period.

I can truthfully say that my three-braked Clyno outfit in 1914 was, just because of this third brake, the most delightful machine to drive that I have ever yet handled in a long riding experience. I can only hope that this present revival of the subject will lead to a general adoption of the compensated sidecar brake.

P. W. BISCHOFF.

The International Senior Tourist Trophy Race



H. R. Davies, on a 2¾ h.o. A.J.S. (74 × 81 mm. = 349 c.c.), wins in the Record Time of 4h. 9m. 22s., at an Average Speed of 54·49 m.p.h.; F. W. Dixon (3½ Indian), Second; H. le Vack (3½ Indian), Third. Fastest Lap by F. G. Edmond (3½ Triumph) in 40m. 8s. = 56·44 m.p.h.

THE results of the Senior race last Thursday were received with pardonable incredulity when *The Motor Cycle* wires flashed them all over the country. Howard Davies, using the same 350 c.c. engine with which he rode second in the Junior two days before, won the Trophy in 4h. 9m. 22s., at an average speed of 54½ m.p.h. He was the most consistent rider in the field. For the first four laps he lay second, each time behind a different leader. Taking the lead after four laps he finished an easy winner by 2m. 13s. from F. W. Dixon, on an Indian. Davies's time was 13m. 1s. faster than de la Hay's winning time on a 500 c.c. Sunbeam in 1920. Le Vack, on another Indian, was third, he and Dixon having been Davies's most consistent pursuers throughout. Sunbeam, Triumph, and Norton machines divided the next nine places. The only other 350 c.c. machine entered (another A.J.S., ridden by H. F. Harris) was fourteenth. The first private owner to finish was W. Hollowell, Norton, twelfth. The fastest twin-cylinder was a Scott ridden by R. W. Stanfield (seventeenth). W. Brandish drove his Rover into the thirteenth place. Sixty-four machines started, and twenty-four finished. Many of the leading cracks, whom popular fancy tipped as possible victors, were thrown, including de la Hay, C. P. Wood, and G. Dance. The 1920 lap record was broken twice, viz.:

In lap 4, A. Bennett (Sunbeam), 40m. 19s.

In lap 4, F. G. Edmond (side valve Triumph), 40m. 8s.

A good shower would have been welcome to lay the dust on the eve of the race, but Thursday brought a continuance of bright sunshine, tempered by a cool



"One" and "two" the numbers read, and very appropriately too, for de la Hay (Sunbeam) was first in the Senior last year and Davies (A.J.S.) was second in the Junior on the preceding Tuesday—but, six hours later ——!

D



Britain and America represented by J. A. Watson-Bourne (leading on a side-valve Triumph) and F. W. Dixon (3½ Indian). Dixon, a wonderful rider, was eventually victor in this duel, and, incidentally, finished second in the race.

wind. Patches of thin mist dotted the mountain, and at times blew down into the lowlands like smoke.

An air of subdued excitement pervaded the neighbourhood of the stands as the crowd mustered and the riders completed their final preparations. Everybody expected a terrific race, and a breathlessly close finish between perhaps half a dozen men.

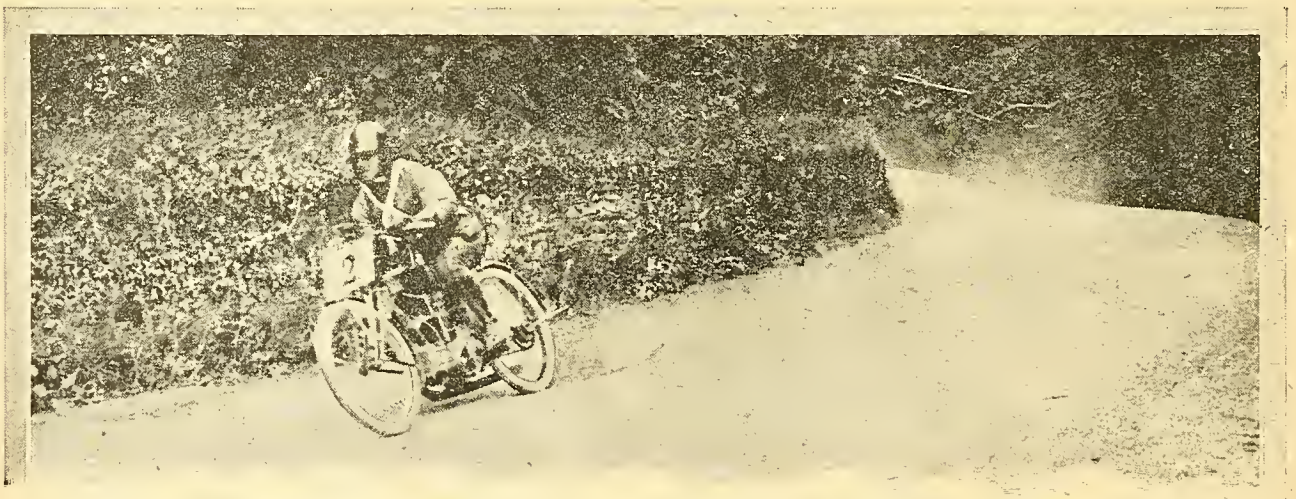
When the competitors were admitted to the tent, several tyres were discovered flat. Shemans's four-valve Triumph had a 1½in. nail in its back tyre, Horsman's Norton had a pinhole puncture, and one or two others were suspicious of foul play for similar reasons. However, the tent was opened early enough to admit of repairs, and sixty-four starters were soon filing out to their starting places. No. 4 (Ivy) had been transferred to the Junior race on the previous Tuesday; Groves's Rudge never came to the Island; Mallon (Sunbeam) and Eric Longden (Coulson) were absent through injuries received in practice.

Deputies.

Eric Williams's rheumatism had not been relieved by his ride in the Junior, so his Sunbeam was entrusted to Albert Milner. Clayton replaced Carey on the Blackburne, A. E. Wood took Gus Kuhn's place on the B.S.A., and Grahame Walker deputised for the injured Norton rider, Minton. A. H. Alexander was on the grandstand with his arm in a sling, and Norman Black rode his Douglas. Malkow's Indian was ridden by Noel Brown, and H. F. Harris handled O. Wade's 350 c.c. A.J.S. W. H. Hadfield took the mount of No. 64 (Norton), D. Young rode Remington's Blackburne, and Brockbank replaced E. Smith on No. 68 (another Blackburne).

De la Hay started No. 1 by right of his 1920 victory, but No. 2, H. R. Davies, was even more warmly cheered, both on account of his ill-luck in the Junior and because of his pluck in challenging all the 500 c.c. machines. Both men got away in great style, immediately followed by Sgonina on the first of the four-valve Triumphs, remarkable for its very quiet exhaust.

The programme bristled with famous names, alike of riders and of machines. Small wonder that even the experts looked bewildered when a fair spectator asked for a tip. "Wait till they've done a lap!" was a typical suggestion. Many of the Manx natives were backing H. R. Davies, against whom 17 to 1 had been accepted overnight. The more technically-minded observers proved to be rather wide of the mark. The most violent partisans were unable to feel real confidence in their favourites when competition threatened to prove so tremendous. The progress board was watched with almost painful anxiety, and everybody was eager for the first lap to finish, so that the times might provide some index to form. Milner left with an inflator stuck in



There has been considerable discussion lately as to who is the "champion motor cyclist." Many of our readers will not seek this illusive being much further than Howard R. Davies, who is shown (at Laurel Bank) making, perhaps, the greatest piece of motor cycle history to date—i.e., second in the Junior and first in the Senior with the same 350 c.c. A.J.S. engine.

Tourist Trophy Races

JUNE 14-16.

WAKEFIELD Castrol Regd MOTOR OIL

Again Excels!

JUNIOR T.T.

Won on Castrol for SECOND TIME IN SUCCESSION

Aggregate Distance: 188 Miles.

65 ENTRIES.

			Average.
1st	Mr. Eric Williams	A.J.S.	52 M.P.H.
2nd	,, H. R. Davies	A.J.S.	51 M.P.H.
3rd	,, T. M. Sheard	A.J.S.	49½ M.P.H.

In the Fly-Weight Class (250 c.c.) G. Prentice, riding a New Imperial, was First.

SENIOR T.T.

Won on Castrol for SIXTH TIME IN SUCCESSION

Aggregate Distance: 226 Miles.

64 ENTRIES.

			Average.
1st	Mr. H. R. Davies	A.J.S.	54½ M.P.H.
3rd	,, H Le Vack	Indian	54 M.P.H.

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It Sells because it Excels!

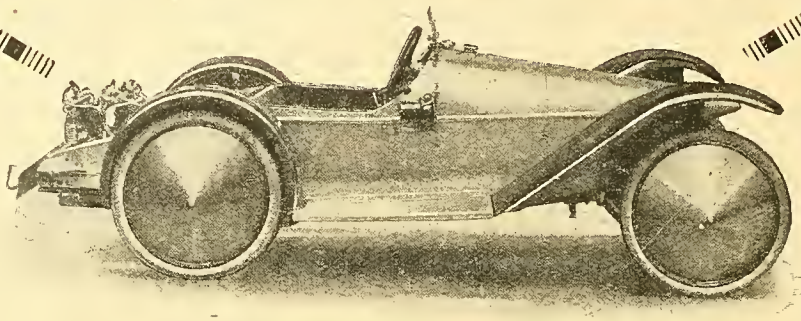
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Running Costs A Private Owner who has driven an A.V. over *19,000 miles*, in writing of his great appreciation gives his average petrol consumption at over 70 miles per gallon, and as to tyres the original pair are still running on the front wheels.

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FORKS ON T.T. WINNERS.

The remarkable strength and efficiency of the DRUID Fork and its ability to successfully withstand the gruelling and "super-strenuous" conditions encountered in the greatest of all Road Speed Events — The T.T. Races — was most graphically demonstrated in the 1921 Events, when machines equipped with standard DRUID Forks won the following positions:—

SENIOR T.T.
1st, 5th, 6th, and 7th.
JUNIOR T.T.
1st, 2nd, 3rd, 4th, 6th, & 8th.
250 c.c Flyweight Section
2nd, 3rd, 4th, and 5th.

These notable successes most emphatically prove:—

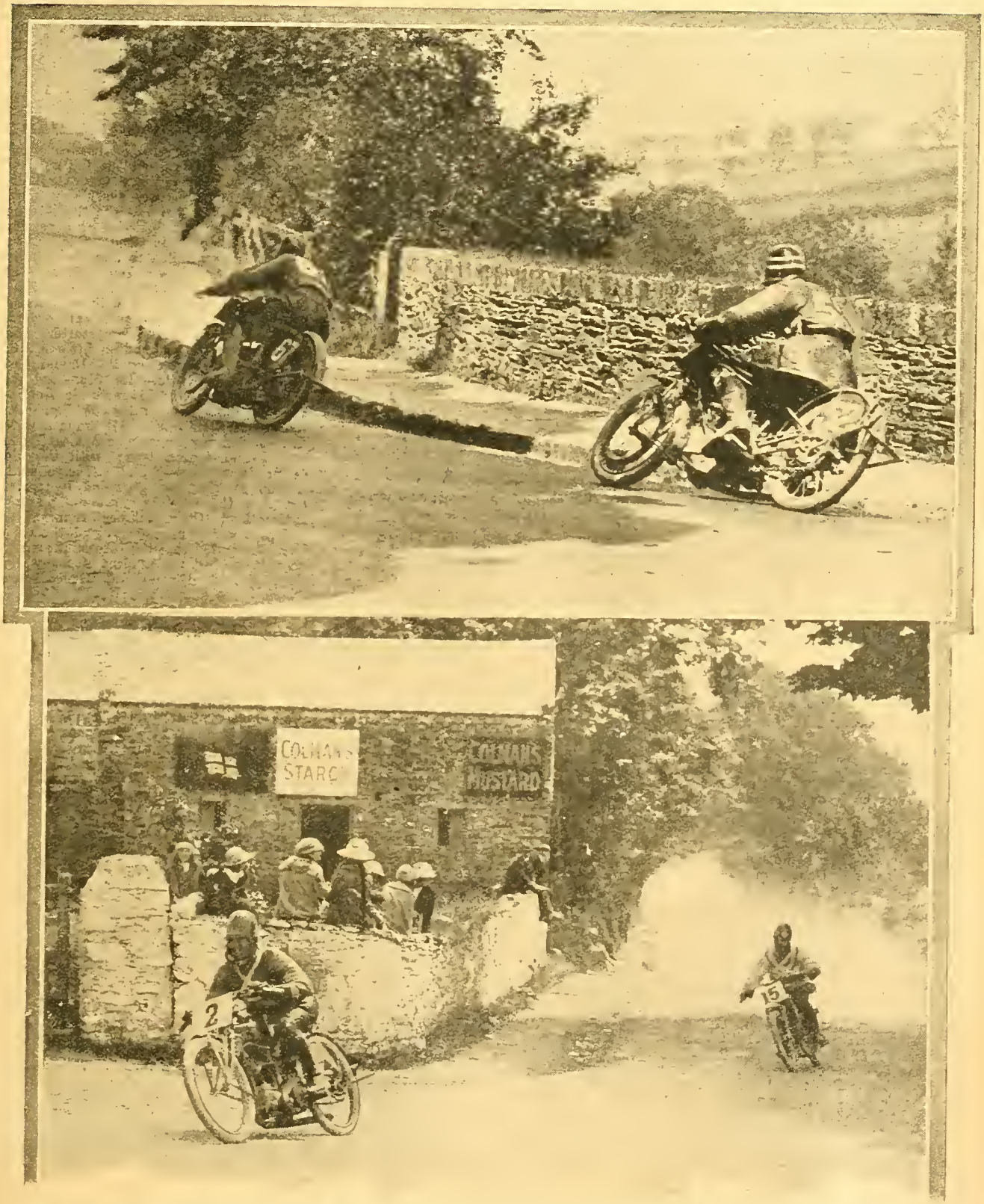
That the DRUID is the Expert's choice,
That the DRUID will withstand the hardest and most gruelling wear and tear.
That the DRUID is highly efficient, relieving the rider from shock and nerve strain, and —
That the DRUID helps to get the Best out of mac ine and rider

— and clearly points to the wisdom of motor cyclists everywhere

riding DRUID - equipped Machines!

A. DREW & CO., LTD., LEOPOLD STREET, BIRMINGHAM.

SETTING THE PACE!



(Top) G. Dance (3½ Sunbeam), No. 67, and W. Brandish, jun. (3½ Rover), No. 52, lying over at Braddon Bridge. The position of these two riders was approximately maintained for a complete lap. Incidentally, it was at this point that C. P. Wood (Scott) fell in the first lap.

(Bottom) H. R. Davies (A.J.S.), No. 2, setting a very hot pace for J. W. Moffat (3½ Scott), No. 15, on Ballacraine corner.



W. Hollowell (3½ Norton) on the Gooseneck. The cornering at this point was good in both races, and the gradient immediately after showed up the machines which were losing "tune."

his legging, and had to ram it further down as he got away. Bennett, the American dirt track rider, got his Sunbeam off the mark in great style. The Indian men wore blazing red jerseys, and were easily recognisable. Whalley got a special cheer in recognition of his ill-luck in the Junior. When half the men had left, the progress board showed that one of the popular tips—C. P. Wood on the Scott—was in trouble this side of Ballacraine. The numbers on the board, recording the order past the various telephone boxes along the course, showed that Davies's little A.J.S. had actually passed de la Hay's Sunbeam in the first dozen miles. Of the rest, slower men were clearly being overhauled by Bennett and Dance (Sunbeam), Pattison and Shemans (o.h.v. Triumph), Edmond (side-valve Triumph), Le Vack and Dixon (Indians), Hassall, Hollowell, and Mitchell (Nortons). Dance, of course, got a rousing send-off as he left, and just then our anxiety was relieved when the board showed that C. P. Wood was still riding.

Only Eight Minutes Elapse.

The last man left at 10.3 a.m., and only eight minutes elapsed before the roar of an exhaust signified that H. R. Davies was completing his first lap—41m. 17s. from a standing start was pretty hot! Everybody said, "If the 2¾ h.p. A.J.S. can do 41m. the 500 c.c. engines will get down to 39m." De la Hay thundered past, close on Davies's heels, and apparently travelling a little faster of the two. At a similar interval — about 45s. — came Sgonina, quiet and fast, and presently the procession became almost continuous.

All the men were very dusty, and quite a number had slipped their goggles down to their necks, which suggested fog on the mountain. Langman and Clayton came through alongside, with Shemans on their heels—a dangerous formation, in view of the corners just ahead.

As we waited breathlessly for the lap times, C. P. Wood came in and stopped at his cage. He had been thrown at Braddan Bridge, stopped twice to tinker a battered air intake, stopped again at Ramsey to stuff a handkerchief into his cut knee, and, nevertheless, lapped in 53m. 28s. Brother "Tim" and a doctor forced him to retire. When the lap times were complete, most of the spectators received a great shock, for Davies's dazzling ride had actually taken the 2¾ h.p. A.J.S. round faster than anything except Dixon's Indian, and none of the machines had equalled the record lap in Tuesday's Junior race.

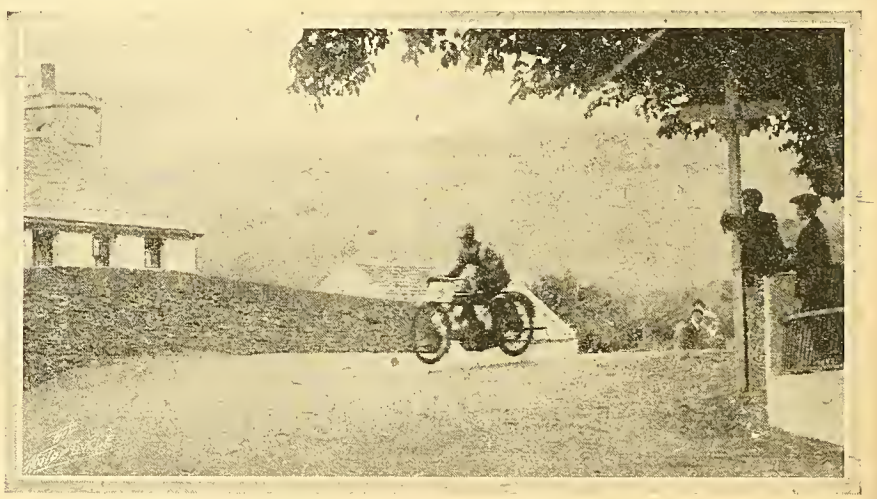
Positions at the End of the First Lap.

	m.	s.
F. W. Dixon (Indian)	41	16
H. R. Davies (A.J.S.)	41	17
F. G. Edmonds (s.v. Triumph)	41	37
G. Dance (Sunbeam)	41	39
H. Le Vack (Indian)	41	57
J. L. Mitchell (Norton)	42	3
C. Sgonina (4-valve Triumph)	42	4
A. Bennett (Sunbeam)	42	8
G. J. Shemans (4-valve Triumph)	42	10
H. Hassall (Norton)	42	14
W. Hollowell (Norton)	42	27
H. R. Harveyson (Indian)	42	29

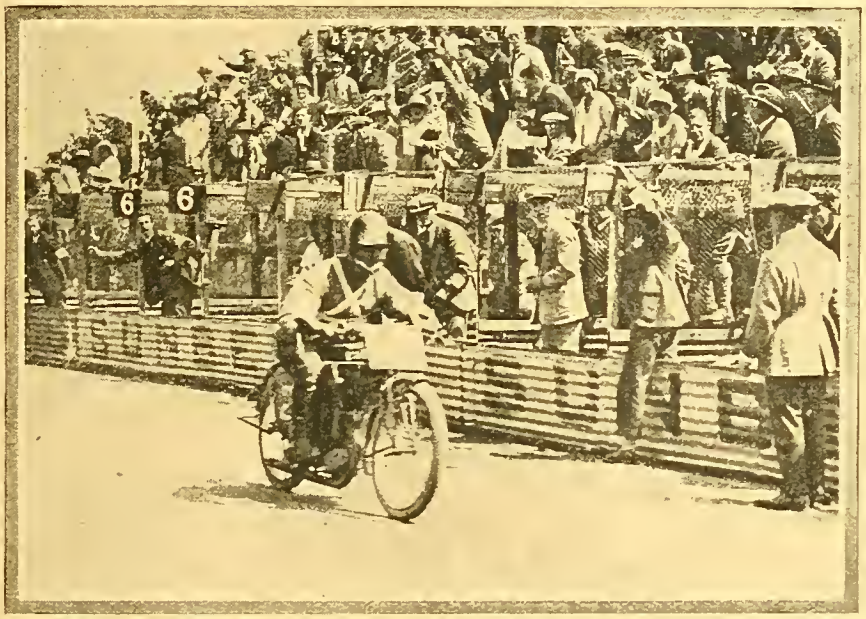
The half-minute interval between each starter naturally caused the finishing of the first lap to be spread out over half-an-hour; but presently everybody knew that one minute covered the ten leading men, and our anticipations of a terrific race seemed to be justified. One or two dangerous men failed to appear—notably Clapham (Scott—broken piston at Crosby), and unlucky Whalley (Sunbeam), who had started with a poisoned hand in defiance of medical orders. Fifty-six of the sixty-four starters had passed when the astounding little A.J.S. was signalled in on lap 2. Davies had slowed down a little—41m. 53s.—and the crowd half expected his meteoric prominence to die away as the 3½ h.p. men warmed to their work. All the men were due to stop for replenishments after the second and fourth laps; with the aid of special appliances and intensive drill, a stop of 15s. was regarded by smart teams as the absolute maximum. Many riders kept their engines running to ensure a speedier getaway, and the time board indicated that the race might easily be won or lost on efficient depot work. Reg. Brown, Dixon, and Dance were amongst the quickest.

Nearly a Record Lap.

Lidstone's chain came off as he re-started, and in the next lap he had two punctures on Snaefell. Edmond's side-valve Triumph went round in 40m. 45s., *i.e.*, 2s. outside Dance's 1920 record. This hoisted him into first place, and the leading dozen after two laps evinced considerable reshuffling. It was ominous that the A.J.S. remained as consistent as it was speedy; but Triumphs, Sunbeams, and Nortons were still dangerous.



G. A. Vandervell (3½ Norton) jumping the bridge at Ballaugh, which the majority of riders disliked more than any other on the course, owing to the twisting nature of the road at this point.



Cheers for the winner. H. R. Davies (2¾ h.p. A.J.S.) receives an ovation from the grand stand as he flashes over the finishing line at nearly 60 miles an hour.

Second Lap Order and Growing Times.

	h.	m.	s.
F. G. Edmond (Triumph)	1	22	22
H. R. Davies (A.J.S.)	1	23	10
G. Dance (Sunbeam)	1	23	15
F. W. Dixon (Indian)	1	23	25
H. Le Vack (Indian)	1	23	38
H. Hassall (Norton)	1	23	42
G. J. Shemans (4-valve Triumph)	1	24	2
A. Bennett (Sunbeam)	1	24	11
W. Hollowell (Norton)	1	25	13
J. L. Mitchell (Norton)	1	25	30
J. W. Shaw (Norton)	1	25	38
S. Gill (4-valve Triumph)	1	25	43

The depot stops immediately after the end of lap 2 would obviously render record times improbable on lap 3. The humiliation of the 500 c.c. class before the little A.J.S. seemed certain if Davies encountered no trouble.

It was known that he had shifted his Junior engine into a new frame for this day's race, so completely had its behaviour on Tuesday pleased him. A buzz of discussion whiled away the brief intervals between the passings of dangerous men. Was Davies's dazzling riding responsible? Were the 3½ h.p. mounts unable to use their full speed on so tricky a course? But the scoring board relentlessly proved that the men were stringing out. After one lap ten men were riding within sixty seconds of Dixon, the leader. After three laps the first men were spread out over gaps totalling nearly six minutes. The plain fact was that the combination of Davies and his A.J.S., man and machine, had so far completely outridden sixty-one 3½ h.p. machines.

The dominating issue of 350 c.c. *v.* 500 c.c. was variegated by a few incidents during this third lap. Two very formidable men in de la Hay and "Duggie" Brown, both tipped at the post as possible winners, had to be written off. The hope of Manxland fell out with a broken valve rocker. Sunbeams were developing a marked offensive: George Dance was going to the front, and Bennett was not far behind. Dance and Dixon apparently rode the whole of lap 2 with a constant interval of about fifty yards between them. Norton hopes sank when Hassall was held up with temporary lubrication trouble.

Third Lap Positions and Growing Times.

	h.	m.	s.
G. Dance (Sunbeam)	2	4	37
H. R. Davies (A.J.S.)	2	5	5
A. Bennett (Sunbeam)	2	5	45
H. Le Vack (Indian)	2	5	59
F. W. Dixon (Indian)	2	6	27
G. J. Shemans (Triumph)	2	7	36
H. Langman (Scott)	2	8	18
F. G. Edmond (Triumph)	2	8	20
J. L. Mitchell (Norton)	2	9	37
J. W. Shaw (Norton)	2	10	15
J. A. Watson-Bourne (Triumph)	2	10	39
J. L. Emerson (Douglas)	2	10	52

Edmond's drop from first to eighth place was due to a broken petrol pipe at Sulby. Dance was now assuming the place we expected him to fill. The most consistent men were still Davies and the Indian riders, though Bennett looked most threatening.

A Dramatic Lap.

Lap 4 might easily have proved decisive. There would be no more depot stops till it was finished. It was speculated that Dance might increase his lead, and Bennett would possibly catch Davies. It would also show us if the Indians had any more speed up their sleeves. No man could be expected to "ride canny" after the half-distance. Nobody dared to quit the stand in search of lunch. The minutes flitted past, and at last Davies's arrival heralded the half-hour which would see all the leaders finish their fourth laps, stop to replenish, and roar away again. Davies was off again like chain lightning after the briefest of depot stops. Bennett electrified the crowd by a phenomenally early appearance. Quickening up each lap, he had improved his place from eighth to first, and his fourth lap broke all records—40m. 19s., or 55.15 m.p.h. Bennett being No. 9, there was a good wait before the later starters arrived. More surprises were in store. Edmond was signalled in early on a wonderful lap of 40m. 8s. (55.4 m.p.h.). Dance was seven or eight minutes late; his chance had been wrecked by a toss at Glen Helen. Machine and man turned a complete somersault; the two lower gears were put out of action, and he had to ride the last three laps on top gear. So the two Indians drew still nearer the front, and three Triumphs waited hungrily for an opening.

Fourth Lap Positions and Growing Times.

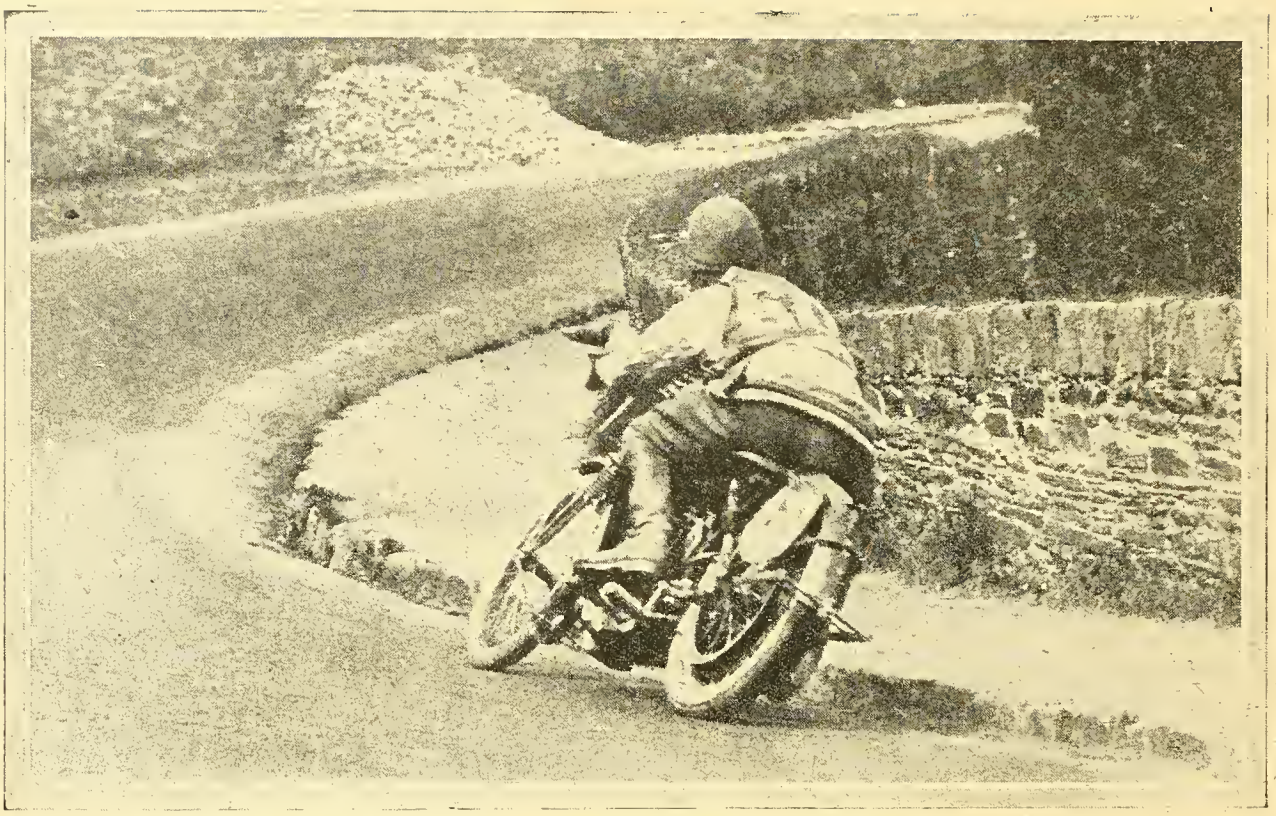
	h.	m.	s.
A. Bennett (Sunbeam)	2	46	4
H. R. Davies (A.J.S.)	2	46	14
H. Le Vack (Indian)	2	47	32
F. W. Dixon (Indian)	2	47	51
F. G. Edmond (Triumph)	2	48	28
G. J. Shemans (4-valve Triumph)	2	50	2
G. Dance (Sunbeam)	2	52	42
J. A. Watson-Bourne (Triumph)	2	53	4
J. L. Mitchell (Norton)	2	53	18
J. W. Shaw (Norton)	2	53	43
T. M. Sheard (Sunbeam)	2	56	15
W. Hollowell (Norton)	2	58	11

Dance, being No. 67, had not long departed before Davies—No. 2—dashed through on his fifth lap. Bennett followed fairly punctually, but was visibly losing pace. The A.C.U. had insisted on a medical certificate before allowing him to start, in view of his fall at Craig-na-baa on Saturday; he now began to feel the effects of a slight concussion—he was riding a marvellous race considering the circumstances. Lidstone, passing the cages at 60 m.p.h., nonchalantly threw a mangled tube into his depot.

The crowd were all on tiptoe to see the full score for five laps. The Indians were clearly unable to catch Davies. We did not as yet know that Dance had only one gear: his speed as he passed through was truly terrific, but he had lost too much time in the last lap. Bennett was evidently tiring. Unless Edmond on his side valve Triumph could overhaul the fleet little A.J.S., the incredible seemed inevitable—an outright victory by a 2¾ h.p. engine. One by one the marked men whizzed through. Then amateur timekeepers wrangled over their watches for



T. M. Sheard (on a Sunbeam) cornering at the Ramsey Hairpin in the Senior race. He piloted an A.J.S. in the Junior event, finishing third.



Here is photographic evidence of the fine and accurate riding of J. A. Watson-Bourne (Triumph). Only a few inches separate him from the comparatively high kerb of the pathway at Braddon Bridge. Incidentally, we think it will be admitted that this is one of the finest photographs of cornering ever taken

a minute or two till a messenger ran with a paper slip from the timekeeper's box to the brushman at the board. At last the full times went up.

Fifth Lap Positions and Growing Times.

	h.	m.	s.
H. R. Davies (A.J.S.)	3	28	16
A. Bennett (Sunbeam)	3	28	17
F. G. Edmond (Triumph)	3	29	57
F. W. Dixon (Indian)	3	30	18
H. Le Vack (Indian)	3	30	21
G. Dance (Sunbeam)	3	36	18
J. A. Watson-Bourne (Triumph)	3	36	40
J. L. Mitchell (Norton)	3	38	42
T. M. Sheard (Sunbeam)	3	41	41
F. C. Townshend (Triumph)	3	42	21
H. F. Harris (A.J.S.)	3	44	15
D. S. Alexander (Norton)	3	44	35

These positions were tolerably decisive. Bennett was decelerating. Edmond had to get back 10½s. from the A.J.S. on the final lap, and Davies is the last man on earth to permit such liberties, and neither Dixon nor Le Vack could be expected to gain 2 mins.

Nothing but accident or trouble could now stop the A.J.S. As it happened, it was Edmond whose luck was out. His oil tank burst at Quarter Bridge. Three times on the lap his engine seized. The last seizure occurred on the mountain, where poor Edmond was so done that he had to rest ten minutes before he could free the piston; of course this tragedy was not known till later. Davies screamed over the finishing line at 1.40 p.m., his engine going better than ever; nevertheless, the necessary time allowances for late starters had to be made before it was quite certain that he had won. The minutes ticked away—too late for Bennett (No. 9) to win now! Edmond had started 21½m. after Davies. Two o'clock struck; the minute hand of the big official clock slid relentlessly on—2.2, 2.3, 2.4. At last Mr. Loughborough seized the megaphone, and announced that the incredible had become the actual. The impudent little 350 c.c., handled with superb ability by Howard Davies, had outstayed and outstripped the cream of our 500 c.c. engines—a miraculous feat which will always be famous in the annals of the sport. Naturally, our first reflection was: "If only Davies had not punctured in the Junior, he would have won them both in one year on the same engine!"

Final Positions and Total Times.

	h.	m.	s.
H. R. Davies (A.J.S.)	4	9	22
F. W. Dixon (Indian)	4	11	35
H. Le Vack (Indian)	4	12	6
A. Bennett (Sunbeam)	4	14	11
J. A. Watson-Bourne (Triumph)	4	18	55
J. L. Mitchell (Norton)	4	24	4
F. G. Edmond (Triumph)	4	24	6
G. Dance (Sunbeam)	4	24	25
T. M. Sheard (Sunbeam)	4	26	42
F. C. Townshend (Triumph)	4	27	51
D. S. Alexander (Norton)	4	29	30
W. Hollowell (Norton)	4	30	18

Impressions at Various Parts of the Course.

BRADDON BRIDGE.

BRADDON was quite a favourite vantage point, and several hundred spectators had assembled on both sides of the awkward double corner. Thrills there were in plenty, for the practice laps had taught the most adventurous just how fast they could negotiate it without a spill.

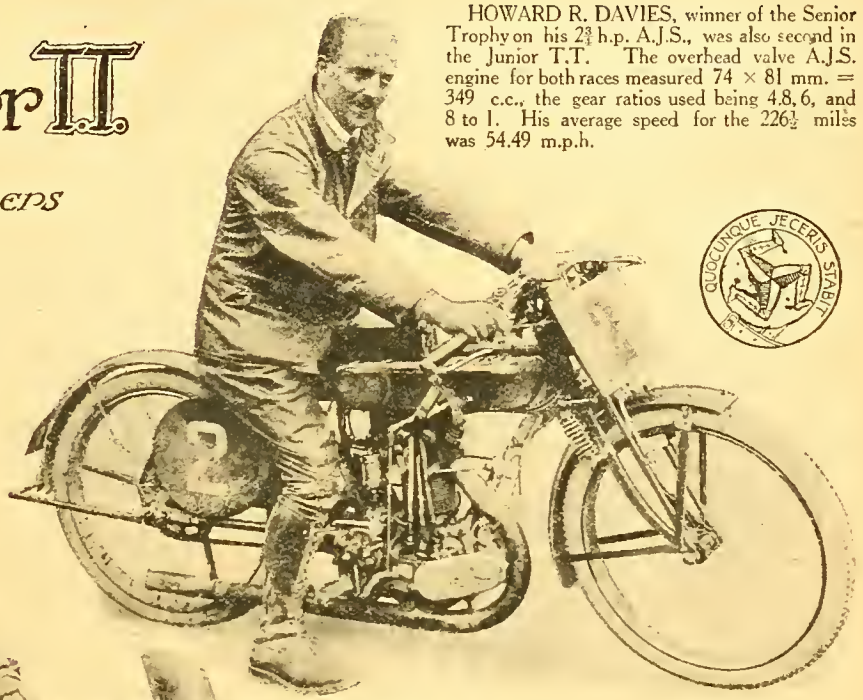
Race day speeds are always a little faster than the best practice performances—riders take a little more risk and place increased confidence in their judgment and the power of their brakes. On his first lap Clarence Wood, the Scott first string, over estimated one or the other; probably his brakes were at fault, for he struck the bridge and rather severely cut his leg in addition to damaging his radiator. His carburetter, too, was knocked about. He carried on, however, only to retire at his depot. Sutcliffe, one of the Norton riders, also came to grief here through his footrest catching the ground, tearing up a furrow in the road and throwing him heavily. He was not seriously hurt.

In the last circuits, it was obvious that the riders were speeding up, and not a few spectators sighed with relief when their favourites came through the test of driving for the last time without harm. Dixon had accelerated up to sixty again in a very short distance, and Dance's supporters at this point knew that the

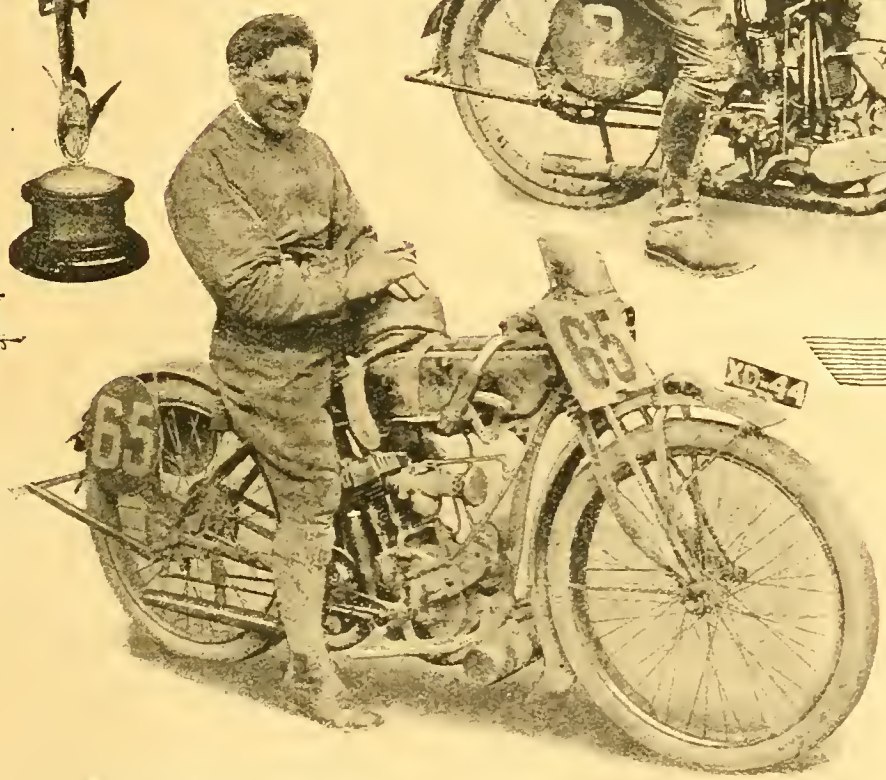
The Senior T.T.

Prize Winners in 1921





HOWARD R. DAVIES, winner of the Senior Trophy on his 2¾ h.p. A.J.S., was also second in the Junior T.T. The overhead valve A.J.S. engine for both races measured 74 × 81 mm. = 349 c.c., the gear ratios used being 4.8, 6, and 8 to 1. His average speed for the 226½ miles was 54.49 m.p.h.



F. W. DIXON, who on a single-cylinder 3½ h.p. Indian attained second place, his average speed being 54.02 m.p.h. The side-by-side valve engine measured 79.3 × 100.8 mm. = 498.8 c.c.



H. LE VACK and his 3½ h.p. Indian, which he rode into third place. The engine is identical with Dixon's, and his average speed was 53.91 m.p.h. All three leaders enjoyed no trouble runs, stopping for replenishments on two occasions only.

Senior Tourist Trophy Race.—

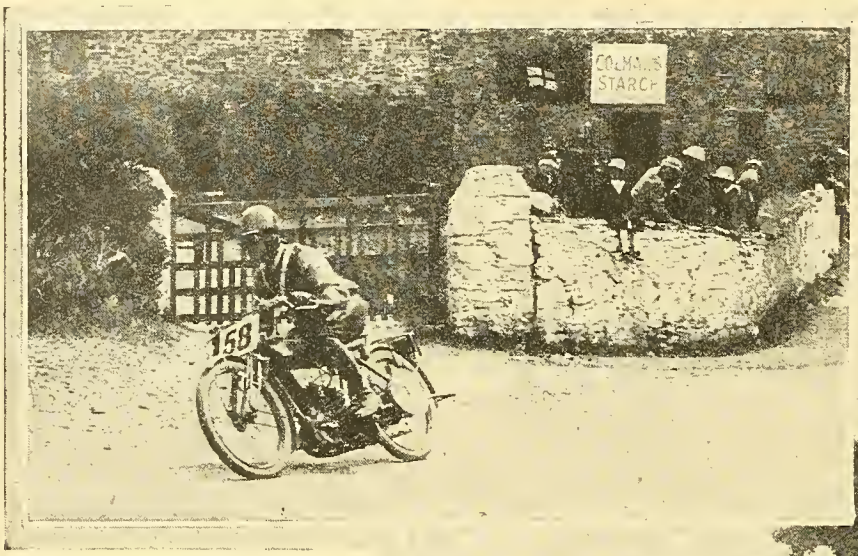
Indian rider had drawn ahead obviously through some mishap to the Wolverhampton star. It subsequently transpired that the Sunbeam crack was only able to use his top gear for the last three laps, which slowed him on the corners and up the mountain. However, he appeared to be unable to shake off Brandish, who, jockeying his Rover superbly, was close upon his heels for two complete circuits.

Brandish, on the Rover, impressed the onlookers with his steady and constant riding.

BALLIG BRIDGE.

WATCHES and unofficial score boards were greatly in evidence at Ballig Bridge, and most of the spectators were able to follow the progress of the race. Even the local lads and lassies, Everyone seemed to expect that the first three men would provide an exciting race in themselves, for the chances of de la Hay's Sunbeam (No. 1), Davies's little A.J.S. (No. 2), and Sgonina's overhead valve Triumph (No. 3) were freely discussed. Probably they did not quite expect the Junior machine to overtake last year's Senior winner before reaching that point—within the first eight miles—and a cheer went up as Davies was seen hurtling towards the bridge. He negotiated it in masterly style, leaping several yards and landing without sign of a wobble. Forty-five seconds later de la Hay passed, the expression on his face suggesting restraint. Evidently he expected the smaller machine to crack up, and, eliminating Davies from his mind as a possible finisher, had set himself a schedule.

The next five passed in starting order. Townshend (Triumph) had already caught C. P. Wood, who had started two minutes ahead of him, and they crossed the bridge together, as did Taylor (B.S.A.) and Harveyson (Indian). After these initial thrills, the riders formed an almost unbroken procession until the second

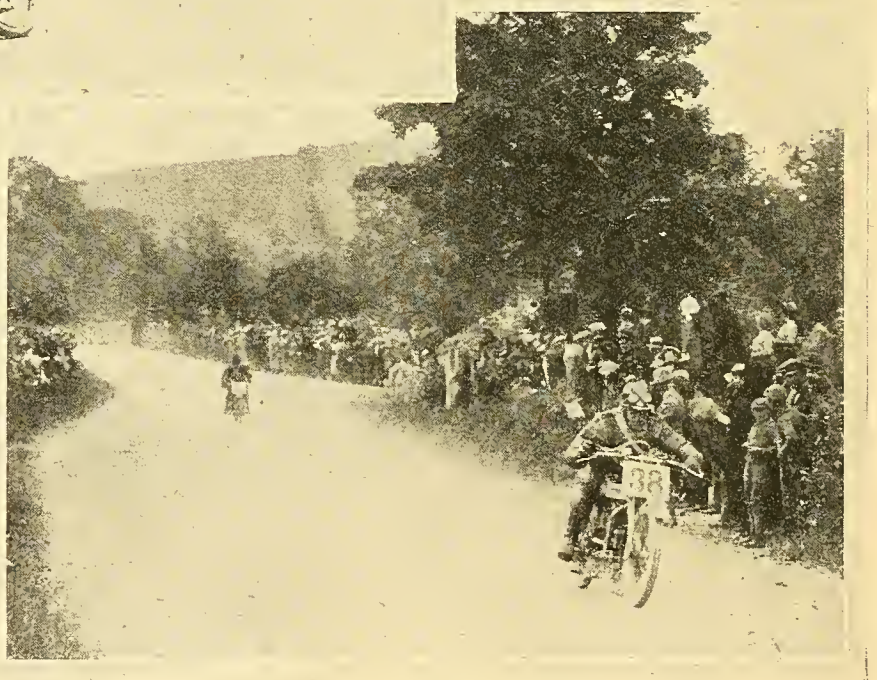


BALLACRAINE.

AT Ballacraine the spectators worked themselves up into a high pitch of excitement. They had assembled to be thrilled and were not disappointed, although the excellent riding of the experts on the one hand and the cautiousness of the less experienced on the other relegated this once dreaded corner into the "general" class. On his first lap, Hollowell (Norton) attempted to improve upon his practice speed at this point, and narrowly escaped crashing into the wall, while on the second circuit Norman Black (Douglas) scraped by with barely an inch to spare.

Several long intervals between competitors were more than compensated for by the spectacle of three or four riders negotiating the corner abreast. One of these trios consisted of Edmond (Triumph), Horsman (Norton), and Elliott (Rover), the last mentioned coming to a standstill due to a cylinder plug blowing out. Lucas (Scott) also retired here with one cylinder out of action.

Hassall (Norton) took the bend at a splendid speed, as did Harveyson (Indian), who was very much behind time, and was riding like a demon to regain lost ground. Dance's cornering was wonderful to behold, and Dixon was close on his heels, as he had been for many miles. Strange, on his 1914 type twin James, was doing all he was out to do, and could be expected to do in view of latter day developments. A standard machine on well tried lines was in the race to prove reliability; whilst



(Left) At speed round Ballacraine corner G. E. Stobart, who piloted his James twin in capital form. (Right) H. Thorpe and A. H. Alexander, both riding Douglas machines, hurtling towards Laurel Bank after crossing Ballig Bridge

by processes of deduction, were able to estimate the relative positions of their favourites. It was rather amusing to hear them discussing the Italian Sgonina, the Frenchmen Le Vack and de la Hay, and the Americans Harveyson and Dixon. They were uncertain whether Olsson was a Dane or a "misprint." Of course, as it happened, they were wrong in every case.

lap, when the excitement became intense, as Davies was seen to be still leading the Sunbeam by half a minute, showing a nett gain in time of a minute. From Ballig Bridge round again Davies had taken 40½ minutes, but Vandervell (Norton) had only taken another fifteen seconds, and Bennett (Sunbeam) was timed to have lapped at 41m. and Hassall (Norton) 43m.

Senior Tourist Trophy Race—

Thus throughout, the race was followed at Ballig with an eye on the watch; so keen were many of the spectators in this respect that they missed the demonstration of riding skill.

CRAIG-NA-BAA.

THE Ramsey hairpin and Sulby Bridge seem to be rather played out as vantage points on the course. Not so Craig-na-baa. Here there were crowds of spectators. No one was allowed to stand in front of the inn and against the wall round the corner, where a mattress had been placed so as to soften the impact should a competitor strike it. Happily it was not needed.

The first interesting news was that de la Hay and Davies were running close together, and soon after that the latter, who was leading, was reported to have reached Ramsey. His arrival, followed by de la Hay and Sgonina, was vociferously cheered. In course of time it was clear that the leading men were Davies, Dixon, Edmunds, Le Vack, and Bennett, but definite news was hard to gather. Though the corner was on the down grade, all the riders changed down to second to negotiate it. On the occasion of Bennett's (Sunbeam) first arrival, he went dangerously near the wall.

Some excitement ensued when Milner (Sunbeam) and Harveyson (Indian) arrived together, the Indian rider eventually shooting ahead down the straight. Pattinson (Triumph), like all the Triumph riders, cornered and rode magnificently. Sutcliffe and Hadfield (both on Nortons) were the first men we noticed to take the corner without cutting out.

One of the finest exhibitions of riding was made by Dixon (Indian), who actually passed a competitor on the inside of the corner. Baldwin (Martin) retired here with a broken crankshaft, and Milner was in trouble through a pin puncturing his rear tube.

The Auto Cycle Union deserves the congratulations of all motor cyclists for the excellent organisation of this year's event.

* * *

There was a "Press T.T." after the Junior race, for *The Motor Cycle* was on sale in the Island with a description of the Junior event the day following—an unexpected but thoroughly appreciated event.

* * *

Previous T.T. winners who witnessed last week's races were Jack Marshall, F. A. Applebee, P. J. Evans, Tim Wood, Hugh Mason, Harry Reed, and, of course, Eric Williams, and T. C. de la Hay who again competed.

* * *

Everybody is asking what positions 2¾ h.p. machines will occupy in the 500-mile race at Brooklands on July 2nd. Make no mistake, Howard Davies's performance last Thursday has given the 3½ h.p. exponents a thorough fright.

* * *

Dr. Low, the judge who examined the winning machines after the races, spoke in high terms of praise of their internal condition, and laid particular stress upon the improved lubrication systems.

* * *

The heaviest competing motor bicycle in the Senior race was Simister's B.S.A. (314 lb.), and the lightest H. R. Davies's A.J.S. (202 lb.). The heaviest rider was Watson-Bourne (195 lb.) and the lightest R. W. Stanfield (129 lb.).

* * *

"Pa" Applebee found out on the way to the enclosure that he had covered a lap in practice that morning with his cylinder nuts only finger tight.

* * *

W. Brandish, jun., was noticeably the fastest Rover rider, and rode most consistently. His lap times were 44m. 34s., 44m. 41s., 46m. 6s., 44m. 32s., 46m. 3s., and 44m. 40s. The two 46m. laps were those following his stops for replenishments.

* * *

For consistent running the record of the two Sun Vitesse riders would be hard to beat. In the Junior race they finished twenty-eighth and twenty-ninth, G. N. Norris beating his *confrère*, M. Bishop, by 4m. 16s. It should be added that the entries were made on the last day, and the company immediately began to build up two motor cycles with rotary valve engines of 247 c.c.

T.T. TRIFLES.

In Thursday's race, de la Hay, the T.T. holder, had one of the aluminium valve caps blow out during the third lap. The cause of his retirement was not ascertained until after the event, and thousands were left wondering what had happened to him.

* * *

There was talk in the Island of arranging next year's T.T. on French soil, and there is much to be said in support of the suggestion.

* * *

To average 44.9 m.p.h. for 188¾ miles is a performance which indicates the progress of 250 c.c. engines. The figures represent the record of D. G. Prentice when he won *The Motor Cycle* Cup on a 2¼ h.p. New Imperial-Jap.

* * *

The A.C.U. officials were very keen on the observances of the rule dealing with the changing of competitors' equipment specifications, but the official who complained that a rider who had declared he would use a Lucas magneto and turned up with a Thomson Bennett (made by the Lucas Electrical Co.) took the biscuit.

* * *

The Electric Ignition Co. were distributing mascots in the shape of silk handkerchiefs bearing a lucky horseshoe (magnet), and wishing the wearer the best of good fortune.

* * *

The timing box on the grand stand was an excellent piece of organisation. The edifice was built on two storeys, in the lower of which there was a small independent telephone exchange connected to the principal parts on the course. Above were desks for the timekeepers, facing a window looking up the road, a calculating machine to facilitate the working out of the times which were entered in the scoring books and also on cards which were dropped down a chute to Boy Scouts, who passed them to the scoring board official; and two telephones, one to the marshal and the other to the principal posts on the course. The clerk of the course, Mr. T. W. Loughborough, sat at a window at his own desk, with the telephones and a megaphone at hand.

* * *

Sulby Bridge, regarded as the most dangerous bend on the course, was treated with great caution by most; H. Pattinson (Triumph) did a lurid skid, but recovered himself, while A. E. Taylor (B.S.A.) and H. Langman (Scott) were not too happy.

Colonel Maddoc, the chief of police in the Isle of Man, was of immense assistance to the A.C.U., and personally attended at the Grand Stand on each race day.

* * *

The I.O.M. Steam Packet Co.'s men say that the roar of the T.T. exhausts was audible several miles out at sea.

* * *

G. Strange (James) burst his back tyre on the last lap, and fell three times in consequence.

* * *

Norman Black had only ridden his Douglas three minutes prior to the race (he took A. H. Alexander's place). His back brake went out of action in the second lap, and he rode four laps without it.

* * *

W. Hollowell, who was the first private owner and ran into twelfth place, is only twenty years of age. He is a member of the Warrington M.C.

* * *

The Scotts emit four separate notes on their different gears. In decelerating they are the first four notes of "Home, Sweet Home," and in accelerating of a well-known hymn.

* * *

Riddell (B.S.A.) provided some comic relief after his retirement by pedalling past the grand stand in the wrong direction on a lady's push bicycle.

* * *

J. L. Mitchell fell at Sulby Bridge, on his second lap, and hurt his shoulder rather badly. For the remaining laps he was unable to use his left hand.

* * *

The Sunbeam ridden by Sheard, which finished ninth, was owned by the Manx motor cyclist, H. B. Mylchreest in a private capacity.

* * *

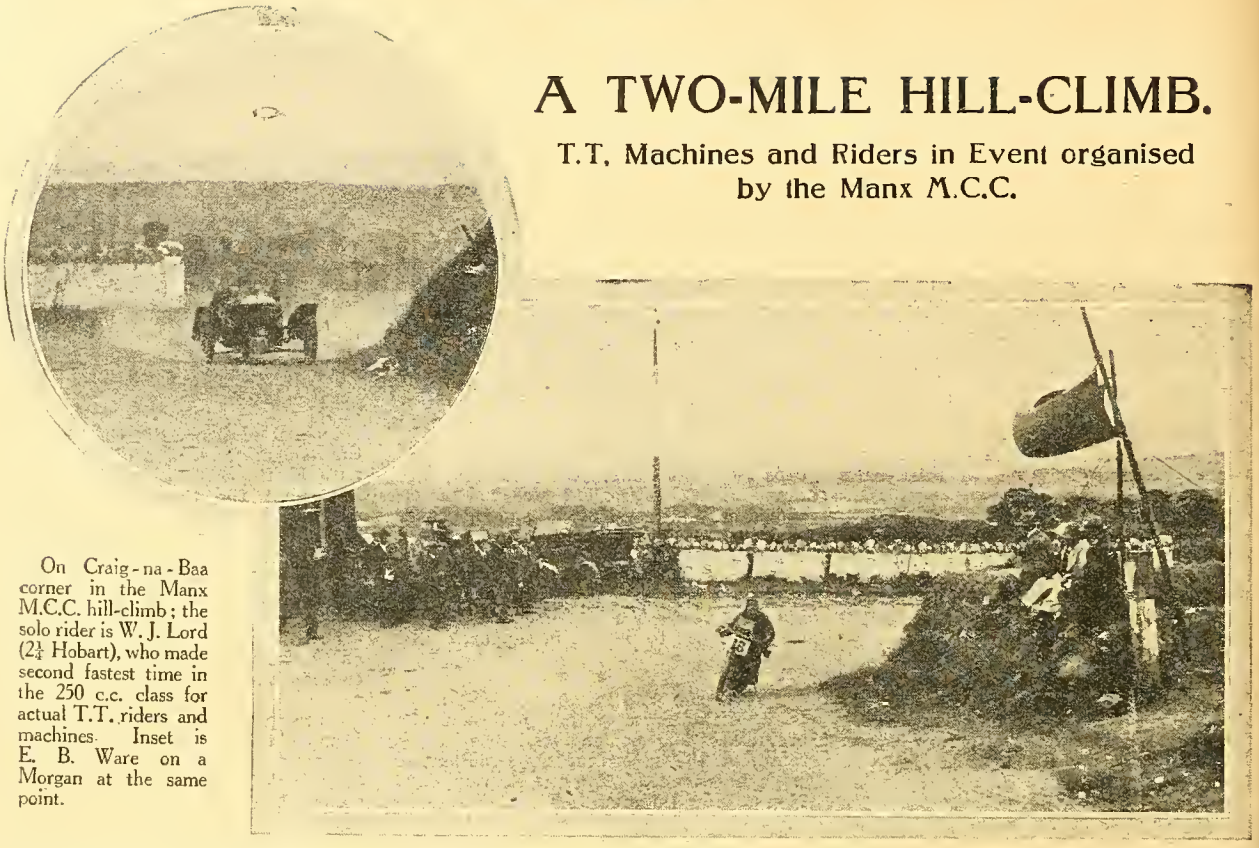
Davies's (A.J.S.) expression was one of great concentration, in strong contrast to many, who never seemed so occupied but that they could wave to friends.

THE NISBET AWARD.

THE A.C.U. has decided to award the Nisbet Trophy for the most plucky performance to G. W. Jones (New Hudson). On his second lap Jones struck Sulby Bridge, and was precipitated over the parapet into a bramble bush. Undaunted, he made his machine rideable, and completed the subsequent three laps.

A TWO-MILE HILL-CLIMB.

T.T. Machines and Riders in Event organised by the Manx M.C.C.



On Craig-na-Baa corner in the Manx M.C.C. hill-climb; the solo rider is W. J. Lord (2¼ Hobart), who made second fastest time in the 250 c.c. class for actual T.T. riders and machines. Inset is E. B. Ware on a Morgan at the same point.

IT has become a custom of the local club in the Isle of Man to organise some event on the day following the Senior T.T., and this year a hill-climb was held, in the reverse direction of the T.T. course, from Hilberry to Keppel Gate.

Quite a number of those who rode in the races entered in the special classes for men and machines which actually competed in the T.T. races, and some fast times were made over the two-mile climb, which, although not severe in gradient, is very trying over the last half-mile.

The organisation was not particularly effective, and those especially who had established themselves at Craig-na-baa to see the cornering had little understanding of the meaningless succession of riders who came by in any order but that indicated on the programme.

The Triumphs especially made good ascents, as did the A.J.S. machines in the 350 c.c. class. In the 250 c.c. class B. Kershaw was very fast; but, owing to taking the corner too fast, he lost time in recovering from the ditch into which he rode; unfortunately, he was disqualified on a technical objection, but was obviously faster than others in his class.

Fastest Time by a 3½.

No very startling performances were made in the open classes, in which H. Hassall (3½ Norton) rode to victory; but excellent attempts were made by Miss W. Simmonds (3½ N.U.T.), H. H. C. Price (6 Martinsyde), and W. Brandish, jnn. (3½ Rover). T. H. Copeland (3½ N.U.T.) had a bad fall at Craig-na-baa, but did no serious damage, as his machine skidded into the wall wheels foremost, thus minimising the impact. The projecting portion of the wall was subsequently padded with sacks of straw, but no one else fell.

Passenger entries were lacking, and a duel between a G.N. and A. B. Ware's Morgan provided the only runners in this class; the latter was noticeably faster.

500 c.c. CLASS (for actual T.T. machines and riders).—1, F. Edmond (Triumph), 2m. 17s.; 2, E. Williams (Sunbeam), 2m. 25⅗s.

350 c.c. CLASS (for actual T.T. machines and riders).—1, E. Williams (A.J.S.), 2m. 29s.; 2, H. Harris (A.J.S.), 2m. 29⅘s.

250 c.c. CLASS (for actual T.T. machines and riders).—1, G. Davison (Levis), 2m. 54⅗s.; 2, W. Lord (Hobart), 3m. 2s.

500 c.c. CLASS (open).—H. Hassall (Norton), 2m. 4s.; C. Sgonina (Triumph), 2m 10s.; D. S. Alexander (Norton), 2m. 30s.; J. S. Mylchreest (Norton), 2m. 31s.

350 c.c. CLASS (open).—G. Grinton (A.J.S.), 2m. 30s.; R. Jacobs (Coulson), 2m. 32s.; B. Kershaw (New Imperial), 2m. 50s.

CYCLE CAR CLASS (not exceeding 1,100 c.c.).—A. B. Ware (Morgan), 2m. 45s.; A. Hogg (G.N.), 4m. 20s.

CURRENT CHAT (Continued from p. 786).

The International Six Days.

Entries at ordinary fees for the International Six Days, August 1st to 6th, close on Saturday next.

Equipment in the T.T.

... G. Prentice's New Imperial, with which he won *The Motor Cycle* Cup for the best performance on a 250 c.c. machine, had a J.A.P. side-by-side valve engine, and was equipped with an E.I.C. magneto, Cox-Atmos carburetter, K.L.G. plug, Avon tyres, John Bull knee grips, and Pedley handle-bar grips.

The Scottish Six Days.

Over sixty entries have already been received for the Scottish Six Days on July 11th to 16th. The entries, at normal fees, close on Monday next.

The Grand Prix.

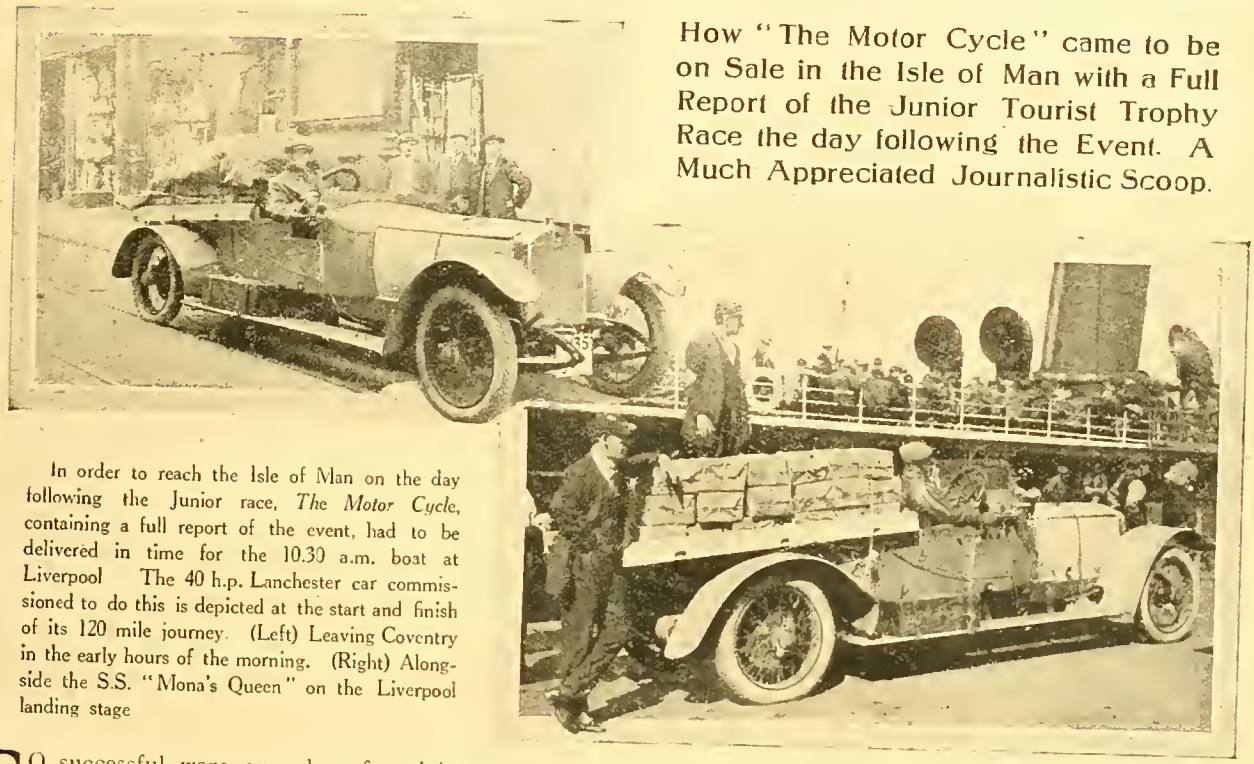
As previously announced, *The Motor Cycle* has secured a number of tickets for reserved seats in the grandstand for the Grand Prix race on July 24th. A few of these tickets still remain, and early application to the Editor is necessary in order to secure them. The price is ten francs.

Speed Trials at Morecambe.

Quite a number of T.T. riders took part in the North-western Centre Open Speed Trials on Saturday last. There were sixty-one entries in all, divided into all the usual classes. A course of one kilometre was marked off on the Morecambe Promenade, and some high speeds were put up. Unfortunately, the meeting was marred by a sad accident, for in the 1,000 c.c. sidecar class (expert barred) S. Seal dashed into an electric light standard, with fatal results. His wife, who was in the sidecar, escaped with slight injuries.

FIRST OUT WITH THE JUNIOR T.T. REPORT.

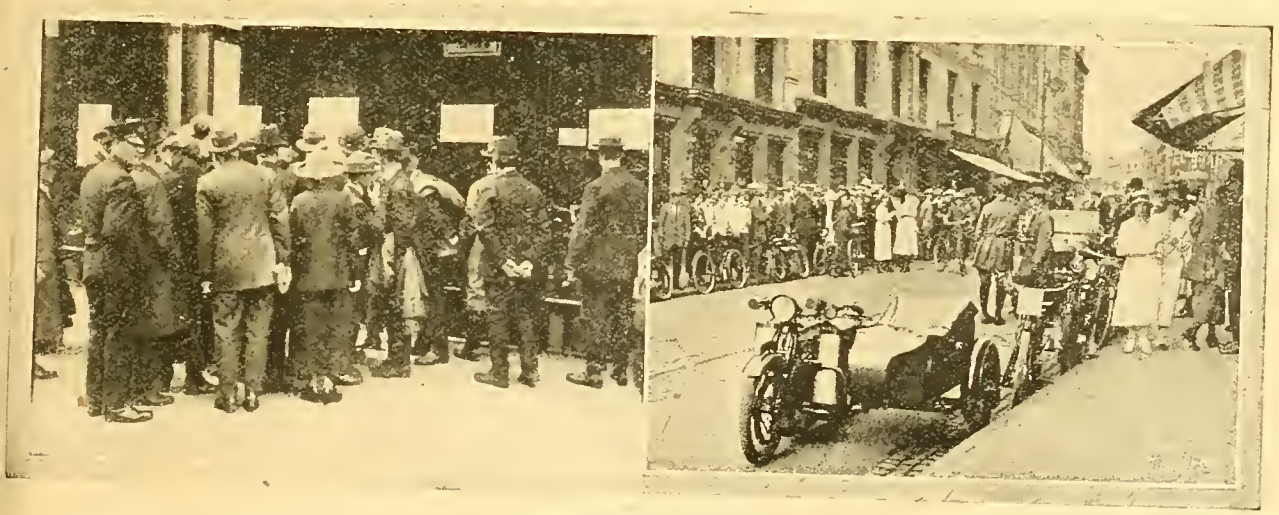
How "The Motor Cycle" came to be on Sale in the Isle of Man with a Full Report of the Junior Tourist Trophy Race the day following the Event. A Much Appreciated Journalistic Scoop.



In order to reach the Isle of Man on the day following the Junior race, *The Motor Cycle*, containing a full report of the event, had to be delivered in time for the 10.30 a.m. boat at Liverpool The 40 h.p. Lanchester car commissioned to do this is depicted at the start and finish of its 120 mile journey. (Left) Leaving Coventry in the early hours of the morning. (Right) Alongside the S.S. "Mona's Queen" on the Liverpool landing stage

SO successful were our plans for giving readers a detailed illustrated account of the Junior Tourist Trophy Race as quickly as possible after the event, that we were able to have copies of *The Motor Cycle* on sale on Wednesday's boat and in the Isle of Man on Wednesday afternoon, *i.e.*, the day after the event. Seeing that the Isle of Man is about 175 miles as the crow flies from Coventry, where *The Motor Cycle* is at present printed, careful organisation was essential in order to secure this advantage. Congratulations from all quarters have been showered upon this journal.

As we have been asked many times how the feat was achieved, we venture now to provide a few particulars concerning it. One of the chief factors in this case was the service rendered by a superb 40 h.p. Lanchester car which the Lanchester Motor Co. placed at our disposal. Directly the race was over on Tuesday the complete description was transmitted



WHO WILL WIN?

All over the country *The Motor Cycle* T.T. telegrams were eagerly followed, and scenes like the above were common. (Left) Outside the Colmore Depot at Liverpol, just after the third lap positions of the Junior were displayed. (Right) The crowd at Coventry, discussing possibilities between the fifth and sixth laps on Thursday.

First Out with the Junior T.T.—

to Coventry. Owing to congestion on the wires our long message did not reach the office till 10.30 in the evening. After the usual technical routine of preparing the pages had been gone through, printing started in the small hours of the morning, and by 4.45 a.m. some thousands of copies were complete and ready for despatch.

Shortly after five o'clock these copies, made up in parcels, were loaded on to the platform of a special body mounted on the 40 h.p. six-cylinder Lanchester chassis, which at once set out along the open road at speed for Liverpool. Despite the fact that it was carrying a dead weight of approximately three-quarters of a ton of papers, the smooth running and powerful vehicle was able to take advantage of the freedom from traffic which the small hours of the morning gave, and to arrive with plenty of time in hand to catch the 10.30 a.m. Isle of Man boat from the Liverpool landing stage.

There were eager readers on the boat who did not anticipate such a pleasant surprise, and in Douglas itself it is no exaggeration to say that the promenade was "blue," for the familiar cover of *The Motor Cycle* was everywhere in evidence.

"The Motor Cycle" Telegram Service.

During the course of the Junior and Senior T.T. races the respective lap positions were promptly transmitted by wire throughout the country. Never has the Douglas Post Office been pressed to the extent it was on Tuesday and Thursday, but there was little delay in flashing the progress of the races, due to careful organisation prior to the event. That the telegrams were greatly appreciated we have ample evidence from many quarters, and in almost every case the writers mention the crowds which surged around *The Motor Cycle* score boards in all the leading towns and cities. Enthusiastic motor cyclists who were unable to visit the Island were thus again provided with the first news by this journal.

CLUB NEWS. (Continued from page 789.)

Glasgow M.C.C.

Official results have just been issued of the open trial held on the 12th inst., and are as follows :

GOLD MEDALS.—A. S. Barnard (8 New Imperial), R. Watson (4½ Hmmber), T. Doughty (4 Triumph), L. C. Hilyer (3½ Ariel), G. C. Proctor (6 Ariel), G. F. Small (7-9 Harley), M. J. Fraser (7 A.J.S. sc.), J. McFadyen (8 Sunbeam sc.), and B. Gold (8 Blackburne sc.).

SILVER MEDALS.—R. M. Wilson (2½ Hobart), E. A. Small (5 Zenith), J. McPhie (5-6 A.J.S. sc.), and R. D. Robertson (8 Matchless sc.).

BRONZE MEDAL.—A. C. Capaldie (5-6 A.J.S. sc.).

SPECIAL AWARDS.—The winner of both the novice prize and the open special prize was A. S. Barnard (8 New Imperial).

North London M.C.C. and North-west London M.C.C.

On Saturday, those active clubs of the South Midland centre held an inter-club hill-climb on Kop Hill for temporary possession of a challenge cup. As will be seen from the appended results the younger club (the North London M.C.C.) triumphed over its long established opponent by eighteen points to nine. Prestwich dwarfed his opponents in the 350 c.c. class, Marshall and Thompson had their A.B.C.'s in wonderful fettle, and Fitzgerald's riding of his 4 h.p. Norton in both solo and sidecar classes was very fine, but Read's Enfield again put up fastest time of the day. Results :

250 c.c. (SOLO).—1, G. Richardson (2¼ Velocette), North London, 55s.; 2, W. P. Cooper (2¼ Velocette), North-West London, 58⅘s.

350 c.c. (SOLO).—1, A. Prestwich (2¾ Dot-Jap), N.L., 42⅘s.; 2, T. E. Moon (2¾ Douglas), N.W.L., 57⅘s.

500 c.c. (SOLO).—1, E. A. Marshall (3 A.B.C.), N.L., 34⅘s.; 2, G. J. Thompson (3 A.B.C.), N.W.L., 40s.

750 c.c. (SOLO).—1, D. F. C. Fitzgerald (4 Norton), N.W.L., 37s.; 2, A. J. Beauraine (3½ Sunbeam), N.L., 40⅘s.

UNLIMITED (SOLO).—1, G. J. Read (6 Enfield), N.L., 34s.; 2, R. Richardson (7-9 Indian), N.L., 37⅘s.

550 c.c. (SIDECAR).—1, A. L. Jeffery (3½ Sunbeam sc.), N.L., 77⅘s.; 2, G. J. Thompson (4 Triumph sc.), N.W.L., 94s.

750 c.c. (SIDECAR).—1, D. F. C. Fitzgerald (4 Norton sc.), N.W.L., 52s.; 2, R. W. Greaves (4 Norton sc.), N.L., 54s.

UNLIMITED (SIDECAR).—1, H. Hoare (6 Enfield sc.), N.L., 53s.; 2, D. Colver (7-9 Indian sc.), N.L., 56s.

1,100 c.c. (CYCLE CAR).—1, C. D. Malby (8-10 Morgan), N.L., 56⅘s.; 2, H. E. K. Sawtell (8-10 Morgan), N.W.L., 70⅘s.

RESULT.—North London, 18 points; North-West London, 9 points.

At the conclusion of the inter-club event the North-West London Club held a members' climb with the following results :

SOLO (250 c.c.).—1, W. P. Cooper (2¼ Velocette), 50s.; 2, T. E. Moon (2¾ Douglas), 61⅘s.; 3, Miss Buchan (2¾ Douglas), 81⅘s.

SOLO (500 c.c.).—1, G. J. Thompson (3 A.B.C.), 40⅘s.; 2, H. James (3½ Norton), 44⅘s.; 3, A. Cartwright (3½ Sunbeam), 47s.

SOLO (750 c.c.).—1, D. F. C. Fitzgerald (4 Norton), 37⅘s.; 2, G. J. Thompson (3 A.B.C.), 40s.; 3, H. James (3½ Norton), 44s.

SOLO (Unlimited).—1, Fitzgerald (4 Norton), 37s.; 2, R. L. Richardson (7-9 Indian), 38s.; 3, G. Thompson (3 A.B.C.), 40s.

SIDECARS.—1, Fitzgerald (4 Norton sc.), 51⅘s.; 2, Thompson (4 Triumph sc.), 84⅘s.

CYCLE CARS.—1, E. J. Pittock (8-10 Morgan), 67s.; 2, H. E. K. Sawtell (8-10 Morgan), 70s.

Sutton Coldfield and North Birmingham A.C.

Open to the Midland Centre A.C.U., a hill-climb will be held on Saturday, July 2nd, at Penkridge Hill, near Rugeley.

Standard M.C.C.

A. Harriden, on a 4 h.p. Triumph sidecar, won the Maudes Challenge Shield in the trial held on the 11th inst., and referred to in our issue of last week. B. Edwards (3½ Norton) made the fastest ascent of Sunrising Hill.

Luton and South Beds A.C.

So good was the organisation at the recent speed trials that twelve classes were run off in a shade over two hours and a half. C. Baragwanath (8 Zenith) made fastest time of the day. Results :

CLASS 1 (250 c.c.).—1, C. Dunham (2¼ Velocette), 15s.; 2, H. Reyre (2¼ Newson), 16s.; 3, A. Sims (2¼ Levis), 16⅘s.

CLASS 2 (350 c.c. Solo).—1, C. Dunham (2¼ Velocette), 16⅘s.; 2, A. Sims (2¼ Levis), 16⅘; 3, H. Reyre (2¼ Newson), 16⅘s.

CLASS 3 (550 c.c. Solo).—1, A. Marshall (3 A.B.C.), 13⅘s.; 2, C. Smith (3½ Norton), 14s.; 3, B. Wright (3½ Norton), 15⅘s.

CLASS 4 (750 c.c. Solo).—H. Saddington (5-6 James), 13s.; 2, A. Marshall (3 A.B.C.), 13⅘s.; 3, C. Smith (3½ Norton), 14s.

CLASS 5 (Unlimited).—1, C. Baragwanath (8 Zenith), 12⅘s.; 2, H. Saddington (5-6 James), 13⅘s.; 3, C. Smith (3½ Norton), 14⅘s.

CLASS 6 (Sidecars up to 550 c.c.).—1, C. Smith (3½ Norton sc.), 17s.

CLASS 7 (Sidecars, any capacity).—1, C. Baragwanath (8 Zenith sc.), 14⅘s.; 2, H. Saddington 5-6 James sc.), 15⅘s.; 3, A. Barker (8 Zenith sc.), 16⅘s.

CLASS 8 (Cycle Cars up to 1,100 c.c.).—1, P. Child (10 Morgan), 15⅘s.; 2, F. Child (10 Morgan), 19⅘s.

North Lindsey A.C.

A single-geared machine—a 3½ h.p. Rover piloted by R. Smith—gained first place in the recent reliability trial. Second and third respectively were H. S. Jarvis (6 Bat) and K. Macintosh (4¼ B.S.A.).

Leeds M.U.

There were thirty competitors in the trial for the Amateur Trophy on the 12th inst. Final placings have now been announced :

1, H. T. Peel (4 Douglas sc.); 2, P. Greaves (3¾ Scott sc.); 3 and 4 (tie), J. E. Hill (4 Triumph) and F. W. Wilkinson (6 B.S.A. sc.); 5, C. Stevenson (4 Triumph); 6, T. Foster (4 B.S.A. sc.).

MANX HOSPITALITY.

The Auto Cycle Union officials and the press were hospitably entertained to dinner by the Manx Motor Cycle Club on the eve of the T.T. races. In the absence of Councillor Crookall, H.K., the chair was most ably occupied by the Rev. E. H. Stenning.

Dr. Templeton, who proposed "The Visiting Motor Cyclists," extended the guests a very hearty welcome, especially as their visit had at one time been in danger of postponement. Especial thanks were due to those whose efforts had resulted in the improvements of the steamer service. The Tourist Trophy races were of great benefit to the Island.

Another social function was the Manx A.C. lunch to the A.C.U. officials. The chair was occupied by the president, Mr. W. H. Blaker. Among the distinguished Manx officials present were Col. Madoc, Chief Constable, and Mr. J. Drinkwater.

On the Sunday afternoon prior to the races, the visiting motor cyclists were entertained by Mr. H. H. Crippin, proprietor of the Glen Helen Pleasure Grounds, at a garden party.

LAP SCORES OF THE 1921 TOURIST TROPHY RACES.

Individual Lap Times and Total Times of those who Finished in either Race.

SENIOR T.T. RACE.

Distance 226.5 Miles (6 Laps of 37.75 Miles). 64 Starters, 24 Survivors.

	Rider and Machine.	Weight of Machine.	Total Weight.	First Lap.	Second Lap.	Third Lap.	Fourth Lap.	Fifth Lap.	Sixth Lap.	Total Time.	Average Speed.
		lb.	lb.	m. s.	m. s.	h. m. s.	h. m. s.	h. m. s.	m. s.	h. m. s.	m.p.h.
1	H. R. DAVIES (2¾ A.J.S.)	202	347	41 17	41 53	42 55	41 9	42 2	**41 6**	4 9 22	54.49
2	F. W. DIXON (3½ Indian)	274	417	**41 16**	42 9	43 2	41 24	42 27	41 17	4 11 35	54.02
3	H. LE VACK (3½ Indian)	281	439	41 57	41 41	42 21	41 33	42 49	41 45	4 12 6	53.91
4	A. BENNETT (3½ Sunbeam)	234	370	42 8	42 3	41 34	40 19	42 13	45 54	4 14 11	
5	J. A. WATSON-BOURNE (3½ Triumph)	270	465	43 9	42 59	44 21	42 25	43 36	42 15	4 18 55	
6	J. L. MITCHELL (3½ Norton)	258	405	42 3	43 27	44 7	42 11	45 24	45 22	4 24 4	
*7	F. G. EDMOND (3½ Triumph)	260	408	41 37	**40 48**	45 58	**41 8**	**41 29**	51 9	4 24 6	
8	G. DANCE (3½ Sunbeam)	230	377	41 39	41 26	**41 22**	48 5	43 36	48 7	4 24 25	
9	T. M. SHEARD (3½ Sunbeam)	239	381	44 8	43 21	45 11	43 32	45 26	45 1	4 26 42	
10	F. C. TOWNSHEND (3½ Triumph)	266	422	44 0	44 0	46 1	43 50	44 30	45 30	4 27 51	
11	D. S. ALEXANDER (3½ Norton)	235	399	44 11	44 8	45 1	44 33	46 12	44 55	4 29 30	
12	W. HOLLOWELL (3½ Norton)	254	392	42 27	42 46	47 53	45 5	46 27	45 40	4 30 18	
13	W. BRANDISH (3½ Rover)	257	433	44 34	44 41	46 6	44 32	46 3	44 40	4 30 36	
14	H. F. HARRIS (2¾ A.J.S.)	210	357	43 35	43 55	45 6	44 34	47 5	46 38	4 30 53	
15	NOEL BROWN (3½ Indian)	273	438	44 8	43 48	46 23	45 55	47 11	46 35	4 34 0	
16	J. G. SHEMANS (3½ Triumph)	277	448	42 10	41 52	43 34	42 26	46 47	57 25	4 34 14	
17	R. W. STANFIELD (3½ Scott)	255	384	48 1	46 54	46 10	46 41	45 50	45 28	4 39 4	
18	R. J. BRAID (3½ Triumph)	265	431	48 18	47 14	48 3	46 13	47 35	46 21	4 43 44	
19	M. H. EDMUNDS (3½ Triumph)	267	414	42 10	41 52	43 34	42 26	46 47	57 25	4 50 15	
20	NORMAN BLACK (3½ Douglas)	288	450	46 6	44 52	51 5	50 15	51 17	49 46	4 52 21	
21	G. STRANGE (3½ James)	259	406	50 29	46 17	52 31	46 54	48 41	55 25	5 0 20	
22	J. W. MOFFATT (3½ Scott)	230	389	47 19	44 22	67 45	49 56	48 6	47 10	5 4 41	
23	V. OLSSON (3½ Sunbeam)	241	406	43 39	65 16	48 49	47 4	48 41	68 10	5 21 33	
24	A. MILNER (3½ Sunbeam)	241	379	46 27	46 58	61 17	75 57	47 27	49 2	5 27 8	

*Fastest lap (record), 40min. 8sec. fourth lap, speed 56.41 m.p.h.

The winner, H. R. Davies, gained the Senior Tourist Trophy, £50 in cash and a gold medal. Second and third receive respectively £25 and £15. Second to seventeenth to finish, whose times were within 30 minutes of winner, receive gold medals. Fastest time in each lap is shown in darker type.

JUNIOR T.T. RACE.

Distance 188.75 Miles (5 Laps of 37.75 Miles). 65 Starters (43 in 350 c.c. Class, 22 in 250 c.c. Class). 38 Survivors (25 in 350 c.c. Class, 13 in 250 c.c. Class).

	Rider and Machine.	Weight of Machine.	Total Weight.	First Lap.	Second Lap.	Third Lap.	Fourth Lap.	Fifth Lap.	Total Time.	Average Speed.
		lb.	lb.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	m.p.h.
1	ERIC WILLIAMS (2¾ A.J.S.)	210	357	44 .0	43 58	44 20	42 51	42 31	3 37 23	52.1
2	H. R. DAVIES (2¾ A.J.S.)	210	355	**41 29**	54 6	**42 20**	**42 11**	**41 4**	3 41 10	51.15
3	T. M. SHEARD (2¾ A.J.S.)	208	351	44 15	45 8	44 48	43 20	51 38	3 49 9	49.15
4	G. KELLY (2¾ A.J.S.)	206	350	43 53	43 57	47 25	46 31	47 36	3 49 22	49.1
5	J. WHALLEY (2¾ Massey-Arran)	226	402	42 46	42 49	45 41	44 41	56 42	3 52 39	48.7
6	O. WADE (2¾ A.J.S.)	209	391	46 12	46 24	49 32	47 58	48 52	3 59 2	47.4
7	W. HOWARTH (2¾ Dot)	208	361	49 27	49 7	50 4	47 24	49 12	4 5 11	46.25
8	H. F. HARRIS (2¾ A.J.S.)	211	363	42 19	**42 14**	1 44 37	44 34	46 25	4 10 9	45.3
9	R. CAREY (Blackburne)	245	413	49 2	48 23	48 45	52 26	52 58	4 12 14	44 9
10	D. G. PRENTICE (2¼ New-Imperial)	209	346	49 40	49 21	51 34	49 59	52 12	4 12 37	44.8
11	G. S. DAVISON (2¼ Levis)	185	323	50 27	49 48	52 2	50 35	52 34	4 15 26	44.1
12	W. G. HARRISON (2¼ Velocette)	182	356	51 55	52 7	52 36	52 53	53 2	4 22 33	43.15
13	F. W. APPLEBEE (2¼ Levis)	178	309	53 56	54 14	54 50	53 0	53 7	4 29 7	42.15
14	R. HUMPHREYS (2¼ Velocette)	183	311	53 30	56 32	53 38	53 26	54 14	4 31 14	41.8
15	E. R. JACOBS (2¾ Coulson)	248	395	50 52	55 45	55 59	51 49	58 11	4 35 26	41.1
16	P. NEWMAN (3 Ivy)	216	365	49 6	49 47	51 58	50 5	1 18 32	4 39 28	40.55
17	A. G. MILLER (2¾ Martin)	232	137	53 26	57 49	1 1 41	53 12	53 48	4 39 59	40.5
18	W. LORD (2¼ Hobart)	210	348	56 27	55 51	56 7	55 31	56 52	4 40 51	40.3
19	G. BROWNE (2¾ New Scale)	228	371	49 24	51 6	1 15 1	50 39	55 54	4 42 4	40.1
20	J. EMERSON (2¾ Douglas)	284	436	46 45	48 21	1 24 16	50 39	52 42	4 42 43	40.0
21	G. DENLEY (2¼ Velocette)	197	343	50 57	59 52	58 27	58 8	57 9	4 44 33	39.8
22	N. BLACK (2¼ Omega)	212	382	49 53	55 4	55 1	49 28	1 19 15	4 48 41	39.2
23	R. A. GREEN (3 Ivy)	221	352	54 28	56 37	58 4	59 1	1 0 14	4 48 54	39.15
24	S. F. HADEN (2¼ New Comet)	195	336	55 34	55 53	57 39	1 3 14	58 19	4 50 39	39.0
25	J. HOLROYD (2¾ Massey-Arran)	248	398	54 23	54 10	57 10	55 9	1 11 27	4 52 19	38.75
26	A. W. JONES (3 Ivy)	213	352	1 8 10	50 7	1 17 56	47 37	48 14	4 52 34	38.7
27	W. H. KELLY (3 Ivy)	199	346	54 21	1 3 25	1 16 29	50 54	52 1	4 57 10	38.15
28	B. H. NORRIS (2¼ Sun-Vitesse)	228	430	58 55	1 0 0	58 15	1 0 41	1 0 12	4 58 33	37.95
29	M. V. BISHOP (2¼ Sun-Vitesse)	222	386	58 55	1 1 1	1 0 13	1 2 6	1 0 31	5 2 49	37.4
30	J. JOYNSON (2¼ N.U.T.)	238	376	1 29 21	50 5	56 2	52 1	56 19	5 3 48	37.33
31	A. EDWARDS (2¼ Levis)	184	331	54 11	55 27	56 35	1 25 45	56 50	5 8 48	36.65
32	H. PETTY (2¾ Coulson)	251	405	49 15	51 0	1 33 35	52 25	1 8 33	5 14 48	36.0
33	C. F. EDWARDS (3 Ivy)	192	352	56 25	55 26	56 56	1 31 34	51 57	5 15 18	35.92
34	F. A. LONGMAN (2¾ Wooler)	211	361	1 5 49	52 51	1 4 46	54 1	1 32 2	5 29 29	34.4
35	H. MARTIN (2¾ Martin)	223	387	1 0 19	1 34 51	1 2 6	59 32	1 1 52	5 38 40	33.42
36	E. VICARY (3 Ivy)	217	381	1 9 30	1 7 52	55 29	57 44	58 23	5 38 58	33.41
37	J. R. ALEXANDER (2¾ Douglas)	287	447	48 32	53 32	1 59 49	1 21 24	51 37	5 57 54	31.7
38	G. W. JONES (2¼ New Hudson)	175	300	1 3 43	1 26 0	1 10 48	1 9 19	1 8 12	5 58 2	31.62

The winner, Eric Williams, gained the Junior Tourist Trophy, £40 in cash and a gold medal. Second and third receive respectively £20 and £10. Gold medals were awarded to 350 c.c. entrants finishing within 30 minutes of winner's time, and gold medals to entrants of 250 c.c. machines finishing within 30 minutes of D. G. Prentice (250 c.c. New Imperial-Jap), who won *The Motor Cycle* Lightweight Trophy. Fastest time in each lap shown in darker type. Fastest lap of the Junior race, H. R. Davies (A.J.S.), 41m. 4s. = 55 m.p.h.

A CHAT WITH THE SENIOR T.T. WINNER.

A Junior Rider who Won the Senior Event.

HOWARD R. DAVIES, who came wonderfully near scoring a double success in this year's T.T. races, is single, and commemorates his twenty-sixth birthday next Monday, the 27th inst. The 2¾ h.p. A.J.S. machine on which he won the Senior Trophy at 54½ m.p.h. was not the same that he handled in the Junior event (when he finished second after puncturing in the second lap, and subsequently retrieving his lost position), but the engine was transferred to the Senior frame. It is a wonderful engine, too, measuring 74×81 mm.=349 c.c., for it laps Brooklands at 71 m.p.h. Davies told us that his machine, geared 4.8, 6, and 8 to 1, could attain 72 or 73 m.p.h. on favourable stretches of road. His trip was uneventful (so he said), for, apart from two stops at the replenishment pits, he enjoyed a non-stop run. No risks were taken at any time. He passed de la Hay between Ballacraine Corner and Ballig Bridge on the first lap, and thereafter had a fairly clear run until he began to overhaul the tail-enders of the procession. Mist on the mountain proved a slight handicap on two circuits, for it necessitated removing the goggles. Asked if he knew his position, Davies replied "No," and imagined Dance was leading him, though cheering crowds indicated that he himself was among the leaders, despite his limited engine capacity. Davies's mount ran most consistently throughout. Second for four laps, he attained the lead at the end of the fifth lap, and never lost it again—the only competitor to occupy the leading position for two laps. At Governor's Bridge, nearing the end, he actually had time to recognise a chum, who signalled



H. R. Davies, the winner of the Senior Tourist Trophy.

that he was leading. Davies was full of praise for his little mount, which never faltered throughout, and, as he put it, "finished in perfect fettle."

At this remark, he specially went out of his way to introduce his mechanic, Bob Shakespeare, who has tended the A.J.S. T.T. machines from the outset, and is responsible for Davies's hill-climbing and speed mounts. The A.J.S., which weighed 202 lb., he told us, steers perfectly on the Manx course, which, no doubt, accounted for the rider finishing so fresh. Noticing that the front rim was untouched, Davies replied to our interrogation that he had never used the front brake throughout. Howard Davies, magnificent rider though he is, was certainly in luck last week, for he accepted a wager of 75 to 1 with S. L. Bailey that he could not name the winner of the double event—and won! But for a slight dent in the back wheel rim, the A.J.S. mount was as good as it started, and the Hutchinson tyres wore remarkably well and remained almost unmarked. Other equipment included Druid forks, Amac carburetter, T.B. magneto, K.L.G. plug, Renold block chain on front and roller chain at rear, A.K. knee grips, and he used Castrol R lubricant and Pratt's spirit.

It should be added that, apart from last week's achievement, Howard R. Davies, when riding a Sunbeam, tied for second place with the late O. C. Godfrey in the 1914 event. After being taken prisoner whilst flying over the German lines in 1917, Howard Davies, subsequent to his repatriation, joined the Amac Co., and later joined Messrs. A. J. Stevens and Co., Ltd., as competition manager.

THE INDIAN ACHIEVEMENT.

Non-stop Runs for Dixon and Le Vack.

SECOND and third to finish in Thursday's Senior T.T. race were F. W. Dixon and H. Le Vack, respectively, riding 3½ h.p. Indians. Both enjoyed non-stop runs, except for two replenishments at the depot in front of the grandstands. At the start, Dixon unquestionably was one of the favourites, and lived up to expectations by leading at the end of the first lap, covered in 41m. 16s. from a standing start. His top gear ratio is 4.75 to 1, and, according to Dixon, his Indian is capable of 85 m.p.h. Halfway round the second lap he noticed his engine falter, and, glancing down at the valves, saw that the inlet spring had broken in the centre of the coils. Carrying on, he found that his maximum speed had decreased quite 5 m.p.h. Dixon did not wear goggles, relying upon an Easting screen affixed to the left handle-bar. Crouching low, he sat his machine perfectly, and his pace past the grandstand was a sight to behold. Both brakes of the Indian are on the back wheel, and foot-operated. His was the only Indian with footplates, as the others had rests.



F. W. Dixon, second in the Senior T.T.

The single-cylinder Indian engine, which measures 79.3×100.8 mm. = 498.8 c.c, was specially designed by C. B. Franklin (an old T.T. man, now at the Indian factory in America) for the race. It is inclined rearwards, and side-by-side valves are used. The piston is of aluminium alloy with two rings, and is grooved down the skirt, whilst the connecting rod is drilled. Examiners spoke in high terms of praise of the internal condition of the engine, the piston having no trace of carbon. The cylinder head, by the way, is flat for half its circle, and sloped upwards over the valves. Dixon's mount had a Schebler carburetter (the only one in the race), K.L.G. plug, Renold chains, and Hutchinson tyres, the ribs on the back tyre having gone, but the front tyre remaining perfect. He used Speedwell oil and Pratt's spirit.

H. Le Vack thinks he would have done better if he had had another month's experience with his engine, for he had a no-trouble run, and did his best. Of course, Le Vack is always regarded as a super "track" rider, and it was noticeable that he negotiated the many twists on the course with commendable restraint. As regards equipment, his mount was precisely similar to the other Indians, except for an Amac carburetter, and footrests in lieu of footplates.



H. Le Vack, who finished third in the Senior race.

A LAP AT 56.4 M.P.H.

F. G. Edmond's New T.T. Record on a Side-by-side Valve Triumph.

THE honour of accomplishing the fastest lap fell to Fred G. Edmond, who was mounted on one of the new 500 c.c. Triumph machines designed for the race by G. E. Stanley. A long stroke engine is used, viz., 80.5×98 mm., 498.7 c.c., with side-by-side valves, in conjunction with a two-speed gear, providing ratios of 4.2 and 6.5 to 1. Renold chain transmission is used throughout. Edmond is engaged at the Triumph works in Coventry, and latterly, since the company dropped 500 c.c. engines some years ago, he has become expert as a sidecar exponent. But his exhibition on Thursday should have won him a better place, for Edmond and his Triumph were in great form. It was in the fourth lap that he set up a new record of 40m. 8s., equal to a speed of 56.4 m.p.h., which incidentally lifted him from eighth to fifth place. The previous lap, according to Edmond, would have been faster still, for he was delayed for over six minutes replacing a broken petrol pipe near Sulby Bridge.

Undaunted, he completed two more excellent laps, creeping up to third position, only to lose the sporting chance he had of annexing the trophy by reason of the special oil tank at the rear of the seat tube breaking loose from the clip supporting it. This occurred at Quarter Bridge on the last lap. As a result of the loss of oil his engine seized three times on this final lap, the last time near the summit of Snaefell. He had insufficient energy to push it free, and had to wait for ten minutes for the engine to cool down. Remounting, he got home seventh, his average speed for five laps being 54 m.p.h., and for the full course of six laps (226½ miles) 51.4 m.p.h. Edmond earned the respect of the thousands who had eagerly followed his progress and regretted the ill-fortune which befell him. The Triumph equipment included Dunlop Magnum 3in. tyres, Amac carburetter, M-L magneto, and Lodge plug.

Mr. P. J. Evans, of Birmingham, recognising the merit of Edmond's achievement, has decided to present him (as also to H. R. Davies, who accomplished the fastest lap in the Junior race) with a silver cup. Mr. Evans won the Junior T.T. in 1911, when he rode a 2¾ h.p. Humber.



56.44 m.p.h. for 37¾ tortuous miles was F. G. Edmond's terrific speed for his record lap—a time that must stand for another twelve months, and, perhaps—who dare hazard?—indefinitely His mount, of course, is a side-by-side valve Triumph.

"IFS" OVERHEARD IN THE ISLAND.

IF Edmond's oil tank had not sprung a leak?

If the A.C.U. officials were not too hasty in announcing the final positions with two possibilities of quicker times?

If Dance is not the most popular "Senior" rider of the day?

If "Pa" Applebee is not the most popular "Junior" rider of the day?

If the organisation did not exceed in excellence previous T.T. events?

If the early boat on Friday exceeded the limit in carrying capacity?

If next year's races will be held in Ireland or France?

If the weather *could* ever be wet for a T.T.?

If the Senior race will be for 350 c.c. machines next year?

If Juniors will be restricted to 250 c.c. and bantamweights to 200 c.c.?

If Colonel Brereton is not a most courteous and appreciated chairman of the A.C.U.?

If the old rule of allowing extra c.c. for multi-cylinders will reappear?

If G. W. Jones really fell into the river at Sulby, as Secretary Loughborough announced?

If Bennett, the Sunbeam rider, had enjoyed better health on Thursday?

If twin-cylinder mounts will receive a similar setback again?

If the Triumph camp will select their riders earlier next year?

If Edmond was not the real surprise packet last Thursday?

If Davies or the A.J.S. really won?

If the "double event" will ever be pulled off again by any one firm?

If the officious Manx police are relieved now that motorists in their thousands have left the Island?

If the competitors appreciated the work of a score of enthusiasts on the mountain road on Wednesday in removing loose stones?

If there will be a race for T.T. winners before long—they all attend the races regularly each year?

If the action of P. J. Evans in presenting a silver cup for the fastest lap in each event is not really sportsmanlike?

If the A.C.U. recognises the joke in refusing the offer of cups for fastest laps "because it encourages blinding"?

If the Scott notes, resembling the pipes of an organ, were not refreshing to all?

If "Juniors" which weigh approximately 300 lb. ought not to be automatically relegated to the Senior class?

If Davies could have improved his time with a 500 c.c. mount?

If the A.J.S. has not taken much of the shine out of 500 c.c. machines?

If bargaining for the change of equipment on the eve of the race will be prevented by the A.C.U. in future?

If the 500 mile race at Brooklands will give a chance for 500 c.c. machines to regain lost laurels?

If the motor cycle T.T. will precede the car races next year?

If tar will be introduced to Manx roads before long?

If Whalley was not the most admired man on Tuesday?

If Prentice did not prove that modern 250 c.c. lightweights are capable of satisfying all average tourists' requirements?

If Dance had not turned a somersault in Glen Helen?

If the spectators knew that Dance's Sunbeam had to climb the mountain three times with only top gear available?

If safety helmets were not the means of saving three men?

CLUB TEAM CHAMPIONSHIP FOR 1921.

Popular M.C.C. Event for "The Motor Cycle" Cup attracts Twenty-seven Team Entries.

TWENTY-SEVEN teams representing practically all the leading clubs in the country will, on Saturday, compete in the M.C.C. Club Championship inter-team trial for *The Motor Cycle* Cup. The start will be from Tring, the first man of the Leicester and District M.C.C. (last year's winners) being timed away at 1 p.m., and the remaining 161 competitors at half minute intervals.

Three circuits of a thirty-three mile route, including most of the well-known Chiltern hills, are to be traversed non-stop, the team with the greatest total non-stop mileage to win. If more than one team records a complete non-stop the cup will be awarded on a "riding to schedule" basis. Individual competitors may choose their own schedule speeds between limits of 17 and 20 m.p.h.

A full list of the competitors, with their numbers, follows :

LEICESTER AND DISTRICT M.C.C.

Starting Time. H. M. S.	No.	Rider and Machine.
1 0 0 ..	11	H. Petty (3½ Norton)
1 0 30 ..	12	R. Harris (4 Norton sc.)
1 1 0 ..	13	W. C. Pymm (5 Raleigh)
1 1 30 ..	14	J. O. Randle (4 Norton sc.)
1 2 0 ..	15	C. J. Wilcox (3¾ Scott)
1 2 30 ..	16	W. Chapman (8 A.J.S. sc.)

Reserves: R. A. Spitall (4 Norton sc.), P. J. Strong (2¼ Velocette).

SURBITON AND DISTRICT M.C.C.

1 3 0 ..	21	R. C. Staunton (4 Trinmph)
1 3 30 ..	22	Captain R. Charlesworth (8 Zenith sc.)
1 4 0 ..	23	R. A. Green (3½ Norton)
1 4 30 ..	24	D. H. Davidson (7 Harley sc.)
1 5 0 ..	25	W. J. Kelly (3½ Norton)
1 5 30 ..	26	L. Bachelier (7 A.J.S. sc.)

Reserves: A. Ellison (5 Zenith), H. W. Bnll (6 A.J.S. sc.), R. Preston (3½ Sunbeam).

WORCESTER AND DISTRICT M.C.C.

1 6 0 ..	31	J. A. Newman (——)
1 6 30 ..	32	B. Bladder (8 New Imperial sc.)
1 7 0 ..	33	B. Kershaw (2¾ New Imperial)
1 7 30 ..	34	E. Williams (7 A.J.S. sc.)
1 8 0 ..	35	T. C. De la Hay (3½ Sunbeam)
1 8 30 ..	36	E. Choldcroft (6 A.J.S. sc.)

Reserves: J. A. Chadwick (——), Reg. Brown (3½ Sunbeam).

COVENTRY AND WARWICKSHIRE M.C.

1 9 0 ..	41	D. Atkin (6 Rover)
1 9 30 ..	42	S. Wright (4½ Humber sc.)
1 10 0 ..	43	W. Brandish, Jr. (6 Rover)
1 10 30 ..	44	F. G. Edmond (4 Triumph sc.)
1 11 0 ..	45	L. Crisp (4½ Humber)
1 11 30 ..	46	H. Finch (4 Trinmph sc.)

Reserves: G. White (6 Rover), R. B. Roberts (4 Triumph), R. Grindlay (4½ Humber), G. Ravenhall (3½ Rover sc.), W. A. Fell-Smith (8 Rex sc.), A. P. McGowran (4 Triumph sc.)

M.C.C.

1 12 0 ..	51	P. W. Moffat (3½ Douglas)
1 12 30 ..	52	E. A. Bridgman (7 Indian sc.)
1 13 0 ..	53	R. B. Clark (2¾ Conlson B)
1 13 30 ..	54	F. J. Watson (6 Ariel sc.)
1 14 0 ..	55	W. B. Gibb (Douglas)
1 14 30 ..	56	G. Nott (7 Matchless sc.)

Reserve: A. C. Robbins (2¾ Wooler).

BRIGHTON AND HOVE M.C.C.

1 15 0 ..	61	H. W. Richardson (4 Indian)
1 15 30 ..	62	H. D. Dobson (3½ Norton sc.)
1 16 0 ..	63	A. B. Friend (3½ Sunbeam)
1 16 30 ..	64	L. G. Watts (4 Triumph sc.)
1 17 0 ..	65	W. H. Sheraton (3½ Norton)
1 17 30 ..	66	J. Chater-Lea (8 Chater-Lea sc.)

Reserves: C. Volk (3½ Sunbeam), H. Skinner (7 Harley sc.)

BIRMINGHAM UNIVERSITY M.C.C.

1 18 0 ..	71	T. McKenzie (3 A.B.C.)
1 18 30 ..	72	— Hector (7 A.J.S. sc.)
1 19 0 ..	73	H. H. Watling (3 A.B.C.)
1 19 30 ..	74	E. Poppe (6 Rover sc.)
1 20 0 ..	75	W. E. Barnie-Adshead (3½ Sunbeam)
1 20 30 ..	76	— Jolly (4 Norton sc.)

Reserves: W. J. E. Gammage (4 Triumph), R. E. Grant (7 F.N.) pass., — Crowe (4 Norton), — Botcher (6 Rover sc.)

THE MOTOR CYCLING GIPSY CLUB.

Starting Time. H. M. S.	No.	Rider and Machine.
1 21 0 ..	81	A. Guthrie (3 A.B.C.)
1 21 30 ..	82	Major S. R. Axford (7 A.J.S. sc.)
1 22 0 ..	83	A. G. Fenn (5 Raleigh)
1 22 30 ..	84	E. M. Oliver (7 A.J.S. sc.)
1 23 0 ..	85	S. T. Tessier (3½ Bat)
1 23 30 ..	86	J. O'Sullivan (7 Harley sc.)

Reserve: J. Perrier (7 A.J.S. sc.)

NORTH-WEST LONDON M.C.C.

1 24 0 ..	91	E. T. Pierce (5 Rover)
1 24 30 ..	92	E. J. Pittock (8 Morgan)
1 25 0 ..	93	G. J. Thompson (3 A.B.C.)
1 25 30 ..	94	H. V. Davidson (8 Morgan)
1 26 0 ..	95	T. E. Moon (2¾ Douglas)
1 26 30 ..	96	H. D. Cuddeford (7 A.J.S. sc.)

Reserves: P. L. B. Wills (3½ Rudge), J. D. Saugway (5 Zenith), P. H. Goddard (6 Enfield sc.)

SHEFFIELD AND HALLAMSHIRE M.C. AND L.C.C.

1 27 0 ..	101	E. A. Wheatley (4 Trinmph)
1 27 30 ..	102	S. Sawer (4 Norton sc.)
1 28 0 ..	103	D. H. Kaye (4 Triumph)
1 28 30 ..	104	J. A. Stacey (8 Matchless sc.)
1 29 0 ..	105	E. Searle (4 Triumph)
1 29 30 ..	106	F. W. James (10 Morgan)

Reserves: C. E. Turner (4¼ B.S.A.), Geo. Fletcher (7 A.J.S. sc.)

BANBURY AND DISTRICT M.C.

1 30 0 ..	111	H. G. Askew (Rover)
1 30 30 ..	112	E. A. Thornett (8 Acme sc.)
1 31 0 ..	113	D. Braggins (4½ B.S.A.)
1 31 30 ..	114	A. C. Thornett (8 Acme sc.)
1 32 0 ..	115	M. Bennett (4 Blackburne)
1 32 30 ..	116	A. H. Burgess (8 Sunbeam sc.

Reserves: F. Askew (8 Morgan), M. Pearson (4 Triumph), J. Baker (4¼ B.S.A. sc.), W. Chamberlain (4 Triumph).

BUCKS COUNTY M.C.C.

1 33 0 ..	121	W. G. Harding (4 Triumph)
1 33 30 ..	122	C. F. Michell (7 A.J.S. sc.)
1 34 0 ..	123	R. Pugh (4 Triumph)
1 34 30 ..	124	J. K. Flemons (7 Harley sc.)
1 35 0 ..	125	P. Manley (4 Trinmph)
1 35 30 ..	126	R. Newitt (7 Harley sc.)

Reserves: W. Pugh (4 Triumph), D. Youers (6 A.J.S.)

ESSEX M.C.

1 36 0 ..	131	F. Roberts (3 A.B.C.)
1 36 30 ..	132	E. A. Colliver (7 Indian sc.)
1 37 0 ..	133	R. Coes (4 Indian)
1 37 30 ..	134	H. Le Vack (7 Indian sc.)
1 38 0 ..	135	F. W. Applebee (2¼ Levis)
1 38 30 ..	136	D. S. Parsons (7 Matchless sc.)

Reserves: E. T. Elliott (4 Indian), C. W. Bairstow (7 Indian sc.)

OXFORD M.C.

1 39 0 ..	141	E. Colegrove (4 Triumph)
1 39 30 ..	142	R. J. Pigott (4 Norton sc.)
1 40 0 ..	143	A. D. Cruickshank (3½ Norton)
1 40 30 ..	144	L. Avery (7 Harley sc.)
1 41 0 ..	145	L. A. Welch (4½ B.S.A.)
1 41 30 ..	146	J. Avery (7 Harley sc.)

WOOLWICH, PLUMSTEAD AND DISTRICT M.C.

1 42 0 ..	151	P. Walker (3½ Rover)
1 42 30 ..	152	T. J. Ross (7 Matchless sc.)
1 43 0 ..	153	— Steytler (——)
1 43 30 ..	154	F. O'Brien (—— sc.)
1 44 0 ..	155	C. Cleare (——)
1 44 30 ..	156	G. D. Hardee (7 Matchless sc.)

Reserves: F. J. Ellis (8 Matchless sc.), — Elsey (——)

EALING AND DISTRICT M.C.C.

1 45 0 ..	161	A. H. Tilbury (3½ Ariel)
1 45 30 ..	162	J. A. Masters (7 Harley sc.)
1 46 0 ..	163	C. F. Temple (4 Harley)
1 46 30 ..	164	F. A. Longman (3½ Ariel sc.)
1 47 0 ..	165	W. G. Boyer (3½ Norton)
1 47 30 ..	166	S. E. Longman (7 Harley sc.)

Reserves: F. H. Douglass (T. B.), F. V. Edwards (4¼ B.S.A.)

BROOKDALE CLUB (CATFORD) MOTOR SECTION.

1 48 0 ..	171	R. C. Boxer (4 Triumph)
1 48 30 ..	172	— Boxer (7 Coventry Premier)
1 49 0 ..	173	J. Hoult (3¾ Scott)
1 49 30 ..	174	J. J. Leonard (8 Bat sc.)
1 50 0 ..	175	H. Leng (3 A.B.C.)
1 50 30 ..	176	B. J. Sims (4 Triumph sc.)

Reserves: W. J. Reynolds (3½ Ariel), S. Ascott (4¼ B.S.A.), H. A. Philbrick (4 Triumph), H. A. Cooper (7 Bradbury).

CITY AND GUILDS ENGINEERING COLLEGE M.C.C.

Starting Time. H. M. S.	No.	Rider and Machine.
1 51 0 ..	181	A. H. Masser (7 Harley)
1 51 30 ..	182	A. G. Mansell (10 Morgan)
1 52 0 ..	183	G. M. Hyams (2½ Velocette)
1 52 30 ..	184	P. E. Higgs (8 New Imperial sc.)
1 53 0 ..	185	W. Clynes (3 A.B.C.)
1 53 30 ..	186	A. B. Bourne (8 Matchless sc.)

Reserves: J. H. Brass (4 Triumph sc.), H. J. Finch (3½ Sunbeam), T. Clutterbuck (4 Trinmph)

NORTH LONDON M.C.C.

1 54 0 ..	191	H. R. Harveyson (4 Indian)
1 54 30 ..	192	F. E. Jones (3½ Ariel sc.)
1 55 0 ..	193	R. H. Baxter (2¼ Radco)
1 55 30 ..	194	H. B. Shutes (8 Matchless sc.)
1 56 0 ..	195	C. C. Labin (4 Indian)
1 56 30 ..	196	R. W. Greaves (4 Norton sc.)

Reserves: D. H. Williams (3 A.B.C.), A. J. Ivison (7 A.J.S. sc.)

NORFOLK M.C. AND L.C.C.

1 57 0 ..	201	R. A. Daniels (3½ Norton)
1 57 30 ..	202	M. G. Bagshaw (7 Harley sc.)
1 58 0 ..	203	H. J. Hannett (4 Indian)
1 58 30 ..	204	H. D. Wheeler (8 New Imperial sc.)
1 59 0 ..	205	H. F. Mase (3 A.B.C.)
1 59 30 ..	206	C. W. Dix (6 A.J.S. sc.)

Reserve: G. H. Hanworth (4 Norton)

ROCHESTER, CHATHAM AND DISTRICT M.C. AND L.C.C.

2 0 0 ..	211	S. White (2½ Levis)
2 0 30 ..	212	G. Packman (8 Matchless sc.)
2 1 0 ..	213	G. Maund (3 A.B.C.)
2 1 30 ..	214	C. Glover (8 Zenith sc.)
2 2 0 ..	215	A. W. Clarke (4 Triumph)
2 2 30 ..	216	G. R. Jenner (4 Triumph sc.)

Reserves: F. S. Short (6 Rover), H. J. Lawrence (7 Matchless sc.)

BASINGSTOKE M.C.C.

2 3 0 ..	221	R. Clark (7 Harley)
2 3 30 ..	222	W. Julian (7 Harley sc.)
2 4 0 ..	223	S. Hellen (3½ Norton)
2 4 30 ..	224	R. C. Chawner (3½ Sunbeam sc.)
2 5 0 ..	225	F. W. Long (8 Zenith)
2 5 30 ..	226	J. Jackson (8 Bat sc.)

Reserves: J. S. Gardiner (8 Zenith), S. H. Rose (8 Matchless sc.)

CAMBERLEY M.C.C.

2 6 0 ..	231	A. Love (3½ Sunbeam)
2 6 30 ..	232	H. Whitty (8 Sunbeam sc.)
2 7 0 ..	233	
2 7 30 ..	234	P. W. White (8 Sunbeam sc.)
2 8 0 ..	235	P. Street (3½ Sunbeam)
2 8 30 ..	236	E. J. Over (3½ Sunbeam sc.)

Reserve: F. Over.

LUTON AND SOUTH BEDS A.C.

2 9 0 ..	241	S. Brown (4 Triumph)
2 9 30 ..	242	A. Saddington (6 James sc.)
2 10 0 ..	243	G. Dunham (4 Norton)
2 10 30 ..	244	H. Reyre (6 James sc.)
2 11 0 ..	245	T. Bourlet (3½ Ariel)
2 11 30 ..	246	F. Child (8 Morgan)

Reserves: R. Hickman (3½ Rover), S. Dickinson (6 Ariel)

SUTTON COLDFIELD AND NORTH BIRMINGHAM M.C.C.

2 12 0 ..	251	J. A. Watson Bourne (——)
2 12 30 ..	252	Rex Mundy (——)
2 13 0 ..	253	H. J. Willis (——)
2 13 30 ..	254	H. Boyton (——)
2 14 0 ..	255	F. Hall (——)
2 14 30 ..	256	Alan Watson (——)

Team not yet nominated.

ILKLEY AND DISTRICT M.C.C.

2 15 0 ..	261	W. Moore (3¾ Scott)
2 15 30 ..	262	J. N. Longfield (7 Indian sc.)
2 16 0 ..	263	W. F. Scott (3¾ Scott)
2 16 30 ..	264	J. S. Duxbury (3¾ Scott sc.)
2 17 0 ..	265	G. Clapham (3¾ Scott)
2 17 30 ..	266	H. W. Sellers (3½ Sunbeam sc.)

Reserves: C. Clegg (3¾ Scott), J. H. Holmes (3¾ Scott), C. A. Barker (8 Enfield sc.)

NOTTINGHAM AND DISTRICT M.C.C.

2 18 0 ..	271	G. W. T. Hartwell (3 Beardmore)
2 18 30 ..	272	W. E. Brough (5 Brough sc.)
2 19 0 ..	273	F. Stevenson (3½ Brough)
2 19 30 ..	274	I Cohen (5 Raleigh sc.)
2 20 0 ..	275	J. R. H. Knight (3½ Brough)
2 20 30 ..	276	J. R. Sylvester (7 Harley sc.)

Reserves: J. H. Watson (4 Triumph sc.), I. R. Debenham (3½ Brough).

SPEEDWELL MOTOR OIL

THE TRUEST TEST.

THE gruelling four miles climb of Snaefell—the wrench and recovery at Quarter Bridge—the breathless moment, stamping on brakes, then accelerating madly at the Ramsey Hairpin, the long mad blind down the mountain and better than a mile a minute—these try rider, machines, and *oil* to the utmost

More bitter strains is packed into these few hours than the average rider encounters in a life-time—and "Speedwell"—the oil that stood *this* test is the oil for you.

7 out of the 11 on "Speedwell," including S. W. Dixon on Indian, second, and the record lap, S. G. Edmonds

Only "SPEEDWELL" could do it!

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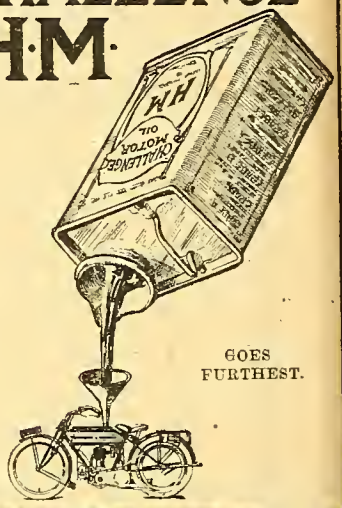
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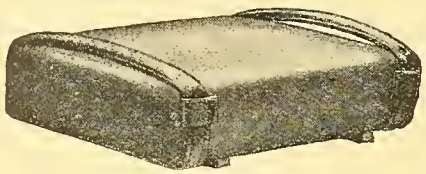
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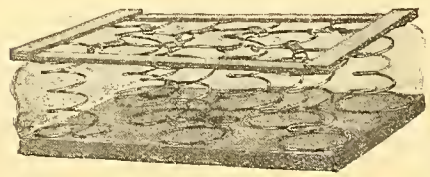


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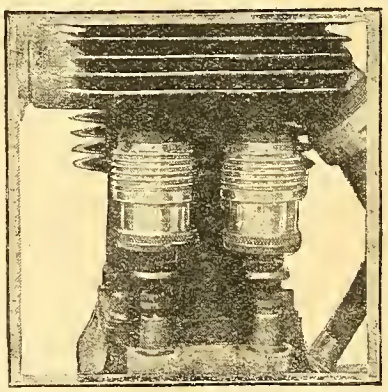
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SECOND-HAND.

VELOCETTE, 1921, 2-speed, all black. Tax paid. Like new.	£55 0
NEW SCALE, 1920, 2-speed, K.S., and clutch. Tax paid. In first-class order	£65 0

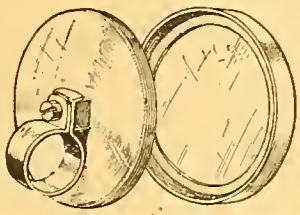
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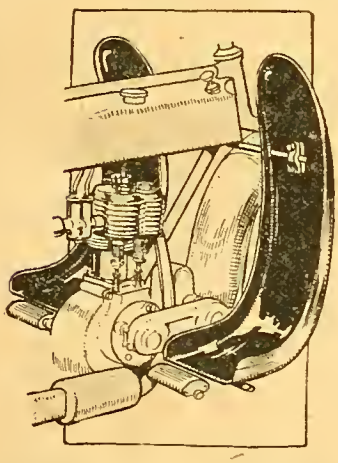
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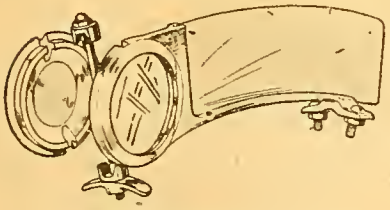




Quite one of the neatest licence holders on the market—the Homa. Strongly made, and possessing a screwed front, it is also entirely waterproof. It may be obtained in a variety of finishes from the Homa Engineering Co., Whetstone, Leicester.



Legshields that harmonise with the outline of the machine—the V. and G. set, that is sold at 65s. by V. and G., Chapman Road, Small Heath, Birmingham



One long bolt ingeniously serves to clamp the licence holder together, as well as to provide a front anchorage to the mudguard of the New Scale combined number plate and licence carrier. This fitment is strongly made in aluminium, with an inserted steel plate, by Messrs. Roberts and Hibbs, Bank Street Works, Droylsden, Manchester. (Price 10s.)

Novelty in Saddle Construction.

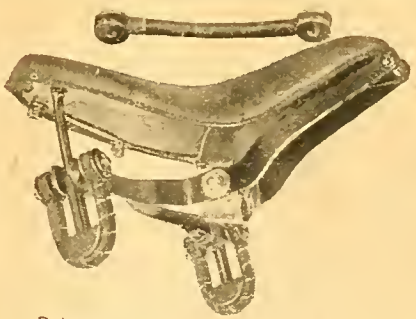
COMFORT is all the cry nowadays, and it is, therefore, not surprising to find several makers introducing novel ideas in saddle construction. Two of these, which we illustrate, have reached the marketing stage.



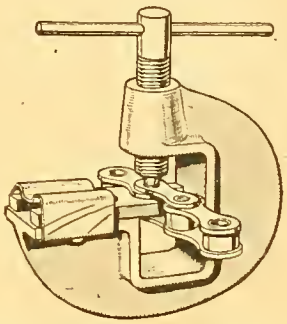
Coil springs form a very flexible backing for the seat portion of the Terry saddle.

Herbert Terry and Sons, Ltd., of Redditch, are spring specialists, and their saddle makes good use of their chief product. The framework, of fairly conventional outline, is suspended on two large coil springs, while the seat itself is built up by a series of light extension springs looped horizontally along the frame. A felt and waterproof, or felt and leather, cover is provided at option.

On the other hand, the saddle of the Industrial Rubber Products, Ltd. (191-2, Tottenham Court Road, London, W.1), is chiefly remarkable for the fact that no springs—at least, steel springs—are used in its construction. Very elastic rubber links, of the type employed for the suspension of aeroplane wheels, are substituted for the more conventional steel coils, and it is claimed that very easy riding is obtained. Should one of these "springs" break, replacement is the matter of a moment, as it simply means the removal of a couple of split pins.



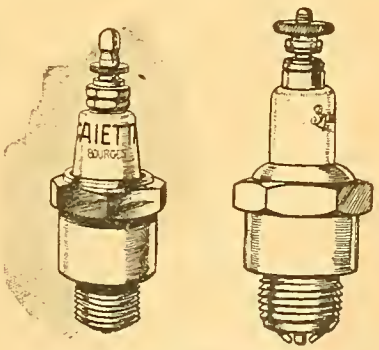
Rubber "springs," one of which is shown detached, are used on the saddle of Industrial Rubber Products, Ltd.



Suitable for all makes and sizes of ½in and ⅝in. pitch chains, the Pennent rivet extractor is a moderately priced but well-finished instrument. (The Pennent Manufacturing Co., Ltd., Central Works, Watery Lane, Birmingham.)



Extremely simple and neat is this hammock-pattern pillion seat marketed by Messrs. A. W. Gamage, Ltd., Holborn, London, E.C.1. How the canvas seat, which is mounted on rollers, yields against the light tension springs is easily understood from the picture.



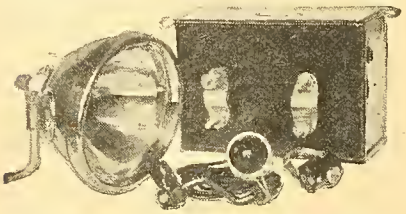
Two recently introduced sparking plugs, which sell at moderate prices; on the left, the Gaietta (steatite insulation), which is sold by the Service Company, Ltd., 289, High Holborn, London, W.C., and on the right, a "Touring Model" Sphinx, made by the Sphinx Mfg. Co., Ltd., Bradford Street, Birmingham), which has a ceramic insulator.

Among the Accessories.—

Solo Electric Lighting.

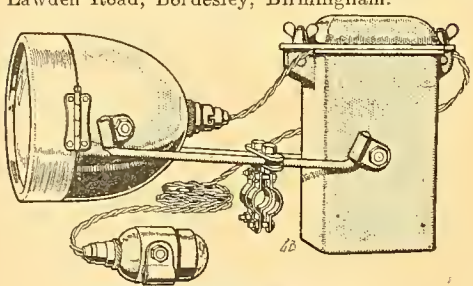
DRY battery or accumulator lighting is generally very simply fitted by the owner of a sidecar outfit, but the less fortunate solo rider has often to exercise considerable ingenuity before he can so equip his mount.

The accumulator of the H.A.H. set, illustrated below, is carried in a metal box designed to clip on to any convenient frame tube. A Hunt speedometer lamp, which is fitted with a blue anti-dazzle glass (already described in *The Motor Cycle*), may be supplied with this outfit, which is made by Messrs. A. H. Hunt, Ltd., H.A.H. Works, Tunstall Road, East Croydon, Surrey.



Including the speedometer lamp, this H.A.H. set has been designed specially for solo motor cycles.

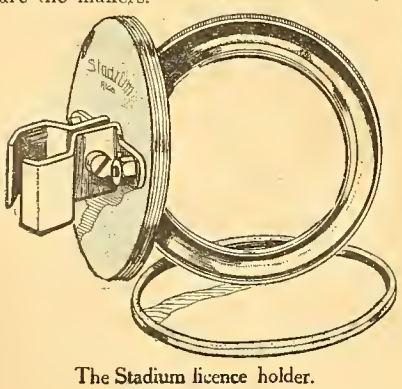
In Westwood's Daybeam set the battery is carried in the position of the generator on an acetylene outfit. It is sold at £5 5s., including rear lamp and wiring, by Westwood Rim and Patents, Ltd., Lawden Road, Bordesley, Birmingham.



The Westwood Daybeam electric set.

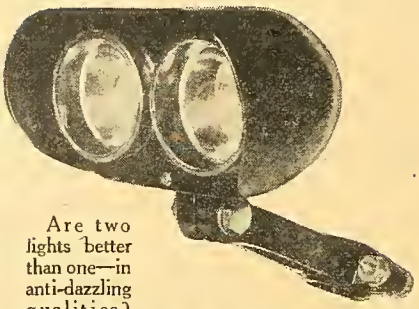
Damp-proof Holder.

BELONGING to the screw-on face category, the Stadium licence holder has the additional feature of a neat adjustable clip to fit any size or shape of tube or bar. Messrs. Etienne and Co., 61, Great Eastern Street, London, E.C.2, are the makers.



The Stadium licence holder.

ANTI-DAZZLE LAMPS.



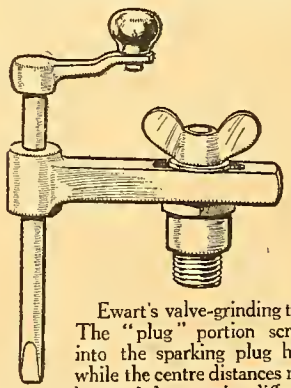
Are two lights better than one—in anti-dazzling qualities? That they are is the idea of Scientific and Projections, Ltd., 5, Crawford Passage, Farringdon Road, London, E.C.1, who market the Screenlight electric head lamp shown above. A neat focussing device and an air and moisture-tight interior are commendable features.

A LIGHTWEIGHT HORN.

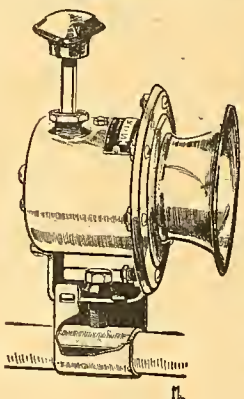


A small edition of a well-known horn, the Dekla No. 14, which is specially made for lightweights, by Clayton-Wright Bros., 167, Hampton Street, Birmingham.

FOR GRINDING VALVES.



Ewart's valve-grinding tool. The "plug" portion screws into the sparking plug hole, while the centre distances may be varied to suit different engines. F. C. Ewart, 117, Wainwright St., Aston, Birmingham, is the maker.

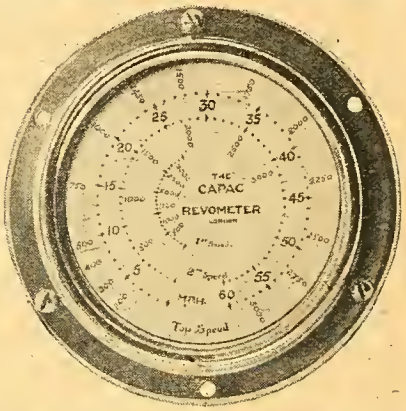


AN IMPROVED HORN CLIP.

An improvement in the original mechanical horn (the Klaxon, made by the Klaxon Co., Ltd., 38-40, Blandford Street, Baker Street, London, W.1), a very neat one-bolt top tube clip.

Calculating Engine "Revs."

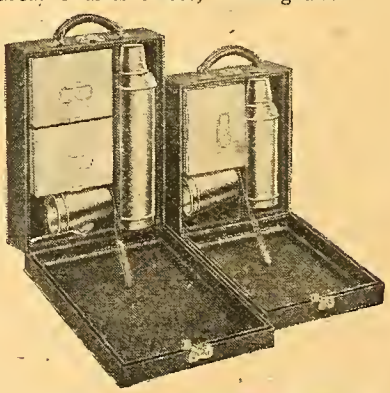
WERE every motor cyclist equipped with the Capac Revometer there would probably be fewer examples of bad driving to shock the eyes (and ears) of the mechanically-minded. This little gadget (no other word adequately describes it) consists of a graded scale, giving in figures the corresponding r.p.m. of the engine on the various gears at each speed as recorded by speedometer. Each dial is specially graduated to suit the gear ratios of the machine, and it may be obtained either as illustrated or with a special handle-bar clip. As the name indicates, this device is made by Capac, Ltd., of 2, Woodstock Street, Oxford Street, London, W., the manufacturers of the Capac automatic carburetter.



Just how fast the engine is turning over may now be found out at two glances—one at the speedometer and the other at the Capac revometer (above).

Picnic Case.

THESE neat cases, which contain flask and metal cases for sandwiches, will appeal both to the solo rider and sidecarist. Everyone who has carried Thermos flasks on a motor cycle knows how liable they are to crack if packed carelessly, and these cases, which prevent undue shaking, will in the long run prove an excellent investment. They are sold by Messrs. J. B. Brooks and Co., Ltd., Great Charles Street, Birmingham.



Picnic cases, containing flask and sandwich box, that have been specially designed for the motor cyclist by Messrs. J. B. Brooks and Co., Ltd., Birmingham.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

CHAIN LUBRICATION.

Sir,—Mr. Haselgrove invites the opinions of your readers on his lubrication device.

I would venture to suggest that some means of adjusting the revolving brush might in time be found necessary. As it is at present there is no way of doing this. It would be quite a simple matter to arrange it so that the brush could be raised or lowered, in order to get the right bearing on the chain; this would have to be done periodically, as the bristles would wear down and no longer touch the chain, and thus the brush would lie idle. H.S.P.

Osborne.

MOUNTS FOR DISABLED SOLO RIDERS.

Sir,—"Maimed" (Coatbridge) wishes to get in touch with a one-armed solo driver.

I lost my left arm in France (a high amputation), and I ride a 3½ h.p. solo Triumph, through all traffic; also on the "Prom." (at Southport) when it is packed with cars and carriages. The machine has never been arranged to suit my convenience.

I am confident that I can drive any make, and I am now about to purchase a 7-9 h.p. Indian. I control speed by the throttle, and I do not use footboards. Incidentally I can repair a puncture without any help. My last word to the one-armed is, "Be independent and have no fear."

J. MURRAY.

RETAINING OIL ON THE MAGNETO CHAIN.

Sir,—Referring to Mr. J. L. Willoughby's enquiry concerning noise caused by the magneto chain on the 1920 Villiers engine, I may say that I had the same trouble with a 2½ h.p. Villiers-engined Sparkbrook I owned last year.

I soon cured this annoying rattle, but not just by oiling about every 500 miles. I used to fill the whole of the magneto chain case with raw vaseline, and this proved a very effective chain silencer as well as lubricator. No doubt any other grease would prove equally satisfactory, graphite especially so.

I carry out the same process with my present machine—a 3½ h.p. P. and M.—and it is just as efficient as on the Villiers engine; in fact, the chain is scarcely audible even with one's ear close up to the case. T 9095.

Cullompton.

DAMAGE TO ROADS—A DEFENCE OF THE TRACTION ENGINE.

Sir,—On page 697 of *The Motor Cycle* there appear two photographs with a certain amount of print beneath them to which we take exception. We have driven traction engines for twelve and five years respectively; and also having had some little experience in driving and riding motor cars and cycles we feel we are capable of looking from several points of view at the statement, "Why private motorists are heavily taxed." Your correspondent's explanation is silly. We venture the suggestion that if in the future he feels tempted to spill ink he should think first, and then—think again. Two questions we would like to ask him, among others, are:

Why are there no tracks of engines or vans in the first photograph?

Are there no police in Stafford, and, if there are, would he kindly inform us if the crew who were with the engine he mentions have served their sentence out yet? Having been keen readers of *The Motor Cycle* for the last three years, we feel it would be unfair to you as Editor and to traction engine owners and users to let the statement pass without comment.

L. W. BARNETT.
J. S. BARNETT.

WANTED, AN ULTRA-NARROW SIDECAR.

Sir,—I want a sidecar outfit which will pass through a passage 53in. wide—not less than 4 h.p. chain drive Triumph preferred, but not essential.

I shall be very glad if any of your readers can give me some advice on this, as I know nothing of motors. I have measured several machines; none were less than 57in. wide over all. A.C.C.

London, S.E.18.

SPEEDMEN INVITED TO IRELAND

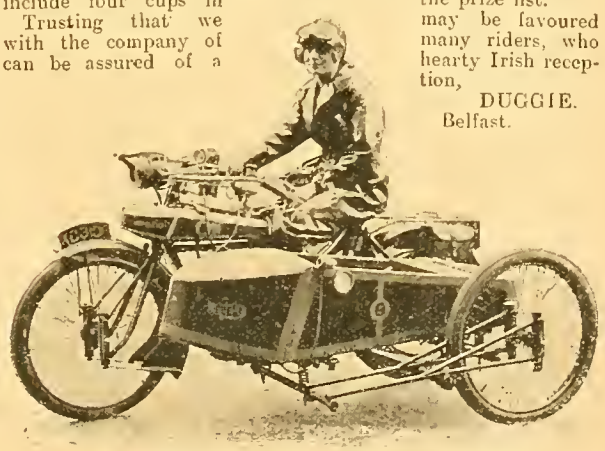
Sir,—As a member of the Ulster Motor Cycle Club, I often wonder why more of the speedmen on your side of the water do not pay us a visit. Ireland is a pretty place, and the motor cyclists here are hard to beat as good all-round sportsmen.

Visitors should have no fear of the troubles, which are much magnified by some newspapers. Of course, I am only referring to our northern corner. We ourselves, though troubled considerably by permits, etc., have our spare time fully filled by hill-climbs and speed and reliability trials.

I would particularly invite your *fastest* men to visit our Magilligan speed trials on July 15th and 16th. Magilligan lies on the coast about sixty miles north of Belfast, and is a fine, hard stretch of sand some eight miles long, and a great place for speeding. Last year we had the pleasure of George Dance's company, and I am sure he will agree with what I say. This year's two-day meeting will, I believe, include four cups in the prize list.

Trusting that we may be favoured with the company of many riders, who can be assured of a hearty Irish reception,

DUGGIE.
Belfast.



PRESERVING A DISTINCTIVE CONTOUR.

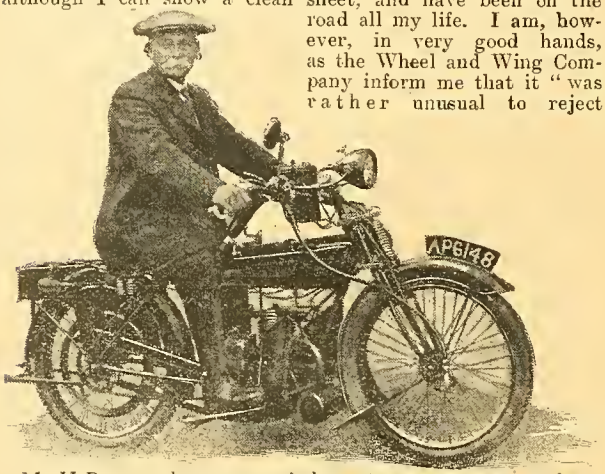
This idea of designing the sidecar body to conform with the contour and colour scheme of the tank would not pan out at all so nicely on many machines as it does in this instance. The outfit—a Wooler—was snapped recently in Richmond Park. It will be noted that the sidecar wheel is sprung in the same manner as the bicycle.

ATTRACTING THE MAN AHEAD.

Sir,—Might I suggest that a new motor signal be devised for communicating with riders ahead? On several occasions recently I have observed small articles, such as straps, rear lamps, etc., fall from motor cycles, and as I drive a sidecar with a fairly heavy load my only method of informing the riders of the fact has been to "blind" until they were overtaken and told. Unfortunately the invariable result of sounding one's horn in such cases is the rapid disappearance of the solo rider in a cloud of dust! Last week I saw a rear lamp fall from a motor cycle at 9 p.m. The rider had every appearance of being on a long journey, but on my "bellowing" with my Klaxon he streaked off as though chased by Satan. When he came to light up he and his lamp would be miles apart. GEORGE ALDERSON.

IS THERE AN AGE LIMIT?

Sir,—Owing to my age (68), both the A.A. and the A.C.U. have refused my insurance, and, of course, membership, although I can show a clean sheet, and have been on the road all my life. I am, however, in very good hands, as the Wheel and Wing Company inform me that it "was rather unusual to reject



Mr. H. Bourne, whose comparatively youthful appearance somewhat belies his sixty-eight years, explains the cause in his letter.

an insurance on the grounds of age." This company took me on at once and most kindly sent me a covering note even before I had sent them any money! I enclose a photograph in order that you can see for yourself that I am pretty fit and quite active for a man of my years. I might add that I thought it my duty to give up riding during the war. HENRY BOURNE.

ELECTRICAL PHENOMENON.

Sir,—With reference to the correspondence in your columns concerning the effect of coiling the high-tension cable, I hope to show that the effect on the spark is negligible.

The resistance of the coiled lead, assuming that all the factors have a maximum value, will be given by the formula $E = 2\pi f c L$.

When E = EMF of self-induction, opposing the spark EMF.
f = frequency of circuit.
L = coefficient of self-induction of the coiled lead.

Then $E = 2\pi \times \frac{4,000}{60} \times .001 \times .005.$

$\therefore E = 6.282 \times 66.66 \times .000005.$

$\therefore E = .00204$ volt.

In the above, the frequency per second I have taken as $\frac{4,000}{60}$ (r.p.m. of engine divided by 60).

The current is so minute that to approximate to it I divided the watts in the primary by the approximate voltage in the secondary $= \frac{10}{10,000} = .001$, which, of course, is much on the large side.

The coefficient of self-induction of the coil has been taken as .005, although it could not possibly be as high as this. Result, the opposing EMF will be less than .002 volt from the, say, 10,000 volts of the high-tension circuit, as they are not necessarily in phase. For a twin-cylinder engine the result may possibly be taken as doubled; but, in any case, I think this proves that the coiling of the lead is insignificant unless the turns run into thousands and the factor .005 in the formula is increased somewhat. CONN ROD.

Newcastle.

Sir,—In reply to the letter from Mr. F. E. Schofield in your issue of June 9th, we note that coiling the high-tension cable twenty times round an iron core did not affect the firing of his motor cycle engine. Mr. Schofield does not say whether the iron core was insulated or connected to the frame of his motor cycle. The core being "earthed," as in the original experiment described by Mr. N. W. Benley, would increase the resistance to the spark as compared to a similar arrangement of wires but with the metal core insulated.

Of course, even if the wiring were precisely the same as in the original experiment, it is quite possible that no misfiring might be experienced, because the low speed output from different makes of magnetos varies considerably.

LODGE PLUGS, LTD.

FROM THE MECHANICAL ENGINEER'S POINT OF VIEW.

Sir,—I should like to say a few words in reply to "Draughtsman's" rather scathing letter in your issue of June 2nd. As a motor cyclist of nineteen years' experience, and also a qualified mechanical engineer, I have no hesitation in saying that the majority of present-day designers of motor cycles are just as efficient at their job as are designers in any other branch of engineering. Unfortunately, their "style is cramped," so to speak, by the lack of even very elementary technical knowledge possessed by the majority of present-day motor cyclists. Sad, but true! The old hub ball race has, after twenty years of continual ill-use and neglect, proved reasonably efficient, and very simple. Hence its retention. If "Draughtsman" can design a bearing more efficient and equally simple, why does he not do so, and make his fortune?

As regards "Draughtsman's" remarks about transmission, I would point out to him that it was, and still is, a common occurrence to see cars with broken propeller-shafts and stripped driving or crown pinions. When a car does this it is a serious matter, but when a bicycle breaks a chain it is a ten minutes' job. He has, of course, omitted the comparison of power to weight ratios.

I heartily agree, as I think most experienced motor cyclists will, that motor cycles have still a long way to go, but I would remind "Draughtsman" that the best way to effect this is not by destructive criticism, so often born of ignorance, but by solid work. His remark about two-strokes shows an ignorance of this "breed" of cycle which does not do him credit.

I have no connection with any branch of the motor trade.

St. Andrews. AILERON.

Sir,—Your correspondent "Draughtsman" should be encouraged. His suggestions as to the correct manner of designing a motor cycle, and also how to "improve the breed," are truly remarkable, and no doubt our manufacturers will sit up and take notice.

It is a matter of serious moment if our eminent designers are incapable of designing a hub suitable for carrying journal ball bearings—but we feel quite happy, knowing full well that such is not the case.

"Draughtsman" should note that in the common cup and cone hub, the cups are pushed into the shell in the same manner as a journal ball race would be, the super-technical skill would appear to be quite unnecessary to design a journal hub when one bears in mind that some makes of hub can be stripped of their cups, and these may at once be replaced with journal bearings.

It is simply a matter of finding a ball race of the same outside diameter as the hub shell, and having fitted the race's hub trouble ends.

We take this opportunity of informing your correspondent and any others who may be interested that we make a speciality of fitting existing cup and cone systems with self-aligning ball races, and our efforts have been attended with complete success in every case of conversion.

THE PELICAN ENGINEERING CO.

'WARE MOTOR CYCLE THIEVES.

Sir,—May I, as a victim, warn your readers against the alarming increase in daring motor cycle robberies in London? The theft of machines is rapidly being developed into a fine art.

During the afternoon of Derby Day my 4 h.p. Triumph (late 1918, clutch and kick-starter, engine number 58146 E.T.H., frame number 287204) was left by a mechanic for a few minutes in an enclosure in front of Sell's Garage in Rosendale Road, West Dulwich, and when he returned it had vanished.

When the machine was taken the oil feed pipe had been removed for repair, so that before the person had ridden a mile his boots would be smothered in oil forced out of the engine, and he would in consequence be very conspicuous, especially to those who saw him finish his ride.

I should be very grateful to any fellow motor cyclist who can give me any information which may help in the recovery of the machine. My gratitude would take the form of a substantial reward. W. J. RIX.

[Any information will be forwarded by us to our correspondent.—ED.]

AIR-COOLING AND OIL-COOLING.

Sir,—Mr. Bradshaw's article was most instructive and interesting; but perhaps he, or someone else, will answer the problem as it appears to me.

If an engine is to be thoroughly reliable under all conditions, it must be able to withstand hard usage under the severest conditions of all. These I take to be a stiff hill, which makes low gear absolutely necessary, a light following and hot breeze of about the same speed as the machine, and the hottest of hot days.

If the hill is long, the water-cooled engine would boil its water away, unless a very powerful fan was used. The air-cooled engine would depend on radiation and pure convection currents of the air as set up by the heat; unless again a sufficiently powerful fan was used. My question is, "Can the air-cooled engine be so designed to keep sufficiently cool under these conditions without a fan?" Probably vertical fins would be more useful in this case.

The oil-cooled engine also depends upon the air for keeping the oil cool; would this fare any better under such conditions? R.E.C.

Ilfracombe.

THE CHAIN DRIVE TRIUMPH ON THE ROAD.

Sir,—Your article on this machine was most interesting, but I do not think the writer was either kind or unkind enough. May I mention the following points:

CHAIN DRIVE.—The spring drive is delightful. The more one rides the machine the greater becomes one's appreciation. It is sweeter than a belt drive.

FRONT CHAIN CASE.—This is the only chain case I have ever had which does not let dirt in. The oil is perfectly clean, and just as poured out of the can.

GEAR BOX.—I am very sore about this. It is impossible *(a)* to change down without lifting the exhaust, *(b)* to change into neutral from any gear without stopping the engine when the machine is stationary. The idea of using the exhaust to change down is hopeless. One wants to accelerate the engine—not slow it. (I must explain that one cannot get a neutral position, between top and second; or, of course, changing could be done very well on the exhaust *à la* Douglas method.) It is extraordinary that a firm of such eminence should produce such an arrangement.

DECOMPRESSOR.—Mine only works occasionally, but my real grumble is that oil creeps down the small toe-operated lever and ruins one's shoes. The decompressor has to be taken to pieces to remove the timing cover. There is no tool (I believe) provided for this job. A special one is necessary. If firms persist in using quaint screwheads they should at least provide the wherewithal to manipulate them.

Whilst speaking of tools, I think one of the best remarks ever made appears in the A.B.C. instruction book. "An adjustable spanner is an emergency tool." Most motor cycle manufacturers provide *set* spanners (if any), which should certainly be used in a very serious emergency only, and then only with great care! One belonging to my 'bus would make an excellent jigsaw puzzle if cut into quite a few pieces.

FOOT BRAKE.—This is excellent, but the operating lever is most inconveniently placed, and, in spite of footrest adjustment, fouls one's leg. This is very unpleasant on bad roads (the adjective is hardly necessary), also one's foot is very liable to slip off the lever, which is much too small.

INLET VALVE.—I cannot remove mine without shifting the gear quadrant or cylinder.

VALVE GEAR.—This is terribly noisy.

GEAR RATIO.—I use my machine solo, and was very surprised to find that I could not get a higher top ratio than $4\frac{3}{4}$ to 1. This is too low for comfort.

PETROL.—As delivered, the 'bus did about 90 m.p.g. I have knocked the jet up and get 125 m.p.g. regularly at an average speed of 30 m.p.h. The tank is too small—"as it was in the beginning," I suppose!

PETROL INJECTING TAP.—This remains free for 200 miles. The bore is too small. An excellent stunt for boring out the carbon is to open out a split pin and use it as a "D" drill. I over-oil habitually.

SPEED.—I have yet to find a road on which I can let the engine out. On my small jet it has done 49 m.p.h. per Bonniksen, and had something in hand. I expect many of your readers will laugh at this, but not those who do most of their riding in Staffordshire.

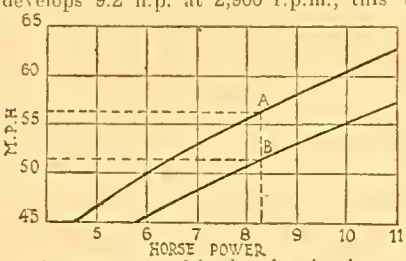
In conclusion, I wish to say that I have the very greatest respect for the Triumph Company's products. I always return to a Triumph after becoming "fed up" with working in the garage.

The firm has kindly promised to alter my gear box when I can spare the machine. C. H. STEPHENSON.

MAXIMUM SPEED OF THE ALL-CHAIN TRIUMPH.

Sir,—In your issue of the 26th ult., Mr. Clifford Atcherley disputes your contributor's statements in regard to the speed of the 4 h.p. Triumph. A good deal might be written on both sides of the question, but from basic facts there is no getting away.

According to recent tests, the *standard* Triumph engine develops 9.2 h.p. at 2,900 r.p.m., this being the peak of the curve (a comparatively low speed at which to develop maximum power).



In these curves speed is plotted against horse-power. "A" only applies where wind resistance is reduced to a minimum.

Now, in the accompanying curves, speed is plotted against horse-power. The curve A applies only when low bars are used and the rider is crouching low over them; curve B is for the ordinary touring position.

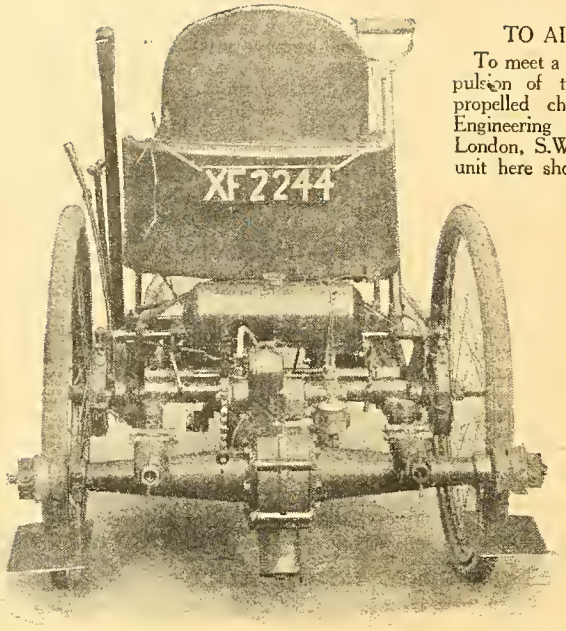
Now, allowing an efficiency of 90% for the Triumph transmission (a generous figure), we have 8.28 (say 8.3) h.p. available at the back wheel. This in the case of curve A gives us about 56.5 m.p.h., not more (probably less in practice, owing to the perfect surface on which the experiments, to build the formula, were conducted).

In the case of curve B 51.5 m.p.h. would be a liberal estimate of the speed. From this it will be seen that under the most favourable conditions, with the engine in tip-top condition and tune, a standard Triumph has a maximum speed of between 51.5 and 56.5 m.p.h. Shall we take the mean 54 m.p.h.? Then the necessary gear ratio with a 28in. wheel is slightly over 4.5 to 1.

Let us see how this is borne out in practice. In the inter-'Varsity trials (held a short while ago at Harling Common), 750 c.c. class, 4 h.p. Triumphs took first, second, and third places, and their speeds were 63.54 m.p.h., 53.5 m.p.h., and 53.0 m.p.h. respectively. The machine gaining first place was, I suggest, not standard in *every* respect. (Perhaps Mr. C. Moser will correct me if I am wrong?) The speeds of the second and third machines are very close to the average of our maximum speeds obtained from the curves, and they were, I suggest, standard machines in very good tune.

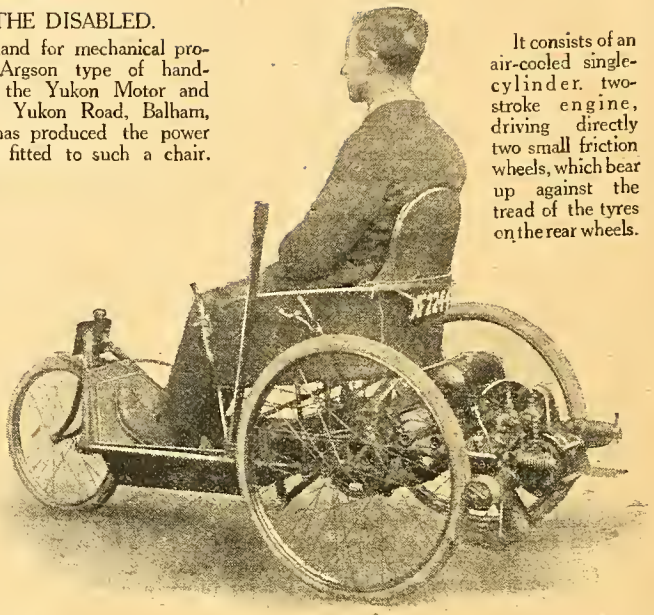
Seeing this, I think we may safely assume that very few standard Triumphs on the road can exceed 50 m.p.h.

What curves and formulæ I have used are those used by Mr. D. S. Heather, B.Sc., A.M.I.A.E., one of the most prominent of our designers, and are consequently indisputable. L. W. G. HARTLEY.



TO AID THE DISABLED.

To meet a demand for mechanical propulsion of the Argson type of hand-propelled chair, the Yukon Motor and Engineering Co., Yukon Road, Balham, London, S.W., has produced the power unit here shown fitted to such a chair.



It consists of an air-cooled single-cylinder, two-stroke engine, driving directly two small friction wheels, which bear up against the tread of the tyres on the rear wheels.

RETAINING OIL ON THE MAGNETO CHAIN.

Sir,—May I state that for some time I was troubled by this complaint (chain rattle), which marred an otherwise perfect machine.

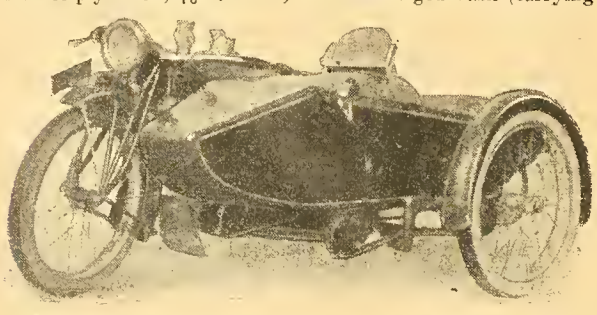
Like "J.L.W.," I tightened up the chain, but the result was failure, as the rattle was converted into a bad mechanical click. Taking off the cover, I found the edges of the chain links covered with aluminium dust, and on looking at the casing found the chain had ploughed a deep groove in the pieces projecting inwards on which "Villiers" is cast. On filing off this groove the rattle disappeared, and the machine runs perfectly. This is the only fault I have found, and the makers might remedy this by fixing a cover with more clearance and without the inward projections.

As regards the chains running dry, if Mr. Willoughby will take off both magneto and driving chains and clean them well in paraffin, and get some mutton fat and melt it in an old tin and then "fry" the chains in it for a few minutes, rubbing off the fat when cold, I think his chain troubles will be ended. I never use grease on the outside of my chains, only applying the above method from time to time, and I have no chain troubles at all. BC 3559.

Leicester.

HOME-MADE SIDECARS.

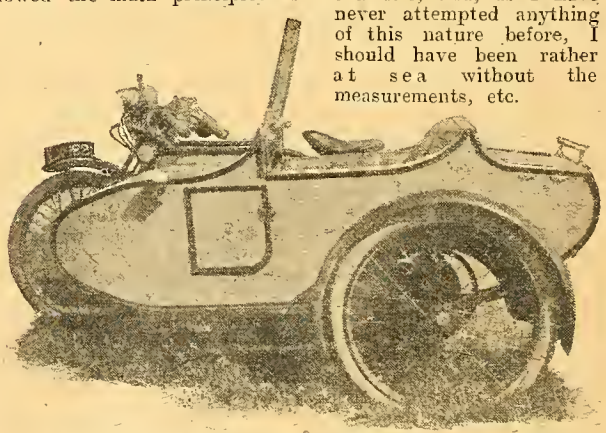
Sir,—I enclose herewith photographs of my 7-9 h.p. Indian and sidecar with which I obtained the prize for the smartest and best equipped motor cycle in the Glasgow Western M.C.C.'s opening social run. The sidecar is entirely home-made. The framework is constructed of 1×1in. ash to suit the Millford Indian sidecar chassis. The panelling consists of three-ply wood, $\frac{1}{16}$in. thick, and the hinged dash (carrying the aeroplane windscreen and dash lamp and switch) is also of the above materials. The locker on the rear has a framework of 1×1in., and is covered with three-ply $\frac{1}{4}$in. thick, with three corrugated rubber strips for luggage. The seat is on the floor, which is $\frac{3}{8}$in. thick, and carries a large cushion. The back is padded, as also are the sides and arm rests, and all are covered with green American cloth. The locker is fitted with a lock and has ample accommodation for spare tube, repair outfits, spare set of chains, pump, half-gallon tin of oil, and tool rolls, etc. The weight is about half that of the standard Indian body. G. HOPE WILSON.



This sidecar, the body of which was made entirely at home by its owner, Mr. G. Hope Wilson, obtained the prize for the smartest and best equipped outfit in the opening run of the Glasgow Western M.C.C.

Sir,—I am enclosing photographs of a sidecar body made by myself from the instructions in an article on "How to Make a Sidecar Body," which appeared in *The Motor Cycle* some months ago.

Although I have not emulated the design exactly, I followed the main principles in the article, and, as I have never attempted anything of this nature before, I should have been rather at sea without the measurements, etc.



Mr. J. R. Woods, whose letter appears on this page, made this handsome sidecar body himself, helped by an article in *The Motor Cycle* some months ago on this subject.

I found the hints on lining particularly useful, and I was able to line the body in Triumph colours without trouble.

The windscreen is a piece of plate glass mounted in the frame of a small aero windscreen, cut in two, and the rail at the back is a towel rail which cost a shilling. Another shilling bought the transfer monogram which is on the door.

Including all fittings, and upholstered in Rexine, the cost was roughly £5. Also it has been a very pleasant occupation during the winter evenings. J. R. WOODS.

T. T.

LAP RECORD SMASHED

by F. G. Edmond on the "Triumph,"

fitted with

LODGE

PLUGS

in 40 mins. 8 secs.

Average speed 56·4 miles per hour.

This is the fastest lap ever done in the island, and beats the previous record by more than ten minutes.



Everybody cannot win a Tourist's Trophy, but it is within the means of every motor cyclist to have a "tourist trophy" of his own in a SHEFFIELD HENDERSON Motor Cycle Combination.

A high-grade machine, plenty of power with the world famous HENDERSON SIDECAR, luxurious and efficient—all at **£150 : 0 : 0** ready for the road—is an offer which must tempt every motor cycling enthusiast.

Think of the thousands of miles of care-free running! Think of the low petrol consumption! Think of the power on hills and then ask yourself whether you can get similar efficiency, similar comfort and similar power for anything like the figure.

Ask your local dealer for full particulars and if he cannot supply them, write direct to us and we shall be happy to put you in touch with the Sheffield Henderson Agent nearest you.

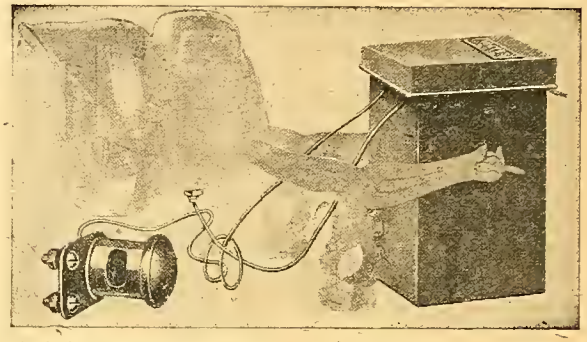
HENDERSON MOTORS, Ltd.,

Aero Works,

73, Fitzwilliam Street, SHEFFIELD.

Having a surplus stock of disc wheels we are willing to supply same at the price of one guinea per set. When ordering please state size of sidecar wheel.

ELECTRIC LIGHTING FOR EVERY MOTOR CYCLIST.



ACCUMULATOR CONVERSION SET PRICE £2 Post Free

DESCRIPTION—A strong metal box with hinged lid and well-made switch that fits on the existing acetylene head lamp bracket. The box contains a 4-volt accumulator capable of lighting head and tail lamps for eight hours continuously with one charge. A specially designed adaptor fitted with bayonet cap lamp replaces the acetylene burner in head lamp. A complete tail lamp is supplied together with screws for fixing it to the back number plate. Both lamps are fitted with suitable lengths of flexible connecting wire for connecting up to the battery box. No additional cost above the £2 0 0 is required to install the set in working order. The following list of standard acetylene lighting sets will give an idea of the type of brackets suitable for holding the battery box.

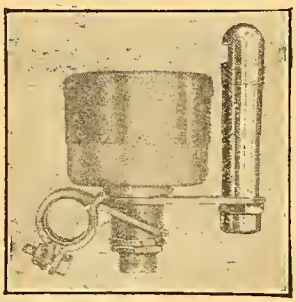
Powell & Hanmer lamp Nos. 127H.B., 127S.B., 128H.B., 12S.B., 125H.B., 140H.B. Miller Lamp Nos. 29H., 31H., 24S., 22H., Lucas Lamp Nos. 462, 341, 331. **TRADE ENQUIRIES INVITED.**

WATES BROS., 132, Charing Cross Rd., W.C.2.

'Phone: Gerrard. 576.

COWEY

Speedometer Lamp



A neat attachment, by which a rider at night can read both speed and mileage—the latter being essential for regulating the oil supply to the engine. It is operated by merely pressing the top—the dry battery is self-contained, and can be easily removed for replacement.

By simply twisting the top, the front portion of the lamp can also be used for reading the time, should a watch be fixed near the speedometer.

Supplied in Nickel or Black - Price 20/-

Spare dry batteries, 1/6 each including postage.

The lamp is beautifully finished, and the effect of the combination is very striking.

COWEY ENGINEERING CO., LTD.

ARCHER WORKS, KEW GARDENS, SURREY

Telephone: Richmond 447 & 468. Telegrams: "Cowey, Kew Gardens."

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects. ROUTES.—By special arrangement with the Automobile Association and Motor Union, readers of "The Motor Cycle" desiring routes may enjoy the benefit of the Road Service Department of that organisation. Queries should be addressed to the Editor in the ordinary way (enclosing a 2d. stamp), and will be dealt with by the A.A. and M.U., who are regularly in receipt of reports from their representatives all over the country as to the existing state of the roads in any particular locality.

COST OF RUNNING SINGLE OR TWIN.

[?] What are the proportionate running costs between a 6 h.p. twin and 4¼ h.p. single?—A.L.G.

There is probably no appreciable difference in the running cost of the two types of machine mentioned; the actual economy of the single-cylinder engine is possibly counterbalanced by the saving of tyres and transmission resulting upon the smooth torque of the twin.

WELDING FRAME LUGS.

[?] I find that there is a small fracture in the head lug stamping of my 1916 Royal Ruby cycle (which I obtained second-hand). The crack does not extend right into the tube, but the break appears to have been partly mended by a "liner" inserted in the down tube of the frame. What I want to know is, could this fracture be satisfactorily mended by oxy-acetylene welding, or should I get a new frame from the makers?—H.E.F.

Acetylene welding is not usually satisfactory on motor cycle frame lugs, which are generally malleable castings. If the head lug of your machine, however, is a steel stamping, it will be quite possible to have it repaired by this method; otherwise, we would advise you to return the frame to the makers, as they could fit a new lug.

SIDECAR AXLES.

[?] Is a sidecar with the enclosed type of wheel safer than the open wheel? I am purchasing a 6 h.p. machine, and the sidecar supplied by the makers is an open wheel. The sidecar attached to my present machine (4¼ h.p. B.S.A.) has an enclosed wheel, which seems to me to be less liable to accidents. Is the risk sufficient to justify the purchase of another make of sidecar with an enclosed wheel rather than the sidecar supplied by the makers without?—A.L.G.

Presumably by "enclosed type of sidecar wheel" you mean a wheel supported on the outer end of the spindle by an encircling portion of the chassis. Certainly this type of sidecar has decided advantages in the way of safety and strength, but the usual pattern with the wheel spindle supported only at one side is quite satisfactory, and there is no reason why you should refuse the sidecar so designed.

CORRECTING BALANCE.

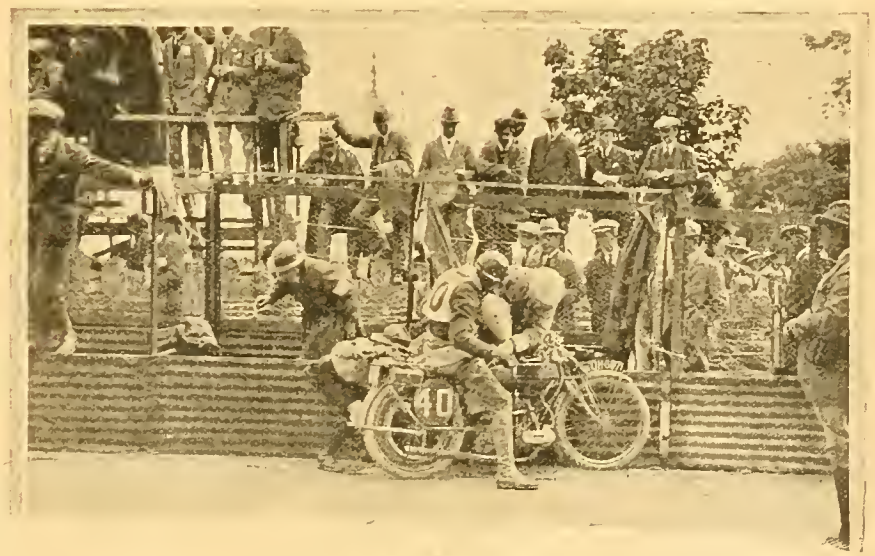
[?] My machine is a 1914 Blackburne, and a short while ago I fitted a new piston and connecting rod, which was much lighter than the makers' old one. At any speed over twenty miles per hour there is a good deal of vibration, caused, I suppose, by the engine balance being upset. Will you advise me how to re-balance it? (1.) Could I drill the balance weights? If so, should I have to lighten them the difference between the old and new piston? (2.) Is it possible to weight the new piston up to the weight of the old one?—W.H.S.

(1.) You will have to take out approximately half the difference between the weights of the new and old reciprocating parts. (2.) It is not advisable to attempt to add weights to the piston.

GEAR CHANGING METHODS.

[?] I have just purchased a 4 h.p. motor cycle, fitted with Sturmey-Archer three-speed countershaft gear box, clutch, and kick-starter. (1.) What is the correct method of changing gear, *i.e.*, whether by use of clutch or exhaust valve lifter? Some motor cyclists advise me to use the latter, as it saves unnecessary wear of the clutch plates. (2.) Should one accelerate when changing up from low to middle or top gear, and *vice versa* when changing down? (3.) Is it advisable to pull straight through from low to top?—R.J.P.

(1.) It is really immaterial which method you use; our own preference with this type of gear box is to change up on the exhaust lifter, as a very quick change can be made. When changing down it is not necessary either to release the clutch or raise the exhaust: merely throttle down slightly, and move the gear lever smartly to the next lower position, but a smoother change down may be made on the clutch, especially on a greasy surface. (2.) Accelerate the machine when changing from low to middle and from middle to top, but do not allow the engine to race unnecessarily. When changing down, reduce the engine speed somewhat as soon as the lower gear is engaged, unless you are climbing a steep hill. (3.) It is not advisable to change directly from low to top: indeed, this should never be done except in exceptional circumstances.



IN THE JUNIOR T.T.

At the replenishment depot—where often races are lost or won—Jack Holroyd (2¾ Massey-Arran) is amazed at how slowly the petrol runs through such a large funnel! 'ust what the Boy Scout is so busy at is rather a mystery.

OVERHAULED MACHINE WILL NOT PULL

An old type 3½ h.p. motor cycle, the cylinder of which I have had bored and new piston rings fitted. It has the latest type carburetter, with a No. 33 jet and a C.A.V. magneto which is running at engine speed. The valves and magneto are timed correctly, and the engine has very good compression, but it will not pull up a small hill, although I can get good speed on the level. Can you explain the cause of this lack of power?—H.C.N.

The details you give are very vague and quite insufficient to enable a complete diagnosis to be made. It is quite possible that the ignition timing is too far advanced; in any case, it may be necessary to retard when hill-climbing. As a new piston has been fitted into the rebored cylinder the parts may not be properly run in, and no doubt the power will improve after the machine has covered from 300 to 500 miles.

EXPERIENCES WANTED.

"J.K." (Stockport).—10 h.p. Morgan-M.A.G.: Maximum m.p.g., flexibility, and most suitable carburetter.

"A.J.C.F." (Littlehampton).—Coventry Premier runabout: Speed on hills compared with powerful sidecar outfit, accessibility of rear wheel, cooling on hilly roads, general maintenance.

READERS' REPLIES.

AN OBSOLETE MODEL.

Your correspondent, "B.S.," in the issue of June 2nd, who is asking where he can obtain a connecting rod for his 3½ h.p. Minerva, might be interested to know that the Ellenborough Engineering Works at Ellenborough Road, Wood Green, London, N., make and stock anything in cast iron for Minervas, so possibly he would be able to obtain what he wants from them.—W. F. KING.

RECOMMENDED ROUTES.

LIVERPOOL TO NEWCASTLE-ON-TYNE.—R.E.C.

Liverpool, Maghull, Ormskirk, Burscough Bridge, Rufford, Tarleton, Longton, Preston, Mellor Brook, Whalley, Clitheroe, Gisburn, Skipton, Bolton Bridge, Blubberhouses, Killinghall, Ripley, Ripon, Leeming, Catterick, Scotch Corner, Darlington, Aycliffe, Ferryhill, Durham, Chester-le-Street, Newcastle-on-Tyne. Approximately 161½ miles.

HEATHFIELD TO OXFORD.—W.T.F.

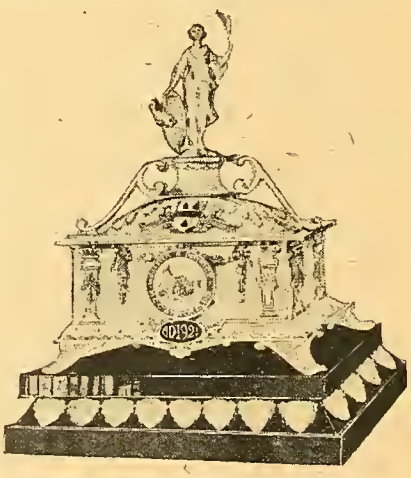
Heathfield, Maresfield, East Grinstead, Blindley Heath, Bletchingley, Redhill, Reigate, Burgh Heath, Ewell, Surbiton, Kingston-on-Thames, Hampton Court, Hampton, Sunbury Common, Staines, Windsor, Eton, (edge of) Slough, Salthill, Maidenhead, Henley, Nettlebed, Benson, Shillingford, Dorchester, Nuneham Courtenay, Littlemore, Oxford. Approximately 103 miles.

MUSWELL HILL TO EVESHAM.—H.W.

Muswell Hill, Barnet, St. Albans, St. Michael's Church, Leverstock Green, Boxmoor Church, Berkhampsted, Northchurch, Tring, Aston Clinton, Aylesbury, Hartwell, Stone, Thame, Wheatley, Oxford, Woodstock, Chipping Norton, Moreton-in-Marsh, Bourton-on-the-Hill, Blockley, Broad Campden, Chipping Campden, Aston-sub-Edge, Weston-sub-Edge, Willersey, Broadway, Evesham. Approximately 104 miles.

Important Dates.

- Sat., June 25th—M.C.C. Inter-team Trial for "The Motor Cycle" Cup.
- Fri., July 1st, and Sat., July 2nd—Arbuthnot Trophy Trial.
- Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.
- Sat. July 2nd—500 Mile Race at Brooklands for the Miller Gold Cup.
- Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials.
- Sat., July 9th—St. Andrews Speed Trials
- Sat., July 9th—Cardiff M.C.C. and associated clubs Open Hill Climb.
- Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.
- Sat., July 16th—Ilkley M.C. and L.C.C. Open Reliability Trial.
- Sat., July 23rd—East Midland Centre A.C.U. Open Speed Trials.
- Sun., July 24th—Motor Cycle Grand Prix Race in France.
- Sat., July 30th—Newcastle and District M.C. Open Speed Trials.
- Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.
- Sat., Aug. 6th—B.M.C.R.C. Open Brooklands Meeting.
- Sat. Aug. 6th—North Wales M.C.C. Open Reliability Trial.
- Fri. Aug. 12th—Motor Cycle Grand Prix in Belgium.
- Sat., Aug. 13th—Cumberland M.C.C. Open Reliability Trial.
- Sat., Aug. 20th—Western Centre A.C.U. Open Speed Trials.
- Thurs. Aug. 25th—Ystalyfera and Carmarthen M.C.C. Open Speed Trials.
- Mon., Aug. 29th, to Sat., Sept. 3rd—A.C.U. Six Days Trial.
- Sat., Sept. 17th—Grand Prix Race for Cycle Cars.
- Fri., Sept. 23rd, to Tues., Sept. 27th—Anglo-Dutch Reliability Trial.



The design for the Worcester and District M.C.C. and Worcester M.C.'s Championship Trophy, for which members of both clubs will be equally eligible. The club champion will hold the trophy for one year, and gain a replica, which he will retain.

SPARKLETS

Leather Belts.

Those who retain a preference for leather belting will be interested to know that the sole agency for the Scellos belt, a French production, and very popular in that country, is held by Arthur Dinham, 20, Hamlet Street, Blackburn.

Martinsyde Developments.

A new programme for the production of the 8 h.p. Martinsyde sidecar outfits is now arranged, and 1921 models are available for immediate delivery; the 3½ h.p. sporting model is nearing the end of its experimental tests, and it will be produced in the near future.

Work for the Disabled.

Most motor cyclists are familiar with the Robbialac display stands exhibited in agents' windows, and it is pleasing to learn that these are produced in the Lord Roberts Memorial Workshops for Disabled Soldiers and Sailors.

Dot Price Reductions.

An all-round price reduction of Dot machines took force from the beginning of this month. The 8 h.p. Dot-Jap sidecar outfit is now £185 (formerly £200), while the 2¾ h.p. solo model with two-speed gear and kick-starter is reduced from £89 5s. to £80.

Catalogues Received.

James Grose, Ltd., 4, Old Jewry, Cheapside, London, E.C.: To the rider with a mechanical turn of mind, and fond of effecting adjustments and adding fitments to his machine, no more attractive catalogue can be imagined than the accessories list published by this house. It is packed with descriptions of parts, accessories, and tools, most of them moderately priced.

Dekla, Ltd., Dekla House, 168, Hampton Street, Birmingham: A small list, including various models of Dekla horns and the Handy inexhaustible flash lamp.

Rudge-Whitworth, Ltd., Coventry: Both pedal cycles and motor cycles are listed together in the new Rudge catalogue, which contains illustrations and specifications of all the leading models.

Royal Ruby Cycle Co., Ltd., Altrincham: One of the most complete and best illustrated catalogues we have yet seen. The line drawings of the interesting features—many reproduced previously in *The Motor Cycle*—should be especially valuable, as they help the rider to understand his machine and to effect such adjustments as may be required from time to time.

Humber, Ltd., Coventry: The catalogue of the Humber flat twin motor cycle embodies an instruction booklet also. It is well produced, clearly written, and thoroughly illustrated. One point for riders to note is that the oil sump only holds sufficient lubricant for sixty miles.

AC

Sparking Plugs Aid Two Gold Medal Winners



In the London-Edinburgh Motor Cycle Run, AC Sparking Plugs were fitted to the machines of two Gold Medal winners—Mr. R. B. Clark and Mr. G. Pigott. "Although the plugs were used in an oily engine, they gave no trouble whatsoever," writes Mr. Pigott. AC Carbon Proof Plugs save trouble by eliminating need of cleaning, misfiring, and short circuits.

AC Brands are: AC Titan, AC Carbon Proof and AC Two-Piece.

Obtainable from leading dealers and garages. Price 5/-.

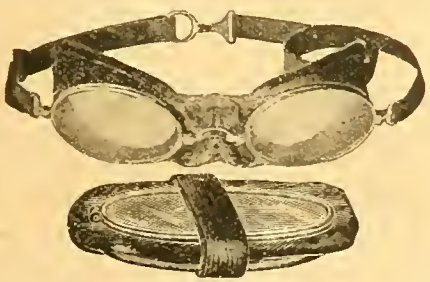
AC SPARKING PLUG CO., LTD., 1-4, Thurloe Place, London, S.W.7

A boon to Motor Cyclists

and all road users.

Unsuitable Motor Goggles are worse than unsuitable eyeglasses

JACQUEMIN'S GUARANTEED COLLAPSIBLE CHLOROPHYLLE (regd.) GOGGLES look well and ABSOLUTELY PROTECT THE EYES from Sun and Road Glare, Prevent Eyestrain, Headache, and Injury from Dust and Flies.



Assorted patterns with Chlorophylle Lenses, from 6/- to 15/6 per pair.

Assorted patterns with Clear Lenses .. from 3/6 to 14/6 per pair.

Of all Accessory Dealers and Opticians. Ask for and insist on Jacquemins.

Sole Manufacturers:

J. B. JACQUEMIN BROS., LTD.,
65, HATTON GARDEN,———LONDON, E.C.1.

BENETFINKS

The CITY'S OWN STORE

Sterling Offers from a House whose Reputation is built upon Utmost Value and Expert Service.

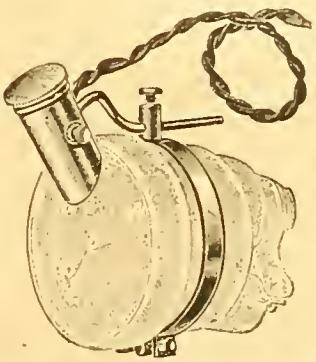


KICK-UP STAND CLIPS.
Very best quality, spring steel, enamelled .. Price **1/9**
Postage 9d.



TERRY'S VALVE LIFTER.
A very handy Instrument for removing Valve Springs.
Price **1/6** Postage 9d.

TERRY'S COMBINATION OILER
to clip on to down tube, holds two Cans for Oil and one for Petrol .. .. Price **5/3**
Post free.



SPEEDOMETER LAMP
Exceptionally well made and finished, full adjustment, complete with wire and 4-volt bulb. .. .. Price **7/6**
Post free.

W.D. BELTS.
Pedley Clipper, etc.,
6' 6" x 3" .. 8/9
6' 6" x 4" .. 9/9
8' 6" x 1" .. 17/9
Post free.
Guaranteed perfect and fresh.

"W.D. TYRES" All Ex-Government Stock and in Perfect Condition.

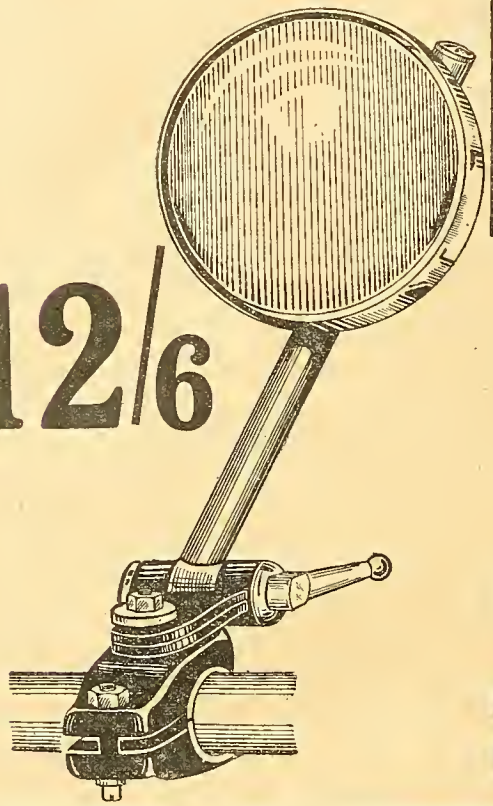
LOOK AT THESE AMAZING PRICES:

		Our Price.	List Price.
24 x 2	**Wood Milne** Key Grip	**25/9**	42/9
26 x 2	**Wood Milne** Key Grip	**27/9**	45/3
26 x 2¼	**Bates** Heavy Rib	**31/-**	63/-
26 x 2¼	**Clincher** Extra Heavy	**31/6**	54/6
26 x 2¼	**Wood Milne** Special	**27/9**	48/6
26 x 2¼	**Palmer** Cord	**31/9**	56/9
26 x 2⅜	**Palmer** Cord	**32/9**	79/-
26 x 2⅜	**Hutchinson** T.T. Rubber Studded	**32/6**	54/6
26 x 2½	**Hutchinson** T.T. Rubber Studded	**33/6**	61/-
to fit 2¼ Rim	**Wood Milne** Extra Strong, 4-Ply	**34/6**	65/-
26 x 2½	Heavy Rubber, Studded, Best ..	**35/-**	68/6
to fit 2¼ Rim	Extra Heavy Clincher de Luxe ..	**29/-**	72/-
28 x 3	**Wood Milne**	**29/9**	79/-
650 x 65	**Wood Milne** Extra Strong ..	**41/3**	76/6
700 x 80	**Wood Milne** Special	**49/9**	87/-

26 x 2¼ or 28 x 3 **Tubes** best makes, **6/6** Butt ended, **7/6**

No Catalogues—Please order from this advertisement.

BENETFINKS, 107, CHEAPSIDE, LONDON, E.C.2.



DEKLA

12/6

THERE IS NO NEED TO

pay a penny more than 12/6 for a motor cycle mirror. The DEKLA "Number 1 Standard" is finished in true DEKLA style, has a movement that is simplicity itself, and can be adjusted to any position INSTANTLY. The mirror is specially silvered, and all parts are unbreakable. It is as good as Dekla motor cycle horns, acknowledged to be second to none. Ask your dealer, or send a p.c. for illustrated list of DEKLA—the cheapest quality accessories produced.

London: B. W. Peters, Diamond House 36, 37, 38, Hatton Gardens, E.C.1

DEKLA LTD.,
DEKLA HOUSE,
Hampton Street, BIRMINGHAM.

Glasgow: G. C. Davidson, 196, St. Vincent Street.



H.C.T.

Small Size 1/2 Post Free



Large Size 2/- Post Free

PRESERVES YOUR CYLINDERS

WITHSTANDS HEAT

RUST-PROOF

Is not affected by Petrol or Lubricating Oil.

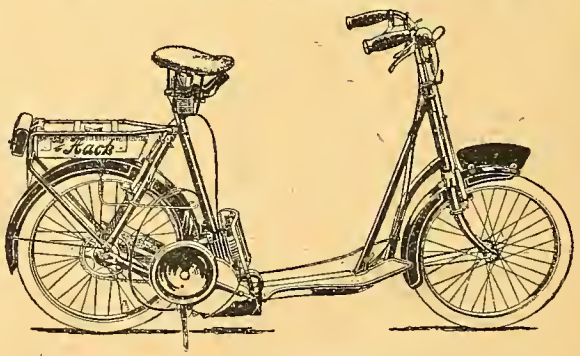
Has a Silk-like finish.

Can be used on Hubs, Lamps, Radiators, etc.

Sole Manufacturers:

OWEN BROS. & CO., LTD.,
Hull, England.

The Hack Lightweight



OPEN FRAME MOTOR CYCLE.
A MACHINE OF GENERAL UTILITY

Particularly in the country, to and from the station, town, or golf club, paying calls, etc.

CLEAN TO RIDE. RUNNING EXPENSES HALFPENNY A MILE. WEIGHT 70 lbs. AVERAGE SPEED 15 M.P.H. STARTS READILY AT A WALKING PACE. WILL CLIMB A 1 in 10 GRADIENT with a 12 stone rider.

PRICE 46 GUINEAS.

HACK SIMPLEX 1¾ h.p. 2-stroke engine (ball bearings), countershaft and clutch, 20in. wheels, Palmer tyres.

THE HACK ENGINEERING CO., LTD.,
VICTORIA ROAD, HENDON.

BRAID BROS.

Colwyn Bay

For

Immediate Delivery

and every facility and service in securing your new mount.



SUNBEAM 3½ & 8 h.p. Models. B.S.A. 4½ h.p. Solo Mounts and 6-7 h.p. Combs. MARTINSYDE 6 h.p. Combs. and Tradesmen's Outfits. NORTONS, Various Models. ROVER 3½ h.p. Solo and Combs. RUDGE-MULTI, ENFIELD 2¼ h.p. Solo and 6 h.p. Combs. INDIANS, Scout Models. CONNAUGHT. ROYAL RUBY. CEDOS. LEVIS.

Write, Wire, or 'Phone for Full Particulars.

BRAID BROS.

Midland Garage & Repair Works,

COLWYN BAY, N.W.

'Phone: 105. *Telegrams:* "Midland, Colwyn Bay."

Radiac

Radiac

Shirts and Collars Guaranteed



WHEREVER you see an Outfitters with the RADIAC sign in the window, you can be sure of satisfaction. Wherever you buy them RADIAC Cotton Tunic Shirts are guaranteed fadeless.

RADIAC Collars (soft or starched) are also guaranteed to give you entire satisfaction. To be obtained in a wide range of colours and designs.

Sold by all the leading Hosiers

Sole Manufacturers: McINTYRE, HOGG, MARSH & CO. LTD. New Basinghall Street, London, E.C.2 27 Portland Street, Manchester

Radiac

St. James's E

A Square Deal means a Great Deal to you

When a man buys a motor cycle he expects advice—service. He wants to know the right machine at a price to meet his pocket. We give this service. Our policy is, and always has been, "Business Integrity"—the only way to get clients and keep them.

SECOND-HAND COMBINATIONS.

P. & M., 3½ h.p., 1919 coachbuilt Combination, lamps, speedometer, and licence	£80 0
SUNBEAM, 1920, 8 h.p. Combination, lavishly equipped, small mileage, excellent condition	£190 0
SCOTT, 1920 Combination, sporting sidecar, lamps, Licence, etc	£125 0
A.J.S., 6 h.p., 1913-14, 3-speed, coachbuilt sidecar	£75 0
ARIEL, 1920, 3½ h.p. Combination, 1921 sidecar, lamps, horn, licence, in thoroughly good order	£110 0
BLACKBURNE, 4 h.p., 1920, Millford sidecar, electric lighting, perfect condition	£120 0
BLACKBURNE, 1920, 8 h.p., with Henderson Elite sidecar, fully equipped, including licence, Easting, etc., fine condition	£140 0
B.S.A., 1914, 3½ h.p., 3-speed, B.S.A. sidecar, lamps, horn, and licence	£67 10

SECOND-HAND SOLO MACHINES.

NORTON, 1916, special B.R.S. model, winner of many competitions, one of the fastest Nortons in England, beautiful condition	£75 0
N.U.T., 3½ h.p., 1920, Magdyno, fully equipped, almost as new, licenced and insured	£110 0

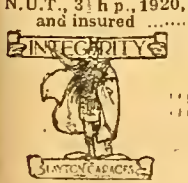
SOILED MACHINES.

A.B.C., 1921, 3 h.p., 4-speed, soiled only, list price £120, clearance price	£100 0
BEARDMORE PRECISION, 1921 model, shop-soiled only, clearance price	£75 0
BLACKBURNE, 1920, 4 h.p., 3-speed, lamps, horn, etc., soiled only	£95 0
DOUGLAS, 1920, 2¾ h.p., 3-speed, completely equipped	£78 10
ZENITH, 1920, 8 h.p., Sporting Model, new but slightly shop-soiled	£110 0

SOILED COMBINATIONS.

L.M.C., 1920, 6 h.p., Combination, new but slightly shop-soiled, bargain price	£115 0
INDIAN, 1921, Powerplus Combination, slightly shop soiled, special price	£198 0





90, HIGH STREET OXFORD,
AND
LONDON ROAD, BICESTER.

'Phones—581 & 784 Oxford 'Phone—35 Bicester
'Grams—"Integrity," Bicester and Oxford.

Layton Garages

Hearty Congratulations

to the manufacturers and riders of the winning A.J.S. machines. For the third time in succession the famous A.J.S. has secured the coveted T.T. Trophy.

GET IT AT

TAYLORS

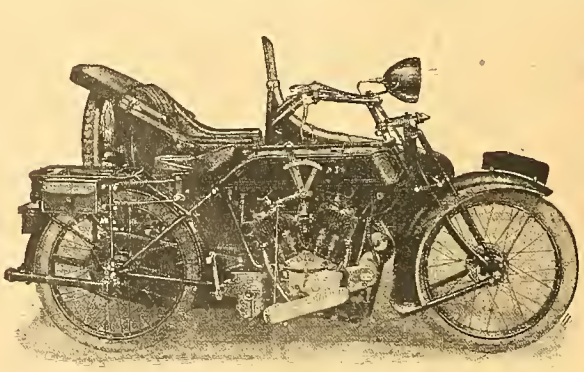
Sole London & District Agent for

A·J·S

AND

BRITISH EXCELSIOR Motor Cycles.

We can give immediate delivery of the 7 h.p. A.J.S. Combination as illustrated, and early delivery of the 2¾ h.p. Sports Model. Summer is here, and the open road with all its beauty and pleasure is at your command—*now* is the time to act. All good makes of motor cycles supplied for cash or our "Payment out of Income" System.



H. TAYLOR & CO., LTD.

SHOWROOMS:

52-53, Sussex Place, South Kensington
For Cars and Motor Cycles.

21a, Store St., Tottenham Court Rd., W.C.1
For Accessories and Repairs.

Wholesale: **38, Alfred Place, London, W.C.1.**

'Phones: Kensington 7260 and Museum 1240.

'Grams: "Dynametro, Westcent, London."

SPLIT LEGGINGS.

"I know of nothing to beat it, and it deserves to be better known."—*"Ixion" in "Motor Cycle" of 17th March in describing the "Split" Overalls.*



The suit is put on and off in a few seconds, no pulling over dirty boots, nor soiling your hands. They open right down outside of leg, and are fastened with two springs. There is absolute freedom and comfort, combined with neatness, and they are guaranteed to keep you dry under all conditions of weather. This is the only suit that kept out the terrible wet weather in the Reliability Trials at Copenhagen, when clothing was included in these trials.

MADE IN TWO QUALITIES.

SUIT COMPLETE.

No. 1 Medium Weight 72/6
No. 2 Heavy , 78/6

LEGGINGS ONLY.

No. 1 Medium Weight 31/6
No. 2 Heavy ,, 33/6

Postage 1/- extra.

PAT. 10677.

When ordering give Chest, Waist, and Inside Leg Measurements.

HENRY A. MURTON, LTD.,
6 to 10, Grainger St., NEWCASTLE-ON-TYNE

For Young Men and those who Feel young -



LOOK for an outfitter's in your town who has this bright and eager little "StyleCraft" mascot (always smiling!) on his counter. Ask him to show you "StyleCraft" sports jackets and trousers. You cannot desire anything more comfortable; you cannot find any better value; you cannot hope for a better combination of sound cloth, good tailoring, and right fit.

PRICES:

Men's Sports Coats	50/- to 90/-
Men's Grey Flannel Trousers	21/- to 52/6
Men's White Flannel Trousers	21/- to 50/-
"STYLECRAFT JUNIOR"	
Sports Coats	35/- to 80/-
Shorts, grey and white	7/6 to 20/-
Grey Flannel Suits (Blazer and Shorts)	37/6 to 90/-

StyleCraft
Guaranteed Men's Wear

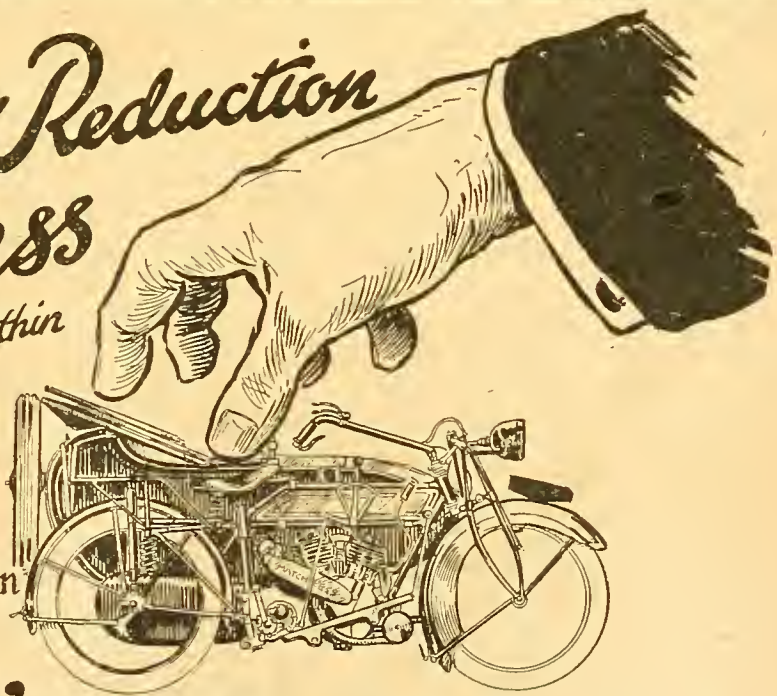
"StyleCraft" agent in every town with a population of 2,000 or over. In case of difficulty write to Sole Manufacturers:

STYLECRAFT LIMITED, STYLECRAFT WORKS, CONWAY RD., LEEDS
St. James's 16

The **Astounding Reduction** *of the* **Matchless** *now brings it within your reach*

£185

including spare wheel & wind screen



DEAL WITH

Julian's 84 Broad St. Reading.

Phone 1024

Biggest Dealers in the South.

Spend the Holidays Awheel.

Thro' Glorious Devon or Wales, it will prove an economical holiday on a motor cycle from

LAMB'S

EXAMPLE.

S.H. 1916 **HARLEY-DAVIDSON** and Sidecar	£95	0	0
(A bargain for cash)			
Extra for terms	7	2	6
	£102	2	6
If one-fifth deposit	21	2	6
	£81	0	0

Payable in 11 monthly payments of £7 7 4.

If account paid in 2 months	£7	2	6 dis.
,, ,, 4 months	£5	0	0 dis.
,, ,, 6 months	£3	0	0 dis.

EXAMPLE.

New 1920 **P. & M.** and Sidecar	£130	10	0
(Bargain price for cash)			
Extra for terms	9	15	0
	£139	15	0
If quarter deposit	34	15	0
	£105	0	0

Payable in 11 monthly payments of £9 10 10.

If account paid in 2 months	£9	15	0 dis.
,, ,, 4 months	£6	15	0 dis.
,, ,, 6 months	£4	0	0 dis.

EXAMPLE.

1921 **MORGAN** de luxe	£228	0	0
Extra for terms	17	2	0
	£245	2	0
If quarter deposit	62	2	0
	£183	0	0

Payable in 11 monthly payments of £16 12 9.

If account paid in 2 months	£17	2	0 dis.
,, ,, 4 months	£11	3	0 dis.
,, ,, 6 months	£8	10	6 dis.

EXAMPLE.

1921 **DOUGLAS**, all on	£85	0	0
Extra for terms	3	3	9
	£88	3	9
If half deposit	42	10	0
	£45	13	9

Payable in 11 monthly payments of £4 3 1.

If account paid in 2 months	£3	3	9 dis.
,, ,, 4 months	£2	2	0 dis.
,, ,, 6 months	£1	1	3 dis.

The larger the deposit, the more advantageously you buy.

RUNABOUTS.

MORGAN Grand Prix	£218	0	0
MORGAN de Luxe, Magdyno lighting	£262	0	0
COVENTRY PREMIER	£250	0	0
MORGAN Family Model, dynamo lighting	£265	0	0
MORGAN de Luxe, J.A.P.	£228	0	0
ROVER Light Car	£262	0	0

NEW 1921 COMBINATIONS.

NEW IMPERIAL, 8 h.p.	£168	0	0
MATCHLESS, standard	£185	0	0
MATCHLESS, dynamo lighting	£207	10	0
MATCHLESS, 2-seater	£191	10	0
A.J.S., standard, spring seat	£215	0	0
A.J.S., dynamo lighting, spring seat	£243	0	0
B.S.A. 6-7 h.p. Combination	£175	0	0
B.S.A., 6-7 h.p., dynamo	£195	15	0
DOUGLAS, 4 h.p., all on	£170	0	0
CLYNO, 8 h.p.	£198	0	0
ENFIELD, dynamo lighting, hood, screen, spring bars, 2-seater model	£194	16	0

NEW 1921 SOLOS AND SIDECARS.

TRIUMPH, Model H, 4 h.p.	£115	0	0
TRIUMPH, all-chain, SD.	£125	0	0
TRIUMPH Junior	£70	0	0
TRIUMPH Sidecar (Gloria)	£50	0	0
DOUGLAS, all on, 2¾ h.p.	£85	0	0
LEVIS, 2¾ h.p., 2-speed	£68	0	0
LEVIS, single-speed, semi-T.T.	£60	0	0
NEW HUDSON Popular	£52	10	0
NEW HUDSON Ace, with spare aluminium piston	£75	0	0
B.S.A., Model K	£107	10	0
B.S.A., Model H2	£110	0	0
DOUGLAS, 2¾ h.p., 3-speed	£100	0	0
PARAGON Sidecars	£31	10	0
ALLON, 2-speed, kick starter	£75	0	0
HARLEY-DAVIDSON, electrical model	£180	0	0
HARLEY-DAVIDSON, standard	£175	0	0
HARLEY-DAVIDSON, sports	£180	0	0
HARLEY-DAVIDSON Sidecar	£45	0	0
HARLEY-DAVIDSON Super Sidecar	£86	5	0
RUDGE, I.O.M.	£85	0	0
ENFIELD, 2¼ h.p.	£65	0	0
ENFIELDI 2¼ h.p., kick starter	£70	0	0
O.K., 2-speed	£59	17	0
O.K., single-speed, semi-T.T.	£50	8	0
CONNAUGHT, single-speed	£47	10	0
CONNAUGHT, 2-speed, semi-T.T.	£62	10	0
CALTHORPE-J.A.P., 2-speed	£75	0	0
CALTHORPE, special model	£45	3	0
CALTHORPE, 2-stroke, 2-speed	£65	0	0
NEW IMPERIAL, 2¾ h.p., kick starter	£80	17	0
NEW IMPERIAL, 2¾ h.p.	£73	10	0
B.S.A. No. 3 Sidecar	£42	0	0
B.S.A. No. 2 Sidecar	£35	0	0
B.S.A. No. 1 Sidecar	£42	0	0
***INDIAN** Powerplus Combination, electrical equipment	£198	0	0
***INDIAN** Powerplus, solo, electrical equipment	£162	0	0
***INDIAN** Scout Combination, electrical equipment	£186	0	0
***INDIAN** Scout, solo, electrical equipment	£148	0	0
***INDIAN** Scout, solo, minus electrical equipment	£132	0	0

*These machines are slightly shop-soiled.

1920 NEW MACHINES.

1920 **P. & M.** Combination	£130	10	0
1920 **DOUGLAS**, 2¾ h.p., 3-speed	£92	10	0
1920 **JAMES** 4½ h.p. Combination	£150	0	0
1920 **HARLEY-DAVIDSON** Combination, lavishly equipped	£210	0	0
1920 **NEW IMPERIAL** and Swan Sidecar	£150	0	0

SECOND-HAND MACHINES.

1916 **HARLEY-DAVIDSON** and Sidecar	£100	0	0
1921 **MORGAN**, dynamo lighting, hood cover, watch, speedometer, dash lamp, spring gaiters, Klaxon horn, electric hooter, and many spares	£250	0	0
1921 **COVENTRY PREMIER** Runabout, only soiled	£230	0	0
1920 **A.J.S.** Combination, dynamo lighting, hood, screen	£195	0	0
1920 **LEVIS** Popular, T.T. bars, and accessories	£50	0	0
1916 **DOUGLAS**, renovated model	£50	0	0
1920 **TRIUMPH** and Paragon folding Sidecar, and accessories	£125	0	0
1920 **RUDGE**, 7-9 h.p. twin, and accessories	£85	0	0
1915 **B.S.A.**, 4½ h.p., K, like new	£69	0	0
1920 **AMERICAN X** Combination, dynamo lighting	£165	0	0
1920 **HARLEY-DAVIDSON** Combination, lavishly equipped	£210	0	0
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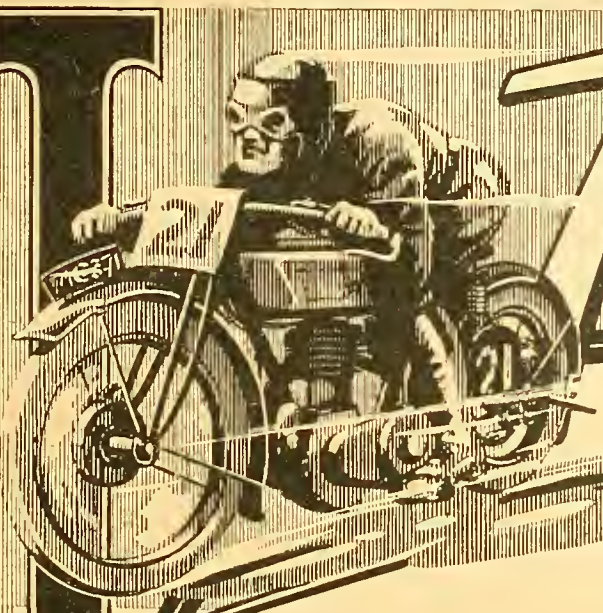
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A.V. Monocar, 6 h.p. (special engine)	£160 0
CARDEN Monocar, 5-6 h.p., 1914	£70 0
J.H. Combination, 7-9 h.p., 1915	£75 0
DOUGLAS and Ride Easy Sidecar, 4 h.p., 1915	£65 0
CLYNO, 2½ h.p., 1919	£50 0
DOUGLAS, solo, 4 h.p., 1915	£60 0
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1917 6h.p. Clyno Combination, spare wheel, lamps, tax paid, fine condition; £100, or close offer.—Tiller, Coxhill, Lymington, Hants. [5059

CLYNO 1920 2-stroke, 2-speed and clutch, lamps, horn, tools, licensed; £58.—Hewin's Garages, Ltd., The Real Service First, Taunton. [5093

1921 Clyno 8h.p. 3-speed Spring Frame Combination, guaranteed as new, very small mileage; £200.—Marshallsay, Baker, Chickerell, Weymouth. [0622

CLYNO Lightweight, 1920, very little used, lamps, mechanical horn; 50 gns.—Vivian Hardie and Lane, Ltd. 23 and 24, Woodstock St., New Bond St., W.1. [0511

1916 6h.p. Clyno Combination, interchangeable wheels, 3-speed, clutch, K.S., good tyres, first-class condition, spares; £75; tax paid.—Leys, 16, Tuscan Rd., Plumstead, S.E. [5615

CLYNO, 6h.p., 1916, 3-speed, kick start, combination, overhauled, replated, enamelled, good tyres, condition, accumulator lighting, interchangeable wheels, tax paid; £88.—91, Grove Park, Denmark Hill, S.E.5. [5549

CLYNO 5-6h.p. 1917-18 Combination, 4 wheels interchangeable, tyres good, 3-speed gear box, Easting wind screen, lamps, and equipment, condition perfect, tax paid; S.W. district; £120, or near offer.—Box 4,778, c/o *The Motor Cycle*. [5015

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MISS E. DOOLEY.—1916-17 5-6h.p. Clynos, W.D. models, K.S., clutch, renovated, £65 each, with new mag. and carburetter. Please look to my advertisement under Miscellaneous for Clyno spares, etc., etc.—Please apply for the above to Miss E. Dooley, 33, Killyon Rd., Clapham, S.W.8. [4695

Connaught.

1916 Connaught, 3-speed, clutch, licensed; bargain, £32/10.—3, Park St., Wellington, Salop. [X3936

2$\frac{3}{4}$h.p. 2-stroke Connaught, 1915, in excellent condition, thoroughly overhauled recently, Lucas lamps (new), 2 generators, Jones speedometer, tools, spare tube, tax paid; £28.—Smith, Willow Cottage, Potters Bar. [5833

Cotton.

1921 Cotton-Blackburne in stock, fastest time and record for hill 350 class Eastern Valley M.C.C., June 9th.—South Wales Distributer: W. Luther J. Davies, 71, Commercial St., Newport, Mon. 'Phone: 2488. [0641

Coulson

COULSON-B 2¾h.p. Sports Model, 2-speed Sturmey, clutch; 97 gns.—Below.

COULSON-B 2¾h.p., 3-speed Sturmey, clutch; 106 gns.—Edwards, 50, Harrington Rd., South Kensington. [5839

1920 2¾h.p. Coulson B, special engine, all accessories, perfect; £73.—40, Anyhoe Rd., W.14. [5195

COULSON B 1921 Models in Stock.—Sole Wiltshire Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72 [5007

COULSON B, 1920 model, 2¾h.p., 2-speed, lamps, horn, etc., licence; accept £65 for immediate sale, ride away.—Smith, 49, Alwyne Rd., Wimbledon. [4966

1921 2¾h.p. Coulson-B., 3-speed, kick start, exhibition model, P.H. lamp, Lucas horn, as new; £100, offers.—350, Dickenson Rd., Longsight, Manchester. [5529

4h.p. Coulson-Blackburne, December, 1920, 3-speed, K.S., spring frame, tax paid; £115, offers; exchange twin, 5h.p. Zenith or Norton.—43, Coleraine Rd., Blackheath. [5592

NEW 1921 2¾h.p. and 4h.p. Coulson B, 3-speed, kick starter; list prices, £117/10 and £126; in stock; exchanges entertained. — Bambers', Eastbank St., Southport. Tel. 607. [8741

4h.p. Coulson-B. Combination, Sturmey 3-speed, kick starter, electric light, fully insured, only done 500 miles, perfect condition, new; £140.—Austen, 12, Maclise Rd., West Kensington. 'Phone: Hammersmith 1388. [5792

COULSON B 4h.p.; 120 gns.; an ideal solo or side-car mount, as low and handy as a Levis; in stock.—Sole agent for Leeds and 15 miles radius, excluding Bradford, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [0493

Coventry Eagle.

1920 3½h.p. Coventry Eagle, complete with lamps and horn; £100; new model, shop-soiled only, listed £116 complete.—S. Lewis, 19a, Upper Charlton St., Carburton St., off Gt. Portland St., W.1. [4308

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May 26th, 1921.

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I want to thank you for your extreme courtesy and promptness in supplying me with a two-stroke Clyno. As you know, I only made my enquiry on a postcard on Friday, the 20th inst., and had a reply by return, i.e. Sunday morning, the 22nd. I suppose I should have been able to have had the machine two days ago, but it took me 48 hours to make up my mind. The machine arrived at Braintree station to-day at one fifty, and was in extremely good condition. Perhaps it would interest you to know that I tried to buy a motor cycle in London, ... Street, but met with such extreme discourtesy on the part of salesmen, that I determined to give London and its "superior" salesmen the "go by."

Yours faithfully,
E.G.

And this letter explains *why* Customers come to us from all parts of the country. Those who have once had dealings with us come again and again, and more—they don't forget to let their friends know that at the Colmore Depot there is nothing too much trouble, there is a promptitude and attention to every motor cyclist's need which cannot be rivalled elsewhere.

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TRIUMPH
NORTON
P. & M.
CLYNO
MATCHLESS
HARLEY-DAVIDSON
LEVIS
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THE Perfect Flat Twin Engine.—Immediate delivery of standard Coventry Victor touring machine, 5-7h.p., 3-speed gear, all-chain drive, £125; also short wheelbase sporting solo machine, guaranteed 65 m.p.h., £135; send for catalogue; agents wanted where not represented.—The Coventry Victor Motor Co., Ltd., Coventry. [0520

Cygnus.

CYGNUS-J.A.P. 4h.p., 2 speeds, spring frame, Sen-spray, chain drive, licensed, ride away; £32/10; evenings.—5, Marjorie Grove, Clapham Common, S.W. [5823

Dayton.

DAYTON 2-stroke, splendid order; £20 for quick sale.—Platts, 602, King's Rd., Fulham, London. [4837

DAYTON 2-stroke, tax paid, ride away, £23; Minerva engine, 2¾h.p., 30/-.—Davis, 6, Golborn Mews North, Kensington. [X4098

Diamond.

E. KICKHAM for Diamond, sole agent for Bristol and Bath district.—Stokes Croft, Bristol. [3355

CYRIL WILLIAMS for immediate delivery of all models Diamond.—Chapel Ash Depot, Wolverhampton. [X3817

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IMMEDIATE Delivery of any Diamond Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0507

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DREADNOUGHT-VILLIERS, good condition, tax paid; £30, or near offer.—Gilyend, Strafford St., Gainsborough. [X4120

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DOUGLAS 1921 New 2¾h.p., 2-speed, including P. and H. lamps, horn, and licence holder; £85; in stock; exchanges.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles.

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DOUGLAS 2¾h.p., 2-speed, as new, cheap; bargain.—33, Pennard Rd., W. [5373

DOUGLAS 2¾h.p., in good running order; £25/10.—80, High St., Bexley. [5817

E. KICKHAM for Douglas and spares; trade supplied.—Stokes Croft, Bristol. [3351

2$\frac{3}{4}$h.p. Douglas, 2-speed, as new; evenings; £68.—41, Maple Rd., Anerley, S.E. [4976

DOUGLAS 2¾h.p., Philipson pulley; £65.—Taylor, 80, High St., Hornsey, London. [5331

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DOUGLAS 1916 2¾h.p., all on, perfect, fast; bargain, £50.—22a, High St., Sutton, Surrey. [4987

DOUGLAS 2¾h.p., very little used; £53.—3, Ladysmith Av., Seven Kings, Ilford, Essex. [5025

DOUGLAS 2¾h.p. 2-speed, with lamps and horn, in stock, £85.—Rivett, 236, High Rd., Leytonstone. [1450

DOUGLAS 4h.p. 1920 Combination, properly overhauled; £130.—Cramer, Barn Hawe, Orpington. [5390

DOUGLAS 2¾h.p., 2-speed, 1916, excellent condition; £44.—22, Stodart Rd., Anerley, S.E.20. [5814

4h.p. Douglas Combination, 1919, fully equipped, licensed; £85.—132, High Rd., East Finchley. [5696

DOUGLAS 1921 2¾h.p., 3-speed, clutch, brand new; £90.—Clark, 7, Exhibition Rd., South Kensington. [3976

DOUGLAS 8h.p., w.c., clutch, special 3-seater sidecar, fully equipped; £100.—16, Church Rd., Erith. [5610

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1913 Douglas 2¾h.p., any trial, £35; 1916 2¾h.p., any trial, £48.—Kimberley, Crescent, Leatherhead. [4799

1915 2¾h.p. Douglas, 2-speed, perfect order; snip, £36/15, carriage paid Liverpool.—Woods, Ltd., Sligo. [5186

2¾h.p. Douglas, all accessories, splendid condition, licensed; £52.—205, Hampstead Way, Golders Green. [4774

OFFER wanted for 4h.p. Douglas combination, just overhauled.—Sladden, Lower Farm, Cuddington, Bucks. [5040

4h.p. Douglas Combination, late model, all on, splendid condition; £65.—Viccars, 2, Stroud Rd., S. Norwood. [5617

DOUGLAS Combinations, late models, perfect order; £75.—Owen, 59, Scholefield Rd., Upper Holloway, N.19. [X4154

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GIBB, Gloucester, can give immediate delivery Douglas 1921 models and spare parts from stock. —'Phone: 852. [6340

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DOUGLAS, 2¾h.p., 1916, for countershaft Triumph, or sell £50.—Flaxman, 183, Church Rd., Northwood, Middlesex. [5265

DOUGLAS 2¾h.p., 2-speed, perfect running order; accept any reasonable offer; must sell.—364, Old Kent Rd., S.E.1. [5464

DOUGLAS 2¾h.p., 1916, Lucas lamps, Cowey, tax paid; £48. I.O.M. Rudge wanted.—40, Fauconberg Rd., Chiswick. [4838

1920 2¾h.p. 3-speed Douglas and accessories, tax paid, in good condition; £75.—Bounds, 223, High Rd., Kilburn, N.W. [5171

DOUGLAS 2¾h.p., just overhauled, in perfect condition, tax paid, tyres good; any trial; £32.—38, Grace Rd., Aintree. [5047

2¾h.p. Douglas, 1916, 2-speed, accessories, tax paid; £48; after 5 o'clock.—Rankin, 7, Thornbury Rd., Clapham Park. [5830

4h.p. Douglas Combination, completely overhauled, owner overseas; accept £75 cash.—Major Norton, Halton Camp, Bucks. [5039

DOUGLAS 1915 2¾h.p., 2-speed, licence, accessories; £45, or near offer; after 6.—84, Stanhope Av., Church End, Finchley. [X4050

3½h.p. Douglas, 1914, stored new until 1920, 3,200 mileage, licence, speedometer; £75.—Goodall, County School, Ealing. [4775

1919 Douglas 2¾h.p., 2-speed, all on, tax paid; £62; privately owned.—13, Caversham Rd., Kentish Town, N.W.5. [5550

4h.p. Douglas, 3-speed, K.S., clutch, new lamp, belt, etc., perfect condition throughout; £70.—Mathew, Fengate, Peterborough. [5290

1915 Douglas, 2-speed, overhauled, all on, spares, tax paid, guaranteed; £40; ride away.—4, Gaywood Rd., Walthamstow. [5283

DOUGLAS 2¾h.p., 1916, 2-speed, all on, spares, chain, tube, small mileage, tax paid; 45 gns.—19, Linden Av., Wembley Hill. [5535

£85.—1920 2¾h.p. Douglas (£105 model), completely equipped, mileage 150, unscratched.—Fagge, 9, Church Circle, Farnborough. [5022

ALL-ON Douglas Models from Stock; 2¾h.p. 2-speed, £85; 3-speed clutch, £105; combination, £170.—Moffat, Yeovil. 'Phone: 50. [5043

1915 Douglas, 2¾h.p., accessories, tax paid, condition as new, very powerful; £55; after 7 p.m. —69, Etherley Rd., Tottenham. [5107

VERY Smart 1916 2¾ Douglas, as new, all on, tax paid, goggles, cap, waterproofs; £55, — 31, Foreign St., Camberwell, S.E.5. [4951

£42/10.—2¾h.p. Douglas, 2-speed, excellent condition, accessories, tax paid.—27, Wandle Rd., Wandsworth Common, S.W. [5642

2¾h.p. Douglas, 1915, splendid running order, complete, lamps, horn, etc., tax paid; £43.—90, Albion Rd., Stoke Newington, N. [5038

DOUGLAS, 2¾h.p., 1918, all on, new gear box, splendid condition; £50; call evenings.—284, Goldhawk Rd., Shepherd's Bush. [5684

1914 2¾h.p. Douglas, 2-speed, clutch, K.S., tax paid, good condition; any trial after 6; £45, or nearest offer.—15, Windsor St., Uxbridge. [5515

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Douglas.

2¾h.p. Douglas, 2-speed, clutch, K.S., 1914, Tan-sad, all accessories, in splendid condition; 50 gns.—40, Old Rd. West, Gravesend. [5378

1916 2¾h.p. Douglas, lamps, horn, Binks carburetter, Tan-Sad, excellent condition; £45.—Edwards, 50, Harrington Rd., South Kensington. [5840

DOUGLAS, 2¾h.p., 2-speed models; from £39.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5666

1916 2¾h.p. Douglas, licence paid, new tyres, just overhauled, re-enamelled and plated; £40.—Leonard Ward, 'Phone 5880 Victoria. [5560

1914 Douglas 2¾h.p., lamps, tools, tax paid, any trial; £37/10.—'Phone: Wanstead 48, or call 374, Grove Green Rd., Leytonstone. [5710

DOUGLAS 2¾h.p., 1916, fully equipped and in splendid condition, tax paid; any trial; £50, or offer.—Tilbury, West Horsley, Surrey. [4785

2¾h.p. Douglas, light sidecar, clutch, K.S., 2-speed, accessories, licensed, condition, appearance excellent.—12, Denmark Rd., West Ealing. [4770

1919 2¾h.p. Douglas, lamps, horn, tools, etc., tax paid, perfect condition; £60.—12, Wormholt Rd., Uxbridge Rd., Shepherd's Bush, W.12. [5250

DOUGLAS 2¾h.p., 1919, all on, tax paid, ride away; £60; reason for selling, unemployment.—Champion 5, Nevada St., Greenwich, S.E.10. [4782

F.O.C.H. have several good second-hand Douglas combinations and sólos; bargains.—5, Heath St., Hampstead (near Hampstead Tube Station). [5083

£47.—Douglas, 2¾h.p., 2-speed, licensed, discs, all on, smart, little used, in crate; photo, stamp.—R. Peebles, 1, Westfield Lane, Dundee. [5266

DOUGLAS, 1919, 2¾h.p., good order; £25 deposit and 6 monthly payments of £7.—Halifax Motor Exchange, 25, Horton St., Halifax. [5100

49 GNS.—1917 Douglas combination, 4h.p., mechanically perfect, registered, lamp; immediate cash essential.—4, Elm Gardens, Hammersmith. [9516

DOUGLAS 2¾h.p., 1918, 2-speed, enamel, plating, and mechanism excellent order, fully equipped; 47.—30, Crystal Palace Park Rd., Sydenham. [5459

1919 4h.p. Douglas Combination, tax paid, wind screen, lamps, horn, etc., excellent condition; £90.—Haydock, 30, Fairacres Rd., Oxford. (D) [5432

£38/10.—2¾h.p. 2-speed Douglas, recently overhauled, lamps, horn, aluminium discs, splendid running order.—32, Tankerton Terrace, Mitcham Rd., Croydon. [4811

DOUGLAS 2¾h.p., with guarantee; £65.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, S.W.2. (Half minute from Brixton Skating Rink.). [5211

2¾h.p. Douglas, 2-speed, 1915, overhauled last week, new oversize rear tyre, economical, fast; Triumph wanted; £55.—Boak, Pickering, Yorkshire. [4963

1918 4h.p. Douglas Combination, exceedingly smart, original transfers, equipped, tax paid, excellent condition; 70 gns.—Fersfield, Westbury Rd., New Malden. [5450

1918 4h.p. Douglas, absolutely as new, brand new tyres and belt, will guarantee mechanically perfect; £78.—F. Lingley, New St., Woodbridge, Suffolk [5568

DOUGLAS 1920 4h.p. Combination, complete with lamps, speedometer, Klaxon, condition perfect; £125, or near offer.—219, Philip Lane, Tottenham, N.15. [5002

1918 4h.p. Douglas Combination, recently overhauled (cost £28), Bluemels wind screen, lamps, electric side and rear, horn; £90.—55, Hayes Lane, Keuley, Surrey. [4818

4h.p. Douglas Combination, 1917-18, guaranteed in perfect running order, re-enamelled, sidecar repainted; £75.—Langford's, 37, Cricklewood ... adway, N.W.2. [5762

DOUGLAS 1920 3½h.p., 3-speed, countershaft and K.S., spring frame, Ace discs, acetylene lights, horn, tools, etc.; £120.—H. Jensen, 22, Ridgeway, Enfield. [5285

DOUGLAS Combination, late 1919, as new, electric lighting, screen, pillion, luggage grid; £110 or near offer.—Winter, 234, Croxted Rd., Herne Hill, S.E. [5029

2¾h.p. Douglas, 2-speed, licensed, well-kept and equipped, speedometer, lamps, electric horn, aluminium discs; nearest £50.—61, Lumatra Rd., West Hampstead. [5695

DOUGLAS 4h.p. Combination, May, 1919, Easting Klaxon, undershield, 1921 Binks, just thoroughly overhauled; £110, no offers.—49, Princes Av., Palmer Green, N. [5477

BRAND New 1921 4h.p. Douglas Combination, makers' price £170, accept £155.—Speechley, 8 Churchfield Rd., Acton, London, W.3. 'Phone: Chiswick 1902. [5500

DOUGLAS 1920 (May) 4h.p. Combination, P. and H. lamps, horn, taxed, new condition throughout; £115.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [3965

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS, 2¾h.p., fully equipped, aluminium chain guard, 1915, £55; ditto 1919, £70; guaranteed. Vivian Hardie and Lane, Ltd., 23 and 24, Woodcock St., W.1. [0547

1919-20 Douglas Combination, electric lamps, luggage grid, tax paid, perfect condition; no reasonable offer refused, or exchange.—91, Esmond Rd., Cheetham Hill, Manchester. [5106

1920 4h.p. Douglas Combination, engine just overhauled, wind screen, lamps, spare tyres, tubes, belts, any trial; 104 gns.—Ayers, 112, Portobello Rd., North Kensington. [5771

2¾h.p. Douglas, Binks, disc wheels, Tan-Sad, new tyres, etc., only wants seeing; £45 quick sale; no dealers; no offers.—Albert Harling, 123, Gt. Suffolk St., Boro', S.E. [4946

DOUGLAS 4h.p. Combination, late model, new tyres, latest pattern forks and carburetter, sidecar, unused; £80; new 2¾h.p. Douglas considered. — 48, Bentney Rd., Balham. [5334

2¾h.p. Douglas, good order, 1911 engine, fitted with 1916 2-speed countershaft gear box; £27/10, or close offer; also 1911 engine spares.—Waterloo House, North Cheam, Surrey. [5600

DOUGLAS 1919 2¾h.p., 2 speeds, original enamel, new heavy Dunlops, lamps, accessories, licence, Tan-Sad, unscratched, new condition; £55.—G., 63, Solon Rd., Brixton. [5588

DOUGLAS Combination, 4h.p., 1920, new back tyre, all lamps, horn, etc., and licensed, in very good condition; £120.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [5092

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

DOUGLAS Combination, 4h.p., 1921, only done a few miles, licensed, fitted all lamps, horn, etc., condition perfect; £150.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [5091

DOUGLAS 4h.p. Combinations, 1917 at £85, 1919 at £115; both well equipped and in first-class order.—Newnham Motor Co., 223, Hammersmith Rd., W.6. Phone: Hammersmith 80. [5671

1918 2¾h.p. T.T. Douglas, 2 speeds, makers' colours, original enamel, Amac, Thomson-Bennett, lamps, accessories, licence, unscratched, new condition; £55.—3, Solon Rd., Brixton. [5587

4h.p. Douglas Combination, special sidecar, Binks, 3 lamps, horn, speedometer, screen, spares, tax paid, splendid condition, not W.D.; bargain, £80.—5, Dorset Rd., Wimbledon. [5233

SPEECHLEY, 86, Churchfield Rd., Acton, W.—Brand new 4h.p. Douglas combination, 1921 model, fully equipped; makers' price £170, accept £155.—Phone: Chiswick 1902. [5780

4h.p. Douglas Combination, 1917, just overhauled and enamelled, new cylinders, etc., fitted, sidecar reupholstered, perfect condition; any trial; £95, or offer.—Garlick, Chemist, Chesham, Bucks. [4809

DOUGLAS 4h.p. Combination, good condition, engine just overhauled, tyre good, new spare, lamps, tools, etc., tax paid; any trial; £85.—Richmond, 28, Graham St., Penrith, Cumberland. [4871

DOUGLAS Combination, 4h.p., 1920, special Claudel-Hobson carburetter, winner of many prizes, and absolutely tip-top condition; £130.—Hewins' Garages, Ltd., The Real Service Firm, Taunton. [5089

GENUINE Douglas 2¾h.p., 3-speed, clutch, K.S., leg-shields, as new, tax paid, perfect condition; must sell; owner buying combination; £65.—C. Watson, Shokespenre Head, Arthur St., Hackney. [5248

1918 4h.p. Douglas, 3-speed, K.S., enamel, plating, tyres good, tax, insurance paid, also sidecar chassis and wheel; bargain, £60.—Lynn, 37, Radcliffe Rd., Hitchin. 'Phone: Tottenham 2074. [5156

1920 2¾h.p. Douglas, 3 speeds, lamps, Smith's speedometer, Klaxon, tax paid, all accessories, in beautiful condition; £75, or nearest; trial after 8 any evening.—Mills, Holly House, Buckhurst Hill. [4923

1920 (July) Douglas 4h.p. Combination, leg shields, Easting screen, lamps, and full spares, tax paid, perfect condition, expert examination invited; £120.—The Mount, Aston Clinton, Tring, Herts. [5759

GUARANTEED 1915 Douglas 2¾h.p., Amac, Blic mag., lamps, horn, 2-speed, countershaft, enamel and mechanism all good condition, spare chain, belt, and tool roll; 40 gns.—Warrington, Chestnuts, Over, Cambs. [5280

IMMEDIATE Delivery of any Douglas Model; cash or deferred payments; book your order now and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0505

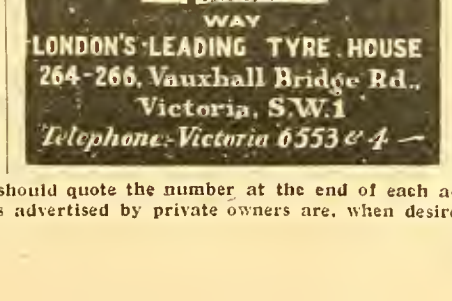
1920 4h.p. Douglas Combination, electric lights, Cowey, Easting, stewart horn, 2 tyres new, spare belt, chain, 2 tubes, 2 tyres, muffs, tax paid, insurance; cost 6.30; £110.—Dr. Panthaky, Islington Infirmary, Highgate Hill. [4889

DOUGLAS Combination, 1921 All-on Model, fitted complete and licensed, Cowey speedometer, mileage under 500, and absolutely undistinguishable from new; £155.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [5095



Size.	Make.	Our Price.	List Price.
24 2	Wood-Milne Special	29 6	47 6
26 2	Wood-Milne Ex. Heavy	37 6	60 -
"	Clincher de Luxe Heavy	35 -	43 6
"	Wood-Milne Special	29 6	48 -
"	Avon Lightweight Ribbed	25 -	—
26" 2¼	Avon Combination	48 6	91 -
"	Dunlop W.D. Heavy	39 6	48 6
"	Palmer Cord	39 6	53/6
"	Wood-Milne or Spencer-Moulton Extra Heavy	39 6	68 -
"	Bates Special Heavy	37 6	60 -
"	Beldam Extra Heavy	37 6	51 3
"	Clincher de Luxe Ex. Hy.	37 6	62 6
"	Beldam Heavy	32 6	44 3
"	Clincher de Luxe Heavy	30 -	51 6
"	Hutchinson T.T.	30 -	56 6
"	Wood-Milne Special	29 6	53 9
26" 2¼	Dunlop W.D. Heavy	42 6	51 3
"	Palmer Cord Heavy	30 6	62 -
"	Clincher de Luxe Ex. Hy.	39 -	68 6
"	Beldam Extra Heavy	37 6	53 -
"	Kempshall Anti-skid	37 6	52 6
"	Wood-Milne Ex. Heavy	37 -	63 9
"	Wood-Milne Special	32 6	56 9
"	Hutchinson T.T. R. Stud.	31 6	59 9
26" 2½	Wood-Milne Ex. Heavy	44 -	80 -
26" 2½			
26 × 2½	Wood-Milne Comb.	57 6	102 -
"	Avon Tricar Rub. Stud.	45 -	78/-
"	Wood-Milne Ex. Heavy	44 -	87 6
"	Hutchinson T.T. Ribbed	32 6	65 -
"	Englebert Wired-on Rib.	30 -	70 -
26" 3	Wood-Milne Comb.	65 -	105/-
"	Wood-Milne Ex. Heavy	52 6	86/-
28" 2¼	Goodyear A.W. Tread	45 -	84/-
"	Goodrich Safety Tread	32 6	100/-
28 × 2¼	Goodyear Rubber Stud. (to fit 28 3 rims)	34 -	84/-
28 3	Bates Special Heavy	55 -	92/-
"	Goodrich Safety Tread	40 -	100/-
"	Wood-Milne Ex. Heavy	35 -	84/-
"	Goodrich Plain	30 -	88/6
650 × 65	Wood-Milne Ex. Heavy	48 6	83/-
"	Goodrich Safety Tread	45 -	67/-
"	Bergougnan 3-rib. Heavy	35 -	58/-
"	Soly Rubber Non-skid	35 -	83/-
700 × 80	Wood-Milne Steel-stud.	97 6	141/-
"	Partridge Rub. Non-skid	35 -	—
"	Dunlop Steel-studded	65 -	125/6
"	Goodrich Safety Tread	50 -	76/6
"	Redace Square	33 6	65/6

These special clearance lines are sent Carriage Paid, and on approval, seven days against remittance. TRADE ALSO SUPPLIED.



MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 4h.p., kick start, clutch, lamps, horn, etc., just been overhauled, plated and enamelled, beautifully upholstered sidecar; £125, bargain; or exchange lightweight and cash.—26, Eastbourne Rd., Tooting, S.W. Evenings. [5216

DOUGLAS 4h.p., 1918, as new, fitted P and H. electric lighting set, electric Apollo horn, disc wheels, bulbous sidecar, new Royal Easting wind screen, top-hole 'bus, only wants seeing, tax paid; £110 cash.—15, Birchwood Rd., Tooting Bec, S.W.17. [5321

2¾h.p. Douglas, 2-speed, 1915, replaced flywheel, carburetter, aluminium discs, platinum contacts, and Binemel inflator brand new, H.H. electric head lamp and 2 acetylene sets, Klaxon, Abingdon tools; £52, guaranteed.—Hardy, 63, Shepherd's Bush Rd., Hammersmith, W.6. [5314

ALL 1921 Douglas Models, 2¾h.p., 4h.p., and new improved W.D., at £85, all fully equipped; trade supplied. Extended payments taken at one one-fifth down, remainder in 12 equal monthly payments; exchanges arranged.—Wauchope's, 9, Shoe Lane, Fleet St., London. [4538

WANTED, purchasers for any make of new 1921 Douglas motor cycles and combinations, for immediate delivery. Your present machine taken in part exchange; full market value allowed; distance no object.—R. Bamber and Co., Ltd., 2, Easthank St., Southport. Tel.: 607 [0647

SULINA Garage.—2¾h.p. Douglases, renovated, in makers' colours; £44 each; complete with toolbags, tools, and front brake. All our machines have been thoroughly overhauled by us, and all worn parts renewed. Before purchasing elsewhere, it will pay you to give us a call. All the small dealers buy from us, so why not you direct. Don't be misled. We have the goods, and can supply any spares. The trade supplied.—Sulina Garage, The Douglas Specialists, New Park Rd., Brixton Hill, S.W.2. 'Phone: Streatham 40 and 2563. Open Saturday afternoon and Sunday morning. [4648

Duzmo.

LEICESTER and Coventry Distributing Agents for Duzmo overhead valve sporting motor cycles; deliveries now commenced; demonstration model on view.—Naylor's Garage, Anstey, Leicester. 'Phone: 52. [2522

Edmund.

EDMUND Lightweight, leaf spring frame, Enfield 2-speed, splendid order; £52.—Platts, 602, King's Rd., Fulham, London. [4836

Elswick.

1914 Elswick-Precision, 4½h.p., 3-speed, clutch, combination, all on, perfect order, trial; £60. - 25, Bacchus Walk, Hoxton. [5362

Enfield.

JULIANS, of Reading, have 1921 Enfields in stock. [0478

1920 Enfield 2-stroke, 2-speed, unused; bargain, £62.10.—Woods, Ltd., Sligo. [5188

1921 Royal Enfield 2-stroke, uncrated; £57/10.—272, Green St., Forest Gate. [5010

£15. Enfield twin, 2¾h.p., tax paid.—Write, 323, St. Margaret's Rd., Twickenham. [5479

1919 3½h.p. Enfield, perfect; what offers?—Rhys Williams, James St., Monmouth. [4928

SHEFFIELD Agent for Royal Enfields, all models in stock.—J. A. Stacey, 12, Ecclesall Rd. [0573

ENFIELD 2-stroke, 2-speed, 1916, little used, licence, etc.; £43.—34, Selsdon Rd., West Norwood. [5678

1920 Enfield 3½h.p. Twin, new condition, lamps, horn; £58.—97, Sylvan Av., Bowes Park, N.22. [5626

NEW 1921 Enfield Combination in stock; list price £160.—Bounds' Garage, 223, High Rd., Kilburn, N.W. [5169

6h.p. Royal Enfield with twin cone sidecar, complete with lamps, etc., licence paid.—Talbot, 47, High St., Ware. [5785

ENFIELD 2¼h.p. 2-stroke, 2-speed, 1921, in stock, £65; kick starter £5 extra.—Rivett, 236, High Rd., Leytonstone. [1451

6h.p. Royal Enfield and Sidecar, equal to new; any trial; £125, or nearest.—Percy Miller, Burton Lane, Brannton, N. Devon. [4378

ENFIELD 1921 Combination, Vickers 8h.p., Magdyno, as new; best offer.—Piano Works, Woodchester, Stroud, Glos. [X3667

NEW 1921 Enfield Combination, 8h.p., in stock; list price £160.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0621

1921 Enfield 2-stroke, 2-speed, fully equipped, tax paid, condition as new; bargain, £65.—27, Maryland Sq., Stratford, E.15. [5120

1921 Enfield, 8h.p., 2-seater sidecar, dynamo, as new, cost £200, tax paid; £165, near offer.—6 Tower Rd., Dartford. [5574

ENFIELD 6h.p. Coachbuilt Combination, excellent condition, lamps, accessories; £85.—Mugridge, 225, Franciscan Rd., Tooting. [5354

1915 T. T. Enfield 3h.p. Twin, 2-speed, engine G2505; £40, or near offer.—Moorcroft, Horton-in-Ribblesdale, Settle, Yorks. [5270

MOTOR CYCLES FOR SALE.

Enfield.

3h.p. Enfield, 1916, 2-speed, clutch, K.S., excellent condition, tax paid; or exchange combination; £50.—17, Herschel St., Slough. [5449

ENFIELD 2-stroke, 2¼h.p., 2-speed, all-chain drive, complete with lamps, and licence paid; £40.—Hall's Garage, Stevenage, Herts. [5499

1917 8h.p. Royal Enfield, double seater sidecar, all accessories, tax paid, in perfect condition throughout; £110.—114, Brixton Hill. [5418

NEW 1921 8h.p. Enfield Combination, in stock. list price £160; exchanges entertained.—Bambers', Eastbank St., Southport. Tel.: 607. [8740

1921 8h.p. Enfield Combination, dynamo model; £182; and 8h.p. standard model, £160.—Sherherd, Enfield Highway. Tel.: Waltham Cross 31. [0341

3h.p. Enfield Twin, 1917, not done 1,000 miles, cane canoe sidecar, perfect mechanical condition; £45.—Dr. Thomas, W. Drayton, Middlesex. Seen any time. [5788

ENFIELD 6h.p. Combination, 1916, in good condition; trial or examination at any time; £85; tax paid.—94, Hoppers Rd., Winchmore Hill, N.21. [3122

ENFIELD Combination, 6h.p., 1914, 2-seater sidecar, excellent condition, tax and insurance paid; £85.—R. Grimson, 23, Shaftesbury Rd., Hammersmith. [5342

ENFIELD 3h.p. Twin, 1918, and Cancelet sidecar, perfect; £70, including lamps; exchange piano entertained.—Morley, 6, Sussex Place, South Kensington. [5548

ENFIELD 1916-1917, M.A.G. 3h.p., 2-speed, kick start, in splendid order; £45.—Butterworth's Garage, 64, Mill Lane, Brixton Hill. 'Phone: Streatham 2813. [5426

ENFIELD 3h.p. Twin, Bosch, new Amac, good tyres, tubes, licensed, ride away; nearest £25 gets it; combination wanted.—J. Stiff, Askett, Princes Risboro', Bucks. [X4128

ENFIELD, Nov., 1920, Lucas mag.-dynamo lighting, fully equipped, tax paid, perfect; £150; any time.—Welland, Hillside, Egerton Rd., South Norwood, S.E.25. [5293

1921 Royal Enfield 2¼h.p., 2-stroke, 2-speed, kick starter, 400 miles, absolutely new condition; list £70, accept £55, or nearest.—Boscombe House, Salisbury. [4909

S.E. London Service Depot.—In stock 8h.p. Enfield combination, £160; tandem sidecar, £164; 2¼ h.p. 2-stroke, £65.—Cleare and Co., 125, High St., Woolwich. [5201

1919 (November) 2¼h.p. 2-stroke Royal Enfield, 2-speed clutch model, lamps and horn, good condition throughout; £50 cash.—Redler, Poplars, Bathpool, near Taunton. [4827

ROYAL ENFIELD 1920 2¼h.p., 2-stroke, lamps, horn, and tools, excellent order, tax paid; £48; after 5 p.m., 1 o'clock Saturday.—34, McLeod Rd., Abbey Wood, S.E.2. [5826

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Royal Enfield models from stock, combinations and lightweights, from £65; supplied on our easiest of easy payment systems. [4539

ENFIELD, 3h.p., 1917, Binks, dynamo lighting, clock, speedometer, engine just rebushed, new back tyre, splendid condition throughout; £60.—28, Streatley Rd., Brondesbury. [4965

ENFIELD, late 1919, 8h.p., polished aluminium sidecar and discs, fully equipped, speedometer, wind screen, etc., condition as new; £125.—Norfolk, 5, Hemdean, Hill, Caversham, Reading. [5641

ENFIELD 1921 Brand New 8h.p. Combination, just arrived from works, in stock for immediate delivery, no waiting, ready to drive away; £160.—Wilkins, Simpson, opposite Olympia, London. [5180

£45, bargain.—2¼h.p. Enfield, 2-speed, all-chain, lamps, horn, tax paid, practically new, Cox-Atmos, accessories, beautiful condition, guaranteed perfect; exchange.—89, East Hill, Wandsworth. [5602

ENFIELD (Sept., 1917) 6h.p. Combination, Bosch, Easting, lamps, just overhauled, perfect condition, stored for 3 years, mileage about 3,500, 2 new tyres, tax paid; £98.—22, Hamhalt Rd., S.W. [5829

ENFIELD 6h.p. Combination, hood, screen, lamps, horn, speedometer, Tan-Sad, Binks, tax paid; any trial; £75; cash wanted. After 5 by appointment.—Carter, 6, Scotland Green Rd., Ponders End, Middlesex. [4872

ENFIELD 1920 Combination, 8h.p. J.A.P., complete with Lucas dynamo lighting set, condition and appearance equal to new; bargain, £140, tax paid.—P. J. Evans, 81-91, John Bright St., Birmingham. [5082

ENFIELD 1919 8h.p. Combination, Colonial model, wind screen, lamps, speedometer, horn complete, tax paid, very nice order; £110.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C. Tel.: Avenue 5548. [0066

1920 Enfield Combination, 6h.p., hood, screen, speedometer, watch, mirror, Tan-sad, 2 horns, insurance, tax paid, new spare chain, tube valve, only run 2,400 miles; £148.—West, 51, Andover Rd., Winchester. [5397

REGISTERED HAH TRADE MARK

H.A.H. Complete Electric Lighting Sets.

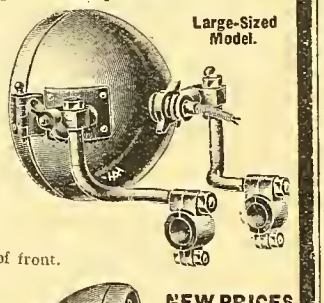
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Accessories. Specialities

NOTE REDUCED PRICES

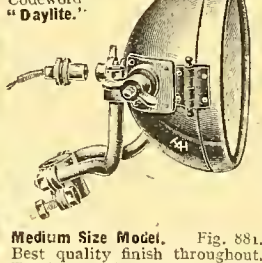
H.A.H. COMPLETE SETS.—Head, Side, and Tail Lamps, Accumulators, Carrying Cases, Switch, Wiring, etc. Ready for installing.

Fig. 895. Codeword "Daylite" Best quality finish throughout. Very massive and strong. Adjustable focus. Adjustable brackets. Special dust and weather-proof front.



Large-Sized Model.

Fig. 893. Codeword "Daylite."

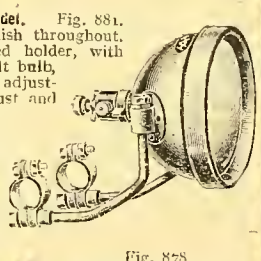


NEW PRICES
Fig. 895 Nickel-plated 60/- each.
Fig. 893 Black-plated 65/- each.

OLD PRICES
Fig. 895—Nickel 72/6 each.
Fig. 893—Black 76/6 each.

Medium Size Model. Fig. 881. Best quality finish throughout. Totally insulated holder, with switch and 4-volt bulb, adjustable focus, adjustable brackets, dust and weather-proof front. As illustrated. Fig. 881.

NEW PRICES
Nickel .. 36/-
Black .. 39/-
OLD PRICES
Nickel .. 43/-
Black .. 47/



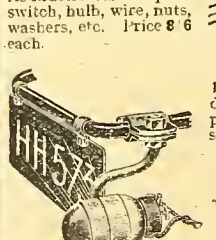
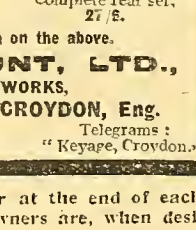


Fig. 560. Sidecar Lamp. As illustrated. Complete switch, bulb, wire, nuts, washers, etc. Price 8/6 each.

Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. New Price, Black-plated, 40/- each. Old Price, 55/-



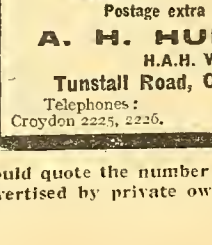


Fig. 573. Shows red danger signal, lights No plate. Complete with switch, bulb, wire, clip, etc. Price 9/6 each.

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ENFIELD Combination, dynamo lighting, Easting screen, Lucas horn, speedometer, watch, mirror, tools, spares, beautiful outfit, nearly new, practically unscratched; £125; first with cash.—436, Whitehorse Rd., Thornton Heath. [5618

ENFIELD 2¼h.p., 2-stroke, 2-speed, brand new, 1921 model, just arrived from works, in stock for immediate delivery, no waiting; £65; ready to drive away; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [5179

1918 8h.p. Royal Enfield Combination, hood, screen, gas lamps, speedometer, Binks, mirror, luggage grid, pump, spares, overhauled at £30, tax paid, condition as new, seen any time, trial; £130.—C.B., 30, Westbourne St., Sloane Square, S.W.1. [5217

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WANTED, purchasers for any make of new 1921 Royal Enfield motor cycles and combinations for immediate delivery. Your present machine taken in part exchange; full market value allowed; distance no object.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [0645

ENFIELD 1920 6h.p. Combination, electric lighting, Cowey horn and speedometer, wind screen, hood, extra luggage carrier, spare tyre and tube, all tools and extras, tyres good, excellent running order, mileage 5,200, full insurance to March; trial after 6, except Saturday; £150.—Annand, 37, Woodville Rd., Ealing. [5056

Excelsior.

ASTONISHING Value.—Brand new 4½h.p. Excelsior Big Single Combination, bulbous back sidecar, list price £160; reduced to £125 spot cash.—The Premier Motor Co., Aston Rd., Birmingham. [X3778

1920 Excelsior 4h.p., with coachbuilt sidecar, wind screen, lamps and horn complete, only done 200 miles; cost over £170, will accept £125 for quick sale.—H. Adams, 120, Chandos St., Netherfield. [4997

Fafnir.

3½h.p. Fafnir, 2-speed countershaft, excellent order, pulls sidecar, tax 30/-; £15.—67, Wantage Rd., Reading. [X4157

3½h.p. Fafnir Combination, modern frame, 3-speed countershaft, kick start, splendid condition, tyres good, licensed; £50.—Warder, Fleetham, Bedale. [4945

FAFNIR 3½h.p., 2-speed, clutch, countershaft, all chain drive, lamps, horn, discs, tax paid, sports model; 20 gns.—13, Stanley Rd., Bromley, Kent. [5599

F.N.

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F.N., 4-cyl., 2 speeds, clutch, low, good running order; £38.—Earlswood, Church St., Wokiog. [5400

1921 F.N. Combination, 4-cyl., like new; bargain £170.—Ingham, 53, Dean St., Blackpool. [X4150

F.N. Lightweight, speeds, splendid condition; sell, exchange more power.—Engineer, Workhouse, King's Lynn. [4828

F.N. Combinations in Stock; reduced price, £188; call for a trial run.—Grimes and Co., 18, Brunton Place, Bond St., W. Mayfair 4792. [6071

1921 F.N. 4-cyl. Combination, all accessories, under 2,000 miles, in new condition; £160.—Motorists' Advisory Agency, Ltd., 89, Wigmore St., W. [4753

F.N. Combination, 5-6h.p., 1913, 2-speed, hand clutch, electric lamp, horn, in splendid order; £55.—Butterworth's Garage, 64, Mill Lane, Brixton Hill. 'Phone: Streatham 2813. [5424

F.N., quite new September, 1920, unridden, 7h.p. 4-cyl., 3-speed, solo; best offer over £100, or exchange modern Triumph or other good solo or combination.—Godden, 11, Fellows Rd., Hampstead. [5243

IMMEDIATE Delivery of any F.N. model; cash or deferred payments; book your order now and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Province 2417. [0500

BRAND New F.N. 7h.p. 4-cyl. Shaft-drive Motor Cycle with coachbuilt sidecar, hood, wind screen, lamps and horn, owner just taken delivery of machine but is obliged to sell owing to illness; cost £220, but will sacrifice for £170 for quick sale.—Jackson, Sunnyside, New Nuttall, Notts. [4995

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JULIANS, of Reading, have 1921 Francis-Barnett in stock [0477

FRANCIS-BARNETT, 2¾h.p. J.A.P., 2-speed, clutch, K.S., almost new, equipped with over £20 extras accessories, splendid condition; £80.—24, Carlton Rd., New Southgate. [5161

1920 Francis-Barnett-Jap, 2-speed clutch and kick starter, complete with accessories, run about 100 miles; £72/10; easy payments.—Harrods, Ltd., 113, Brompton Rd., London. [5275

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IEFFIELD Agent for Harley-Davidsons; from £120 - Stacey 12, Ecclesall Rd. [0577

'ARLEY-DAVIDSON Combination, 1915, in first- class order; £100.—E. D. Allen, Hoddesdon, Herts. [5541

'ARLEY Sports, brand new, equipped; £122.— Clark, 7, Exhibition Rd., South Kensington. [3975

'ARLEY-DAVIDSON 1916 Machine, 1920 sidecar; any trial: £105—Kimberley, Crescent, Leatherd. [4800

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'ARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bamber's, Southt, Lancashire. Tel.: 607. [5009

'ARLEY-DAVIDSON 1918 Combination, all accessories, excellent condition, tax paid; £125; after 'clock.—7, Thornbury Rd., Clapham Park [5831

'ARLEY, 1919 (late), and sidecar, luxuriously equipped, no better Harley on the road, licensed; rest £140.—132, High Rd., East Finchley. [5693

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'ARLEY-DAVIDSON 1920 7-9h.p. Combination, electric lighting, all accessories, condition as new, used this year, tax paid.—13, Woodberry Down, sbury Park. [5245

915 7-9h.p. Harley-Davidson Combination, mag., complete with lamps and horn, running order, paid; £70, or near offer; seen any evening.—Hallis, 32, Wellesley Rd., Sheerness. [5640

ARLEY-DAVIDSON, 1920, 7-9h.p., mag., Renner 2-seater sidecar, all accessories, small mileage, and insurance paid; sacrifice, £160; owner bought —Turner, 22, Brigstock Rd., Thornton Heath. [5355

ARGAIN, 1915 4½h.p. Harley-Davidson Combination, lamps, horn, coachbuilt sidecar, all in order and condition; £65; exchanges entertained. mber's, Ltd., Eastbank St., Southport. 'Phone: [3524

920 Harley Combination, electric model, lamps, horn, speedometer, tools, tyres nearly new, alum number plates, not been ridden this year; 0, or near offer.—Smith, Netherfields, Berkhamsted, s. 'Phone: 100. [5302

ARLEY-DAVIDSON Combination, complete overhaul just completed, electric lighting, mechanical , etc.; £135 nett no absurd offers for spot cash, e).—West London Garage, Kealey St., Princes Rd., l. 'Phone: Park 5139. [5608

ARLEY-DAVIDSON Combination, late 1919, just overhauled and re-enamelled, condition and arance as new, large roomy sidecar, or would fit ter body if required; £135.—Owen, 59, Scholefield Upper Holloway, N.19. [X4155

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ARLEY-DAVIDSON 1919 Combination, special coachbuilt sidecar, fitted with dickey seat in ous tail, cost £50, speedometer, Easting, condi- ns new, perfect in every detail; £145 for quick — Noyes, 163, Railway Approach, Shepherd's Tel.: Hammersmith 942. [5569

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Hawker.

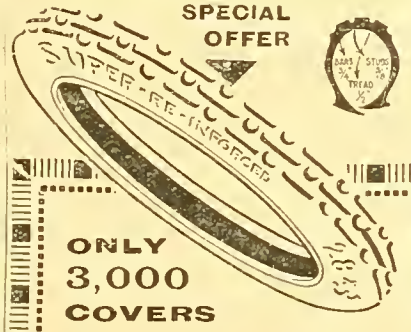
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E KICKHAM for Henderson, sole agent for Bristol and Bath districts.—Stokes Croft, Bristol. [3354

10h.p. 4-cyl. Henderson and sidecar, perfect, hood, screen, accessories; £95.—Cole, 2b, Narbonne Av., Clapham, S.W.4. [4922

HENDERSON Featherweight, practically new, lamp, apron, Dunlop extra heavy, complete; £14.—Mighell, Manor Farm, Beddington, Croydon, Surrey. [5307

10h.p. 4-cyl. Henderson Combination, 1917, all in splendid condition, little used, speedometer, P. and H. lamps, accessories; £120.—41, Bouverie Rd., Folkestone. [5524

1915 Henderson Combination, 10h.p., 4-cyl., just thoroughly overhauled, electric lighting, in first-class order, any trial; 95 gns.—Capt. Taplin, 16, Lordship Park, N.16. [5511

HENDERSON 4-cyl. 10h.p., late 1920, Canbolm Mudd coachbuilt sidecar, disappearing hood, accumulator lighting, horn, speedometer, clock, new spare tyre, tax and insurance paid, perfect condition, mileage 2,000; £198.—Major Bell, 191, Colcherne Court, S.W.5. [4846

1921 4-cyl. Henderson, with tandem sidecar, illustrated in this paper on March 3rd and 24th, and claimed to be one of the most handsome turnouts, electric model, reverse gear, disc wheels, electric horn, 2 electric lights inside sidecar, speedometer, hood, side curtains, and wind screens, grid, Tan-Sad, only ridden 3 weeks, selling by doctor's orders; sacrifice £275; cost £350; guaranteed perfect order.—Taplin, 7, York Buildings, Hastings, Sussex. [4967

Hobart

1920 Hobart-Villiers, 2-speed, fine condition, fully equipped, licensed, insurance; best over £55.—Smith, 46, London Rd., Newark. [4988

HOBART 4h.p. J.A.P. Combination, variable, Bosch, B. and B., screen, good order, tax paid; £38.—10, Station Rd., Shortlands, Kent. [5361

HOBART-VILLIERS 1919 2¾h.p. 2-stroke, 2-speed, lamps, legshield, as new; bargain, £36/10.—Wooding, 26, Dunehurst St., Fulham. [5680

Humber.

2h.p. Humber, Bosch, Amac, good running order; £22, or offer.—Harris, 65, Old Vicarage Rd., Exeter. [4794

HUMBER 4h.p. 1920 Flat Twin, 3 speeds, new condition; £82; tax paid.—Eagles and Co., 275, High St., Acton, London. [3493

HUMBER 3½h.p., coachbuilt sidecar, 3-speed, clutch, kick start, splendid condition; £50.—Pearce, 49, Walpole Rd., Bromley, Kent. [4787

3h.p. Humber, new, C.A.V., B.B. lamps, overhauled, nice running order; first cheque 18 gns. secures. —76, Western Rd., Southall, W. [5068

HUMBER 2h.p., 160 to 180 m.p.g. guaranteed, handy little machine, tax paid; £24, or near offer. After 7.—56, Lancaster Rd., Stroud Green, N.4. [5242

HUMBER Combination, 1919, 3-speed, 3½h.p., flat twin, wind screen, speedometer, fully equipped, licence paid, ready ride away; £90.—Watkins, Oakham, Rutland. [5399

HUMBER 3½h.p. 2-speed, clutch, foot control, sidecar attachment, excellent condition, ready for the road; money urgently required; will sacrifice for quick sale.—93, Brudenell Rd., Tooting, S.W. [5256

HUMBER 1917 6h.p. Flat Twin Combination, water-cooled, 2-seater sidecar, D.A. lighting set, hood, screen, speedometer, tax paid, in very good order, a bargain outfit; £95.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C. Tel.: Avenue 5548. [0068

Indian.

E. KICKHAM for Indian, sole agent for Bristol and district.—Stokes Croft, Bristol. [3353

INDIAN Sidecar, less wheel, tradesman's sidecar, Drummond 3½—264, Upland Rd., Dulwich. [4857

1921 Indian Scout, shop-soiled only, list £157; accept £132.—3, Parker Lane, Burnley. Tel.: 1032. [X3771

INDIAN, late 1918, chain drive, 3-speed, kick start, splendid condition; £65.—28, Bourne Rd., Bexley. [5818

£52.—7-9h.p. Indian, new condition, equipped, tax paid; sacrifice.—13, Pindock Mews, Maida Vale, W.9. [4269

INDIAN 3½h.p., 3-speed, coachbuilt sporting sidecar, tax paid; £80; trial.—2, Heathfield Gardens, Chiswick. [4919

INDIAN 1920 Powerplus Millford Combination, dynamo lighting, fully equipped, splendid condition, mileage under 5,000; sacrifice £135.—33, Victoria St., Coventry. [X4211

POWERPLUS Indian, 1918, overhauled and re-enamelled, guaranteed perfect throughout, £68; new sidecar, £35 extra.—Langford's, 37, Cricklewood Broadway, N.W.2. [5761

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Indian.

£50.—Indian 7-9h.p. Powerplus, 3-speed, K.S., clutch; part exchange Douglas.—Day, Friars Place, Chelmsford. [5149

INDIAN 7-9h.p., tax paid, T.T. bars, very smart, and in splendid condition; any trial.—Tilbury, West Horsley, Surrey. [4786

1916 7-9h.p. Indian, first-class condition, with lamps, tyres nearly new, tax paid; £55.—Rose's Garage, Uxbridge. [5375

INDIAN, 1915; 7-9h.p., T.T., clutch, lamps, Klaxon, £15 new parts fitted; any trial; £40.—23, Tivoli Rd., Crouch End, N.8. [5643

7-9h.p. Indian Powerplus Combination, spring frame, 3 speeds, clutch, etc.; bargain, £85.—Fisher, 24, Tremadoc Rd., Clapham, S.W.4. [5433

1914 7-9h.p. T.T. Indian Combination, overhauled and re-enamelled, speedometer, screen; £40, or near offer.—6, East View, Nantwich. [5292

T.T. Indian 7-9h.p., clutch model, horn, speedometer, lamps and tools, almost equal to new; £60.—Howarth, 76, Morris St., Oldham. [X4159

£90.—Powerplus Indian, 1919, mileage 1,000, fully equipped, perfect condition, pillion seat, licensed sidecar, trial.—7, Bay Vue Rd., Newhaven. [5289

1921 Indian Scout, 4h.p., speedometer. licence, cost £160, carefully ridden; £118, offers, exchange.—Robinson, Station Rd., Dalton-in-Furness. [5658

7-9h.p. Indian, latest war model (1919), electric light, spring frame, perfect order; £83, or nearest.—Thornton, 172, Denton's Green, St. Helens. [4940

1918 Indian, 5-6h.p., 3-speed, clutch, kick starter, electric lighting, new tyres, tax paid, as new; £80.—5, Norwood Rd., Herne Hill, S.E.24. [5516

7-9h.p. Indian Combination, Projectile sidecar, wind screen, equipped, tax paid, absolute gift; first 58 gns.—Ramsden's Maybell Av., Blackpool. [5141

INDIAN Scout, 1921, electric model, fitted with De Luxe sidecar, mileage 200, ten days old; what offers?—Hicks, 32, Lena Gardens, Hammersmith. [5158

INDIAN Scout Combination, perfect, 600 miles only, Easting, lamps, equipment; cost £200, sell £160; lightweight 2-stroke part.—28, Grosvenor Rd., Norwich. [X4051

1915 7-9h.p. Indian, spring frame, 3-speed, kick starter, just been thoroughly overhauled; bargain, £68.—Harburn, 36, Braunton Rd., Barnstable. [4969

1919 Indian 7-9h.p. Powerplus, 1921 Hendee sidecar, mileage about 100; £120, or near offer.—Apply, Mr. Willsher, 5, Kempson Rd., Fulham. [5135

INDIAN 1920 Powerplus Combination, dynamo lighting kick start, 3-speed, perfect condition; £120; seen by appointment.—190, Worple Rd., Wimbledon. [4975

1919 Indian 7-9h.p. Powerplus, with new C.B. bulbous back sidecar, new lamps and horn, tax paid; £115.—Wilcox, 25, Cromwell Rd., Peterborough. [5466

1921 (late) Indian Powerplus Combination, dynamo lighting and horn, speedometer, in first-class order; £155; any trial.—Neale, 91, Elmers End Rd., Beckenham. [4792

INDIAN 1919 Combination, brand new, bulbous sidecar, guaranteed perfect order, D.A. lighting, all accessories; £100.—33, Streathbourne Rd., Balham, S.W. [5787

1918-1919 Powerplus Indian, 3-speed, K.S., as new, with brand new 1921 Rennoc sidecar; £125, or would exchange for small car.—Aubrey, Town Hall, Elgin. [5262

INDIAN Powerplus, 1919, fitted new Millford de Luxe sidecar, lamps, generators, tax paid, like new, new tyres; what offers—Hicks, 32, Lena Gardens, Hammersmith. [5159

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1920 Indian Combination, carefully ridden 1,800 miles, fully equipped, electric, luxurious sidecar, Easting, unpunctured, recently overhauled; cost £226, will sell £180; take good lightweight part exchange.—Carn Brea, Lion Lane, Haslemere. [5442

1920 7-9h.p. Indian Combination, disc wheels, electric horn and lighting, speedometer, ammeter, new batteries, switchboard, mag. overhauled, kit, spares, first-rate order; cheap for cash; buying car; photo for stamp.—184, St. James' Park Rd., Northampton. [4981

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INDIAN Late 1920 Dynamo Lighting Combination enamel as new, engine perfect; £135, or exchang —Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [567

INDIAN Combination, 7-9h.p., 3 speeds, kick star overhauled, re-enamelled, electric lighting, gri etc., for touring, tax paid; £80, solo £55.—Leit House, Oakdale Rd., Weybridge. [540

INDIAN Combination, electric, hood, screen, speed meter, legshields, luggage grid, tyres nearly nev all in splendid condition, been well looked after, 1914 £95.—17, Lambton Rd., Hornsey Rise. [562

INDIAN and Sidecar, 7-9h.p., 2-speed and clutch sporting sidecar, fully equipped, tax paid to Decem ber; accept £45.—Speechley, 86, Churchfield Rd., Acto London, W.3. 'Phone: Chiswick 1902. [550

BARGAIN, 1921 4h.p. Indian Scout, electrically equipped, speedometer, etc., in excellent cond tion, only run 1,000 miles; £154.—Bamber's, Ltd Eastbank St., Southport. 'Phone: 607.. [352

1920 Super-Powerplus Indian Combination, Millfor sidecar, actual competition model, in perfec condition, all accessories; £135.—Levitt, 80, Strea ham High Rd., S.W. Streatham 2701. [505

1920 Indian Powerplus Combination, dynamo ligh ing and horn, disc wheels, wind screen, luggag grid, tax paid, mileage 5,000, perfect condition; £13 —Tompkins, Brickhill Rd., Wellingborough. [526

1919 Indian Powerplus Combination, only done 10 miles, splendid condition, electric light, Klaxo shields, speedometer, back seat, wind screen; any trial £145.—Morriss, 8, Victoria Rd., Finsbury Park, N. [538

INDIAN 7-9h.p. Combination, 3 speeds, kick start on right side, spring frame, latest pattern India sidecar, C.A.V. electric lamps and horn; £88; tax paid —Eagles and Co., 275, High St., Acton, London. [549

1921 Indian Scout, dynamo lighting, electric hor speedometer, brand new, just delivered, long ex haust pipes, 3 extra sprockets, tax paid; must sell; £14 —King, c/o Bambers', 33, Liverpool Rd., Birkdale. [X393

INDIAN Combination, 1914, spring frame, kick star rear speedometer, electric lamp, tax paid, used on season only, mileage under 6,000, just overhauled, pe fect; £85, or near offer.—Baroda, Hook, Surbiton. [525

INDIAN Combination, 7-9h.p. Powerplus big valv dynamo model, Easting, all accessories, and ta paid, small mileage, and as new, very fast and powe ful; £148.—E. J. H., Brockenton, Belmont, Surrey. [C 0

1920 7-9h.p. Indian Combination, dynamo lightin electric horn, engine 70R566, many spare private owner, cost £239, receipt shown; £160. Wilmot, c/o Mrs. Worley, Walton Lane, Barrow o Soar. [497

INDIAN 1919 7-9h.p. Powerplus, 3-speed, hand an foot clutch, spring frame, tyres, hardly soile tip-top condition throughout, lamps; too heavy prese owner; £85.—Hopkins, 33, Briscoe Rd., Hoddesdo Herts. [554

INDIAN 5h.p. Combination, 1916, Easting scree horn, lamps, legshields; many spares, everythi splendid condition, tax paid; bargain, £70.—Appl Goldsack, The Cricketers, Shirley Rd., Addiscomb Tel.: 139 Croydon. [40

WANTED, purchasers for any make of new 19 Indian motor cycles and combinations, immediate delivery. Your present machine taken part exchange; full market value allowed; distance object.—R. Bamber and Co., Ltd., 2, Eastbank S Southport. Tel.: 607. [06

1920 7-9h.p Indian Powerplus Combination, mi age only 3,500, tyres unpunctured, sidecar u holstered in red and special spring seat fitted, va smart outfit, condition as new, and perfection every way, any examination or trial, must sell; £16 private owner.—Reeves, High St., Purley. [51

INDIAN 1919 Powerplus, American Army Mod 3 speeds, clutch, and kick start, complete wi Lucas horn and lighting set, tax paid, machine gu anteed in absolutely perfect condition, and ind tinguishable from new; accommodation reason selling; lowest £68.—Walters, 50, Cobden St., Kidd minster, Worcestershire. [56

INDIAN N.E.20 Combination, large valves, elect equipment, large legshields, wind screen, lugg carrier, mileage 3,000, spare new cover, tube, batte valve, tools, licence paid, insured, carefully used, lo like new; great bargain, £160, or exchange light c seen by appointment only.—20, Spencer Hill, Wim don. 'Phone: Kensington 6447. [54

1919 Indian 7-9h.p., right-hand kick start painted Harley olive brown, under 2,000 mi lamp, horn, fitted with spring wheel sidecar w accommodation for 2 children if necessary, Car screen, licence paid, discs to all wheels, only wa seeing; 135 gns., or exchange for latest Ford Conner, 12, Wray Crescent, Tollington Park, N. [46

Invicta.

1920 2¾h.p. Invicta-Jap, 2-speed clutch and k starter, complete with accessories, very sm mileage; £60; easy payments.—Harrods, Ltd., Brompton Rd., London. [5

MOTOR CYCLES FOR SALE.

Ivy.

Y 1921 Models.—Sole district agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. ne: 72. [5006

Ixion.

ION-VILLIERS 2½h.p., 1916, tax paid, insurance; £32, offers.—26, Old Gloucester St., W.C.1. [5522

ION-VILLIERS, 2¾h.p., Aug., 1920, lamps, Klaxon, pump, all accessories, condition new, £42, age 1,000.—34, Chatterton Rd., Bromley, Kent. [5487

James.

AN GUY, Weymouth.—James agent, early delivery dates given. [0552

MES 4½h.p. Combination, 3-speed; £65.—Lawson, Tennyvenie, Dalmellington. [4955

MES 1920 2-speed, 2-stroke, new, shop-soiled (£75); accept 60 gns.—Smith, 268, Lavender Hill, Clap Junction. [4989

20 (late) 3½h.p. Twin James, 3-speed countershaft, K.S., new condition; £100.—Pynnes, Park e,, Silver St., Edmonton. [5827

MES Lightweight 2-stroke, 2-speed, excellent condition, good accessories and fully licensed; bar- £38.—Bunting, Wealdstone. [5687

20 James 2¼h.p. Lightweight, 2 speeds, K. and H. lamps, tax paid, in excellent running order and ition; 55 gns.—Box 4,734, *c/o The Motor Cycle.* [4843

MES Combination, late 1920, 5-6h.p. twin, perfect, done 2,600, speedometer, spares, acces- s; £160; owner having chr.—35, Ashurst Rd., rn Barnet, N.12. [5586

20 James, 2¼h.p., 2-speed, 2-stroke, leg shields, Lucas lamps, Huldops, spare piston, valves, belt, , etc., tax paid; £55, or nearest.—Read, Bocking rch St., Braintree. [X4153

MES 4½h.p. 1919 Combination, 3-speed countershaft gear, chain drive, Cancelet-James sidecar, lometer, and all accessories; £72; tax paid.—Eagles Co., 275, High St., Acton, London. [5494

MES 2-stroke, August, 1920, not done 300 miles, laid up from October to April, Lucas lamps (un-), tyres unpunctured, tax paid; nearest offer to £55. ent, 49, Parkfield Rd., Sefton Park, Liverpool. [4866

MEDIATE Delivery of any James Model; cash or deferred payments; book your order now, and l disappointment later.—Burlington Motors, Ltd., h Side, Clapham Common, S.W.4. 'Phone: Bris- 2417. [0503

TONISHING Value.—Brand new 1920 James 5-6 h.p. combination, model de luxe bulbous back ar, makers' list price £190; will accept £150 cash.—The Premier Motor Co., Aston Rd., Birgham. [X3760

MES Combination, 5-6h.p., late 1920, hardly used, Lucas dynamo lighting, electric horn, speedter, tax paid, Easting screen, etc.; will exchange smaller-powered combination and cash.—Barker's rs, 194, Balham High Rd. Tel.: Latchmere [3548

J.E.S.

20 J.E.S., practically new, mileage under 40; £28.—8, Silver St., Enfield. [5630

E.S., splendid order, electric lamps, licensed; £17/10, 1, Rosemont Villas, Clarendon Rd., ord, Middlesex. [5340

Kelecom.

h.p. Kelecom-Excelsior, running order, lamps, etc.; £35.—59, Nelson Sq., S.E.1. [5659

Kerry.

ERRY, 2¾h.p., a.i.v., good condition, new belt, new T.B. mag., good tyres; £12/10.—A. V. L. r, 40, West St., Croydon. [5763

Kingsbury.

INGSBURY 1921 2¾h.p., 3-speed, tax, all on, brand new; £58.—5, Girund St., Poplar, E. [4860

Lea-Francis.

EA-FRANCIS Combination, new 1920, 3½h.p. twin M.A.G. engine, good condition; £65.—B., 9, Pall , London. [5609

15 3½h.p. Lea-Francis, 2-speed clutch, licensed, excellent order; £55.—Edwards, 50, Harrington South Kensington. [5841

20 (late) Lea-Francis Swan de luxe Combination, first-class outfit, perfect condition; £125. est.—Money, 63, Berkeley Rd., Coventry. [X4142

EA-FRANCIS 3½h.p. Twin, 2-speed, foot and hand clutch, K.S., tax paid, good tyres, perfect con- n; bargain, £45; trial.—81, Borlord Rd., Catford. [5585

EA-FRANCIS 3½h.p., 1915, and sidecar, carefully used by same owner, excellent condition, all equip- t complete; £85.—White Nicholson, 26, Budge Row, ion St., E.C.4. [5611

EA-FRANCIS Combination, 1920, Millford sidecar, spare wheel, D.A. lighting, speedometer, and y spares, as new; £120.—Hewin's Garages, Ltd., Real Service Firm, Taunton. [5094

FULLY EQUIPPED REBUILT

P. & M.

MOTOR CYCLES.

2-speed, kick start,

£70

Fully renovated, newly stove enamelled, tanks in makers' colours, and with full equipment of new accessories, including lamps, horn, bag, tools, etc

Guaranteed for 3 months.

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TRIUMPH

MOTOR CYCLES.

Rebuilt as new by the Triumph Company, and carrying their guarantee.

3-speed countershaft, kick start, and clutch,

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SPECIAL OFFER OF NEW TYRES

in order to clear the remainder of our Stock

Brand New ex-W.D. Covers

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28×3 for English Rims.

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28×3 for American Rims

CLINCHER de LUXE
26×2½ for old size rim.

each **22/6** each

Carriage Paid.

Please mark envelopes "Tyres."

Crabtree & Son, Ltd.,
Motor Engineers,
WISBECH.

MOTOR CYCLES FOR SALE.

Levis.

LEVIS, Levis, Levis

GENTLEMAN'S Popular Model, £60; lady's Popular Model, £60; Model S, 2-speed, hand-controlled clutch, £68; immediate delivery. Levis specialists and sole distributers for London and district. Spare parts stocked; repairs undertaken.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., W.1. [0384

JULIANS of Reading have all Levis models in stock. [0483

DAN GUY Weymouth.—Levis 1921 models in stock; £60. [0554

LEVIS 1915, good order; £28.—Normand, Bridge St., Maidenhead. [4935

LEVIS 1919 5/, little used, accessories, excellent condition; £45.—201, London Rd., Croydon. [5486

1919 2¼h.p. Levis, equipped, tax paid, perfect; sacrifice 34 gns.—Ramsden's, Maybell Av., Blackpool. [5136

CYRIL WILLIAMS for immediate delivery of all models Levis.—Chapel Ash Depot, Wolverhampton. [X3819

1914 Levis 2-stroke, perfect running order, licensed; what offers?—Hughes, Temperance, Builth Wells. [4850

LEVIS, very fast, must sell, tax paid, tyres, belt, good condition, Bosch; £28/10.—R.A., 66, Church Rd., Acton. [5172

LEVIS.—Sole Walsall agents; special exchange and deferred payment terms; immediate delivery.—Maudes', Walsall Garage, Walsall. [2423

1920 Levis 2¼h.p., fast machine, fully equipped, only done 800 miles, like new; £42.—Brooker, Mill House, Salters Rd., King's Lynn. [4939

LEVIS, 1919 2-speed, £22; Zenith 4h.p., £30; Juvicta 4h.p., £22/10; cash wanted. After 6.30.—71, St. German's Rd., Forest Hill, S.E.23. [5239

LEVIS 2¼h.p., 2-speed, clutch, and kick start, Palmer cord tyres, lamps, and horn; £50.—Wallbank, 76, Eastern Rd., Wylde Green, Birmingham. [X4106

LEVIS Sports, 2¼h.p., 2-speed, new March, 1921, all accessories, pillion seat, tank tool box, mileage 1,100, guaranteed perfect; 60 gns.—23, Tivoli Rd., Crouch End, London, N.8. [5148

IN Stock, 1921 Levis, £60. Good wine needs no bush. Nuff sed.—Sole agents, The Headingley Motor and Engineering Co., Ltd., 18, St. Michael's Lane, Leeds 'Phone: Headingley 480 [0494

LEVIS Popular 2¼h.p., late 1920, perfect condition, all accessories, £50 complete, cost £80, owner unexpectedly ordered abroad.—Write R. D. Morrison, 63, Lee Rd., Blackheath, London. [0213

1921 Levis. All models in stock for immediate delivery, despatched within 24 hours, carriage paid to any address; model S 2¼h.p., 2-speed Sturmey-Archer gear, handle-bar-controlled clutch, £68; 2¼h.p touring, £60; 2¼h.p. sports, £60; buy your new machine direct from the Levis specialists.—The Premier Motor Co., Aston Rd., Birmingham. [X3782

Lincoln-Elk.

LINCOLN-ELK 4½h.p., 2 speeds, kick start; £36.—264, Upland Rd., Dulwich. [4856

L.M.C.

3½h.p. L.M.C., single-speed, good running order; bargain, £30.—47, Station Rd., Hitchin. [4111

Marlow.

MARLOW VILLIERS 2-stroke, 1921, 2-speed gear box; £60.—Morris, Sheppard and Co., Bishop's Stortford. [4897

Martin

MARTIN 3½h.p., o.h.v., 90 bore J.A.P., Brooklands model, 2-speed, plated cylinder and large bore exhaust, pressure oiling system, perfect condition; £52.—G. Martin, c/o Foster's Garage, East Grinstead. [Also see under Reading-Standard. [4826

Martinsyde.

MARTINSYDE Combination, standard £160, de luxe £215; catalogue on request.—The Moreton Garage, 2, Moreton Terrace Mews, Pimlico, S.W. [1855

MARTINSYDE 1921 6h.p. Combination, practically new, Easting wind screen, Binks, lamps, horn, tax paid, don't miss this bargain; £125.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C. Tel.: Avenue 5548. [0055

Matchless

MATCHLESS

1921 Combinations, any model from stock or in few days. Gradual payments can now be arranged. Every outfit personally tested by the Matchless specialists. Spares of all dates in stock.—J. Tassell, Bloomfield Rd., Plumstead. [5374

JULIANS of Reading have all Matchless models in stock [0480

1921 Matchless Combination, used once, unscratched; £160.—24, Balliol Rd., N. Kensington. [5455

8h.p. o.h.v. Matchless-Jap Combination, equipped, tax paid; gift, 49 gns.—Ramsden's, Maybell Av., Blackpool. [5142

MOTOR CYCLES FOR SALE.

Matchless.

1921 Matchless, all models in stock, for immediate delivery.—Edwards, 50, Harrington Rd., South Kensington. [5845

7-9h.p. Matchless Combination, 2 speeds, V.S., excellent running order; £60.—43, Russell Av., Wood Green. [5597

1921 Matchless, Magdyno lighting, brand new, unused, unregistered, must sell; £188.—41, Madrid Rd., Barnes, S.W. [5846

MATCHLESS Combinations, new, in stock, from £174; 1921 models, £205.—Sheffield Agent, J. A. Stacey, 12, Ecclesall Rd. [0574

MATCHLESS, the incomparable combination. Buy from the agent with the wonderful Matchless sales—and still forging ahead.

SAM E. CLAPHAM (Motors), Greenwich ('Phone: 751). Special notice, the Sports model illustrated in to-day's issue; identical outfit can be seen in my showrooms at Greenwich. Place your order immediately, it has caused a furore; any alteration or fitments to suit clients.

IMMEDIATE Delivery, 1921 Sports single, 2-seater, and trade outfits.—Sam E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [5699

MATCHLESS 1921, delivery from stock; exchanges; £185.—Geo. Smith (opposite Arding and Hobbs), Lavender Hill, Clapham Junction. [4993

MATCHLESS 1197, M.A.G., electric, Tan-Sad, hood, screen, enamelled as new, splendid condition; £125.—39, Kyrle Rd., Clapham Common, S.W.11. [5800

8h.p. Matchless Combination, late 1917, 4 interchangeable wheels, 3 speeds, kick starter, in splendid order; £100, or offers.—Southwell, Shenleybury, Cromer. [4822

1912 or 1913 6h.p. Matchless, 2-speed, Bosch mag., in first-class condition throughout; £47, or best offer.—Horswill, Indian Agent, 42, Bridge St., Chester. [4779

1920 Matchless Combination, all spares and accessories, only done 1,500 miles, indistinguishable from new; £170.—80, Streatham High Rd., S.W. [5050

1921 Matchless Combinations in stock, reduced price £185. These luxurious outfits represent the finest value offered.—Daw, Matchless Agent, 114, Brixton Hill. [5419

MATCHLESS 1921 Models in Stock; latest price complete, £185; immediate delivery.—Agents, R. B. Clark and Co., 7, Exhibition Rd., South Kensington. [3975

MATCHLESS (late 1914) M.A.G. 8h.p. Combination, complete equipment, all spares, magnificent condition; £135, for quick sale.—3, Hillcrest Rd., Acton, W.3. [5318

MATCHLESS 1920, mag. engine, dynamo, spare wheel, speedometer, tax paid; £155, or part payment for new 8h.p. Rover car.—M., 11, Egerton Rd., Greenwich. [5200

1920 Matchless, spring frame, combination, Magdyno, speedometer and all accessories, as new; £175.—Levitt, 80, Streatham High Rd., S.W. Streatham 2701. [5049

MATCHLESS.—Best value on market at new price, £185; in stock; exchanges arranged.—Agents, R. B. Clark and Co., 7, Exhibition Rd., South Kensington. [5770

MATCHLESS, Matchless, Matchless.—Latest 1921 model 8h.p. combination, for immediate delivery.—Vivian Hardie and Lane, Ltd., 23 and 24, Wood stock St., W 1. [041P

MATCHLESS Combinations at the reduced prices. Your present machine taken in part exchange.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5661

1915 Matchless 8h.p. Combination, 3-speed, kick starter, Lucas electric lighting, hood, wind screen, speedometer, etc., excellent condition, tax paid; £95.—13, Crook Log, Bexleyheath, Kent. [5311

MATCHLESS Victory Model, hood, screen, lamps, fully equipped, tax paid, insured next Jan., first-class condition; best offer; must sell.—Welland, Hillside, Egerton Rd., South Norwood, S.E.25. [5294

1914 Matchless Countershaft, with 1918 sidecar, just been overhauled, tax paid, £60; also N.S.U. 2-speed gear, nearly new, adjustable pulley, £6; suit 5h.p. J.A.P.—185, Shernhall St., Walthamstow. [5381

MATCHLESS Combination, H2, late 1920, Lucas Magdyno, inspection lamp, Watford speedometer, child's seat, small mileage, £20 spares, licensed, beautiful condition; £185.—Headmaster, Madley, Herefordshire. [5384

OCTOBER, 1920, 8h.p. Matchless Combination, M.A.G. engine, dynamo lighting, hood, screen, 2 horns, speedometer, inspection lamp, 4 detachable wheels, complete tool kit and sundry spares, photograph; £200, detachable travelling box extra.—Symons, Silverdale, Paignton. [5108

RACING Model Matchless, 6-8h.p. o.h.v. J.A.P., single gear, new mag., tyres, appearance and mechanical condition really sound, wants trifling repair, unique opportunity for speedman; £35, or offer; seen Wanchopes, 9, Shoe Lane, London.—N. Vintcent, R.A.F. College, Cranwell, Lincs. [5129



for

SPARES

It is ten to one that the spare part you need for your "bus" — the detail of equipment you've been hunting for—may be secured at

BURLINGTON'S

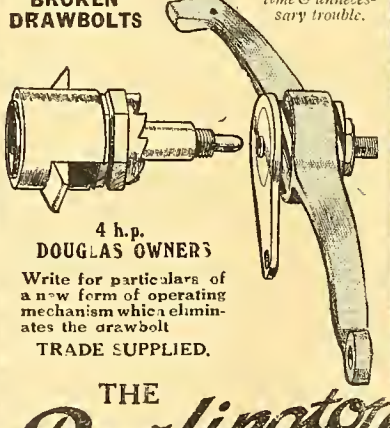
TWO NOTABLE BARGAINS

1921 **CALTHORPE**, 2-stroke, lightweight. 2½ h.p., new .. **43 GNS.**

1921 **CALTHORPE** Combination, 3 h.p.. Sturmey-Archer 2-speed, kick-starter, dynamo lighting, new **105 GNS.**

NO MORE BROKEN DRAWBOLTS

An investment which saves time & unnecessary trouble.



4 h.p. DOUGLAS OWNERS

Write for particulars of a new form of operating mechanism which eliminates the drawbolt

TRADE SUPPLIED.

THE Burlington MOTOR CYCLE CO. LTD

7, SOUTH SIDE, CLAPHAM COMMON, LONDON, S.W.4.

'Phone: Brixton 2417.
Wires: "Burlington Motors, Clapham."
(Just by Clapham Common Underground Station).

MOTOR CYCLES FOR SALE.

Matchless.

1920 Matchless Combination, nearly new, complete with hood, screen, all Lucas lamps and horn, spare wheel and tyre, tools, spares, beautiful outfit, in perfect condition; first cheque for £130.—Lugg, Okehampton. [5097

MATCHLESS Brand New H2 Combination, 1921, guaranteed, special engine, delivered this week, equipped Lucas acetylene, Easting, etc., cost £194; accept £180; buying car.—Hynard, Austin Lodge, Eynsford, Kent. [5333

MATCHLESS 1921 Models at reduced prices. Delivery from stock. Complete combination, spare wheel and wind screen, £185; 2-seater sidecar £7/10 extra; exchanges or extended terms arranged.—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C. Tel.: Avenue 5548. [0069

MATCHLESS, 1920, Model H, complete with dynamo lighting, speedometer, horn, hood, legshields, mirror, and usual tools, an ideal outfit, only done 3,000 miles; £187/10; condition like new; owner taking delivery of a light car.—Can be seen at Wilkins, Simpson, opposite Olympia, London. [6722

MATCHLESS Brand New 1921 Combinations, at makers' very latest reduced prices, with Magdyno lighting, £207/10; without Magdyno lighting, £185; no waiting, actually in stock ready for immediate delivery, call and inspect; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [5181

1920 Matchless Combination, M.A.G., Lucas dynamo lighting, horn, speedometer, hood, legshields, all tyres new, the whole outfit in tip-top condition, just been decarbonised and overhauled by makers; owner obtained delivery 1921 model; will accept £155.—Can be seen Southern Motor Exchange, Bromley Rd., Bellingham, near Catford, S.E. [4865

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock, for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [0381

MATCHLESS M.A.G. 7-9h.p. 1915 Combination, 3-speed countershaft, clutch, kick start, silent chain to gear box, sidecar has trade delivery body fitted, very expensive chassis, suitable for any type of private body also; the outfit is in good condition mechanically, including chains and tyres, will climb anything, runs beautifully, but is rather shabby in appearance; will accept £65 for quick sale; any trial given; a bargain.—R. Watson, Victoria Rd., Aldeburgh, Suffolk. [5741

Maxim

MAXIM-DALM, Dec., 1920, 3h.p. 2-stroke, absolutely new, Amac carburetter, E.I.C. mag., Albion 2-speed, Hutchinson tyres, accessories, £52; ditto with clutch, kick start, £58/10.—224, Pentonville Rd., London, N.1. [4292

Metro

1919 (Nov.) Metro-Tyler 2¾h.p., Albion 2-speed, discs, speedometer, spare belt, tools, etc., mileage under 2,000, tax paid; £48.—Sellman, 120, Corn St., Witney, Oxon. [4783

Minerva

MINERVA, 2½h.p., new Dixie mag., new heavy Dunlop tyres, Amac, good condition, going order, Klaxon horn, tax paid; £18, offers.—Weigbt, 29, Belle Vue Rd., Ealing. [4943

Mohawk.

MOHAWK Cycles, new or second-hand, at lowest possible prices for cash or easy payments.—Mohawk Cycle Co., Ltd., 2-8, Alexandra Rd., Hornsey. [3698

Monarch

£60, offers.—Monarch-Jap, 1920, 2-speed, clutch, kick starter, disc, lamps, etc., tax paid; expert examination; also sidecar chassis, cheap.—6, Holly Mount, Hampstead [5166

Motosacoche.

2¼h.p. Motosacoche, splendid order, tax paid; £18.—Platts, 602, King's Rd., Fulham, London. [5319

MOTOSACOCHE, mag., Druids, B. and B., Whittle; £18, or Auto-Wheel and cash; offers.—Huggins, Skelton, nr. York. [X4151

£11/10.—Motosacoche, splendid appearance, new mag., Dunlops, running order, tax paid.—King, Egrove Farm, Oxford. [X3944

£38.—1914 Motosacoche, 3½h.p. twin, 2-speed, licence, extra fast, perfect condition.—Wallis, 23, Hartington Grove, Cambridge. [5077

2½h.p. Motosacoche, with variable gear, good tyres, running order, licence paid; £19/10.—John Oswald and Son, Brechin. [5116

MOTOSACOCHE 1¾h.p., mag., B. and B., Druids, good condition and running order, horn, spares, tax paid, new cover and tube; £16/10 on rail.—Johnson, Skelton, near York. [X4158

1914 3½h.p. Twin Motosacoche, M.A.G. engine, Enfield 2-speed, all-chain (new), 2in. exhaust, special fittings, do 40 on low, tax paid; exchange Douglas; guaranteed; £45.—89, East Hill, Wandsworth. [5603

THE MOTOR CYCLE

ESTABLISHED IN 1903

FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

EDITORIAL OFFICES: Hertford St., Coventry.
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ADVERTISING AND PUBLISHING OFFICES: 20, Tudor St., London, E.C.4.
Telegrams: "Cyclist, Fleet, London."
Telephone: 2848 City (13 lines).

Midland Branch Offices: Guildhall Buildings, Navigation Street, Birmingham.
Telegrams: "Autopress, Birmingham."
Telephone: 2970 and 2971 Midland.

Northern Offices: 199, Deansgate, Manchester.
Telegrams: "Iliffe, Manchester."
Telephone: 8970 and 8971 City.

Subscription Rates: Home, 23s. 10d.; Canada, 23s. 10d.; other countries abroad, 28s. 2d. per annum.

The Number of Motor Cycles.

STATISTICS have recently been published by the Ministry of Transport giving the number of motor cycles registered, which show the number licensed up to May 31st.

We have reason to believe that representations have been made to the Ministry from a good many quarters that the statistics should be considerably amplified in such a manner as to render them of real value to the trade and public.

The collection of statistics is, of course, an expensive matter, and it is only natural that the Ministry of Transport should desire to be satisfied that there is a real cause for their compilation before the department spends money belonging to the Road Fund, for which they are trustees on the behalf of motorists. It is possible also that the compilation of these statistics may be made a little more difficult if the Ministry accedes to the requests made by the House of Commons that broken period licences be issued instead of the existing annual, and last quarter motor cycle licences at half rates. We have strong hopes that the Ministry may be induced to meet the motor cycling public in this matter, as it is most desirable that the public be informed of the number of lightweight and mediumweight motor bicycles licensed, so that they may obtain some idea of the degree of popularity enjoyed by either type. These two grades pay differing fees, so the figure for each should be easily obtainable. Another point as to which the public would like to be informed is the exact proportion of motor bicycles to sidecar outfits and three-wheeled runabouts. Anyone living round London might be led to suppose that sidecar outfits exceed solo machines in number, but this is not so in other parts of England, and there are certain districts in which we know that the motor bicycle is more numerous than the passenger machine.

The development of the sidecar is intensely interesting. When first placed on the market few motor cyclists of that day thought it could possibly survive, but it has survived, increased, and multiplied. What we may require to know in the near future is just how its development is continuing.

The 350 c.c. Sidecar.

THE success of the 350 c.c. engine in winning this year's Senior Tourist Trophy has influenced several manufacturers seriously to consider its adoption for mediumweight sidecar work. These makers already know the capabilities of the small two-stroke as the propellant for a light sidecar, but, for some reason, very few have marketed a four-stroke-engined outfit. Now, it is argued that a type of engine which is capable of averaging 54.5 m.p.h. for over 200 miles may be regarded as suitable for average speeds of 25 to 30 m.p.h. with a sidecar. At this year's Olympia Show, therefore, several light four-stroke sidecar outfits may be staged to form a link in the range of sidecars, just as the solo mount with the same engine bridges a gap between the small lightweight and the larger 500 c.c. type of machine.

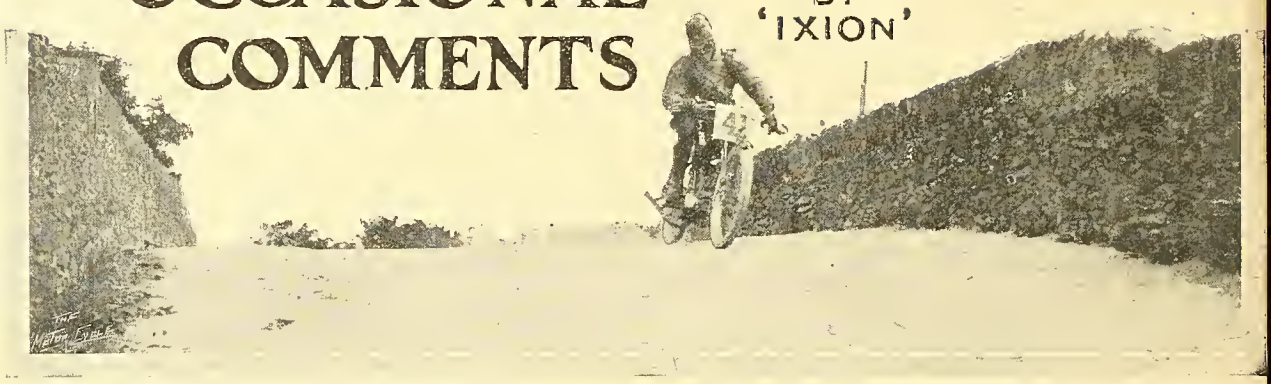
It is a well-known fact that few motor cycles are run under conditions demanding their maximum power, and that the large reserve of power available is seldom required by the average user. The modern 350 c.c. engine may be likened to the pre-war 500 c.c. power unit in many respects, and there seems no reason why either for solo or sidecar purposes, the smaller engine should not revive interest in the mediumweight machine at a moderate price. Too long have weights tended to increase, and a fast, go-anywhere 350 c.c. solo motor cycle, under 200 lb. in weight, and a sidecar outfit with 90 m.p.g. economy, cannot help but assist in enhancing the popularity of motor cycles.

It may be necessary, however, to issue a warning to motor cyclists that it is unwise to attach a sidecar to the average 2¾ h.p. motor cycle unless special precautions are taken to ensure extra frame strength, which shows that there is a danger that it may be spoiled from the solo point of view.

An index to the advertisements in this issue will be found on the page facing the back cover.

OCCASIONAL COMMENTS

BY 'IXION'



"The Motor Cycle" T.T. Tip.

OUR tame tipster did not do so badly over this year's Senior race. He gave Dance, Clarence Wood, and H. R. Davies to beat the field. Dance was leading by 28s. at the half-distance, and was a certain victor, barring accidents. Clarence Wood, during practice, beat the existing official lap record; and Davies, as all the world knows, won. I hope "Michael Kirk" got on the A.J.S. at fifteens.

Secret Timing in Practice.

THERE are a variety of dodges for discovering during practice what a machine can lap in, without giving away its speed to the public. The simplest consists of marking off an easy, straightish stretch, perhaps three miles long. Call this stretch AB. On the first practice lap you time your men precisely over this distance, viz., from A to B. Robinson's time for it is, let us say, 2m. 52s. On any future test laps you time Robinson from B to A, and add on 2m. 52s.; Robinson then passes point A all out, pulls up, has a cigarette or two, and presently passes point B with a flying start. He is officially recorded as having done 54m.; but *you* know his real time was equal to, let us say, 39m. 59s.

Record Laps.

VERY few of the Manx spectators recognised that there are only three laps out of the six in the Senior race in which record time is humanly possible. On lap 1 the men are handicapped by a standing start. At the commencement of laps 3 and 5 they stop at the cages to take up petrol and oil. So the chances of record are absolutely limited to the second, fourth and sixth laps. One might really identify lap 4 as the most likely to furnish new figures; for in lap 2 most men keep a little in hand, as the survivors have not yet sorted themselves out; and in lap 6 both man and engine are growing a little weary, and should not be forced unless dire necessity compels.

The Family Sidecar.

SOME of my private correspondents have been following the example of the Rev. Mr. Quiverful in Anthony Trollope's "Barchester Towers." In other words, the number of their olive branches suggests that a second-hand motor char-à-banc would best suit them as a family motor. As they cannot afford the petrol consumption which characterises these monsters, and as the garage at "Ivydene" and similar residences is usually of the tenant's fixture lean-to order, they are compelled to make shift with a multi-seated sidecar. They seek advice on the best layouts, and particularly on weather protection—double windscreens, full length hoods, and the like. I am no sidecarist, and my family is proportioned to income tax at 6s. in the £. But perhaps some prolific reader will oblige with advice through our correspondence columns—I promise not to print his name, if he is shy. Serious tragedies are involved in some of these appeals. Take, for example, the sad case of Mr. X———, of Balham, who has six children, and has been trying to make shift with an ordinary single-seated sidecar. Little Reggie fell off the carrier on Easter Monday. Tiny Mabel suffered from croup after the last B.M.C.R.C. meet, because the screen could not be used if more than the twins rode in mummy's lap. And so on. Such pathetic appeals will surely appeal to all that is best in my readers.

Ambitious.

HENCEFORTH these columns will know me no more. I relinquished my early ambition of becoming a Senior Wrangler when my schoolmaster introduced me to surds. But I grasped enough arithmetic to see the possibilities of bookmaking as it is conducted at Brooklands. Recently, for example, I watched a bemused public accepting odds ranging from evens to fives in a field of some fifteen starters, amongst which even those who knew exactly what their own cars could do were not confident enough to back their opinions. The favourite started at evens, closely pursued in public favour by another driver at six to four, and a third at two to one. Fives was the price laid against the most hopeless outsider. I always wished to die a millionaire, and readers are requested to keep an eye open for my stance at the next B.M.C.R.C. meeting. [Note.—We have raised "Ixion's" salary, and he has agreed to stay on.—ED.]

Rival Sports.

DURING a brief holiday various old friends have tried to seduce me from my allegiance to the queen of sports. Jones, for example, is a golf maniac, and he dragged me out on the links. I always understood that "links" was braw Scotch for sand dunes. In his case the term applied to a mountain covered with bracken. I began the day by spending

Occasional Comments.—

12s. (equal to three gallons of the best petrol) on four small globules of guttapercha (made—to their eternal shame—by tyre companies, of all people), and spent the rest of the day hunting for them in waist-deep wet bracken, whilst Jones dilated on the folly of "pulling one's arms in." Next day another holiday neighbour introduced me to cricket. This is a form of ceremonial exercise for which there seems to be even less excuse. A tall and muscular person, who, I understand, corresponds to what we motor cyclists call a shamateur, raised three enormous bruises on various parts of my anatomy, after which he sent my off bail so far that the game was suspended while somebody measured the distance—thought to be a record. I then sat, thinly clad, on a hard bench in an east wind whilst other persons amused themselves for three hours. After that I was placed in alarming proximity to a succession of large and ruthless men, who slammed balls at me for hours. I had to run after these balls till I ached all over. On my next vacation I will be strictly loyal to the motor cycle. I cannot think how anybody can be so foolish as to play the silly games of which I have spoken.

The Week-end.

SOME motor cyclists go to church on Sundays. Others worship under those two famous divines, Dr. Greenfields and Dr. Open Rhodes. For myself, I consider that some moral discipline befits the first day of the week, and I habitually read *The Automobile Engineer*. Not because I understand it (except about 5% of the advertisements). Not because it is interesting (its contents seem to be equally divided between trigonometry and G.A. drawings, both of which are Greek to me). But because it is an infallible preventive of swollen head. You all know that motor cycling is a most pernicious sport. When you have owned a baby two-stroke for three months, you begin to feel and talk as if Mr. Ricardo was a chicken to you in mechanical knowledge. It is here that the abstruse articles in *The Automobile Engineer* have a chastening effect. But a recent issue contained two articles of real interest to motor cyclists (I didn't write them, and I have no shares in its publishing company). One is a super-expert's diagnosis of the Cox-Atmos carburetter. Until I read it, I used to fancy that all carburetters were much of a muchness, and that if one vaporiser did you really well, it was either a gorgeous fluke, or else you'd got the right man to tune it for you. But it now looks as if the Cox-Atmos really was a super-carburetter, for we learn that the reporter man has been watching a Cox pushing mixture through a glass pipe, and, apparently, the gas was like a dry wind in a sand desert; to judge by the stuff my present carburetter spits out of its air intake, its mixture is more like a Scotch mist, with patches of thick cloud in it.

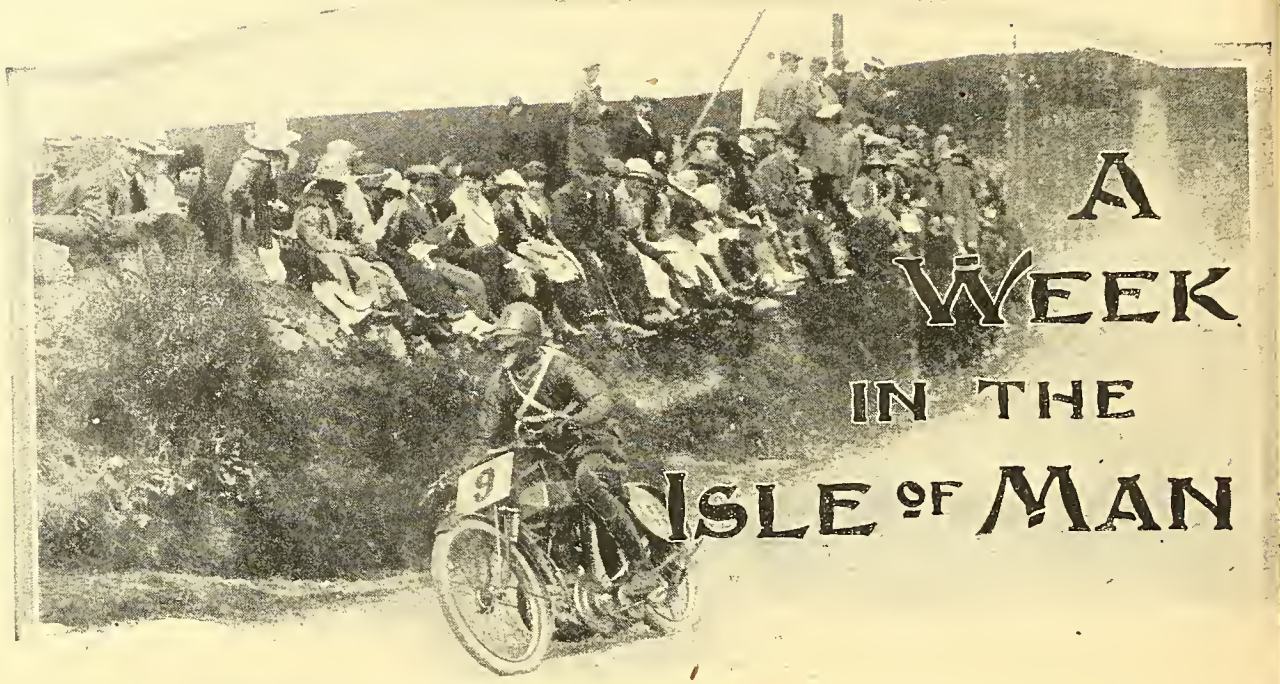
SCENES IN THE T.T. RACES.





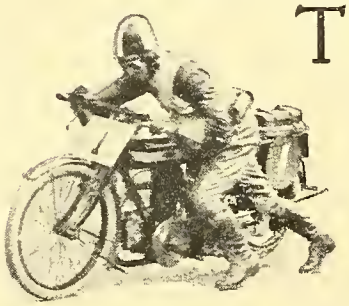


(Top) Victor Horsman (Norton) negotiating the bend in Ballaugh village.
(Left) W. Howarth (2¾ Dot) going well at Hilberry.
(Right) R. Lucas (Scott) immediately after crossing Sulby Bridge.



A WEEK IN THE ISLE OF MAN

Manxland Through the Eyes of a Pressman. By B. H. Davies.



THE old spot, and the old crowd, and the old fun! A crowded boat from Liverpool, so full that the elderly lady with the canary complexion, who has never heard of Mothersill, cannot possibly reach either the saloon or the side of the boat, but must render her tribute to Neptune exactly where she has collapsed—and thank the gods, dear reader, if that spot be not your own shoulder!

Joys of the Sea Trip.

The usual pile of luggage is just forward of the stern-castle, or whatever they call it. The joy with which you wriggle out of the queue at the Liverpool landing stage is tempered by seeing your own suitcase and your fairy's cardboard hat-container laid on the deck at a point which will presently be the foundation of a heap of luggage as big as the Cunard coal dump. Then a mile outside Douglas people trample aft to regain their hand luggage—the heap is tippled over and dissected; your fairy bursts into tears when she recognises her concertina'ed hat box: her complexion begins to run: your own suitcase is—where? There is the bicycle to extract from the bowels of a noisome cavern near the bilge. There is the narrow gangway to be negotiated: steep, green slippery steps to be climbed (the tide is *always* out): the sidecar to be reattached, and last, but not least, the Manx porters to be remunerated. Then one is free to push the outfit to the nearest petrol depot, a good mile away.

Still we get there. The first night is usually brief. They have no liquor control in the Island: and one meets lots of friends. So to bed about 2 a.m. Up again about 3.30 a.m. to see the practice. Feverish work with a watch and a pencil as the men start off. Disappointing when Georgie Dance laps in 90m. 11s. You decide not to worry about timing them next morning.

During the day you go round the various camps where you will encounter much of the youngest, silliest, and sportingest manhood of Great Britain. Especially, perhaps, at the Scott camp. I don't know whether they have their mothers with them, or whether their trainer is a martinet. Anyhow, nothing is known to them by its proper name. If they offer you "bread and dripping" at 11 a.m., accept promptly: you can't tell what it will be, but it will certainly arrive in a tumbler. Similarly if a



Prolonged and clumsy replenishment of the machines might easily lose a rider the race. Here is seen the syringe used for lubricating oil, and the petrol tank and flexible pipe by means of which supplies were delivered rapidly to the Scott machines.

A Week in the Isle of Man.—

stout fellow wearing the gilt "limit gauge" should invite you to partake of "Quaker oats" at midnight, don't wither him with a glance. Appear grateful—the waiter will probably produce a magnum of 1906 Heidsieck.

By no means "Dry."

For the benefit of the uninitiated I would say that Mr. Pussyfoot Johnson has not yet turned his attention to Manxland. If your head is weak, you will be quite safe so long as the men are in training. But on race nights, when trophies are being christened and sweeps are being liquidated, only the stoutest fellows can safely venture abroad. On Senior night at least half a dozen people whom I had never met before tearfully invited me to come and stay at their homes for a month.

The Junior race? Of course, you know the modern fashion? You see the start at the grandstand. Then you get a seat in any old conveyance from the lamp bracket of a sports Sunbeam to a lady's knee in a motor coach, and go off by the back lanes to Hillberry or Ballig Bridge or Keppel Inn. Finally you return to the stand for the finish. It makes an arduous day, but you get a bit of cornerwork plus the thrill of the finish.

The sympathies of a British crowd are always with the fellow who is tackling long odds, so, though Williams and Davies are popular idols, the almost unknown Whalley was cheered to the echo in his lonely struggle against the devastating A.J.S. team, and his spectacular defeat was something of a disappointment to a sporting crowd.

H. R. Davies is the outside edge of the absolute limit, and knows the Manx course as most of us know the keyhole on our front door. At Hillberry his wheels took the same line to an inch in each lap, and his riding was such a magnificent compound of speed and restraint that a lot of people after seeing him in the Junior went off and backed him for the Senior. The baby "two-fifties" were tolerably amazing. It looks as though lightweights capable of finishing a Six Days and averaging over 40 m.p.h. in the T.T. should soon have a more recognised position as real touring mounts. The best true yarn about the Junior is that one competitor covered the whole course with his ignition fully retarded!

Golf and Horses.

Wednesday was devoted to such pursuits as the Manx Derby and golf. I do not know which party returned home the more impoverished. Ordinary golf handicaps do not count in the Isle of Man. You get one stroke for every morning you have been up at three o'clock to see the practising. A story is going the rounds about one trade magnate (I fancy it is a chestnut fathered upon him, but no matter). On the Fort Anne links there is only one bunker; it is close to a green, and consists of half an inch of sand, camouflaging a base of naked rock. Mr. Manufacturer drove his ball into the bunker, and made six ineffectual attempts to play it out. Attempt No. 7 not only extricated the ball, but actually holed it out on the adjacent green. Beery tripper looking on with profound interest is heard to remark, "Gor! Ain't he going to have some blinking job now?"





(Left) The wired-off enclosure along which all competing motor bicycles were wheeled to the weighing machine, thence to the marquee.

(Right) Weighing the Velocette on which G. Denley (on right in photograph) rode a good race in the Junior event.

A Week in the Isle of Man.—

Another good story relates to rather a greedy motorist, who took great pains to order many delicacies for lunch before marooning himself and party at the Bungalow for the Junior race. Whether our gourmand had been looking on the wine when it was red, or whether much early rising for practice had clogged his brain, I know not, but he left his false teeth on the washstand, and did not discover his omission till the party had reached the summit of the mountain.

One visitor to the Island was trying to sell his water-cooled passenger outfit to a pal. He sought out an imposing hill, and waiting till the pal was close behind (on a Ford) he engaged bottom gear, opened up to 4,000 r.p.m., and shot up the incline like a scalded rabbit. Shortly afterwards sonny in the sidecar remarked innocently, "Pappa, it's raining!" Pappa cast one incredulous glance at the brassy sky, and remarked furiously, "D— it, I've burst my radiator!" Mercifully Pappa spotted an open farmyard gate close at hand: he swung round and concealed the damaged outfit in a cowshed until such time as the pal and the Ford had passed by.

An Historic Achievement.

I fancy most people were disappointed with the Senior race. Of course, Davies's achievement was simply miraculous, and will be deservedly historic. But it was rather a humiliating business. The A.J.S. was the only British machine which could retain the Trophy for England. The rest were either too slow, crashed, or met trouble. The finish was nothing like as close as it ought to have been. Two or three of the crack riders performed very disappointingly, as far as lap times go—a fact which I ascribe to the loose and dangerous condition of the mountain road. Maximum speeds of 80 or 85 m.p.h. are not of much use if the road surface on the only fairly "fast" stretch does not permit of them being used.

Errors of Judgment or Design?

The running of all the British machines, barring the A.J.S., was surprisingly spasmodic. If all the crashes were due to pure errors of judgment, they do not do our men much credit, for although the speeds were terrific, the course was at the worst quite dry. If several of them are to be ascribed to brake failure or jumpy steering, so much the worse. Some of the slower men, at any rate, did all they could be expected to do. We expect great feats from our cracks: if they did not fail, their machines failed. No doubt luck was badly out in some cases. For example, a certain firm had real hopes of winning the Trophy and the team prize. It had two hot stuff merchants out to win, and a sedate sure finisher to complete the team. No. 1 crashed through a dry skid. No. 2 broke a part which had never given any trouble before. No. 3 finished according to plan. Other firms had equally aggravating experiences. It is very odd that all our machines but one should fail on the same day. The two Indians very nearly reaped the reward of a shrewd estimate: they almost hit off the speed essential to victory, and I suppose Harveyson would have been up with them, had his tyres held.

And so good-bye to the Island for another twelve months. The sea is like a millpond as I peer across Douglas Bay, and this quite reconciles me to departure. It is a terrible little Island. Every year I bring more money than I did the year before. Every year I pay my landlady by cheque, and borrow money from her to get home with. Still, it is well worth it.

T.T. WINNERS OF PAST YEARS SNAPPED ON THE ISLAND.



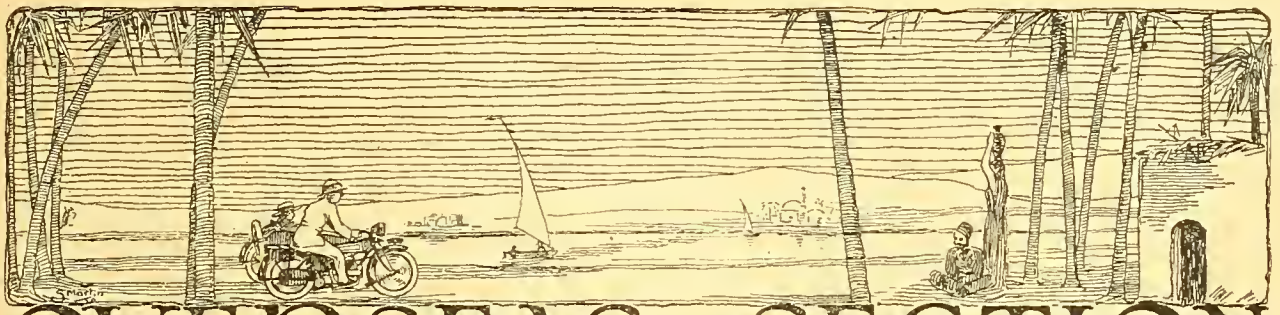
P. J. Evans, winner of the Junior race in 1911, on a 2¾ h.p. Humber.

T. C. de la Hay, who won the Senior race in 1920, on a 3½ h.p. Sunbeam.

Eric Williams, winner of the Junior T.T. in 1914 on an A.J.S. and also the Junior race this year on a similar mount.

F. A. Applebee, who won the Senior race in 1912, on a Scott.

In addition to the above, Jack Marshall, who won the single-cylinder class in 1908, and H. O. Wood, 1913 winner on a Scott, were also on the Island to witness this year's contest.



OVERSEAS SECTION

A Commentary based upon Practical Experience and a Study of Overseas Opinions.

To Develop the Overseas Sidecar Outfit.

It is not always an easy task for the British manufacturer of sidecar outfits to obtain accurate information as to what is really wanted by the overseas motor cyclist, and the example of Mr. J. L. Norton, the designer of the motor cycle bearing his name, who is making an extended tour of the Dominions this year, is one that might profitably be followed by others. It is still more difficult for the English maker actually to test his standard models under the most severe overseas conditions. Probably his finest opportunity of doing this is the approximation presented by the Scottish Six Days Trial, which takes place in July.

The Western Highlands of Scotland are sparsely populated, the railway system is mainly conspicuous by its limitations both in extent and service, and the roads are usually just good enough for the traffic they have to bear—perhaps a flock of sheep and two farm carts per day! For a considerable period of the trial the route runs through this district, and it is gratifying that so many makers seize the opportunity of testing their products under such conditions. Undoubtedly a desire to gain knowledge for the overseas market is at the back of the big trade entry, and the amount of good the trial will do, especially to the passenger vehicles, is simply immeasurable from the point of view of the buyer abroad.

♔ ♔ ♔

Tyre Sizes and Foot Oil Pumps.

Small section tyres have always been particularly disliked by the man who does most of his riding well away from civilisation, but at length his desire for "big, fat" tyring looks likely to be gratified. For the first time in motor cycle history 26 × 3in. (and like sized) tyres were quite generally fitted for the T.T. race; and if some of the most conservative manufacturers have come to consider that these are fast enough for such a race we may, at last, see larger section tyres on the tourist's machine. After all, now that the "slowing effect" bogey has been killed, there remains no legitimate excuse for tyres of small section on any machine, excepting perhaps the Brooklands sprint model. Surely, one very valuable lesson of the T.T.

When both hands are required for steering—be the need caused by a combination of 60 m.p.h. speeds and awkward corners, or merely 15 m.p.h. and rutted tracks—it is disconcerting, even dangerous, to attempt to operate an oil pump located in a corner of the tank. The pushing stress on the plunger, too, further tends to upset the balance of the machine. Thus a foot-operated pump is clearly desirable. But it was not until the 1921 T.T. that the great majority of our designers recognised this. Olympia, this year, will, we hope, show the fruits of this recognition. Incidentally this is an excellent example of an improvement evolved for the convenience of the speedman which will prove of the utmost benefit to the rough rider.

♔ ♔ ♔

Lessons Applicable to Overseas Requirements.

While the T.T. course includes nothing freakish, it is generally allowed that it forms a supreme test for the motor cycle over all varieties of normal road conditions, but at double the normal rider's speed requirements. For example, controllability is an exceedingly important point to the T.T. rider. It, therefore, follows that from the machine that survives with honours the gruelling and tortuous 200 miles can easily be evolved the machine most near to the ideal as an all-round utility mount—a mount incidentally that will be, automatically, almost as tractable and easily handled on the worst pioneer tracks as one that has been designed specifically for such conditions. It will also possess many other desirable qualities.

Although our average overseas reader may think that he only wants larger engines, greater clearances, and larger wheels—judging from our mail bag—probably he would benefit much more, actually, by greater reliability and efficiency in existing mediumweight mounts. This is just what the T.T. does, *e.g.*, the performance of the 202 lb. 2¾ h.p. A.J.S.

Briefly, then, the races evolve the perfect solo mount—and, indirectly, of course, the passenger machines are benefited.

♔ ♔ ♔

World-wide Importance of the T.T.

Although, no doubt, road-racing events occur more often than once a year in, say, Canada, South Africa, or Australasia, the I.O.M. meeting is in a class by itself in that it attracts the personal efforts of nearly every important motor cycle firm in business, and thus ensures that each entrant will send his men to the post with *the best* that his brains, his money, and his skill can command. No other road race in the world can claim this. Important, hardly fought and sporting as it may be, the average long distance overseas event does not, and cannot, hope

Overseas Section.—

for more than one or two makers to be strongly and directly represented, the remainder of the entry usually being made up of local agents and amateurs on a varyingly representative selection of rival makes—and even then the most suitable and "likely" mount for the course may not even be known in that particular country!

Such a representative entry from the leading manufacturers of the leading motor cycle country is exclusive to the T.T., and, therefore, it must be admitted that the race has an importance all of its own.

A Selection of Letters from Readers scattered all over the World.

Stiffen Trials!

An Aden correspondent, "COLONIAL," wishes us to head his letter as above. His views are interesting, in that they show how closely English trials are followed abroad:

"I fear this will be rather an echo of the past, but doubtless the question will crop up next year. The Land's End 18 m.p.h. regulation seemed to raise a storm of protests at the time. Surely a modern trial *must* be made stiff. It seems to me that the ideal trial, *i.e.*, the trial which is instructive in searching out weaknesses in machine and driver, is that which makes it impossible for any but the cleverest riders on the best machines to get a 'gold,' 'silvers' for the *good* riders, and *nil* for the merely average trial rider. Only in this way will the standard of machines be improved, and, what is perhaps more important, the driver's art of getting the best from a machine, wherein lies the whole sport of the motor cycle. Cheapening gold medals will inevitably make everyone lose interest in trials, except the objectionable namby-pamby type of pot-hunter, and surely we do not want him encouraged!"

Hard Going in Nigeria.

A Nigerian correspondent, signing himself "A WELL-WISHER," states that 22 m.p.h. is an appalling speed on some of the "roads" out there. Therefore very fast machines are not wanted. He writes: "I was very much interested, and amused, with 'Winter in the Highlands' in your excellent journal of March 3rd and 10th. The writer should ride over some of the roads out here: he would not then write about never letting the machine travel at less than 25 m.p.h.

"I, too, have a P. and M. and sidecar, and find it an excellent machine, my only complaint being the smallness of the tyres.

"One of the journeys I have to make constantly is twelve miles over a road which begins with an up-hill hairpin bend of about twenty degrees; there are a lot of such sharp turns that you seem to be coming back to your starting place; and the surface consists largely of loose red latrite, which cuts up the tyres at an awful rate.

"My wife and I took that journey recently. We got on a bit of straight road, with, comparatively, only a moderately bad surface, so I worked up a speed of 22 m.p.h., but even at that slow speed we did not enjoy the jolts we got when crossing a network of ruts (caused by recent heavy rains), averaging about a foot wide and four or five inches deep. That it did not break is an excellent testimonial for the machine.

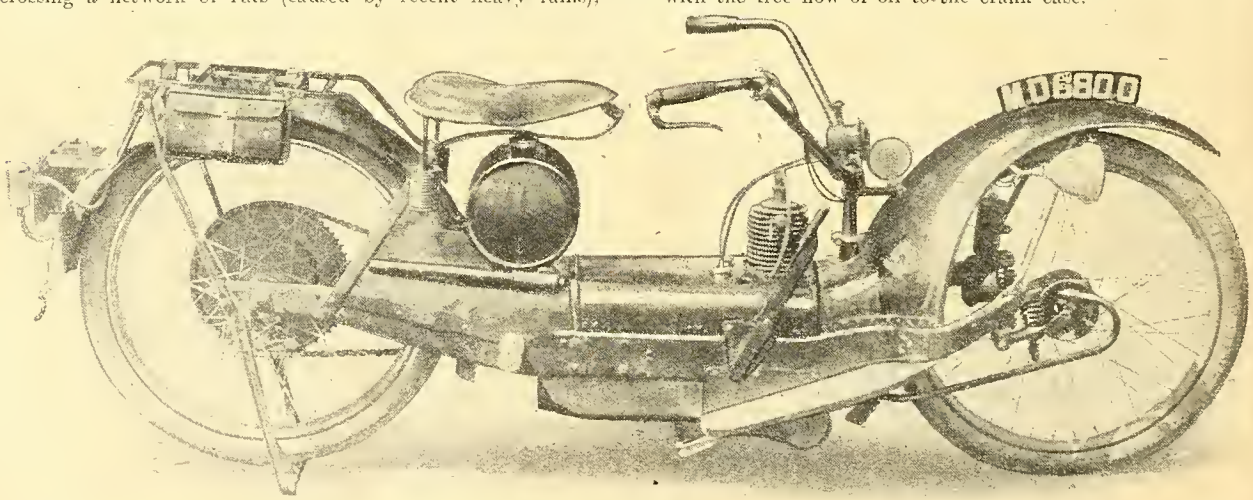
"Some of those who grumble so much about the condition of the English roads should come out here for a bit."

Popular Makes in Switzerland.

That England is not at all well represented in Switzerland is the opinion of MR. A. W. J. MURSELL (Geneva): "Your correspondent 'Surev' comments on the lack of British motor cycles in the canton of Geneva. This is only due to the fact that Geneva is the centre of the motor cycle industry of Switzerland, and for the past years people have been patronising local makers and buying such locally manufactured machines as the Motosacoche and the Moto-Rêve. But it is noticeable now how foreign machines are quickly becoming popular. France is rapidly becoming a rival to Great Britain, owing to the extremely high rate of exchange. The Blériot motor cycles are being imported into Switzerland now, and are selling at the low price of 2,500 francs. On the other hand, England is very badly represented here, the only agency here being for the Hobart motor cycles. Lastly, I may add that the most suitable machine for solo tourist work in Switzerland is a lightweight of $2\frac{3}{4}$ h.p."

Spares in India.

We make no excuse for publishing one letter on the eternal subject of spares. It is typical of many, and is chosen mainly because it is terse! MR. E. P. FAWCETT, of Lakhimpur, U.P., India, writes: "When will British motor cycle manufacturers learn that if they wish to compete with the Americans, they must give better service? In February, 1920, I had the misfortune to break the valve glass of the Best and Lloyd sight feed lubricator on my B.S.A. The district local agent promised to get me one, but by November had to confess his inability to supply me. I tried various shops, including those of the local agents, in Calcutta, Lucknow, and Delhi, unsuccessfully. I finally wrote home for one, and was informed of despatch in March, but am still awaiting the parcel. I succeeded in piecing together the fragments after a fashion, but an air-tight fit was impossible, consequently back pressure interferes seriously with the free flow of oil to the crank case."

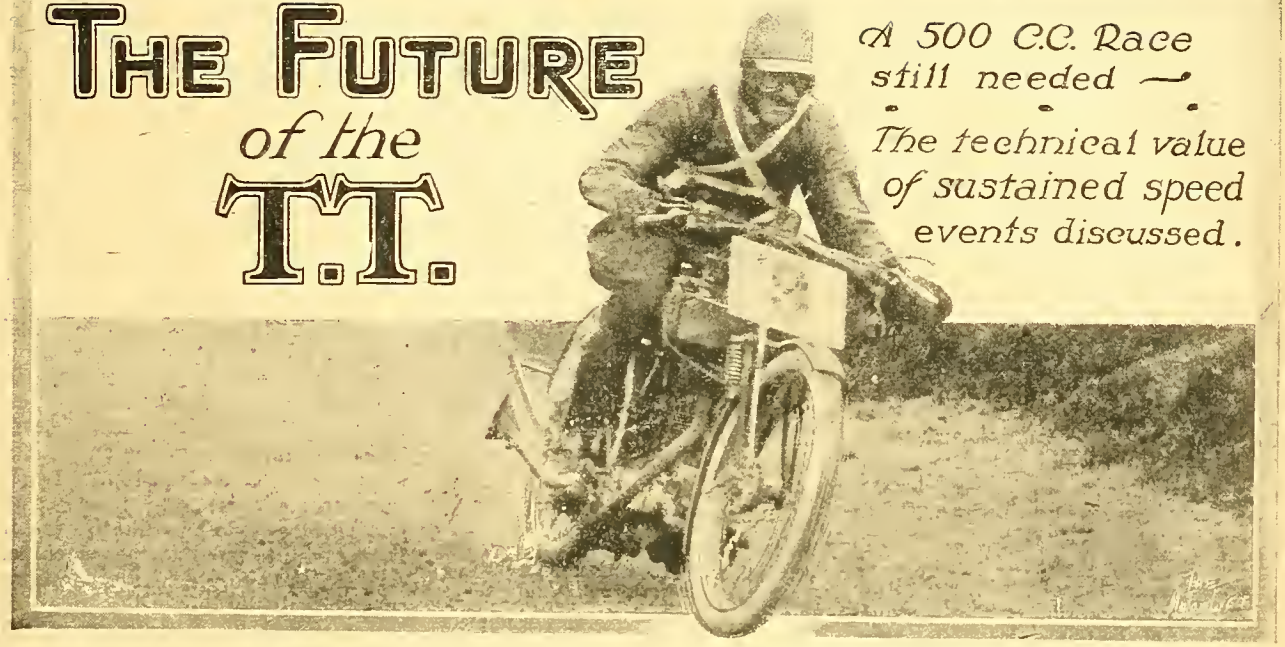


The manufacturers of this unconventional motor cycle chose the T.T. week and the Isle of Man as fitting time and place for its *debut* to the public. It is known as the "Ner-a-car wheeler," and it created quite a sensation on Douglas promenade. The engine is a two-stroke of 211 c.c. capacity, and five speeds are provided by a friction transmission set. Ladies and elderly people particularly were interested.

THE FUTURE of the T.T.

A 500 C.C. Race still needed —

The technical value of sustained speed events discussed.



Will the cylinder capacity limit of the Senior T.T. machines be reduced for future races? Before the races in the Isle of Man, opinion was almost unanimous that the 500 c.c. type had been so developed that it would prove too fast for the course. Further, it was thought that the annual Tourist Trophy event had served its purpose so far as concerns this size of engine. Opinion is still divided, and many lean to the view that most post bellum designs have not had sufficient time to be fully developed, and should be given another year to regain prestige lost in their defeat by a machine of 350 c.c. capacity, and by two motor cycles of Transatlantic origin. In this article the writer discusses the position as he sees it.

LIKE many other enthusiasts I went to the Island this year prepared to take a tearful farewell of the Senior event. Last year's race was a hastily organised affair, held too soon after the war. Most of the 500 c.c. specialists abstained, and the 1921 race was rightly regarded as the first genuine post-war T.T. We knew that the 3½ h.p. Norton had bettered 90 m.p.h. at Brooklands, and that several firms had spent enormous sums with an eye to victory in the Island. Many people had ominous forebodings about the race. The 3½ h.p. was already over-developed for the course. A dozen men were to start the last lap within seconds of each other, and fight out a painfully desperate finish. The course was to be littered with wreckage, produced by the perils of a tight race on super-speedy machines. Next year 350 c.c. was to be the highest imaginable capacity for the Senior race, and the 250 c.c. "egg-cups" were to have the Junior all to themselves.

These pretty fancies have all foundered on the rock of reality. It is idle to pretend that the 500 c.c. type cannot be further improved by more T.T. races. All our crack 500 c.c. machines have been soundly thrashed by the little A.J.S. and by a couple of Indians; the latter is an improvisation, a bisected twin, rather than a deliberately designed ideal. The British 3½ h.p. can hardly take this beating lying down. It is an arguable proposition that the tourist 500 c.c. is now more than adequate for all road needs and proof against all road tests. Students may plausibly assert that asking a roadster machine to average 55 m.p.h. over the Manx course is comparable to designing a twin perambulator for the Arctic circle. But these arguments apply with equal force to the Junior T.T.

My personal view is that we can drop the Senior event (or cut its capacity limit down to 350 c.c.) when two conditions are fulfilled, viz.:

(1) When most 3½ h.p. machines can do six laps in an average of 43 mins. without trouble.

(2) When victory becomes a mere matter of taking the most risks, the necessary speed and reliability being taken for granted by all the leading entrants.

Examine these conditions for a moment. In this year's race there were certain machines which were discovered to have badly designed cylinders. Their riders found in practice that disastrous distortion occurred above a certain speed. The riding orders given to these men at the post were to lap at 45m. average for the team prize. Even this very modest ambition was unfulfilled. In 1922 the engines made by this firm will show much more stamina when climbing with a sidecar, and that stamina will be the direct result of 1921 T.T. experience.

Take another team. The technical staff were allotted £10,000 in 1919 wherewith to win the 1921 T.T. outright. They did not win, though they overspent their allotted capital. Have we nothing more to learn about the 500 c.c. engine when two years and £10,000 end in failure?

Take another team. Despite ample Brooklands experience, all their machines suffered from valve trouble. It was not the most serious type of valve trouble, but it ruined hopes which would otherwise have been fulfilled. Is the average valve perfect? Are not further valve tests, under the peculiarly searching conditions of the T.T., worth a little outlay?

The Future of the T.T.

Again, the trouble encountered with pistons in practice, if not in the race, would provide materials for a regular treatise; and many of the entrants have learnt much. Tyre makers, plug makers, chain makers—all have come home with new knowledge to assimilate. If another 500 c.c. race is held next year, there will be similar gains in knowledge. *If the capacity is cut down to 350 c.c., we sidetrack the 3½ h.p. off the line of development;* the 3½ h.p. is still the typical British—'bus—we cannot afford to sidetrack it. There are two main arguments against the survival of the Senior in its present form. One is its cost. Of course, a firm which has laid out a vast sum without reaping any advertisement will be inclined to grumble. But experience always has to be paid for, and is always worth paying for. Moreover, a lot of the expenditure has been foolish. The proper method of tackling the T.T. is to begin at least a year in advance, and to run the experimental *machine (not* the engine only) to destruction at high speed. What is Brooklands for? Yet some of the entrants limited their preliminary tests to

(1.) Bench tests of the engine at constant speeds (so different from the wild variations of stress in a road race).

(2.) Road tests of the machine as a whole (at speeds far below the Manx average).

The exact opposite is wanted, viz.:

(1.) "Jerk" tests of the engine from 0 to 4,000 r.p.m.

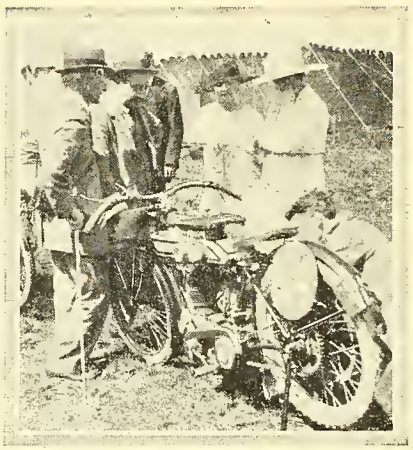
(2.) High speed tests of the machine as a whole.

The second objection to the "Senior" is more subtle. Many of the T.T. riders still say that victory goes to the man, rather than the machine. In other words, they think that Davies would have won on any mount which gave him a clean run. If that were true, it is more to a firm's interest to engage men like Davies or Dance than to build a super-machine. As soon as victory depends wholly or even principally upon the rider, it will certainly be time to revise the conditions. Meanwhile let us notice that:

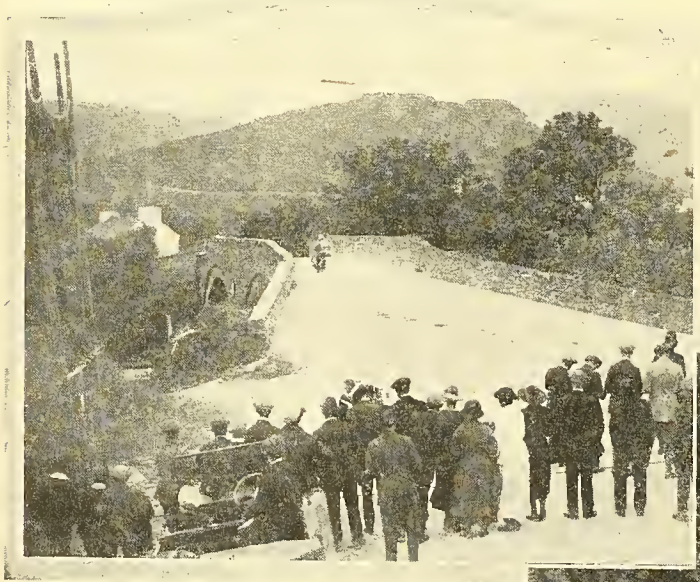
(a) In 1920 Davies rode in both races, and failed to finish in either, being let down by a machine which had not then "found itself."

(b) If we could mount Davies, Dance, Dixon, Le Vack, Edmond, Shemans, Bennett, de la Hay, Hassall, C. P. Wood, and D. M. Brown on eleven similar machines—all A.J.S., Indian, Sunbeam, or anything you like—who would win?

Nobody dare bet heavily on such a race. There is very little difference between the leading men. The A.J.S. won partly because it was just about the best tested



More than one eminent motor cycle representative came from the Continent to see the T.T. races. Here is M. Paul Kelecom, associated with the F.N. factory at Liege, and Mr. A. V. Ebblewhite, who acted as time auditor during the races, watching N. H. Hadfield making adjustments on his Norton.





(Left) At this spot—Sulby Bridge—G. W. Jones (New Hudson) was precipitated over the parapet into the bramble bushes. He continued to race, however, though it was against the doctor's orders, and gained the Nisbet award for the most plucky performance during the two T.T. races.

(Right) D. S. Alexander (Norton) commencing the mountain climb after rounding Ramsey hairpin corner (observable in the distance).

The Future of the T.T.

machine in the race, partly because its rider is brilliant, and made none of the tiny miscalculations to which the best men are liable. Of his ten chief rivals, as before-named, two were on slower mounts, five had mechanical troubles, one was physically unequal to six laps at the date of the race, and the other two "crashed," *i.e.*, at least seven out of the ten were beaten by the machines they rode. I am the last man to underestimate the human factor, but even in the 500 c.c. class the machine still counts as much as the rider—aye, and more. We can all name machines on which even Davies could never have won.

I suggest then, that the functions of the T.T., with reference to the 3½ h.p. machine, are by no means exhausted. I hope the race will be repeated in 1922. In that case, the A.J.S. will not win, nor will any 2¾ h.p. machine, however brilliantly it may be handled. The two fastest laps this year were both put up by 3½ h.p. machines, one ridden by a man suffering from concussion, and the other by a man who is well past his first youth. By June, 1922, some machines which were "green" this summer can be ripened.

One great merit of transferring the 350 c.c. machines to the Senior would be the unveiling of the real lightweights. At present they are completely overshadowed by the 2¾ h.p. Prentice won his race comfortably: but he finished tenth in the combined event, and as he was more than half an hour behind the fastest 350 c.c., his victory was not recognised by the crowd. The firms which make full use of the Six Days and the T.T. are rapidly perfecting their 250 c.c. models. Ere long they will certainly have a race all to themselves. By that time their more dubious rivals may die a natural death: and the public, attracted by the T.T. performances of the better class babies, will be more likely to pick a sound machine.

It is quite certain that the T.T. must be kept clear of the car races in 1922, and preferably it should precede them. The two cannot be held in the same week—how can cars and cycles practise together, and what sort of surface will the cars leave on the roads? The T.T. must therefore come very early or very late in the season—early, for choice, as the roads will be better in spring than in autumn. In that case, it is not too early to commence trying out 'buses for the 1922 race: and the 500 mile race at Brooklands provides a splendid opportunity at low cost. *Amour propre* need not hinder a manufacturer from using this race as a test, rather than an advertisement. I know one maker who always enters a private owner in trials if he wants to test anything he cannot quite trust: if the 'bus fails, it is, "Oh, there was a duffer amateur up!" If it succeeds, the credit is doubled. Anyhow, 500 miles of full throttle will unearth new weaknesses in some of the Manx machines and test the modifications inspired by the T.T. in others. In both cases such information is worth as much to a firm as Capt. Miller's gold cup.

ROAD RIDER.

E. R. Jacobs cornering easily on his Coulson.



RIDING ATTITUDES OF T.T. COMPETITORS.

W. Howarth appears to be quite at home on his Dot.

A. Edwards, who rode well on his little Levis.

THE ROADS AND MOTOR CYCLES.

EVENTUALLY, perhaps, the roads of this country will be so constructed that their surface will be uniformly good. Most drastic alterations in the method of construction are necessary to avoid the expensive repairs which have to be undertaken at the present time. The light forms of motor vehicles, especially motor cycles, suffer most, and are subject to taxes quite out of proportion to those of heavy transport vehicles which destroy present-day roads within a few months of their completion. In the meantime spring frames, or, at least, some form of saddle suspension that damps out road vibration, have become almost a necessity.

Bad roads have also brought into popularity larger tyres, and in this connection there is a tendency for riders to inflate at lower pressures than those for which the tyres have been designed. Hence it behoves those who use "oversize" tyres to ascertain whether the walls of their tyres are sufficiently strong to withstand the strains to which they are subjected.



HILL-CLIMBING IN IRELAND.

A competitor on a Douglas going well in a hill-climbing contest recently held by the Dublin M.C.C. at Tallaght, Co. Dublin.

Hampstead Amateur M.C.C.

On July 16th this club is holding an open hill-climb, solely for amateurs, on machines with standard engines. Entries (3s. 6d. fee) should be sent to Mr. Henry Brent, 38, Frognal, London, N.W.3.

Sheffield and Hallamshire M.C.C.

Following are the results of the hill-climb held at Grange Hill, Cuthorpe, near Chesterfield :

560 c.c. SOLO.—H. Taylor (3½ Sunbeam).
350 c.c. SOLO.—J. Jenkins (2¼ Velocette).
UNLIMITED SOLO.—H. Taylor (3½ Sunbeam).
560 c.c. SIDECARS.—C. Turner (4¼ B.S.A. sc.).
UNLIMITED SIDECARS.—L. Adams 7-9 Indian sc.).

H. Taylor (3½ Sunbeam) made fastest time of the day.

Stamford and Peterborough M.C.C.

About forty members entered for the recent hill-climb, with the following results :

275 c.c. SOLO (STANDING START).
Stamford Club.—1, G. Brown (2¼ Massey-Arran), 28⅘s.; 2, C. Belton (2¼ Levis), 35s.
Peterborough Club.—1, M. Mason (2¼ Levis), 32⅘s.; 2, A. North (2¼ Connaught), 32⅘s.

350 c.c. SOLO CLASS (STANDING START).
Stamford Club.—1, G Brown (2¼ Massey-Arran), 27⅘s.; 2, L. Moulds (2¾ Douglas), 30⅘s.
Peterborough Club.—1, M. Mason (2¼ Levis), 32⅘s.; 2, B. Ladds (2¾ Douglas), 36s.

600 c.c. SOLO (STANDING START).
Stamford Club.—1, G. Freer (3¾ Scott), 26⅘s.; 2, G. Brown (2¼ Massey-Arran), 27⅘s.; 3, S. Symons (3¼ Bradbury), 30s.
Peterborough Club.—D. Stapleton (3½ Sunbeam), 21s.; 2, E. Gaunt (4 Triumph), 23⅘s.; 3, F Paten (4 Triumph), 24⅘s.

UNLIMITED SOLO FLYING START.
Stamford Club.—1, G. Freer (3¾ Scott), 17⅘s.; 2, G. Brown (2¼ Massey-Arran), 18s.; 3, S. Symons (3½ Bradbury), 21s.
Peterborough Club.—1, M. Stapleton (3½ Sunbeam), 15⅘s.; 2, S. Gaunt (4 Triumph), 16⅘s.; K. Vickers (3 A.B.C.), 16⅘s.; 3, H. Paten (4 Triumph), 16⅘s.
Passenger Class (Flying Start).—1, M. Burrows (8 Enfield), 22⅘s.; 2, J. Dunn (12 Morgan), 23⅘s.
Standing Start.—J. Dunn (12 Morgan), 30⅘s.; 2, W. Burrows (8 Enfield), 32⅘s.

Harrogate and District M.C.C.

Results have now been announced of the trial for the Muratti Trophy held on the 19th inst., and are as follows :

WINNER OF TROPHY AND GOLD MEDAL.—T. W. Monkhouse, age 63 years (4 Triumph sc.), who lost no marks on time.

WINNERS OF MIDWOOD CUP AND GOLD MEDALS.—G. Hill (3¾ Scott) and D. Berry (4 Triumph), tied.

BRONZE MEDALS.—W. Wells (3½ Sunbeam) and H. Acklam (6 B.S.A. sc.).

SPECIAL PRIZES.—H. Acklam (6 B.S.A. sc.), L. Bonser (2¼ Allon), A. Baines (2½ Sun), R. Hill (2¼ Velocette), and G. Wray (4 Triumph).

Wellingborough and Rushden District M.C.C.

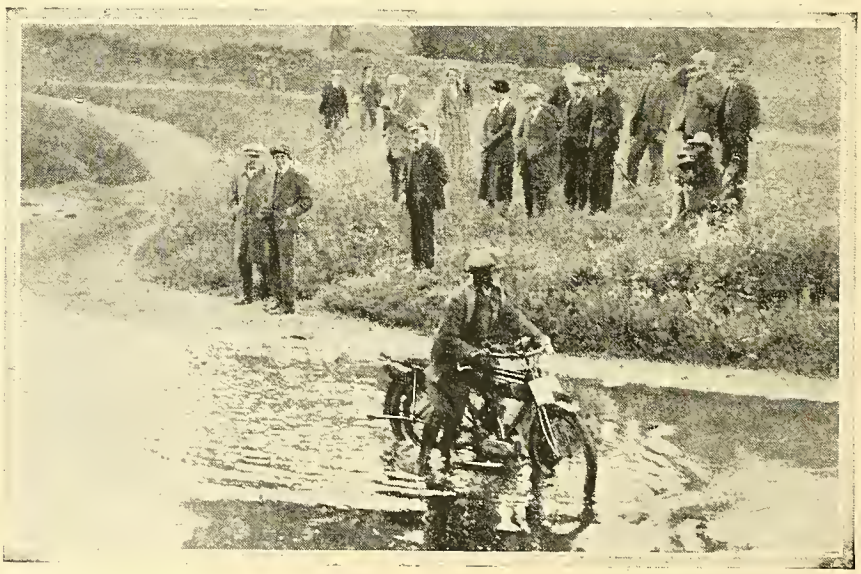
There was a large attendance at the hill-climb at Hardwater Crossing, which was held under ideal weather conditions.

Norton riders carried most of the "firsts," but A. J. Bosworth (3½ Brough) made a good second fastest time.

500 c.c. CLASS.—1, Spencer Robb (3½ Norton); 2, Rex Ludlow (3½ Norton).

750 c.c. CLASS.—1, Spencer Robb (3½ Norton); 2, A. J. Bosworth (3½ Brough).

Fastest Time of Day.—S. Robb (3½ Norton), 25s.



H. Ackland, jun. (Blackburne), comes to grief in the watersplash at Knox during the Harrogate and District M.C.C. trial for the Muratti Trophy.

Club News.—

Kelso and District M.C.C.

An open hill-climb will be held at the well-known Lawton Hill, near Jedburgh, on July 23rd.

Coventry and Warwickshire M.C. and Nuneaton and District M.C.C.

On Sunday, the 19th inst., these clubs held a joint church parade at Stockingford Church, the Rev. J. M. Philpott (an A.C.U. consul) conducting the service.

Berwick and District M.C.

A consistency hill-climb held on the 19th inst. resulted as follows :

SOLO CLASS.—W. Murray (3½ Sports Sunbeam), error 5th s.

SIDECAR CLASS.—H. E. Blackney (4 Triumph s.c.) error 5th s.

Fastest time of the day.—John W. Lee, Jun. (3½ Sports Sunbeam).

Maesteg and District M.C.

Held on a fairly difficult fifty-mile course, the recent reliability trial attracted fifteen entries. Results :

GOLD MEDALS.—W. Ivor Thomas (3½ Sunbeam) and J. J. Boyd-Harvey (3½ Scott-Squirrel).

SILVER MEDALS.—J. J. Salter (3½ Bradbury); H. Smith (7-9 Harley Davidson s.c.); W. Aston (3½ Scott-Squirrel).

Kidderminster M.C.C.

Appended are results of the recent flexibility hill-climb, the times being the differences between fast and slow ascents. No clutch slipping was allowed in the slow climb.

1, F. Adam (3½ Norton), 1m. 31s.; 2, H. Morris (2¾ Diamond), 57⅗s.; 3, G. Adam (2¾ Verus-Blackburne), 52⅗s.

Leinster M.C.C.

On the 18th inst. the above club held a handicap hill-climbing competition, which was very well supported. Results :

	Handicap Time.
250 c.c.	
1. Major Waters (2¼ Diamond), scr.	44s.
2. P. Doyle (2¾ Enfield), 7s. ...	47⅗s.
3. G. Callaghan (2¼ Leivs), 8s. ...	50s.
350 c.c.	
1. H. B. Evans (2⅝ Douglas), 7s.	44s.
2. W. Gilmour (2⅝ Douglas), 7s. ...	45⅗s.
3. G. Callaghan (2¼ R. Ruby), 10s.	52⅗s.
550 c.c.	
1. G. McGlade (4 Triumph), scr. ...	43⅗s.
2. D. McCrea (3½ Rudge), 2s. ...	44⅗s.
3. S. McNeill (4 Triumph), scr. ...	49⅗s.
UNLIMITED.	
1. H. L. Phillips (7-9 Harley), 2s. ...	34s.
2. W. Knowles (7-9 Indian), 2s. ...	36s.
3. A. Summerville (7-9 Indian), 2s.	37⅗s.
SIDECARS.	
1. W. L. Holding (6 Enfield sc.), 8s.	43s.
2. R. Phillips (7-9 Harley sc.), 4s. ...	43⅗s.
3. W. Burney (8 Enfield sc.), 6s. ...	48⅗s.

South Midland Centre A.C.U.

At a meeting of this newly-formed centre, it was decided to hold a centre trial on Saturday, July 16th. A brake test, a hairpin corner, and a colonial section will be included in the route, to be made up of two seventy-mile non-stop sections. Mr. Frank Thomas (of 172, Belsize Road, South Hampstead, London, N.W.) is the trial honorary secretary.

Week-end Club Events.

July 2.—Herts County A. and Ac. C. Meet at Willow Grange.
July 2.—Sutton Coldfield and North Birmingham A.C. Hill-climb at Penkridge Hill.
July 2.—Kidderminster, Stourbridge, and Wolverhampton M.C. Clubs. Inter-club Hill-climb.
July 2. North-West London M.C.C. Speed Trials.
July 2.—Edinburgh and District M.C. "John Bull" Trophy Trial.
July 2.—Yorkshire Centre A.C.U. Team Trials.
July 2.—Middlesbrough and District M.C. Hill-climb.
July 2.—Exeter M.C. and L.C.C. Club Trial over Dartmoor.
July 2.—North Lindsey A.C. Speed Trials in Holme Lane.
July 2.—Coventry Triangle M.C. Hill-climb.
July 2.—Wolverhampton M.C.C. Inter-club Trial.
July 2.—Coventry and Warwickshire M.C. Reliability Trial.
July 2.—Saltcoats and District M.C.C. Reliability Trial.
July 2. West Birmingham M.C.C. Hill-climb.
July 2.—Dewsbury and District M.C.C. Freak Hill-climb.
July 2-3.—Northern M.C. Anderson Cup Trial in the Lake District.
July 3.—East Midland Centre A.C.U. Championship Trial for Raleigh Cup.
July 3.—Central London M.C.C. Club Run to Maidenhead Thicket.
July 3.—Stafford and District M.C.C. Club Run to Llangollen.
July 3. Halifax and District M.C.C. Club Run to Malker.
July 3.—Wakefield M.C.C. and Leeds M.C. Inter-club Run.
July 3.—Bishop Auckland and District M.C. Reliability Trial.
July 3. Harrogate and District M.C.C. President's Trophy Trial.
July 3.—Eastbourne and District M.C.C. Club Run to Little Common.
July 3.—Essex M.C. Club Run.
July 3.—Basingstoke and District M.C. and L.C.C. Club Run to Highcliffe.
July 3.—Woolwich, Plumstead, and District M.C. Picnic at Bailey's Hill.
July 3.—Newcastle and District M.C. Chase Cup Trial.
July 6.—Surbiton and District M.C.C. Butler Cup Trial.
July 6.—Scarborough and District M.C. Whitby Section Reliability Trial.
July 7.—Taunton and District M.C.C. and L.C.C. 100 Miles Reliability Trial.

West Birmingham M.C.C.

Only one competitor succeeded in reaching the summit of the hill during the recent "old crock" hill-climb. He was R. G. Smith, while J. F. Mundy was second.

Rugby and District M.C.C.

Results, obtained on a handicap basis, of the hill-climb held on the 19th inst. at Whilton are as follows :

1, A. Oxenbury (2¾ Douglas); 2, G. B. Bradley (6 Ariel); 3, A. W. Webb (3½ Triumph).

Fastest time of the day : G. B. Bradley (6 Ariel), 25⅗s.

Hull A.C. and L.C.C. and Hull M.C.C.

Results of the joint twelve-hour reliability trial for the "Dick Ellis" Memorial Trophy have been announced :

1, W. K. Lythe (4 Douglas); 2, W. Padgett (3½ Sunbeam); 3, M. Crawford, Jun. (2½ Sun Vitesse); 4, T. Beanlands (7-9 Harley sc.), special sidecar prize; 5, M. Simpson (6 Enfield sc.), sealed prize.

Birmingham M.C.C.

Full results of the Llangollen Trial, referred to last week, are now available, and are as follows :

SILVER SOUVENIRS.—Mrs. F. W. Giles (2¾ A.J.S.); F. W. Giles (7 A.J.S. sc.); T. Stevens (7 James sc.); E. J. Neal (2½ Metro-Tyler); L. H. Perry (10 Morgan).

SPECIAL NOVICES PRIZE.—A. W. Newman (4 Coulson B).

SILVER MEDALS.—G. R. Morgan (4 Triumph sc.); F. J. Wilkins (2¼ New Imperial); Mrs. R. W. Duke (2¼ Velocette); R. W. Duke (4 Triumph); A. W. Thrush (3½ Sunbeam); S. Hall (3½ Sunbeam); T. F. Watson (4 Norton sc.); F. H. Featherstone (3½ Humber); S. H. Rhodes (4 Wolf-Blackburne sc.); H. P. Cutler (4 Norton sc.); H. A. Harris (2½ Sirrah); R. A. Fawssett (4¼ B.S.A.); H. C. Jennens (3½ James); F. T. Hill (5-6 James sc.); E. J. Bastock (2½ Levis); A. H. Stubbs (4¼ B.S.A.); F. H. Brown (8 Rex sc.); W. A. Bown (2½ Bown); B. Bladder (8 New Imperial sc.); A. T. Cooper (8 Matchless sc.); T. H. Weaver (2¾ Verus sc.); and J. G. Orford (2¼ British Standard).

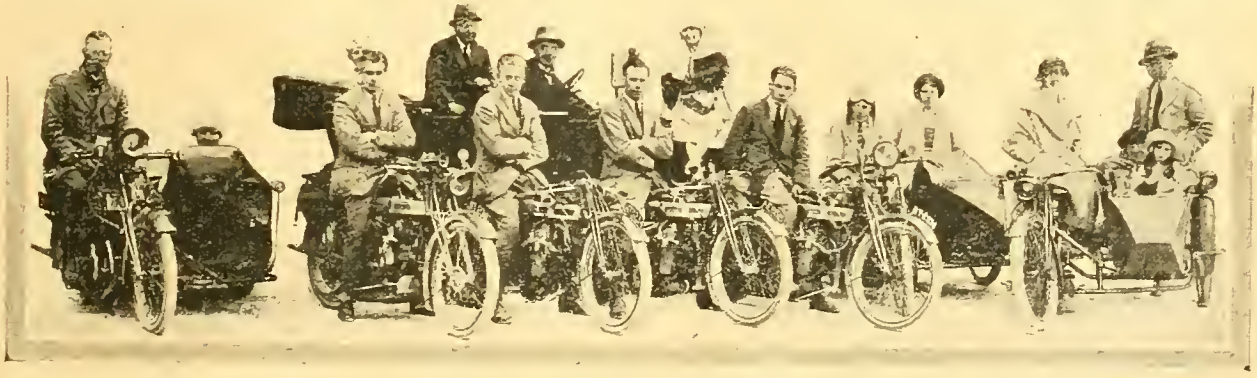
Surrey M.C.C.

The annual trial to Exeter for the Triumph Cup took place on the 17th and 18th this month. On the outward journey Peak Hill was observed, and Lionel Mitchell (3½ Rudge) and Capt. Peaty (Hawker) made fast ascents. The two Baby Triumphs, ridden by C. J. Feeny and M. Dickenson, climbed well. There were no failures on Trow Hill on the second day. Results have now been announced as follows :

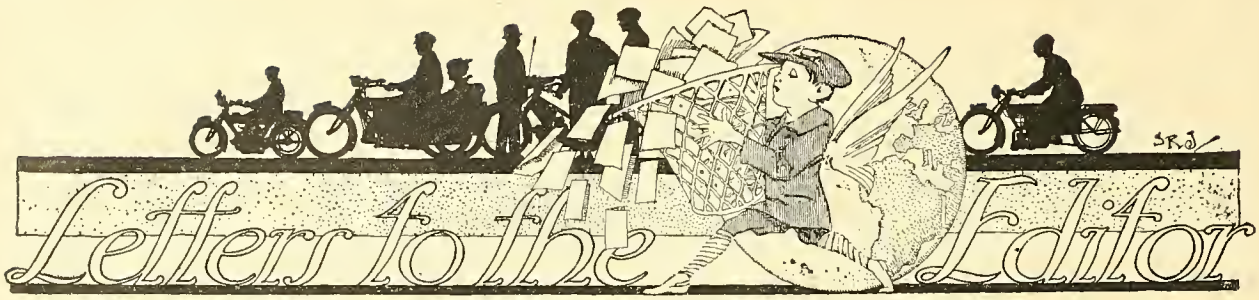
TRIUMPH CUP.—Lionel Mitchell (3½ Rudge), who thus wins the trophy outright.

CHAIRMAN'S CUP.—M. Relph (Coventry Premier).

Mr. Philip G. Robinson, "Evenley," Carshalton Road, Sutton, Surrey, has just been appointed secretary of the London section of this club.



Members of the "live" Bristol M.C.C. prior to recent club run to Nailsworth. Five of the riders are Douglas owners, while the one on the extreme left drives a Sunbeam sidecar.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

ACCESSORIES THAT WON—AND LOST—THE T.T.!

Sir,—I notice in the columns of your valuable paper, after races and trials, different manufacturers advertise their products (such as engine, carburetter, magneto, saddle, belt or chain, tyres, and even oil and petrol) as being part of the winning machine, each manufacturer taking credit for his own product as being instrumental in winning the race.

Now, it would be interesting to know what firm is going to take credit for the tyres which "let down" some machines that might otherwise have won the T.T. had it not been for these defects.

I think this information would be of quite as much value to the motor cyclist as the name of the tyres which were fitted to the winning machine. ENFIELD.

Londonderry.

Sir,—Whose chewing gum won the T.T.? X.Y.Z.

London.

EAST END CHILDREN'S OUTING.

Sir,—Young East London sends its greeting to readers of *The Motor Cycle*, and wishes to record that, by the courtesy of some of its readers, it has had the treat of its life!

A whole day in the country is a big enough joy anyway, when you live five or six in a room, in stuffy little houses down drab grey streets and airless alleys. But a day in the country, when a fleet of motor cars and motor cycles with sidecars comes to fetch you all the way from Bow to Harpenden and returns you at the end of eleven hours crammed full of joys, is something to remember all your life.

As we packed ourselves into these wonderful little cars, we felt like veritable kings and queens, and we cannot say a big enough "Thank you" to the "prop'ly motor men" who spared a precious Saturday to give us such a day of wonderful surprises.

9.30, Saturday morning, June 4th, saw us packing in—fifty of us, from five to eight years old, with ten older people to keep us company. 8.30, Saturday evening, saw us tumbling out, laden with flowers and chocolates, our mothers, fathers, and big brothers and sisters all lined up to welcome us home and hear the tale of our wonderful adventures.

V. D. LESTER, } On behalf of the boys and girls
A. M. PULLER, } of Kingsley Hall, Bow, E.

RIDER OR MACHINE?

Sir,—May I put the following conclusion of mine to others of your correspondents, and thereby ascertain the general opinion on this absorbing event?

Surely in the light of this year's results one must not place too much admiration on the motor cycle concerned (the 2¾ h.p. A.J.S.), considering that this machine has won the Junior race three years in succession, but always in the hands of one of the "crack" Williams'? This points to the event now resolving itself into a tussle between driver and driver, as surely nobody will hold himself up to ridicule by arguing that the 2¾ h.p. A.J.S. is actually so much faster, or more reliable, than a Norton, Sunbeam, Indian, or Triumph. No, obviously the firms entered in the Senior race, and not represented in the first three home, must look around for the services of more expert riders, such as Davies, Eric Williams, and others, rather than contemplate new designs for their already excellent and speedy engines.

Mr. H. R. Davies deserves all credit for his masterful performance, and should he be riding for another firm next year, I think, given, as in this year, physical endurance and an absence of tyre trouble, that firm will see its machine piloted to victory.

The opinions of the various manufacturers concerned would be interesting and enlightening. T.T. ASPIRANT.

Dunmow.

MARKETING THE T.T. MACHINES.

Sir,—Your leading article entitled "Speed and the Tourist Trophy" should definitely settle the question as to the advantages gained to the motor cycle world by this yearly event.

The wonderful performances of the winning machines have only been attained by competing on this course, and bear out your views. The public will eventually benefit provided a similar machine is put on the market.

Possibly the following argument will not be shared by all, but we contend that, in future, there should be a clause inserted in the conditions that no machine can be entered unless the price is stated, and that the machine is available to the buying public—in other words, "The same as you can buy."

This would have the effect of lessening the time when such things as a perfect overhead valve 2¾ h.p. 350 c.c. engine, and the like, would be in the motor cyclist's hands.

As it now stands the engine and other parts of a motor cycle are little further removed from the designs prevailing before the war.

In conclusion, we would suggest that if such firms as A. J. Stevens, Sunbeam, and Triumph would market such a machine they could be assured of a ready sale as we feel that a three or four-speed 2¾ h.p. is all that is required by the sporting solo rider.

A. FLETCHER.
S. C. METZGAR.
J. F. PARKER.
F. SHAPLAND.

CLUB SECRETARIES, NOTE!

Sir,—As a constant reader of *The Motor Cycle*, I think some other readers might like to hear of a very suitable hill for speed trials. This is Britwell Hill, near Watlington, Oxfordshire. There is practically no traffic, and it has a good straight start, and, I should think, about half a mile of straight wide climb. The surface is better than Kop, and there is a good straight finish.

PAUL HECTOR JOHNSON.

CARBURETTING A CATERPILLAR—NEARLY!

Sir,—A short time after starting out the other day, I came to a sudden stop, with that peculiar feeling which betokens petrol shortage.

On examining the gauze filter in the carburetter, I found a small green caterpillar neatly curled round and just filling the filter. I could only account for its presence by the fact that just before leaving home I had been strolling round the garden, and had probably dislodged the insect with my hair, whence it fell into the tank as I bent over to examine the supply of petrol prior to filling up.

Can any reader beat this for a quaint reason for a stoppage? HERBERT L. ATKINSON.

PETROL TINS ON SIDECARS.

Sir,—May I ask your readers if they have experienced the following difficulty in carrying petrol on their journeys with sidecar outfits, and if they think that a specially made two-gallon can to carry on motor cycles is needed?

I have found, in carrying the ordinary petrol tin in the petrol can holders on sidecars, that the vibration of the chassis very quickly causes a leak to develop in the ordinary can as supplied by the different petrol companies. Time after time I have put a full can in the holder on my Triumph only to find that after a few miles on the present roads a leak had developed, and that petrol was running to waste. The ordinary tins are made of a very thin gauge tin, and an experiment I have been carrying out seems to prove that a heavy gauge can could be made to stand the vibration and to stop this difficulty. I know the Triumph Co. has experienced it, as it is experimenting with a spring holder.

It is an enormous advantage to carry an extra can with one. My own practice is to do this; then, when I have emptied the can into my tank, to call at the nearest garage, take a new two gallons, tip it into my own private tin, and so save myself the difficulty I have hitherto experienced of getting the garages to split a can for a gallon or so when on a journey. It seems to me that if a really strong can could be purchased, coloured to match one's outfit and at a reasonable cost, it might meet a big sale. Queries among riders on the road seem to confirm this, as only recently I had quite a number of riders, on seeing the specially strengthened can I use on my Triumph outfit, ask where such a can could be purchased.

R. C. MEASURES.

SIDECAR V. CYCLE CAR.

Sir,—I have been a reader of your paper ever since I was a schoolboy, and have had fifteen years' experience with many different makes of cars and motor cycles, and would be grateful for the courtesy of your columns to reopen the vexed question of "sidecar *v.* cycle car." My present mount is a first-class twin-cylinder sidecar outfit, produced by a famous firm, which I bought last Christmas, as I did not feel I could run to the price of a small car. I have now come to the conclusion that this was false economy, and am selling my sidecar and buying a light car. I need hardly say that I am a married man.

For commercial purposes, or for general utility, a sidecar is undoubtedly a good proposition, but for serious touring it is very unsatisfactory. My new light car is certainly expensive, but its workmanship is magnificent. It is sold complete in every detail and with every accessory, and provides for driver and passenger the maximum of comfort and protection against the weather.

My sidecar outfit was, I admit, a very good one, as such, but its shortcomings were so many and so serious, as greatly to outweigh its merits—initial outlay, low running costs, and handiness, as compared to a cycle car or light car.

The selling price does not include many of the most necessary accessories—lamps, speedometer, horn, legshields, and, above all, it has no mechanical lubrication. Yet with all these very necessary additions the price comes out at about £250. The absence of mechanical lubrication on British machines is to me a mystery. All American machines have it, and have had it for some time, and a car fitted with the antiquated hand pump would never find a purchaser. In addition comes the outlay on special clothing, overalls, helmets, waterproofs, etc., most of them very ugly, which are a necessity to an all-weather rider, who wishes to keep himself clean, warm, and dry. In fact, clothing is an even more costly problem than flimsy accessories and useless gadgets; but it is a problem which never worries the light car driver, who can go out to dinner in dress clothes on a winter's night, a feat which would puzzle a motor cyclist.

Again, a motor cycle seems to suffer from petty and annoying breakdowns from which cars are generally immune. I have had burnt out clutches, broken control wires, choked jets, broken belts, and the shaking loose of important nuts.

Now let me take the question of comfort. The passenger in the sidecar is well provided for, but the unfortunate driver is exposed to every variation of our variable climate—mud and dust, rain and wind, he gets them all, including the vibration from the roads which are now for the most part very bad. My rear wheel is unsprung—a wretched principle—while the handle-bars are supposed to be insulated from road shocks by the spring forks. As a matter of fact, on a bad road they are not, and I cannot exceed 15 m.p.h., which becomes wearisome after fifty or sixty miles; and when I am passed at double the speed by car after car, the occupants of which do not appear to notice the state of the roads, I sigh for a properly sprung four-wheeler. This latter I now fortunately possess. It is my humble opinion that the unsprung sidecar wheel transmits a lot of vibration to the frame of the motor cycle, and I ask why all wheels cannot be sprung. One might as well buy a car with one wheel unsprung.

W. R. YOUNGER.

WHAT OUR ROADS HAVE TO STAND!

Sir,—May I draw your attention to one of the ways in which our roads are destroyed.

Last week I was returning home from London by way of Sidcup, Wrotham, Maidstone, etc., about six miles on the London side of Wrotham, when I met a steam lorry. This was dropping flaming coals on the tarred road, and the tar was burning in large patches, and for one hundred yards or so little fires were burning all about. Surely this ought to be stopped?

E. F. W. BUCKELL.

WINNER OF THE NISBET AWARD



A late arrival on the Island, possessing a late number in the race, and the last man to finish, G. W. Jones (2¼ New Hudson) nevertheless made one of the pluckiest performances of all. He is shown passing the Craig-na-baa Hotel—an unofficial grandstand.

CLOSE RATIO GEARS.

Sir,—May I request the publicity of your correspondence columns to reply to "Ixion's" remarks in a recent issue?

I must say that I have a profound respect for "Ixion's" opinion, as I know his experience is of long years of riding; and, consequently, when he calls me a "funny fellow" I suppose there is some good reason for doing so. However, that reason is rather too deep for me. As to whether I am a speed merchant. By intention, yes; but probably by comparison, decidedly no!

"Ixion" accuses me of being "perfectly oblivious" to the fact that there is "lots of choice" in the close ratio gear box line. Not guilty. I am well aware that there are close ratio gear boxes to be had, but on how big a percentage of solo machines are they standard, or even optional? How often does a 3½ h.p. solo require a 13½ to 1 bottom gear (I did not say "use" a 13½ to 1 gear) when under usual conditions? And yet we find a very large number of solo machines with gears of about 5 to 1, 8½ to 1, and 13½ to 1. Yes, I know the answer will be "traffic." A Rudge-Multi (1in. belt) with a bottom gear of about 6 to 1 is perfectly tractable in London traffic, according to my experience of the breed (I have owned four of them); and, moreover, with this same bottom ratio have climbed Edge Hill, two up, after putting up a 30 m.p.h. average from Southam (without a stop at the foot of the hill).

The larger number of modern motor cyclists serve their novitiate on a flat twin, two-stroke, or else a sidecar outfit of the big twin order, where one opens the throttle to accelerate, and lifts the exhaust valve and stands on the brake to stop. Consequently, it takes them twice as long (and may be longer) to learn to get the best out of an engine. Hence the need for wide ratio gear boxes. Those who learnt on a single gear single-cylinder do not need this type of box, hence my suggestion that closer ratios can be with advantage made optional. It should not be necessary (as "Ixion" suggests) to apply to the gear box makers.

I have a leaning toward belt drive, not only because of the variable gear obtainable, but also because, in the case of an engine seizure (granted, not a frequent occurrence) the belt does slip, and one does not fare quite so badly as would be the case if chain drive was fitted.

In regard to "Ixion's" remarks *re* B.M.C.R.C. meetings and speedometers, I seem to remember Emerson racing last year with a speedometer on his A.B.C., or was it a revolution counter? Another bold man!

What with "bold men" and a "funny fellow," who is afterwards "dead right," things are rather complicated, *n'est-ce pas*, Mr. Editor?

I hope "Ixion" will continue to find me as amusing as I find his "Comments" interesting and instructive.

L. W. G. HARTLEY.

FASCINATING BELT DRIVE.

Sir,—I have just finished my first thousand miles on a 1921 3½ h.p. Rudge Multi, and must pay a tribute to the extraordinary fascination of the variable pulley idea. Much of what I have to say applies equally to other machines of the same type, such as the Zenith.

The point soon strikes one that the gear has possibilities very different from the ordinary type. The ideal is to keep the lever constantly in action, more or less like the throttle lever, and I find the engine is even more sensitive to movements of the gear lever. My machine has twenty notches on the gear quadrant, yet the movement through one notch has always a noticeable effect: at some speeds it is very pronounced. On wet roads the high gear of 3½ to 1 is used, as belt slip with rubber belts is somewhat marked on opening out. With a little experience, one is soon able to find a position where the speed remains at 20 m.p.h. without slip. On hills or roads other than tarred, belt slip in wet weather is less. (The modern tarred road dries quickly, but while it is wet it is *very* wet. The sight of a fast car moving, surrounded by a cloud of spray like a torpedo boat destroyer, is something we never saw in the old days.) I do not object to this slip: it gives a smoother motion, and lessens the tendency to skid. Comfort, as regards mud slinging, and safety alike suggest a moderate speed on the two-wheeler when it is wet. In hill-climbing under the worst conditions of wet, one drives entirely on the gear, raising and lowering it as slipping appears or disappears—altogether a novel and interesting method.

Belt slip seems entirely dependent on belt speed. I am told that slip in wet weather is less with leather or canvas belts, but I have not tried the experiment. It is much more interesting to control belt slip by gear lever manipulation. This control enables one in dry weather to run with a very slack belt. In practice it really comes to this: that in dry weather one has less slip with these variable pulleys than with even the large countershaft type—a statement hard to accept until one has had experience with them.

On level roads with a following wind, or down slight inclines, one puts in the highest gear, which affords a most delightfully swift, noiseless motion, with the engine just ticking over. The ordinary machine with a high gear of 5 or 4½ to 1 has nothing like this to offer.

Acceleration, when gear and throttle are moved in unison, is extraordinary, permitting of quick and really safe cornering. After a time one gets to know the feel of the combination of the two, so that the engine runs constantly with a smooth, effortless action: there is none of the sense of labouring that even the best of the "one-lungers" at times shows in picking up.

Without labouring the point further, I have said enough to show that the logical position for the gear lever is on the handle-bar in this type of machine, for it is continually used, more like the throttle than like an ordinary gear lever.

I have often wondered if any of your readers have tried to operate the lever from this position; the necessary fitments would not seem to be difficult to arrange. Perhaps some of the ingenious accessory makers might take it up. It would, I know, appeal to many Rudge riders.

There are other details about the Rudge which attract one. The tank holds well over two gallons, so that one can depend on its taking the whole contents of the standard two-gallon tins. A tank which only just takes two gallons will not do this unless practically empty. The foot control for lubricating, the large tyres, the hinged section of back mudguard for exposing the back wheel in tyre repairs, the enormously strong wheels, the perfect balance for pillion work, etc., are other points. But the great outstanding feature is the variable gear, and the one thing required to make this fully available is handle-bar control.

Lancaster. MEDICUS.

SUMMARY OF CORRESPONDENCE.

Mr. J. W. Saxton calls attention to a remarkably good performance on a 2¼ h.p. single-geared Levis. He toured 1,900 miles in fourteen days from London to Land's End *via* York, Edinburgh, Glasgow, Carlisle, Liverpool, Barmouth, and Bristol, and then continuing back to London *via* Sidmouth.

One or two letters continue to reach us on the subject of the drying-up of magneto chains. Thinking the trouble may be caused by the heat of the engine, Mr. W. Ward recommends ordinary foundry plumbago as a lubricating medium.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	Book post.
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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the top left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects. **ROUTES.**—By special arrangement with the Automobile Association and Motor Union, readers of "The Motor Cycle" desiring routes may enjoy the benefit of the Road Service Department of that organisation. Queries should be addressed to the Editor in the ordinary way (enclosing a 2d. stamp), and will be dealt with by the A.A. and M.U., who are regularly in receipt of reports from their representatives all over the country as to the existing state of the roads in any particular locality.

RAISING THE GEAR.

I have a 1919 4¼ h.p. B.S.A., which is rather slow for solo work; would you advise me to put a smaller sprocket on the back wheel, and if so, where could I get one made?—P.S.A.

If you wish to raise the gear it would be better to fit a larger driving sprocket on the countershaft. No doubt the makers of the machine would supply you with one.

TWO-STROKE FLAT TWIN IGNITION.

I have a 4-5 h.p. Levis flat twin two-stroke engine, and on examination I find that both cylinders fire together. Can you enlighten me as to whether I could use two double pole plugs in conjunction with a single-cylinder magneto running at engine speed, or is it essential that I should have a special two-spark magneto?—H.E.S.

The most satisfactory method of running a two-stroke flat twin which fires simultaneously is to use a special two-spark magneto. Such magnetos were made during the war for the engine which you have, and you might be able to obtain one still. If you attempt to use a single-cylinder magneto with double-pole plug, you only require one of these special plugs in conjunction with an ordinary one in the other cylinder, the two plugs being connected in series. As a general rule, double-pole plugs do not give very long service, as the space available for insulation is very limited.

TRADE NUMBER PLATES.

(1.) Is a licence necessary to deal in new or second-hand machines? (2.) Could I obtain a special number for registration to use on any machine when riding it home? If so, to whom should I apply? (3.) In the case of the sale of a second-hand machine or a new machine, am I liable to pay any taxes whatever if I do not use the machine?—M.R.

(1.) No licence is necessary. (2.) Trade registration numbers may be obtained from the local registering authority, but they must only be used on machines under test or on demonstration runs; moreover, each time a machine so numbered is taken out the details must be entered in a log book, which must be always available for police inspection. (3.) There is no need to pay a tax on a motor cycle provided it is not ridden (such as any machines which you take into stock). If a machine is taken on the road under its own power, the owner becomes liable for taxation, unless, of course, it carries trade number plates and is being used for above-mentioned purposes.

LIGHTWEIGHT VALVE TIMING.

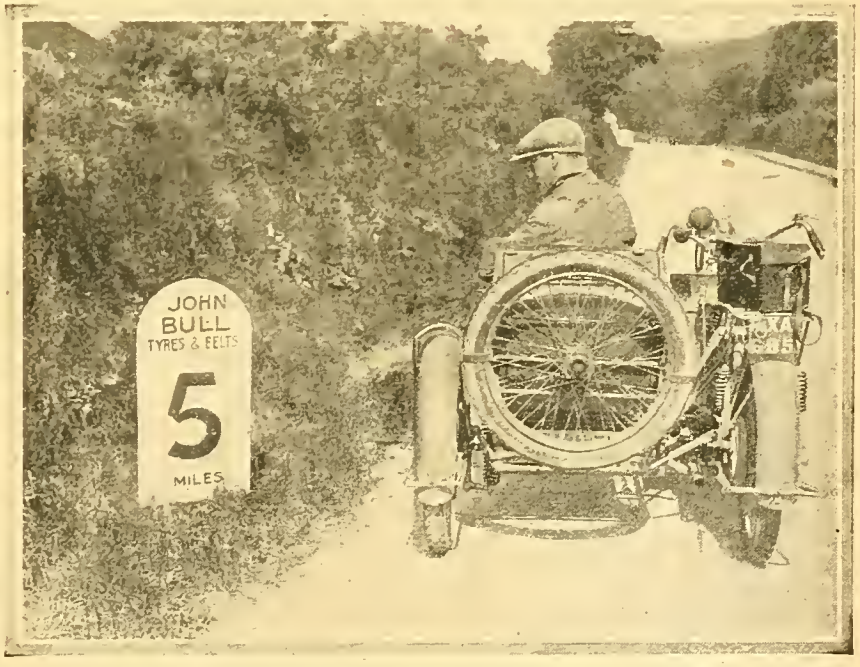
What is the correct valve and ignition timing of the Precision Junior engine (1914 model)?—G.O.

Time the valves so that the exhaust is just closing and the inlet just commencing to open when the piston is on top dead centre of the stroke. The spark should occur when the piston is on top dead centre of the compression stroke, with the ignition control two-thirds retarded; should the magneto be of the fixed ignition variety, however, time the spark so that it occurs when the piston is 4 mm. before the top of the stroke.

TWO-STROKE MISFIRING.

(1.) I have an O.K. Junior motor cycle, 2¾ h.p. Villiers engine, fitted with Amac carburetter. The machine runs well, but apparently will take no air. On opening air lever very slightly, a violent banging in silencer ensues, and a falling off in speed is noticed. Can you explain, please? If the engine is run on the stand and the air lever advanced, banging is followed by puffs of smoke from the exhaust pipe. Petrol consumption is excessive. (2.) Using petroil lubrication, can 25% benzole be mixed with petrol?—F.R.W.

(1.) Unless there is some obstruction in the petrol supply, it would appear that the jet is too small. You do not state what the consumption is, but we would suggest that you lower the level and fit a larger jet. (2.) You can mix benzole with petrol in any quantity, or use it entirely if you desire, and it is quite possible to use the "petroil" system.



One of the white posts (clearly defining every mile of the T.T. course) which were put up by the makers of John Bull tyres. These "milestones" were much appreciated by competitors and spectators alike.

A STUCK UP VALVE.

When starting up the engine of my 8 h.p. Enfield recently, I was unfortunate enough to have the carburetter on fire. I was, however, able to smother it without much damage, but fear a repetition. Can you suggest a reason? The same thing occurred once before, but it was attributed to sticking valves, which were afterwards reground, and the trouble was apparently cured. This cannot be the cause now, as the engine has been taken down and valves ground in, since when it has only had a trial run of about five miles. After the engine has started up, is there any chance of a fire on the road—I mean while running?—S.W.

The trouble is most probably caused by the inlet valve sticking, and, even though the engine had only lately been assembled, there is no reason why this should not happen. Probably there was some congealed oil on the valve stem which prevented it returning quickly on to its seating. At the same time, fires on motor cycles are very unusual, whether due to this or any other cause. There is usually little chance of a fire taking place when the machine is actually running.

READER'S REPLY.

AN ELUSIVE TRANSMISSION KNOCK.

In a letter in your issue of June 2nd, your correspondent "E.C." describes exactly the same thing which occurred to me recently while riding a 2¼ h.p. Levis, and perhaps my experience may be of service. I thought the big end was worn, but eventually found this was not the case, and that the fault was due to a deposit of hard burned carbon underneath the second piston ring. After cleaning, the machine ran perfectly, and I ascribe the original cause to unsuitable (*i.e.*, too thin) oil.—MULTUM-IN-PARVO.

RECOMMENDED ROUTES.

DERBY TO KIMBOLTON.—D.J.B.

Derby, Alvaston, Kegworth, Loughborough, Quorn, Mountsorrel, Leicester, Oadby, Great Glen, Kibworth, Market Harborough, Desborough, Rothwell, Kettering, Barton Seagrave, Burton Latimer, Irthlingborough, Higham Ferrars, Kimbolton. Approximately 74½ miles.

NEWPORT TO BARNSTAPLE.—A.E.D.

Newport, Chepstow, Lydney, Newnham, Gloucester, Quedgeley, Eastington, Cambridge, Berkeley Road Station, Stone, Alveston, Almondsbury, Bristol, Churchill, Sidcot, Highbridge, Pawlett, Bridgwater, North Petherton, Bathpool, Taunton, Milverton, Wiveliscombe, Bampton, South Molton, Swimbridge, Barnstaple.

WEMBLY TO YARMOUTH.—E.A.C.

Wembly, Bushey Heath, Elstree, Radlett, St. Albans, Hatfield, Stevenage, Baldock, Royston, Whittlesford Station, Six Mile Bottom, Newmarket, Barton Mills, Thetford, Larlingford, Attleborough, Wymondham, Norwich, Thorpe, Blofield, Acle, Burgh St. Margaret, Filby, Caister, Yarmouth. Approximately 142½ miles.

NEWCASTLE-ON-TYNE TO BATH (*via* NOTTINGHAM).—R.S.J.

Newcastle-on-Tyne, Durham, Ferryhill, Aycliffe, Darlington, Stapleton, Barton, Scotch Corner, Catterick, Leeming, Baldersby Gate, Ripon, Ripley, Harrogate, Spofforth, Wetherby, Bramham Moor Cross Roads, Aberford, Ferrybridge, Barnsdale Bar, Doncaster, Wadworth, Tickhill, Oldcoates, Carlton, Worksop, Welbeck Abbey, Cuckney, Market Warsop, Mansfield, Nottingham, Beeston, Long Eaton, Castle Donington, Ashby-de-la-Zouch, Measham, Tamworth, Fazeley, Coleshill, Stonebridge, Kenilworth, Warwick, Stratford-on-Avon, (edge of) Clifford Chambers, Mickleton, Weston-sub-Edge, Willersey, Broadway, Winchcomb, Cheltenham, Shurdington, Painswick, Stroud, Nailsworth, Dunkirk, Bath. Approximately 302½ miles.

Important Dates.

Fri., July 1st, and Sat., July 2nd—Arbutbnot Trophy Trial.

Sat., July 2nd—Bournemouth M.C.C. Open Reliability Trial.

Sat., July 2nd—500 Mile Race at Brooklands for the Miller Gold Cup.

Thurs., July 7th—Essex County and Southend A.C. and Essex M.C. Joint Open Speed Trials.

Sat., July 9th—St. Andrews Speed Trials

Sat., July 9th—Cardiff M.C.C. and associated clubs Open Hill Climb.

Mon., July 11th, to Sat., July 16th—Scottish Six Days' Trial.

Sat., July 16th—Ilkley M.C. and L.C.C. Open Reliability Trial.

Sat., July 23rd—Fast Midland Centre A.C.U. Open Speed Trials

Sun., July 24th—Motor Cycle Grand Prix Race in France.

Sat., July 30th—Newcastle and District M.C. Open Speed Trials.

Mon., Aug. 1st, to Sat., Aug. 6th—International Six Days Trial in Switzerland.

Sat., Aug. 6th—B.M.C.R.C. Open Brooklands Meeting.

Sat. Aug. 6th—North Wales M.C.C. Open Reliability Trial.

Fri. Aug. 12th—Motor Cycle Grand Prix in Belgium.

Sat., Aug. 13th—Cumberland M.C.C. Open Reliability Trial.

Sat., Aug. 20th—Western Centre A.C.U. Open Speed Trials.

Thurs. Aug. 25th—Ystalyfera and Carmarthen M.C.C. Open Speed Trials.

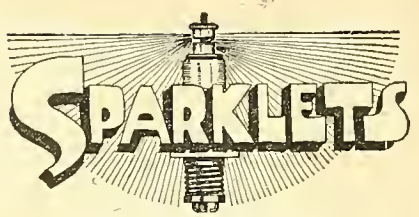
Mon., Aug. 29th, to Sat., Sept 3rd—A.C.U. Six Days Trial.

Sat., Sept. 17th—Grand Prix Race for Cycle Cars.

Fri., Sept. 23rd, to Tues., Sept. 27th—Anglo-Dutch Reliability Trial.

HUCKNALL TO BUDLEIGH SALTERTON.—G.R.

Hucknall, Nottingham, Beeston, Long Eaton, Castle Donington, Ashby-de-la-Zouch, Measham, Tamworth, Fazeley, Coleshill, Stonebridge, Kenilworth, Warwick, Stratford-on-Avon, Mickleton, Weston-sub-Edge, Willersey, Broadway, Winchcomb, Cheltenham, Painswick, Stroud, Nailsworth, Dunkirk, Bath, Corston, Marksbury, Farmborough, High Littleton, Farrington Gurney, Wells, Priddy, Cheddar, Westbury, Glastonbury, Somerton, Ilchester, Ilminster, Peasemarsh, Chard, Yarcombe, Honiton, Sidbury, Sidford, Newton Poppleford, East Budleigh, Budleigh Salterton. Approximately 253 miles.



Through Feminine Goggles.

The house making *The Motor Cycle* ladies' costumes to Miss Peggy Fraser's designs is "Billy's," Grove Arcade, Wallasey, Cheshire, and not "Bisley's," as mentioned recently.

A Low-priced Monocar.

What must now be the cheapest four-wheeler on the market is the A.V., which with full equipment is being offered at the round figure of £100 by A.V. Concessionnaires, Ltd., 15, Woodstock Street, London, W.1.

Guaranteed Petrol Consumption.

In a series of "talking points" issued by the Wobler Motor Cycle Co. to their agents, an estimation of running expenses is included. Petrol is given as a cost of .24d. per mile, or 145 m.p.g.; this, incidentally, is the figure guaranteed as a minimum.

A North-eastern Coast Garage.

The Spa Motor and Engineering Co., of Avenue Victoria, Filey Road, Scarborough, have reopened their motor cycle depot after reconstruction. Their premises were completely destroyed by fire in December last.

Faded Licences.

Recently two motor cyclists were summoned because the handwriting on their licences had faded through exposure to sunlight; and, in consequence, Messrs. H. C. Stephens, the well-known manufacturers of writing-inks, have forwarded a sample bottle of their ink—which they guarantee will not fade—to every licensing authority in the United Kingdom.

Rudge Wrinkles.

Always useful, the latest edition of the well-known Rudge instruction booklet is one of the most complete of its kind published by any motor cycle manufacturer. Not only does it contain a mass of useful hints and tips, but it embodies a volume of interesting data regarding Rudge machines of various years of manufacture.

Some British Successes in Holland.

Douglas machines have been performing successfully in Holland recently, and secured the first five places in the Niewelingen Trial on May 1st, and the first three places in both the Apeldoorn of 660 km. on May 22nd and 28th-29th respectively. Three first places were secured by Jac. Brunt. In addition to the above, machines of the same make were ridden into first and second places in the premier race at the Veendam grass track, and first place in the Newcomers' Race on June 5th.

Catalogues Received.

Ariel Works, Ltd., Bournbrook, Birmingham: The Ariel catalogue is well printed, and, in addition to excellent illustrations of the various machines reproduced on a large scale, it contains a number of pictures of Ariel machines in various reliability trials.

A NEW FLYWHEEL MAGNETO AND LIGHTING SET.

A B.T.H. Instrument producing equal Spark Efficiency throughout the Ignition Range, and providing the Necessary Current for Lighting Purposes.

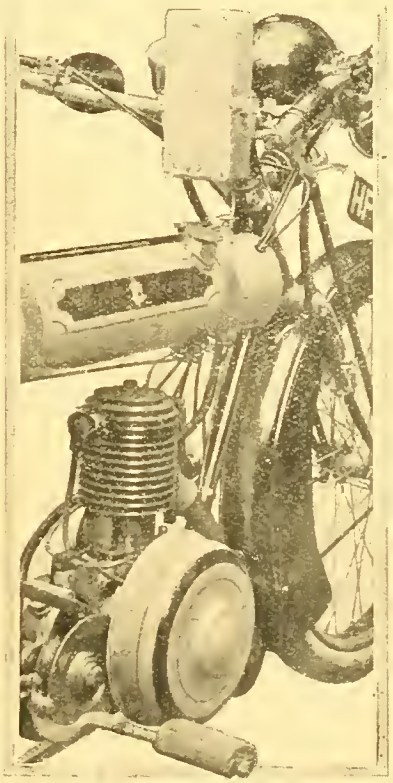
FOLLOWING up the success of their Sparklight magneto lighting set for two-strokes the B.T.H. Co. is introducing a flywheel magneto for combined ignition and lighting purposes.

The construction of the new instrument is simple and admirably carried out. On a back plate capable of rotation through an angle of 30° are mounted the laminated field, combined high and low-tension coils, condenser and aero-type contact breaker. The first mentioned items need no description, but the contact breaker is mounted on a bronze bush, the hollow spindle being lubricated by a wick feed. The rotating portion or flywheel is built up of 40 ton bronze, developed by the B.T.H. Co. for heavy turbo work. Into an inner ring are cast the laminated poles, and round this ring lie two semi-circular magnets having ground contact surfaces and being attached to the poles by screws, while surrounding the whole is an outer case of the same 40 ton bronze. Carried on the boss of the rotating member is the contact breaker cam which operates the rocker arm in a normal manner.

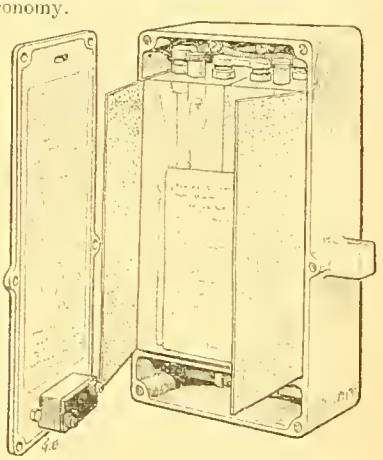
No Separate Lighting Coils

Current for lighting purposes is obtained in an exactly similar manner to that employed in the Sparklight set—that is, the idle maximum which occurs in all engine speed single-cylinder magnetos is employed to charge an accumulator. The collecting brushes revolve idly on brass strips in the distributer until the engine attains about 600 r.p.m., at which speed the distributer is moved laterally by the action of spring-controlled centrifugal weights. Lateral motion of the distributer brings the necessary segments into contact with the collecting brushes, and above 600 r.p.m. the accumulator is always on charge. A spun aluminium cover protects the instrument from water and dust. A special five-candle power bulb has been introduced by the B.T.H. Rugby works to suit the new set. The accumulator, which is similar to that used with the Sparklight, has, when fully charged, sufficient capacity to provide light for ten hours, even without the additional charge which is constantly being provided. Carried on the handle-bars in an aluminium case this accumulator is readily accessible, the whole of the back plate complete with switch being detachable after removing six screws. The two terminal wires are easy of access, and the accumulator may be withdrawn by means of projecting flaps formed as part of the rubber packing.

It is claimed that the new instrument, besides providing lighting current, is cheaper than a magneto, since it saves a drive, provides better slow running and increased fuel economy.



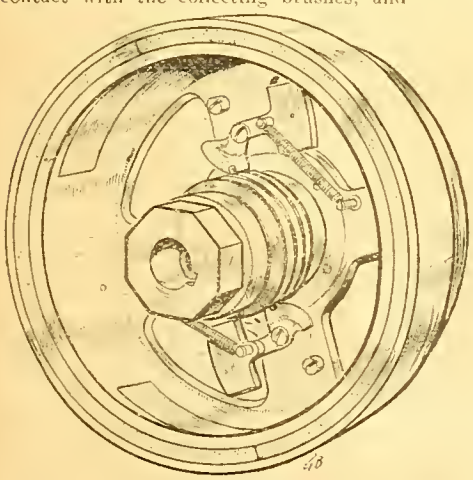
The B.T.H. combined lighting and ignition set fitted experimentally to a Triumph Junior. An important feature is the enclosing of the flywheel magneto in a waterproof case.



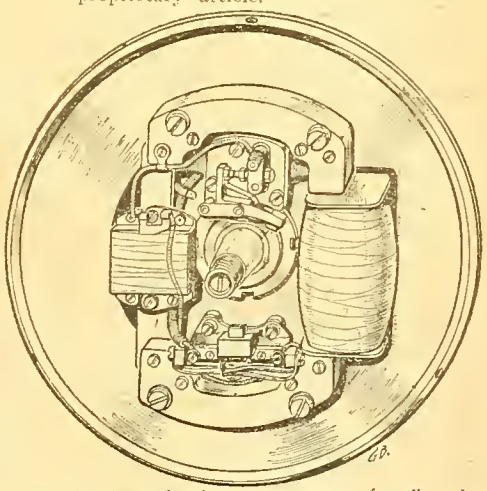
In the latest accumulator box the whole aluminium froot is readily detachable complete with switch; the accumulator only can then be moved by means of the extension of the rubber packing piece.

From a short run on the road we can speak highly of the slow-running qualities of a Triumph Junior fitted with the B.T.H. flywheel magneto, for it was possible to turn in small circles and cut figures of eight in a normal roadway without touching the controls and without a sign of four-stroking.

It will be interesting to watch the development of this new device, for though the Villiers flywheel magneto is already well-known, the B.T.H. combined ignition and lighting set is the first instrument of its type to be placed on the market as a proprietary article.



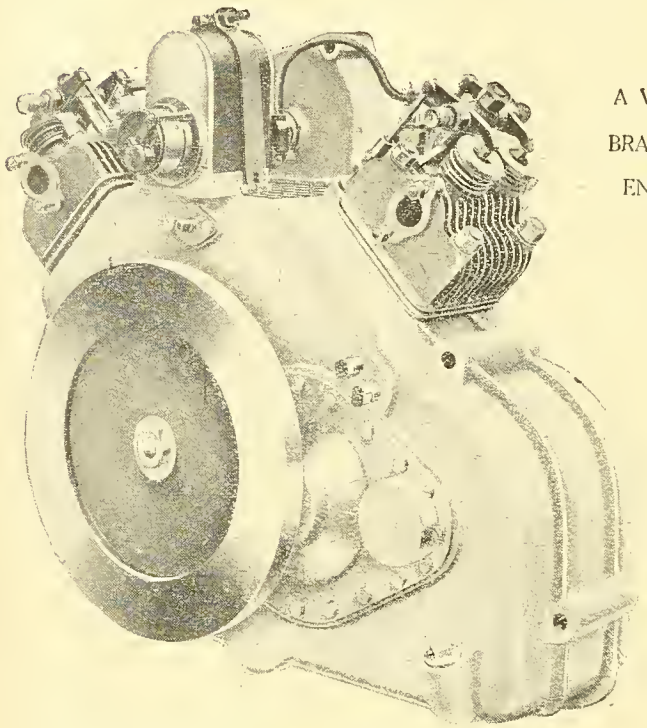
On the boss of the rotating member are carried the contact-breaker cam and the distributing segments. The latter are capable of being moved laterally by centrifugally operated weights; between the inner and outer bronze casings lie semi-circular magnets.



Back plate, showing arrangement of coil and contact breaker, laminated fields and collector brushes for lighting set.

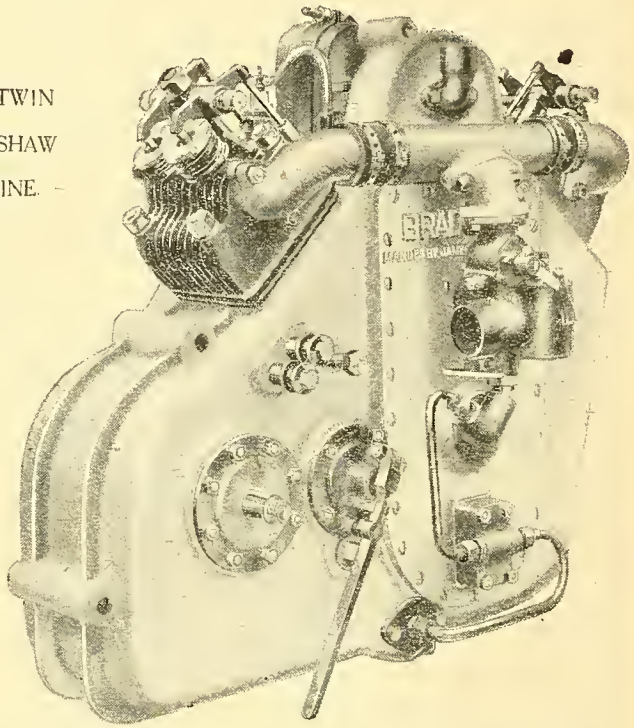
THE PROGRESS OF OIL-COOLING.

A 90° V Twin cooled by Oil Circulation and combined with a Four-speed Gear Box and Plate Clutch.



Flywheel side of the Bradshaw engine and gear unit. Note the grease cups for lubricating the overhead rockers.

A V TWIN BRADSHAW ENGINE.



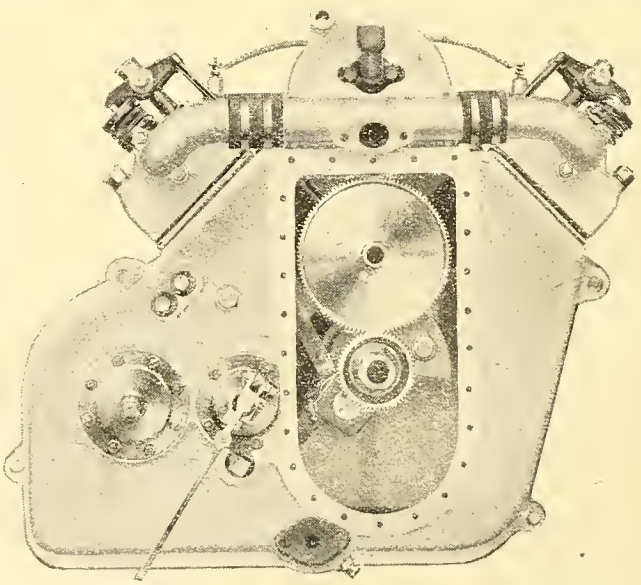
Final drive side of the 90° oil-cooled Bradshaw engine. Observe the clutch control and driving spindle of the four-speed gear box.

UNDOUBTEDLY one of the most advanced engine designs recently produced is the oil-cooled 3½ h.p. horizontal twin evolved by Mr. Granville Bradshaw, and embodied in the Zenith machine which was such a centre of interest at the last Olympia Show.

A larger engine, on more ambitious lines, has now been produced, and, as the same principle is adopted, it may be well to recapitulate the essential features. During the course of experiments on various cooling systems, it was found that a large proportion of the heat dissipated was radiated from the crank case surface. Accordingly Mr. Bradshaw pursued this theme, and, as lubricating oil played an important part in transferring heat from the piston and cylinder to the crank case, the logical result was to increase the amount of oil present in the crank case, and to increase also the surface of the crank case for radiator purposes.

The difficulties which have to be contended with in designing an air-cooled cylinder were set forth by Mr. Bradshaw in *The Motor Cycle* of May 26th and June 2nd: and, in order to grasp the *raison d'être* of oil-cooling, those articles should be carefully studied.

As regards the new engine, this is a 90° V twin of 90×77½ mm. bore and stroke (986 c.c.), and at first sight it appears to consist of a clean aluminium box casting, through which protrude the two cylinder heads. The cylinders are plain cast iron barrels, devoid of ribs, with a rectangular flange at one end. The detachable heads carry two overhead valves, and are well ribbed for cooling purposes: these also have rectangular flanges. Both cylinder barrel and combustion head are held down by four long studs, and the cylinder barrel is thus wholly inside the crank case. A balanced crankshaft is carried in a plain phosphor bronze bush on the off side and a large Hoffmann ball bearing on the near side, an outside flywheel being employed, of course. Aluminium pistons, with two rings of narrow section in the head and an oil scraper ring in the skirt, leave the middle portion of the skirt recessed to a considerable depth, and the gudgeon pins are allowed to float in the piston bosses. The piston heads are slightly concave, and no ribs are utilised beneath them.



The cover-plate removed, showing the timing gear. This cover renders accessible the split big end bearings.

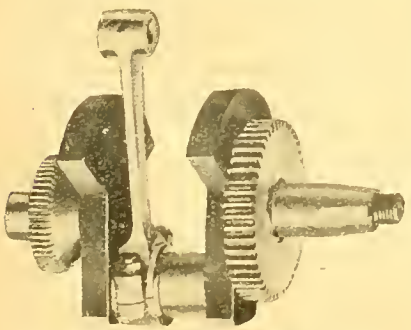
As an instance of the ample size of all bearing surfaces, it may be mentioned that the mainshaft is 1¼in. in diameter, while the big end bearings are

The Progress of Oil-cooling.—

of 1½in. diameter × 1¼in. in length. Split big end bearings are a commendable feature, and they may be dismantled through the large aluminium cover which extends from top to bottom of the crank case on the off side. Accessibility of all components has, indeed, been carefully studied, and the engine is so designed that it may be completely dismantled or erected without taking the crank case out of the frame.

One-piece Camshaft.

The camshaft has four cams formed integrally with it, and is driven by a train of gear wheels from the mainshaft, operating the four valve tappets through the agency of rocking levers. A Fellows magneto is at present fitted on the top of the crank case, and provision is made to prevent too much heat being conducted to it therefrom. It is secured by a strap, and is driven by a simple quickly de-



The one piece crankshaft with side-by-side big ends. The massive proportions of the crank pin will be observed.

tachable coupling. The cover of the magneto driving wheel has cast with it the centre section of the inlet pipe, so that this is brought to a temperature which should assist vaporisation of the charge. Two flexible joints are inserted in the induction pipe in order to allow for any distortion or expansion which might conceivably cause trouble were a single one-piece pipe fitted.

Valve gear details have been simplified so that trouble should be well nigh impossible. The rocking levers have bearings ⅝in. in diameter, and are each lubricated by a large greaser. A single substantial pillar supports both rocking levers, and each valve has two concentric springs, so that, should one break, the valve cannot fall down into the cylinder head. The tappet rods have a simple and accessible adjustment.

So much for the power unit. There is, however, incorporated with it a four-speed gear box, plate clutch, and kick-starter. The gear box shafts are parallel with the mainshaft, and the clutchshaft carries clutch, gear wheels, kick-starter pinion and ratchet, and clutch stop. This complete assembly may be detached by removing the smaller gearshaft cover plate on the near or flywheel side of the engine.

The clutch consists of thirteen steel plates housed in the constant mesh gear wheel, to which one set of plates is secured by six splines. The other set of plates is secured to the clutchshaft by four splines, and the two sets of plates are normally held together by a spiral spring situated in the hollow clutchshaft, and acting on the clutch spindle and a substantial end plate.

Both gearshafts are short and rigid, and the gear wheels are exceptionally large for motor cycle practice. The kick-starter ratchet is particularly sturdy, and is operated by a rack in the usual manner. The driving-shaft assembly is easily dismantled by withdrawing the shaft when the gear wheels, which are carried on large splines, remain in the crank case. Ball bearings are utilised for both gearshafts. The selector gear is adjustable, and, together with the driving-shaft, present the only points at which oil might possibly leak when wear takes place.

Oil-cooling in Practice.

There now remains the lubrication and cooling system to be described, and as this affects not only the power unit but the gears, it is appropriate that it should be dealt with last. The crank case is made to accommodate the four-speed gear box in order to increase the surface available for the radiation of heat. About one and a quarter gallons of oil is contained in the crank case, and a simple gear wheel oil pump draws oil through a large and easily removable filter and delivers it to the hollow crankshaft, whence it is forced to the big end bearings. By way of the oil grooves the oil is then forced out at the sides of, and between, the two big end bearings, so that three copious streams of oil are thrown on to the cylinder barrels, camshaft, and gearshafts efficiently lubricating the whole engine.

It is by means of this constant flow of oil, which is at the rate of half a gallon per minute, that heat is transferred from the pistons and cylinders to the walls of the crank case, whence it is dissipated by the air currents passing over the crank case.

Throughout the engine detail design has been carefully thought out, *e.g.*, a small ball thrust race is inserted in the clutch mechanism; valves, cylinder barrels, and combustion heads are interchangeable for front and rear cylinders; the vertical Claudel-Hobson carburetter may be replaced by a horizontal type by reversing the elbow; a crank case release valve of simple but effective design is fitted; and the crank case has been provided with lugs for its easy installation in the frame.

For Cycle Cars.

An engine is also to be produced without the gear box and clutch, in this case the oil sump being somewhat longer, with a view to its use on cycle cars, where the engine is carried across the frame at the front. For cycle cars and light cars the engine will have a longer stroke—86 mm.—bringing it up to 1,100 c.c.



Quite an unusual system of cylinder construction is employed, the whole of the cast iron barrel being sunk within the crank case, and oil being used as a cooling medium.

The first experimental engine was recently dismantled for our inspection after we had seen it running on the test bench, and after forty hours' running the piston heads were entirely free from carbon. A small amount of carbon was present on the combustion heads. The cylinder barrels were also quite bright and free from any discolouration, so that there can be little doubt of the efficiency of the cooling system. The oil when drawn off from the sump was also clean and free from carbon particles. The engine runs extremely quietly, and is free from the "rattle" associated with air-cooled engines.

The engines, and all other Bradshaw productions, are now being handled by Mr. Gilbert Campling, 90, Jermyn Street, London, W.

THE ARBUTHNOT TROPHY TRIAL.

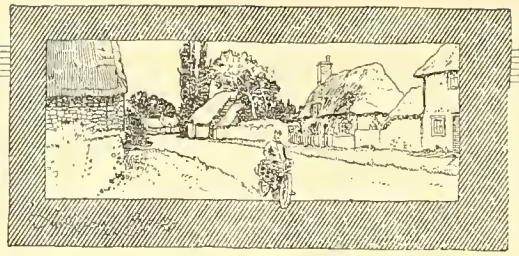
THE importance of a reliability trial need not always be measured by the number of entries received. So far as entries are concerned, the Arbuthnot Trophy Competition has been notoriously unlucky: but, while the entry list for the event on July 1st and 2nd is not surprisingly large, it is better than it ever has been.

The trial starts at 9 a.m. on Friday, July 1st, from Bligh's Hotel, Sevenoaks, and continues over a sporting course, and will finish up at Brooklands on Saturday afternoon in time for the competitors to see the finish of the 500 miles race.

Though entries are nominally closed, the secretary of the Auto-Cycle Union, 83, Pall Mall, London, S.W.1, taking into consideration the difficulties under which naval officers labour, will be pleased to consider the acceptance of further entries if they are sent in immediately. The entries are as follows:

Lieut. J. Graham, jun., R.N. (Triumph).
Lieut. H. P. D'A. Benson, R.N. (2¾ Omega-Jap).
Eng. Lieut. Com. A. K. Diblev, R.N. (Indian).
Eng. Lieut. Com. S. G. Wheeler, R.N. (4 Coulson-B).
Sub-Lieut. Cane, R.N. (Reading-Standard).
Sub-Lieut. H. B. Baker, R.N. (6 A.J.S.).
Lieut. R. C. Hovenden, R.N. (8 Zenith).
Lieut. C. Plumer, R.N. (——).
Lieut V. H. Giddy, R.N. (Scott).
Lieut. L. A. Heath, R.N. (Bat).
Lieut. W. Derek Stephens, R.N. (4 Douglas).
Sub-Lieut. A. M. Kimmins, R.N. (——).
Sub-Lieut. R. T. Grogan, R.N. (6 Zenith).
Sub-Lieut R. O. Bellasis, R.N. (Scott).
Sub-Lieut. W. G. L. Cooper, R.N. (Scott).
Sub-Lieut. T. E. N. Knox, R.N. (Triumph).
Lieut. T. H. Back, R.N. (Triumph).
Lieut. W. S. Jameson, R.N. (Sunbeam).
Lieut. P. V. James, R.N. (5 N.U.T.)
Sub-Lieut. H. V. Chads, R.N. (Triumph).

CURRENT CHAT



Special Features.

THE PROGRESS OF OIL COOLING.
FUTURE OF THE T.T.
THE CLUB CHAMPIONSHIP

Times to Light Lamps

June	30th	... ...	9.48 p.m.
July	2nd	... ...	9.48 ,,
,,	4th	... ...	9.47 ,,
,,	6th	... ...	9.46 ,,

Found.

Passing East Croydon Station on a recent Sunday, a reader, who signs himself "Sprocket," picked up a Voltalite dynamo. Any applications for this will be forwarded to the finder.

Hospital Collections during T.T. Week.

Following the usual custom, various collections were made during T.T. week for Noble's Isle of Man Hospital. A cheque value £100 was handed by Mr. Alec Ross to the Deemster on Thursday, after the Senior race, and a further cheque for £13 4s. 8d., the proceeds of later receipts, was forwarded on the 21st inst.

Motor Cycle Grand Prix Race.

There are still available a few of *The Motor Cycle* reserved tickets for the grandstand at the Grand Prix.

The Automobile Association has reserved a number of berths for cars or motor cycles on the boats to French ports. Members intending to go over to France for the Grand Prix may take advantage of the few still available between July 16th and 20th, but, to avoid disappointment, they should make immediate application to the Secretary, A.A. and M.U., Fanum House, Whitcomb Street, London, W.C.2.

Research.

It is interesting to note that the manufacturers of the winning machines in this year's T.T. races, including the winner of *The Motor Cycle* Cup, are members of the British Motor Cycle and Cycle Car Research Association.

South Wales Open Hill-climb.

Representing the motor cycle clubs of Bargoed, Cardiff, Newport (Mon.), and Tredegar, the South Wales Motor Cycle Open Competition Committee is holding an open hill-climb on Catsash Hill, near Newport, at 1 p.m., on July 9th. There will be two challenge cups in the award list.

Over £8,000,000 from Taxation in Five Months.

Taxes should be lower next year, since the amount asked for by the Ministry of Transport for the repair of roads has been exceeded during the *first five months* of this year. £8,436,000 has been collected, which amount includes £760,000 from motor cyclists, the average amount per licence holder being £2 1s. Only sixty invalid vehicles at 5s. have been licensed.

Civic Welcome for T.T. Winners.

On their return to Wolverhampton after the T.T. races, an enthusiastic civic welcome was accorded H. R. Davies and Eric Williams (winners of the Senior and Junior T.T. respectively). Large crowds assembled in the decorated streets, and, headed by a local band, a procession marched to the station to receive the returning heroes.

"Smelly Motor Bikes."

This is the absurd heading of a small paragraph in a Grimsby paper reporting the prosecution of several motor cyclists "for allowing the exhaust gases to escape into the atmosphere. Fines of 10s. were imposed. . . ." That's all!

Ride with Caution.

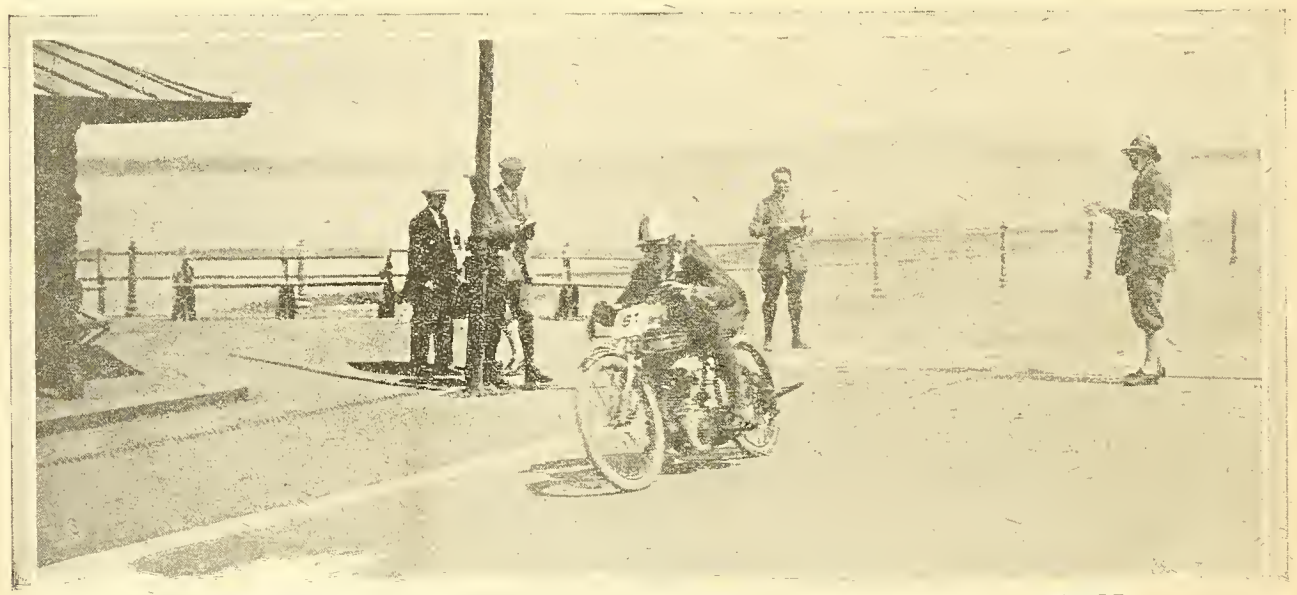
On the Liverpool-Ormskirk road, between the ninth and tenth milestones, there is a quarter-mile stretch of road in an appallingly bad condition, caused by heavy traffic on a newly-made road before it had set. A local reader sends us the warning.

Going North.

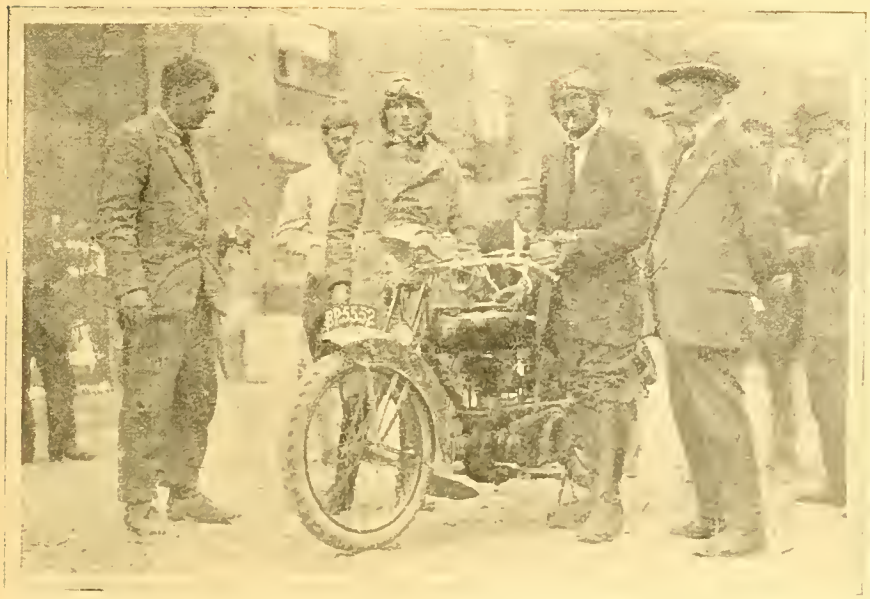
Those contemplating Scottish tours should note that the inner road from Newcastle to Edinburgh *via* Galashiels and Jedburgh is in a very bad state. "Particularly is this so," says one of our readers, Mr. W. T. Rawcliffe, "from Carter's Bar to Otterburn." Intending tourists would do better to follow the main road.

Scottish Speed Championships.

In addition to the five-lap Scottish inter-club team race, there are eight open classes and three confined to private owners on the programme of the Scottish Speed Championships to be held at St. Andrews on July 9th—all these events being for solo machines only. There are also two open sidecar races. Eliminating trials will be held if the entry list becomes unwieldy.



NORTH-WESTERN CENTRE A.C.U. OPEN SPEED TRIALS ON MORECAMBE PROMENADE.
G. W. Walker (3½ Norton), winner of the 500 c.c. solo class, at the start of the event.



JOHN-o'-GROAT S TO LAND S END. In order to demonstrate the reliability of the XL motor cycle—a new production—the manufacturers, as a debut, entered it for a "non-stop" trial from John-o'-Groat's to Land's End, under A.C.U. observation. The above illustration depicts a fuel halt at Bristol on Saturday evening. The Trial was successfully concluded on Sunday.

A Remarkable 350 c.c. Engine.

Next week's issue of *The Motor Cycle* will contain a technical description of the remarkable 350 c.c. A.J.S. engine which won both Senior and Junior T.T. races.

The International Six Days.

It has been decided that entries for the International Six Days trials in Switzerland may be accepted at ordinary fees up to July 10th and at double fees to July 15th.

Westcliff Speed Trials.

A very large entry in all classes has been secured for the joint open speed trials of the Essex M.C. and the Essex County and Southend and District A.C., to be held at Westcliff on Thursday next (July 7th).



Souvenir cuff links presented by the A.C.U. to the marshals at the T.T. races.

The M.C.C. at Brooklands.

On July 9th, the M.C.C. will hold its eighth Brooklands meeting. There will be handicap and scratch races for 350 c.c., 560 c.c., and 1,100 c.c. solo machines—the first seven finishers in the handicap classes being eligible to compete for the "Harry Smith" Gold Challenge Cup—and also handicap races for single and twin cylinder sidecar machines.

Sun-Vitesse Lightweights in the T.T.

Eighth position for *The Motor Cycle* Cup in the Junior T.T. race was gained by B. H. Norris on a 2½ h.p. Sun-Vitesse, the two Sun-Vitesse machines thus finishing together. We make this statement because our original report in the issue of June 16th credited G. N. Morris, on an Ivy, with this position, and at least two other papers have already copied the error!

Ealing Club at Brooklands.

On the 16th prox. the Ealing and District M.C.C. will hold a race meeting at Brooklands, with a cup presented by Mr. Duncan Watson as the chief award.

Strenuous Work in the Junior T.T.

R. Weatherell, rider and manufacturer of the R.W. Scout lightweight in the T.T., informs us that the tank upon which he had to perform extensive soldering operations twice in the course of the race was a Manx production hurriedly substituted for the original article which was damaged in practice. Otherwise his machine ran perfectly, completing four laps, one in 53m.

Judging T.T. Speeds.

Six hundred entries were received by Messrs. S. A. Newman, Ltd., for their competition to estimate the best time by an Ivy rider in the T.T. The three prizes were awarded as follows: Messrs. Blakes' £5 prize.—Mr. J. McGill, 203, Carlton Road, Worksop. Messrs. Frank Whitworth's £5 prize.—Mr. E. E. Pritchard, Claremont Cottage, Brownhills, Walsall. Messrs. Maude's Motor Mart's £5 prize.—Mr. W. Thomas, 9, Belmont Road, Ilford.



N. WESTERN CENTRE (A.C.U.) TEAM TRIAL.
Having survived the watersplash, A. Walsh (4 Douglas sc.) succumbs to gradient owing to a slipping belt.



Near Princes Risboro'—Eric Williams (7 A.J.S.) at the head of a string of competitors. His nonchalant riding position is in startling contrast to his very familiar T.T. racing attitude.

The M.C.C. Inter-team Trial results in Success for the Sheffield and Hallamshire M.C.C.

AS usual, brilliantly hot weather favoured the M.C.C. Inter-team Trial for *The Motor Cycle* Challenge Trophy last Saturday. The contest was inaugurated in 1904 with the idea of fostering and encouraging the formation of motor cycle clubs and of promoting a friendly rivalry between them. This year twenty-eight clubs entered, of which only one, the Nottingham and District M.C.C., did not put in an appearance. Owing to numerous last-minute changes of riders and their mounts, the corrected programme was full of alterations, but the winning team—the Sheffield and Hallamshire M.C.C. — started as originally chosen.

Keeping Cool!

This year it was decided to run the trial over the same course as that employed in 1919 and 1920, but in the reverse direction—a suggestion which first emanated from *The Motor Cycle*, and one which worked excellently in practice. The teams were started from the same conveniently placed lane leading into the London-Aylesbury main road. So hot was the weather that the Ilkley team rode in plaited straw sun bonnets, which rendered it hard to distinguish the sex of the sidecar passengers from a distance; while G. D. Hardie (of the Woolwich, Plumstead, and District M.C.) and his companion made the three tours of the course in their shirt sleeves.

The course was 33½ miles long and had to be covered three times at a speed between 17 and 20 m.p.h.; the club whose team finished complete, and whose second and third lap times most closely approximated its first lap times, was adjudged to be the winner of the trophy.

Now as regards the course, the first hill of note was that situated within a quarter of a mile of the start and leading up to Wiggington, which accounted for more than one failure in the first lap. J. Avery (Harley sc.), Oxford Club, failed, and W. Tolley (4 Triumph) had his gear lever jump out of engagement, whilst Choldcroft (A.J.S. sc.), Worcester, could not disengage his top gear at the psychological moment, and the observers ruled that his mount temporarily came to a standstill, although Choldcroft did not admit this, and carried on. S. Hellen (Norton), Basingstoke M.C., stopped owing to lubrication trouble two miles from the start.



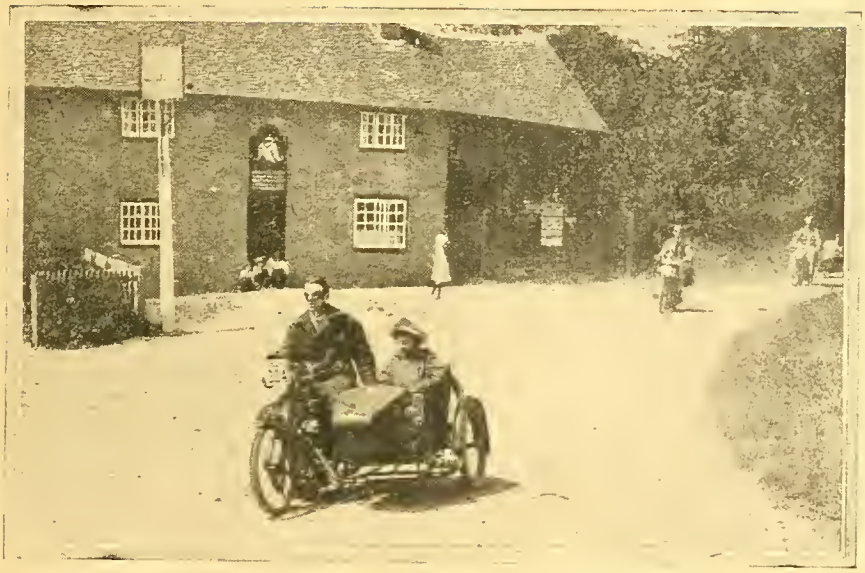
A member of the winning Sheffield team, S. Sawer (4 Norton sc.), going well on Wiggington Hill.

After this there were no difficulties for another mile or two, although the road surface was very loose owing to the drought, and the dust was appalling. It was not, however, till half-way round the course that anything interesting was encountered; but a few miles from the sharp turning outside Missenden, the course (excellently arrowed by the way) went suddenly off to the left and ascended a long easy hill through invitingly shady beechwoods. Next came the descent of Pink Hill and the climbing of Kop, probably the most trying hill on the course. There were a good many spectators here.

Performances on Kop.

The hill accounted for several failures in the first lap, but none in the other two. H. V. Davidson (Morgan), North-West London M.C.C., came to a standstill owing to wheel spin. E. P. Higgs (8 New Imperial sc.), City and Guilds Club, failed, and C. M. Hyams (2¼ Velocette), of the same club, met a similar fate. There was a good deal of passing on the hill, which, though awkward for the solo mounts, was skilfully carried out.

Leaving Kop, the competitors descended Whiteleaf Hill, and followed the main Wendover Road for a spell. Then ensued a long steep hill after Chequers (the Prime Minister's country seat), a brief run through woods and over a rough surface, and then a sharp ascent up Dinah's Hill, probably the steepest on the course, but too short to be dangerous. There was only one failure here during the first lap, this being



An Ariel rider, W. Nash, passing the quaint old White Swan in the village of Gt. Missenden.

Bourne (Matchless sc.), of the unfortunate City and Guilds Club. Pigott (Norton sc.) was baulked by a cart at this point, but did not stop. D. S. Parsons (Matchless sc.), Essex Club, threw down his number cards before the observer, as he passed him as a signal that he had stopped. About a mile from this point, Watson-Bourne punctured his tyre with so sharp a stone that it cut the brass tyre valve clean across.

Of the twenty-seven clubs from all over the country which started, only twelve had complete teams at the end of the first round, which fact conveys some idea of the severity of the course and the number of tyre troubles experienced. These clubs were: Surbiton, M.C.C., Sheffield, Worcester, Brighton, Bucks, Coventry, Birmingham University, North London, Norfolk, Camberley, and Luton.

The second and third laps took a heavy toll of tyre troubles, and at our vantage point at this stage, on one of the steepest hills, Bridgman (Indian sc.), M.C.C., J. Chater-Lea, jun. (Chater-Lea sc.), Brighton M.C.C., and Wheeler (New Imperial sc.), Norfolk, passed with flat tyres.

Tyre Troubles Galore.

The first team to arrive in its entirety was the Worcester and District M.C.C., but Newman's A.J.S. sc. was running on the rim, and continued for thirty-seven miles. Such a procedure is always dangerous, and eventually the wheel completely broke up just short of the finish, tyre and rim being severed. It was a very plucky attempt to finish with a clean score. The next complete team to pass was the Sheffield Club riding in close formation and with wonderful consistency, and this on a gradient of about 1 in 6. The Norfolk team was the third complete team to pass, and we then knew that one of these three would carry off the trophy. Newman's fate was still unknown, and, despite Wheeler's sidecar tyre, it was thought that the Norfolk men had a sporting chance, but it eventually transpired that the front wheel of Daniel's Norton had punctured five miles from the finish.

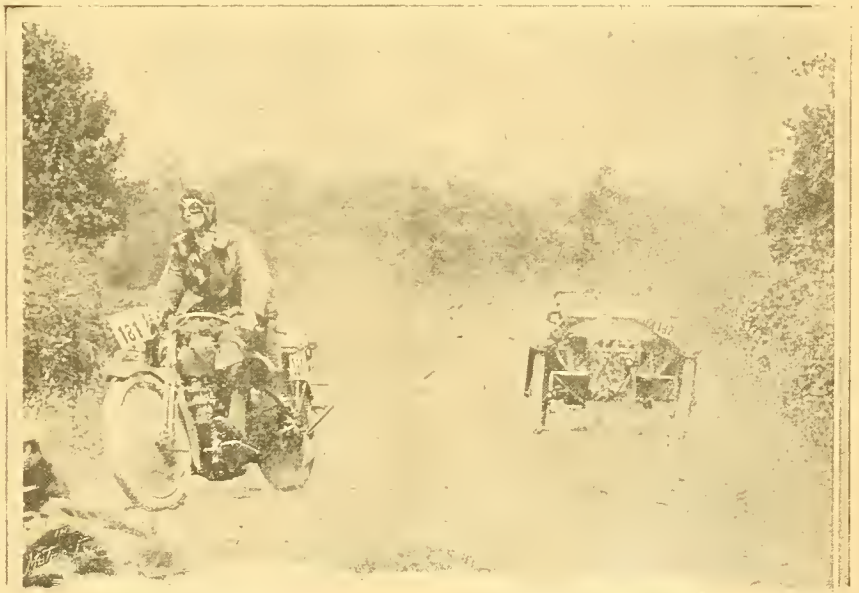
It was indeed hard luck that several of the crack teams were out of the running, among which may be mentioned the so often victorious Coventry Club, one of whose men, Brandish (Rover), finished practically the whole of the second round on a flat back tyre to assist the score, though he failed to average the requisite 17 m.p.h. minimum, and the M.C.C., who lost Watson (Ariel sc.) by reason of a broken frame. Bridgman's performance was very plucky. His sidecar tyre punctured in the second lap, but he carried on undaunted, and one by one heard the spokes of the wheel "ping" as they gave way due to the strain. Nevertheless, his Indian finished non-stop—although the broken spokes by then resembled a Catherine wheel!

Only Three Non-stop Teams Left.

By the end of the second lap the twelve clubs with complete teams had been reduced to three, which small percentage suggested that no complete team might survive. The three clubs in question were the Worcester and District M.C.C. (later disputed by a marshal who reported one rider as having stopped momentarily), the Sheffield and Hallamshire M.C.C., and the Norfolk M.C.

Actually the two last named clubs have been among the most consistent supporters of the M.C.C. team championship, so that their prospects of ultimate success proved very popular. It is a strange fact, but it is seldom that any new club competes and carries off the trophy at the first time of asking, for there are many little but important points requiring scrupulous care to ensure a complete team non-stopping on the crucial day. All this is learned only by bitter experience.

The Ilkley boys are a tough lot. One of them, W. R. Haggas, left his home near Ilkley for Tring on Saturday morning at five o'clock, accomplished a non-stop run on his Triumph, and set off again for Yorkshire after the contest. Four of them made non-stops. Longfield overshooting a corner on the first circuit, and just failing to recover himself. After Watson-Bourne punctured, Willis, of the Sutton Club, had turned over, and Roberts, his companion, stopped with plug trouble, the other members of the team, except Mundy (Humber), elected to withdraw, their reason being "for refreshment"—it was still scorchingly hot. One can sympathise with the officials at the starting point over their long vigil, for there was no shade,



Branching off at the fork roads near Chesham. H. Masser (Harley-Davidson) and A. G. Mansell (Morgan), both of the City and Guilds Engineering College M.C.C. The former made a non-stop run.



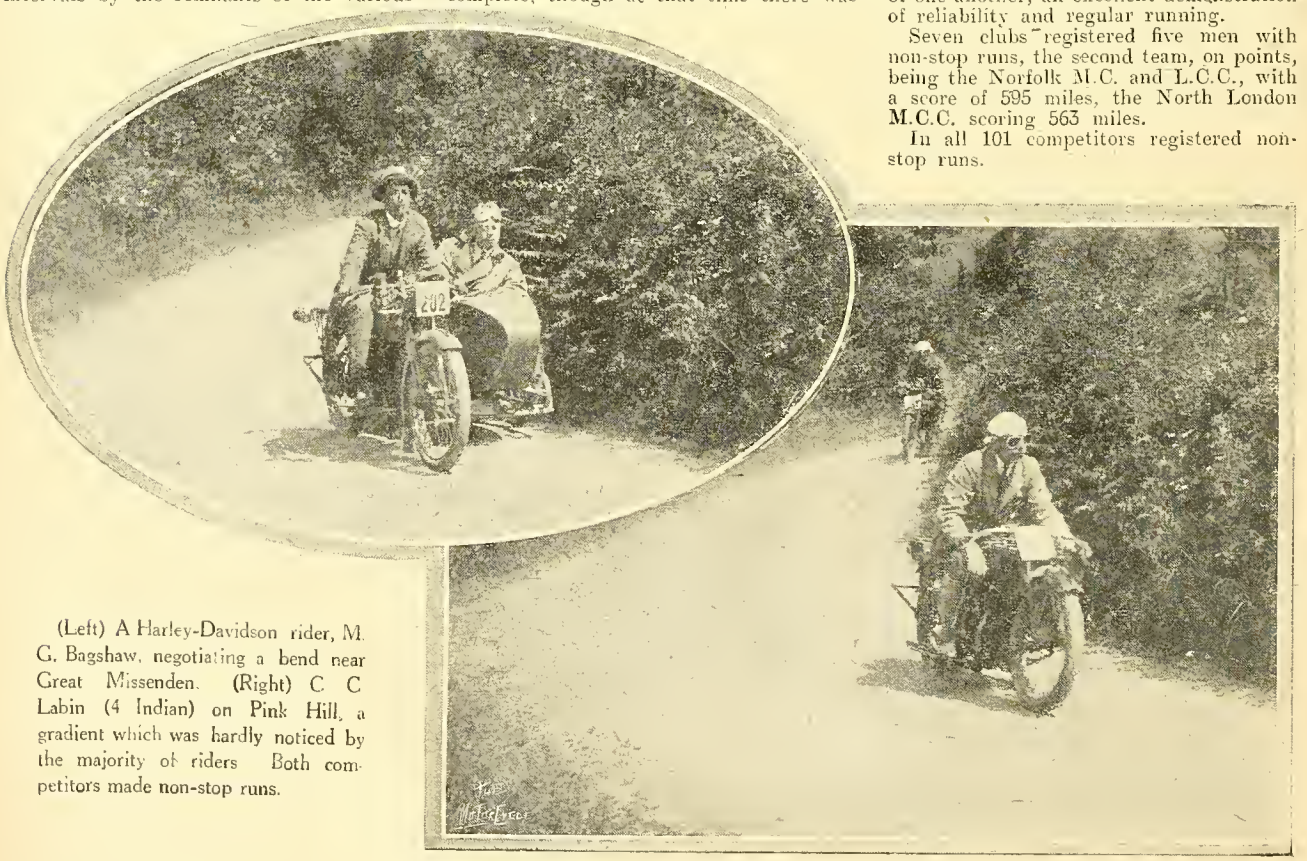
A bunch of competitors on Kop Hill. As can be judged by the photograph the dust was well stirred up, and this with the great heat made it none too comfortable for competitors and officials

and the perspiration rolled down the faces of the timekeepers, Messrs. Bidlake and Walker, who were assisted by Messrs. W. H. Wells, Ogilvie; Head, and Cooper.

By the time the leaders were due to finish, a goodly crowd had collected. The first man home non-stop was Pymm (Raleigh), Leicester Club, followed at intervals by the remnants of the various competing teams. Many of these had to struggle home. For instance, Axford (A.J.S. sc.) had the bad luck to puncture his front tyre, but kept going; and Bladder, of the Worcester Club, was on a flat driving tyre. To the Sheffield and Hallamshire Motor Cycle Club fell the honour of getting the only team home complete, though at that time there was a chance for the Norfolk team, which started later, to qualify. When their time came, however, it was observed that R. A. Daniels (Norton) was missing. He had stopped five miles short of the finish, so that the Sheffield team were left indisputable winners, the team finishing well to time, and almost within a stone's throw of one another, an excellent demonstration of reliability and regular running.

Seven clubs registered five men with non-stop runs, the second team, on points, being the Norfolk M.C. and L.C.C., with a score of 595 miles, the North London M.C.C. scoring 563 miles.

In all 101 competitors registered non-stop runs.



(Left) A Harley-Davidson rider, M. G. Bagshaw, negotiating a bend near Great Missenden. (Right) C. C. Labin (4 Indian) on Pink Hill, a gradient which was hardly noticed by the majority of riders. Both competitors made non-stop runs.



WINNERS OF THE CUP.

The Sheffield and Hallamshire M.C. and L.C.C. team, all of whom recorded non-stop runs. The riders were E. A. Wheatley (Triumph), D. H. Kaye (Triumph), E. Searle (Triumph), J. H. Stacey (3 Matchless sc.), S. Sawer (4 Norton sc.), and F. W. James (10 Morgan).

The following are the leading clubs in their order of merit :

CLUB CHAMPIONS OF 1921.

1ST.—SHEFFIELD AND HALLAMSHIRE M.C.C.

		Time error. m. s.
E. A. Wheatley (4 Triumph)	non-stop ...	2 47
S. Sawer (4 Norton sc.) ...	,, ...	9
D. H. Kaye (4 Triumph) ...	,, ...	42
J. H. Stacey (8 Matchless sc.)	,, ...	1 33
E. Searle (4 Triumph) ...	,, ...	1 22
F. W. James (10 Morgan) ...	,, ...	1 9
Total time error ...	...	7 42

Score, 600 miles (maximum).

2ND.—NORFOLK M.C. AND L.C.C.

R. A. Daniels (3½ Norton) ...	... 95 miles
M. G. Bagshaw (7 Harley-Davidson)	... non-stop
H. J. Hannett (4 Indian)	... ,,
H. D. Wheeler (8 New Imperial sc.)	... ,,
H. G. Gowing (3½ Sunbeam) ...	... ,,
C. W. Dix (6 A.J.S. sc.)	... ,,

Score, 595 miles.

3RD.—NORTH LONDON M.C.C.

P. Walters (4 Triumph)	... non-stop
R. H. Baxter (2¾ Radco)	... ,,
F. E. Jones (3½ Ariel sc.)	... ,,
H. B. Shutes (8 Matchless sc.) ...	... 63 miles
C. C. Labin (4 Indian)	... non-stop
R. W. Greaves (4 Norton)	... ,,

Score, 563 miles.

The Runners Up.

4TH. BUCKS COUNTY M.C.C. .. .. 541 MILES.
W. G. Harding (4 Triumph), C. F. Mitchell (7 A.J.S. sc.), J. K. Flemons (7 Harley-Davidson sc.), P. Manley (4 Triumph), and R. Newitt (7 Harley-Davidson sc.).

5TH. BRIGHTON AND HOVE M.C.C. .. 537 MILES.
H. K. Knight (3½ Norton), S. Dunford (7 Harley sc.), A. B. Friend (3½ Sunbeam), W. H. Sheraton (3½ Norton), and J. Chater Lea (8 Chater-Lea sc.).

6TH. COVENTRY AND WARWICKSHIRE M.C. 533½ MILES.
R. R. Grindlay (4½ Humber), S. Wright (4½ Humber sc.), F. G. Edmond (4 Triumph), L. Crisp (4½ Humber), and H. Finch (4 Triumph sc.).

7TH. HERTS. COUNTY M.C. AND L.C.C. 521 MILES.
H. Wright (8 Matchless sc.), J. Shepherd (4½ Humber), E. de J. Birch (8 Matchless sc.), C. S. Bourne (4 Triumph), and S. Hall (8 Morgan).

8TH. BROOKDALE CLUB (CATFORD). 507 MILES.
P. J. Sims (4 Triumph), H. Philbrick (4 Triumph), J. Holt (3¾ Scott), J. J. Leonard (8 Bat sc.), and H. Leng (3 A.B.C.).

9TH. WORCESTER M.C.C. .. .. 500 MILES.
B. Bladder (8 New Imperial sc.), B. Kershaw (2¾ New Imperial), E. Williams (7 A.J.S.), A. Chadwick (2¾ Wilkio), and E. Choldcroft (6 A.J.S. sc.).

Other Non-stop Riders.

LUTON AND SOUTH BEDS A.C.—S. Brown (4 Triumph), A. Saddington (6 James sc.), H. Reyre (6 James sc.), and F. Child (8 Morgan).

ILKLEY AND DIS. M.C.C.—W. R. Haggas (4 Triumph), J. S. Duxbury (3¾ Scott), R. Naylor (3½ Sunbeam), and H. W. Sellers (3½ Sunbeam sc.).

MOTOR CYCLING GIPSY CLUB.—S. R. Axford (7 A.J.S.), A. G. Fenn (5 Raleigh), E. M. Oliver (7 A.J.S. sc.), and G. E. Cuffe (Metro-Tyler).

BANBURY AND DIS. M.C.—H. G. Askew (Rover), M. Pearson (3½ Norton), M. Bennett, 4 Blackburne), and F. Askew (8 Morgan).

LEICESTER AND DIS. M.C.C.—R. Harris (4 Norton sc.), W. C. Pymm (5 Raleigh), J. Brown (8 Matchless sc.), and W. Chapman (8 A.J.S. sc.).

SURBITON AND DIS. M.C.C.—R. C. Staunton (4 Triumph), R. A. Green (3½ Norton), D. H. Davidson (7 Harley-Davidson sc.), and R. Preston (3½ Sunbeam).

MOTOR CYCLING CLUB.—P. W. Moffatt (3½ Douglas), E. A. Bridgman (7 Indian sc.), W. B. Gibb (3½ Douglas), and G. Nott (7 Matchless sc.).

BIRMINGHAM UNIVERSITY M.C.C.—T. McKenzie (3 A.B.C.), H. H. Watling (3 A.B.C.), and E. Poppe (6 Rover sc.).

ESSEX COUNTY M.C.—F. A. Applebee (4 Iodian), C. Day (3½ Sunbeam), W. C. Hemy (7 A.J.S. sc.), and S. M. Greening (7 Indian sc.).

OXFORD M.C.—R. J. Pigott (4 Norton sc.), A. D. Cruickshank (3½ Norton), L. Avery (7 Harley-Davidson sc.), and L. A. Welch (4¼ B.S.A.).

EALING AND DIS. M.C.C.—C. F. Temple (4 Harley-Davidson), W. G. Boyer (3½ Norton), and S. E. Longman (7 Harley-Davidson sc.).

WOOLWICH, PLUMSTEAD, AND DIS. M.C.—T. J. Ross (7 Matchless sc.), F. O'Brien (7 Matchless sc.), and G. D. Hardee (7 Matchless sc.).

CITY AND GUILD ENGINEERING COLLEGE M.C.C. —H. Masser (7-9 Harley-Davidson sc.) and W. Clynes (3 A.B.C.).

ROCHESTER, CHATHAM, AND DIS. M.C. AND L.C.C.—S. White (2½ Levis), G. Packman (8 Matchless sc.), and G. Maund (3 A.B.C.).

CAMBERLEY M.C.C.—A. Love (3½ Norton) and E. J. Over (3½ Sunbeam sc.).

BASINGSTOKE M.C.C.—R. Clark (7 Harley-Davidson).

SUTTON COLDFIELD AND N. BIRMINGHAM A.C. —R. G. Mundy (4½ Humber sc.).

THE CLUB CHAMPIONS OF 1921.

NEEDLESS to say the Sheffield and Hallamshire Club team which won *The Motor Cycle* Fifty Guinea Trophy last Saturday were highly elated with their success. Careful preparation beforehand won them the honour. The Club Committee selected the team, and appointing that seasoned rider, S. Sawer, as captain, all the men took great pains to ensure absence of trouble on "the" day. Their headquarters were at Aylesbury, and the team converged on that point on Friday evening. This year is not the first occasion that the club has won, for the coveted cup fell to the Sheffield Club in 1913, when no fewer than forty-one clubs competed for the honour. All except one machine had all chain drive this year, and a start was made on brand new tyres. Stacey's Matchless was only collected from the Woolwich works on Friday, but on the other hand Sawer's Norton registered its third successive non-stop run in the team trials. All the machines were in excellent condition at the finish. On the way to Tring, the team suffered four punctures between them, but Sunday's trip home was far more enjoyable, for the men were in high spirits and felt that their long trip of 170 miles on all British machines had not been in vain.



TROPHIES PRESENTED BY MR. P. J. EVANS FOR FASTEST LAPS IN THE T.T. RACES.

The recipients are H. R. Davies (A.J.S., 55.15 m.p.h.) and F. G. Edmond (Triumph 56.4 m.p.h.)

A LANCASHIRE TEAM TRIAL.

North-Western Centre A.C.U. find a Stiff Course. Four Survivors of 68 Starters.

CHIPPING is a tiny village in Lancashire, some twelve miles north of Preston. It is the hub of the motor cycle world, according to the inhabitants, for, not only did it provide that now famous "dark horse," Whalley, the T.T. man, but last week-end it provided the rallying point for a well-supported trial.

The North-western Centre A.C.U. held a most successful trial, largely in the same district, about a year ago; but on this occasion a team trial was decided upon, each team of four (two solos and two passenger) having to complete three circuits of a thirty-five mile course.

A Late Start.

Unfortunately, a number of competitors missed the starting point, owing to the non-arrival of an official, and, in consequence, the event started an hour late.

Meanwhile, at the request of another official, the locals had dammed up the first observed watersplash, so that it would come up to the hubs of the machines. Other marshals, arriving to view this handiwork, promptly allowed most of the water to escape, thus rendering the competitors' task a shade more hopeful.

From Chipping the roads were bad at the outset, and, although there were no hills with gradients of the "unclimbable" order, yet it was only with difficulty that "footing" could be avoided in a number of places. The tit-bit of the course, however, was the first watersplash at Hawthornthwaite Fell.



G. Tuckett (4 Triumph) and A. Nuttall (3½ Dalton) in the watersplash which accounted for the bulk of the failures in the North-Western Centre Team Trial for the Blake trophy.

Owing to the depth of the water, almost half the entry failed, and many who successfully negotiated the stream immediately fell victims to the severe gradient which followed immediately afterwards.

Two Triumph riders, W. H. Lathom and W. Ratcliffe, were the first arrivals, and the contrast of their methods was typical of the entire field. The former came through steadily, and had no misfortune, but the latter charged the water in a rush, and stopped.

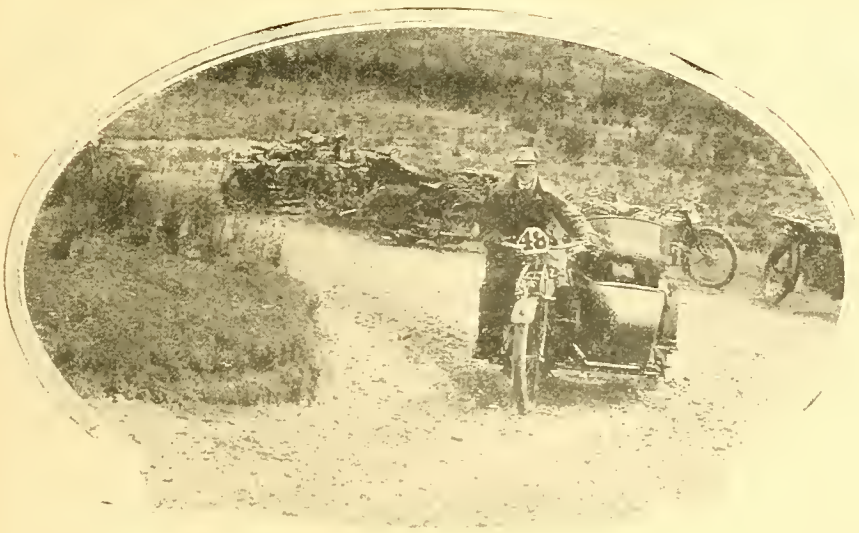
Particularly good riding was exhibited by O. Entwistle (3½ Sunbeam), H. Walsh (2¾ A.J.S.), P. Crompton (3½ Triumph), O. E. Carter (4 A.B.C. sc.), and O. Wade (6 A.J.S. sc.). T. Cheetham came through the splash well, but found the power of his Scott inadequate to haul sidecar and passenger up the ensuing gradient, while H. Gibson (8 Royal Ruby sc.), after crossing the stream and making a star climb, suffered a damaged gear, and was later compelled to retire.

Another Water-splash.

A mile and a half further on a very innocuous splash was observed also, but the checkers were having a slow time, for there were no failures to record. The route then led through the wild scenery of the Trough of Bowland into Yorkshire, the descent of the pass being very loose. Several miles of winding lanes followed through Chipping, down a narrow stony lane of precipitous gradient, and so to the starting point for the second circuit. Of the sixty-eight starters, however, only twenty-five completed the first lap, and the second circuit weeded out another ten. Therefore, but fifteen essayed the final circuit, and only four returned, thus bringing an exceptionally strenuous afternoon to an end.



According to viewpoint! The driver, A. J. Bailey (4 Norton sc.), actively overcoming a difficulty, looks cheerful, but the helpless passenger appears to be taking things to heart.



Immediately after negotiating the swollen watersplash, the competitors found themselves confronted with this rough hairpin approach to a severe gradient. The machine is a Royal Ruby.

The following members of their respective teams completed more than one lap:

BURY AND DISTRICT M.C. (No. 3 Team).—O. Entwistle (3½ Sunbeam), 3 laps; P. Crompton (4 Triumph), 2 laps; C. Guthrie (7 A.J.S. sc.), 3 laps; and H. Compton (3½ Sunbeam), 2 laps.

EAST LANCS. M.C. (No. 2 Team).—W. H. Lathom (5½ Triumph), 3 laps; and G. Tuckett (4 Triumph), 2 laps.

LIVERPOOL M.C. (No. 1 Team).—J. Fox (4 Norton), 2 laps; and J. H. Green (8 Excelsior sc.), 2 laps.

MANCHESTER M.C. (No. 2 Team).—H. Scholes (4 Triumph), 2 laps; E. Foster (8 Dot sc.), 2 laps.

MANCHESTER M.C. (No. 1 Team).—O. E. Carter 4 A.B.C. sc.), 3 laps.

WARRINGTON M.C. (No. 2 Team).—W. N. Pearn (3½ Norton), 1 lap; and J. Roberts (6 A.J.S. sc.), 2 laps.

OLDHAM AND DISTRICT M.C. (No. 1 Team).—H. Jacques (7-9 Harley-Davidson sc.), 2 laps; and J. H. Taylor (7-9 Harley-Davidson sc.), 1 lap.

EAST LANCS. M.C. (No. 1 Team).—H. Walsh (2¾ A.J.S.), 2 laps; and J. H. Whittaker (3½ Sunbeam), 1 lap.

BLACKPOOL AND FYLDE M.C. (No. 2 Team).—J. Riley (4 Triumph), 2 laps.

BURY AND DISTRICT M.C. (No. 1 Team).—F. Holland (3½ Sunbeam), 1 lap; and W. Lord (3½ Sunbeam sc.), 1 lap.

BURY AND DISTRICT M.C. (No. 2 Team).—J. Pilling (3 A.B.C.), 1 lap; and A. Coyal (6 B.S.A. sc.), 1 lap.

LIVERPOOL M.C. (No. 2 Team).—O. Wade (6 A.J.S. sc.), 1 lap; and H. A. Harben (7 Indian sc.), 1 lap.

WARRINGTON M.C. (No. 3 Team).—A. J. Bailey (4 Norton sc.), 1 lap.

The following teams were entirely eliminated:

Warrington M.C. (No. 1 Team), Liverpool M.C. (No. 3 Team), and Blackpool and Fylde M.C. (Nos. 1 and 3 Teams).



The lower slopes of the western side of the Trough of Bowland. H. Jacques (7-9 Harley-Davidson sc.) is commencing the ascent.

SATURDAY'S 500 MILES RACE AT BROOKLANDS.

List of 64 Competitors with Numbers in the B.M.C.R.C. Long Distance Race for the Miller Gold Cup. The start is at 7 a.m.

No.	Rider and Machine.	Bore and Stroke.	
	CLASS E.—1,000 c.c.		
1	J. E. G. Hagwood (Zenith)	——	
2	R. Dequin (Zenith)	82 × 94	(991 c.c.)
3	C. F. Temple (Harley-Davidson)	81 × 89	(988 c.c.)
4	K. A. Hellon (Zenith)	80 × 99	(996 c.c.)
5	D. H. Davidson (Harley-Davidson)	81 × 89	(988 c.c.)
6	H. Le Vack (Indian)	79.3 × 101	(998 c.c.)
7	H. R. Harveyson (Indian)	79.3 × 101	(998 c.c.)
8	O. M. Baldwin (Indian)	79.3 × 101	(998 c.c.)
9	C. G. Pullin (Anzani-Zenith)	83 × 92	(996 c.c.)
10	H. Jepson (Zenith)	84 × 89	(989 c.c.)
11	K. Don (Zenith)	85.5 × 85	(988 c.c.)
12	F. C. Townshend (Zenith)	85.5 × 85	(988 c.c.)
13	V. Gayford (Zenith)	85.5 × 85	(988 c.c.)
14	F. W. Dixon (Harley-Davidson)	84 × 89	(998 c.c.)
15	J. W. Woodhouse (Matchless)	——	(998 c.c)
16	G. Packman (Matchless)	90 × 77.5	(986 c.c.)
17	S. C. Woodhouse (Matchless)	——	(998 c.c.)
18	E. B. Ware (Sunbeam-Jap)	85.5 × 85	(980 c.c.)
19	A. G. Miller (Martin)	——	
20	H. Reed (Dot-Jap)	85 × 85	(986 c.c.)
	CLASS D.—750 c.c.		
21	E. W. Parham (Coventry Victor)	75 × 78	(688 c.c.)
22	R. N. Stewart (Trump-Jap)	76 × 82	(748 c.c.)
23	F. A. McNab (Trump-Jap)	76 × 82	(748 c.c.)
24	J. C. Watson (Harley-Davidson)	69 × 76	(581 c.c.)
25	W. H. Bashall (Martinsyde)	70 × 88	(680 c.c.)
26	J. T. Bashall (Martinsyde)	70 × 88	(680 c.c.)
	*CLASS C.—500 c.c.		
27	F. Roberts (Coventry-Eagle)	85 × 88	(499 c.c.)
28	G. J. Shedmans (Triumph)	80.5 × 98	(499 c.c.)
29	F. G. Edmonds (Triumph)	80.5 × 98	(499 c.c.)
30	V. E. Horsman (Norton)	79.5 × 100	(498 c.c.)
31	H. H. Beach (Norton)	79 × 100	(490 c.c.)
32	J. D. Nixon (A.B.C.)	65 × 80	(399 c.c.)
33	J. L. Emerson (Douglas)	68 × 68	(491 c.c.)
34	E. Longden (Coulson-Jap)	64.5 × 76	(498 c.c.)
35	H. H. Bowen (Martinsyde)	60 × 88	(497 c.c.)
36	—— (Blackburne)	——	
37	J. A. Watson-Bourne (Rex)	85 × 88	(499 c.c.)
38	Tommy Thomson (Douglas)	68 × 68	(499 c.c.)
39	D. R. O'Donovan (Norton)	79 × 100	(490 c.c.)
40	G. A. Vandervell (Norton)	79 × 100	(490 c.c.)
	Reserves:		
44	H. Langman (Scott)	——	
45	G. Clapham (Scott)	——	
46	C. Sgonina (Triumph)	80.5 × 98	(499 c.c.)
47	G. Dance (Sunbeam)	85 × 88	(499 c.c.)
	CLASS B.—350 c.c.		
50	A. A. Prestwich (Dot-Jap)	70 × 90	(346 c.c.)
51	‡R. Weatherell (R.W. Scout)	73 × 76	(318 c.c.)
52	A. A. Swan (New Imperial-Jap)	70 × 76	(290 c.c.)
53	S. M. Greening (Coulson-Jap)	70 × 90	(348 c.c.)
54	A. Watson (Douglas)	60 × 60	(350 c.c.)
55	†S. E. Wood (Douglas)	60 × 60	(350 c.c.)
56	J. Holroyd (Edmond)	70 × 90	(346 c.c.)
57	—— (Martin)	——	
58	‡J. F. Newey (New Comet)	70 × 90	(346 c.c.)
59	Tudor Thompson (Douglas)	60 × 60	(350 c.c.)
60	J. F. Hull (Wooler)	60.5 × 60	(345 c.c.)
61	S. E. Longman (Wooler)	60.5 × 60	(345 c.c.)
62	P. Brewster (Wooler)	60.5 × 60	(345 c.c.)
63	F. A. Longman (Wooler)	60.5 × 60	(345 c.c.)
64	‡L. A. Bees (Beardmore)	74 × 81	(349 c.c.)
65	E. Kickham (Douglas)	60.5 × 60	(349 c.c.)
	Reserves:		
66	‡N. Norris (Ivy)	75 × 79	(349 c.c.)
67	J. Whalley (Massey-Arran)	71 × 88	(348 c.c.)
	CLASS A.—250 c.c.		
68	J. V. Prestwich (Massey-Arran)	64.5 × 76	(249 c.c.)
69	‡H. Newey (Levis)	67 × 70	(247 c.c.)
70	‡A. K. Smith (Morris-Warne)	67 × 70	(247 c.c.)
71	‡G. S. Smith (Morris-Warne)	67.4 × 70	(249.5 c.c.)
72	G. Savage (Hobart)	64.5 × 76	(249 c.c.)
73	H. Martin (Martin)	——	
74	B. Kershaw (New Imperial)	64.5 × 76	(249 c.c.)
75	W. J. Lord (Hobart)	64.5 × 76	(248 c.c.)
	Reserves:		
76	W. A. Jacobs (Acme-Junior)	64.5 × 76	(249 c.c.)

*In this Class Nos. 11, 12, 13, 48, and 49 are Blackburne reserves.

†Entered by H.R.H. the Duke of York.

‡Two-stroke engines.

CLUB NEWS. (Continued from page 827.)

West Birmingham M.C.C.

At a committee meeting held on Friday it was decided to substitute a social run to the Sutton Coldfield hill-climb at Penkridge Bank instead of holding the club hill-climb on July 2nd.

Falmouth M.C. and L.C.C.

Sixteen competitors started in the reliability trial on the 22nd inst., and only three failed to finish. Results :

1, W. Pascoe (2½ Bown-Villiers); 2, E. Hamer Hunt (8 Matchless sc.); 3, W. Brimacombe (4 Triumph); 4, L. Woodland (3½ P. and M.).

Herts. M.C. and L.C.C.

A highly successful hill-climb was held on Carbon Hill, Newgate Street, on Thursday evening, the 23rd inst., in which twenty-eight machines competed before a large number of spectators. Fastest time of the evening was made by H. H. Saddington (5-6 James), winning a gold medal Results :

SOLO (350 c.c.).—1, H. Reyne (2½ Reyne-Newson); 2, T. D. Bowden (2¾ Wooler); 3, J. C. Slimmer (2¾ Douglas).

SOLO (600 c.c.).—1, E. F. Harveyson (4 Indian Scout); 2, H. Reyne (2½ Reyne-Newson); 3, G. L. Giddings (4 Triumph).

SOLO (Unlimited).—1, H. H. Saddington (5-6 James); 2, E. F. Harveyson (4 Indian Scout); 3, C. R. Catesby (3¼ Norton).

PASSENGER MACHINES.—1, H. H. Saddington (5-6 James sc.); 2, S. Hall (8-10 Morgan); 3, A. A. Pollard (11.9 A.C.).

Bradford M.C. and L.C.C.

Gorgeous weather prevailed at the freak hill-climb on Saturday last, and a very big crowd assembled to see the sport, and contributed generously to the collection for St. Dunstan's Hostel. Each competitor was allowed two climbs, the best performance for consistency being C. B. Haigh (3½ Scott-Squirrel), who obtained 157 and 158 marks out of a possible 160 each climb. The winner scored 152 and 159 marks. Results :

1, Wilson cup and gold medal, W. Clough (3¾ Scott); 2, silver medal, C. B. Haigh (3½ Scott Squirrel).

SIDECAR CLASS.—Gold medal, R. A. Bonner (4 Douglas sc.)

Mr. Wilson, the donor of the cup, decided that C. B. Haigh should have a gold medal for his brilliant consistency of climbing.

Leeds University M.C. and Sheffield University M.C.C.

On Saturday, June 18th, inter-'Varsity speed trials were held between Leeds and Sheffield Universities at Leeds over a flying quarter-mile. Owing to a series of unfortunate accidents, Leeds was only represented by five men. Results :

350 c.c. SOLO.—1, — Adcock (2¾ Douglas), Sheffield, 16⅗s. (54 m.p.h.); 2, C. P. Porrit (2¾ Douglas), Leeds, 17s. (53 m.p.h.); 3, — Shepherd (2¾ Beaumont), Sheffield, 17⅗s. (52 m.p.h.).

550 c.c. SOLO.—1, H. Kendall (3½ Norton), Sheffield, 13⅗s. (67 m.p.h.); 2, — Hudson (3½ Norton), Sheffield, 14s. (64 m.p.h.); 3, G. E. Suddards (3½ Rudge), Leeds, 16s. (56 m.p.h.).

750 c.c. SOLO.—1, — Hudson (3½ Norton), Sheffield, 14⅗s. (63 m.p.h.); 2, H. Kendall (3½ Norton), Sheffield, 14⅗s. (62 m.p.h.); 3, G. E. Suddards (3½ Rudge), Leeds, and Malcolm Brown (3 A.B.C.), Sheffield, 15⅗s. (59 m.p.h.).

1,000 c.c. SOLO.—1, H. Kendall (3½ Norton), Sheffield, 13⅗s. (67 m.p.h.); 2, — Hudson (3½ Norton), Sheffield, 14⅗s. (62 m.p.h.); 3, Malcolm Brown (3 A.B.C.), Sheffield, 15s. (60 m.p.h.).

1,000 c.c. SIDECARS.—1, G. G. Hardy (8 Zenith sc.), Leeds, 16⅗s. (54 m.p.h.); 2, — Shepherd (8 Excelsior sc.), Sheffield, 17s. (53 m.p.h.).

Sheffield won by thirty-five points to ten. The fastest time of the day was made by H. Kendall (3½ Norton) at 67 m.p.h.

POSTAL REGULATIONS.

Owing to the recent decision of the Postal Authorities to discontinue Sunday collections, matter relating to club events should be posted to the Editor on Saturday evening, or from Post Offices and Railway Stations where late fee letters are accepted on Sundays.

Coventry Triangle M.C.

Owing to the large number of entrants (168 in all), four events in the gymkhana on the 19th inst. had to be held over until last Saturday. Results of both days' contests follow :

SLOW RACE (Solo).—1, A. Close (3½ Sunbeam); 2, M. Baron (4¼ B.S.A.).

HANDKERCHIEF GATHERING RACE.—1, Mrs. Perkins (4¼ B.S.A.); 2, M. Prosser (4 Douglas).

OBSTACLE RACE (Solo).—1, A. Webster (2¾ Douglas); 2, H. Baron (4¼ B.S.A.).

OBSTACLE RACE (Sidecar).—1, J. Healey (4 Triumph sc.); 2, J. Yardley (3¼ Humber sc.).

LADIES' DRIVING CONTEST.—1, Miss Warren (2¾ Levis); 2, Mrs. Vice (4 Triumph).

BEST HOME-MADE FITMENT.—Martin (combined tube carrier and pillion seat).

PLUG REMOVING RACE (Solo).—A. Webster (2¾ Douglas).

PLUG REMOVING RACE (Sidecar).—W. Brown (4½ Humber sc.).

MUSICAL CHAIRS.—1, Mrs. Vice (4 Triumph); 2, —. Crooke (3½ Triumph).

BUN EATING CONTEST.—1, W. Brown (4½ Humber sc.); 2, S. Healey (4 Triumph sc.).

Bristol M.C.C.

An interesting half-day trial was held on Saturday, interesting because, not considering one ascent sufficiently strenuous, the organisers terminated the trial with two climbs of the famous hill of Porlock. It amounted, in fact, to a speed-judging competition uphill.

Some thirty starters left headquarters at Bristol on a straight-away 20 m.p.h. run without intermediate checks to the foot of the hill. There were only three failures, but solo riders found it no mean task to ride slowly round Porlock's corners, steering with one hand, watch in the other.

The result, as follows, was announced after tea at the Ship Inn :

1, H. C. Walters (7-9 Harley-Davidson sc.), no error, dead on time, case of Speedwell oil, presented by British Oil and Turpentine Co., Ltd.; 2, Eli Clark, jun. (3½ Beardmore-Precision), ⅗s. error, Tan-Sad; Eli Clark, sen. (6 Douglas sc.) and H. J. Hobbs (3½ Blackburne sc.) tied for third place, and twelve others qualified for silver medals.

Eastbourne and District M.C.C.

Results have now been announced of the trial held on the 19th inst., and are as follows :

BLAKEMARSH CUP.—A. Goldsmith (7-9 Harley-Davidson sc.).

DOULL CUP.—W. Hylands (New Hudson).

GOLD MEDALS.—Class 1, W. Hylands (New Hudson); Class 2, F. E. Stacey (2¾ Verus sc.); 3, J. Swindleburst (3½ Lea-Francis); 4, A. Goldsmith (7-9 Harley-Davidson sc.).

Brighton and Hove M.C.C.

The club held its annual trial for the Dobson Trophy on June 19th. The course was a severe one of 113 miles, starting from Brighton. Cob Hill, Ardingly, was taken on the way out, but presented no difficulty to any competitor. The results have now been confirmed, and are as follows :

SIDECARS.—1 and trophy, L. G. Watts (4 Triumph sc.), 295 points; 2, S. Dunford (7-9 Harley sc.), 290 points.

SOLOS.—1, H. Kircher Knight (3½ Norton), 293 points; 2, C. Farley (4¼ B.S.A.), 291 points; 3, A. N. A. Hewett (3½ Sunbeam), 288 points.

SATURDAY'S OPEN TRIAL AT BOURNEMOUTH.

THERE are several interesting machines and well-known riders in the entry list of seventy-three for the Bournemouth and District M.C. and L.C.C. open trial on Saturday. The Jupp runabout will make its first appearance in an open trial. There are four team entries, viz., Worcester and District M.C. and L.C.C., Bournemouth and District M.C. and L.C.C., Mr. J. H. Jones (a Triumph team), and Messrs. Martinsyde.

As already mentioned in *The Motor Cycle*, there will be no observed hills, and several novel tests have been introduced to put the trial on a competitive basis. These include a timed hill-climb and speed test (taken *en route*).

The first man starts from Bournemouth at 9.55 a.m., and from the lunch stop at Blandford at 2.51 p.m.

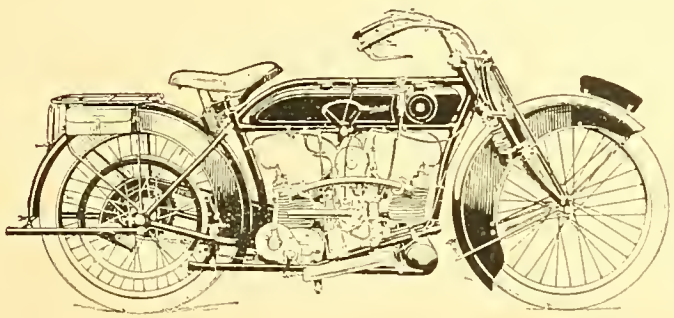


Porlock was climbed twice during the Bristol M.C.C. Trial on Saturday. Competitors at the foot of the hill

Humber

The Motor Cycle as Schoolmaster

"The Motor Cycle," says *The Daily Mail*, "is the Schoolmaster to teach the English what a lovely land is theirs." To many, "it is the gate of escape from the grime of the towns into the sweetness of the countryside, and the number of those who use it steadily grows." The Humber 4½ h.p. Flat Twin-cylinder Motor Cycle has won many conspicuous successes, and has been described in motor cycling quarters as "Coventry's finest production."



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Dealers everywhere.

Prof. A. M. LOW, A.C.G.I. praises the "JOHN BULL" Belt



It was with considerable pleasure that we received from Prof. A. M. Low permission to publish the following letter. The name of Prof. Low is known to every Motor Cyclist as that of a man whose researches are of the utmost importance to the sport.

"I thank you for your letter, and am much obliged to you for the "belt duly received.

"It might interest you to know that I have frequently employed "your John Bull Belts on experimental machines, often fitted with "engines of horse-power out of all proportion to the size of belting "available. Not only have I had good results from the point of "view of reliability, but transmission efficiency tests have shown the "overall loss to be remarkably small."

Such praise, from such a man, carries remarkable weight.

In the 1921 T.T. Junior, 24 of the 38 finishers, including the Winner, were "John Bull" equipped—in the Senior, 19 out of 25. As in 1914 and 1920—so in 1921.



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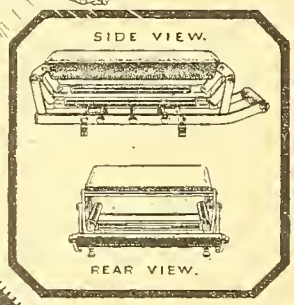


Introducing The

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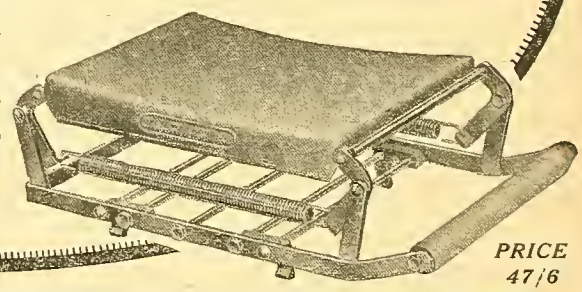


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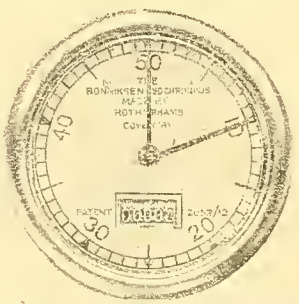


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G. E. Stacey on 2¼ h.p. VERUS..FIRST PLACE—GOLD MEDAL.
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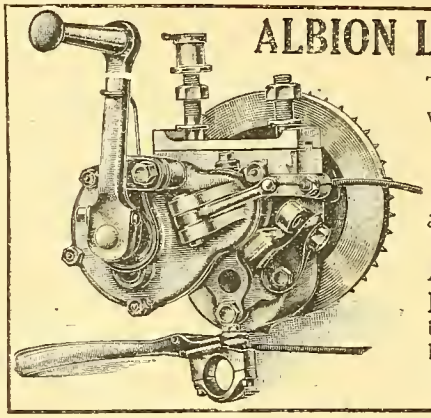
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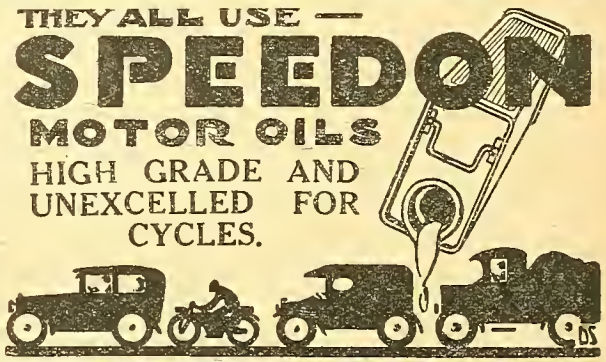




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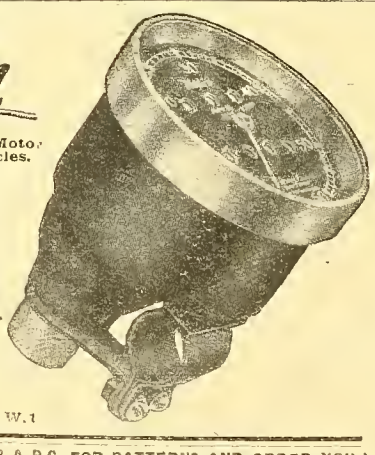
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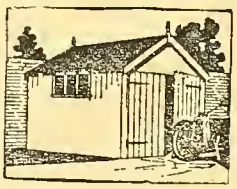
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All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

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For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Readers who reply to Box No. advertisements are warned against sending remittance through the post except in registered envelopes; in all such cases the use of the Deposit System is recommended, and the envelope should be clearly marked "Deposit Department."*

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1921 A.B.C. Machines in stock, complete stock of spares stocked.—W. Luther J. Davies, 71, Commercial St., Newport, Mon. 'Phone: 2488. [0639

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1920 3h.p. A.B.C., dynamo lighting, horn, licence paid, excellent condition; £103; exchanges entertained.—Bambers, Ltd., Easthank St., Southport. 'Phone: 607. [X4597

A.B.C., 1921, sole model, showroom soiled only, list price £120; special price £100.—The Layton Garages, 90, High St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [6803

1921 A.B.C. Kick Starter Model, fully equipped and licence paid, not ridden 200 miles, taken in exchange for Powerplus Indian; £105, or best offer.—Horswill, 42, Bridge St., Chester. [4780

A.B.C. Special Combination, practically new, Lucas dynamo lighting, Cowey horn, Smith speedometer, Easting, spare tyre, spares, accessories; £155.—Box 4,860, c/o *The Motor Cycle.* [5900

A.B.C., delivered July, 1920, as new, only done 1,300 miles, including accessories, speedometer, mechanical horn, tax and insurance policy; £90.—Dodson, 3, Akenside Rd., Hampstead, N.W.3. [0592

A.B.C. 1921 Combination, genuine A.B.C. sidecar, new but slightly soiled, list price with accessories £167; special unrepeatable bargain price, £135 complete.—The Layton Garages, 90, High St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [6804

Abingdon.

4h.p. Abingdon King Dick and Montgomery sidecar, perfect running order; £70, or near offer.—Milton, 208, Green St., Enfield Highway. [5958

4h.p. Abingdon King Dick, nearly new, tax paid, adjustable pulley; sell £35, or exchange 2-stroke or Douglas.—47, North Wharf Rd., Paddington, W.2. [6905

ABINGDON Combination, 4h.p., 2 speeds, free, lamps, etc., just fitted new 22 gns. sidecar; £55.—W. C. West, 2, Appain Rd., Roman Rd., Bow, London. [6532

A.C.E.

ACE 4-cyl. Combination, ran 300 miles only, fully equipped; £225.—Clark, 7, Exhibition Rd., S.W.7. [6844

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ACME 1920 8h.p. Combination, spare wheel Easting, all accessories, done 700 miles, tax paid; £160.—Lloyd Jones, 75, Marchmont Rd., Wallington. [6630

ACME, 1921, J.A.P. 8h.p., Combination, 3-speed Sturmey-Archer, detachable wheels, spare wheel, interchangeable, absolutely brand new; remarkable bargain, £155.—Luck, Earlsdon, Coventry. [X4621

ACME-J.A.P. 8h.p. Combination, detachable wheels, spare wheel, electric lighting, wind screen, used for few demonstration runs, not done 500 miles; makers' list price £213, a bargain £140.—The Premier Motor Co., Aston Rd., Birmingham. [X4546

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JULIANS, of Reading, have 2¾h.p. A.J.S. model in stock. [0637

1921 A.J.S. Combination in stock; list price.—Cross, Agent, Rotherham. [X4551

A.J.S., T.T. winner, new 1921, 2¾h.p. model; actually in stock.—Moss, Wem. [X4540

A.J.S.: All models and all spares stocked.—Merrick's Stores, Listerhills Rd., Bradford. [2492

A.J.S. Spares; prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [8592

1916 A.J.S. Combination, recently overhauled, splendid condition.—H.D., 2, St. Peter's St., Northampton. [X4344

A.J.S. 1914 6h.p., complete with sidecar, lamps, horn, etc.; £75.—P. J. Evans, 81-91, John Bright St., Birmingham. [6213

DAN GUY, Weymouth.—A.J.S. 6h.p. combination, 1917, recently re-enamelled, splendid condition throughout; £120. [0558

1920 6h.p. A.J.S. Combination, well equipped, excellent condition; £185.—Overend, 224, Blackburn Rd., Accrington. [6720

A.J.S.—London and Walsall agents; immediate delivery; exchanges or deferred payments.—Maudes' Motor Mart, London and Walsall. [2420

A.J.S. 1920 Combination, electric lighting, speedometer, etc; trial London district; tax paid.—Apply, Box 739, c/o *The Motor Cycle.* [X4592

DAN GUY, Weymouth.—1920 6h.p. A.J.S. Combination, purchased November, as new, guaranteed condition, fitted Lucas Magdyno, small mileage, tax paid; £195. [0596

1920 A.J.S. Combination, splendid condition, Lucas lamps, Tan-Sad, Lucas horn, leg shields, spare wheel, tax paid; £160.—Southern, Grocer, Gloucester. Tel.: 189. [6481

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. 1919 (Sept.) Combination, with hood and cover, spare wheel with new tyre, all lamps, mileage 3,000; nearest to £150.—Glenwood, Granville Rd., North Finchley. [6118

A.J.S. 2¾h.p., the super-solo motor cycle. To Midland motor cyclists, place your order now with P. J. Evans, distributer for Warwickshire, 81-91, John Bright St., Birmingham. [6207

A.J.S. 1913-14 6h.p. Combination, 3-speed, kick start, chain drive, really good value; £75.—The Layton Garages, 90, High St., Bicester, Oxon. 'Phone: 581. T.A.: Integrity, Oxford. [6805

A.J.S. 1920 Combination, dynamo lighting, Binks, side screen, hood, spare wheel, etc., tyres unpunctured, very little used; 165 gns.—Spurling, 8, Courthope Rd., Hampstead, N.W.3. [6297

A.J.S. Late 1919 6h.p. Combination, hood, screen, side curtains, spare wheel, good condition, not used this year; £119.—W. Brandish and Sons, Triumph Garage, Foleshill Rd., Coventry. [X4633

A.J.S. Lightweights, 2¾h.p. . Can now supply from stock. Book your orders now and save disappointment. Official agents for this famous lightweight.—F. E. Wootten, Ltd., High St., Oxford. [3695

A.J.S. 1920 6h.p. Combination, Lucas acetylene lighting, hood, screen, side curtains, speedometer, luxuriously equipped, tax paid; £170.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X4490

1919 A.J.S. 6h.p. Combination, Lucas dynamo lighting set, electric horn, speedometer, legshields, Cape hood, etc., in splendid condition; what offers?—Wills, 9, Winifred Rd., Urmston, near Manchester. [6217

1920 A.J.S. 6h.p. Combination, mileage 1,300, speedometer, accumulator lighting, child's seat, Easting screen, condition as new; £175, or near offer. —Coventry Motor Mart, London Rd., Coventry. [X4532

1919 A.J.S. Combination, 6h.p., spare wheel, new lamps, horn, mirror, speedometer, Klaxon, Terry's pillion, new tyre, Binks carburetter, in fine condition; £175.—Boyne, Grocer, Thomas Lane, Wakefield. [6616

A.J.S. Late 1919 Combination, wind screen, spare wheel, Lucas lighting set, horn, petrol tin carrier, luggage grid, tax and insurance paid, perfect condition, any trial; £165, or nearest offer.—Fred Bingle, High St. Cinderford. [6723

A.J.S. 7h.p. Brand New 1921 Combination, interchangeable wheels and spare, just arrived from works, in stock for immediate delivery; £215; no waiting; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [6036

SLIGHTLY Used 1920 6h.p. A.J.S. Combination, electric dynamo, spare wheel, tyre, and tube, screen, etc.; machine has not done 1,000 miles; £190, or near offer; open to any inspection or trial; private owner.—Pugh Eng. Works, Shirley Rd., Addiscombe, Croydon. [6076

WANTED, purchasers for any make of new 1921 A.J.S. motor cycles and combinations, for immediate delivery. Your present machine taken in part exchange; full market value allowed; distance no object.—R. Bamber and Co., Ltd., 2, Easthank St., Southport. Tel.: 607. [0649

1920 (Dec.) A.J.S. Combination, dynamo lighting, interchangeable lorry body with sidecar, business or pleasure, perfect condition and appearance, special enclosed speedometer drive and front brake, Binks Brooks cantilever saddle; £200, or exchange cash and Baby Triumph.—37, Green Walk, Crayford. [6167

1920 A.J.S. 6h.p. Combination, mileage 2,000, speedometer, accumulator lighting, large sidecar, dark blue, black leather, child's seat, Easting screen, grid, engine new November, condition as new, exceptional machine, expert examination invited; £170, lowest.—Jackson, Nook, Bray's Lane, Coventry. [X4468

TO Sportsmen.—2¾h.p. A.J.S., 3-speed, hand clutch, K.S., all-enclosed chain drive, very fast machine, spares include racing and touring cylinders, both complete valves, etc.; sprockets for flat racing and hill-climbing, and chains for same, the whole 'bus in excellent condition, an absolute gift; 69 gns.—Hopwood, Montauban, Rainow, Macclesfield. [6657

Alecto.

BRAND New 1921 Alecto 3½h.p., countershaft, kick start, hand clutch, accessories, tax; £61/10. —Walter Jones, Newport, Salop. [6400

Alldays.

E. KICKHAM for Allon, sole agent for Bristol and district.—Stokes Croft, Bristol. [3356

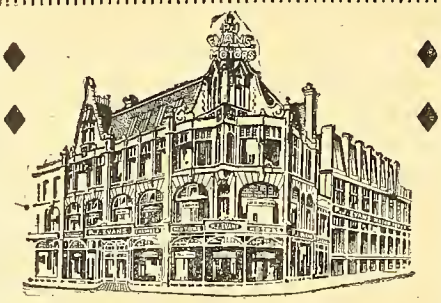
1920 Allon De Luxe, top-hole condition; offers.—Horner, 51, Montholme Rd., S.W.11. [6488

1918 Alldays Allon, 2-speed, nearly new, tax paid; £38.—65, Church St., Edgware Rd., W.1. [6907

ALLDAYS Allon 2¾h.p., 2-speed, 1915, excellent running order, Palmer and Avon tyres, and licence; £48/10.—34, Queen Anne's Gardens, Enfield. [6491

ALLDAYS Allon, about 1919, Saxon forks, plate and enamel hardly scratched, complete less power unit, tax paid; £15/10; suit Villiers, T.D.C., etc., engine.—Dawson, 34, Ampthill Rd., Bedford. [6508

ALLDAYS Allon, late 1920, condition perfect, tax; after 5; £62.—95, Danby St., Peckham. [6281

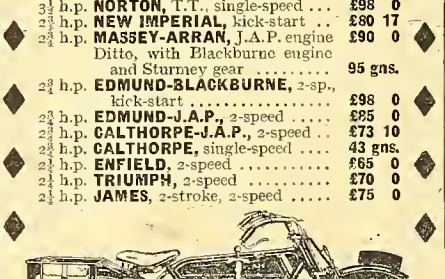


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The Finest and Best Equipped Showrooms in THE MIDLANDS!

1921 Motor Cycles in Stock.

7 h.p.	**A.J.S.** Combination	£215	0
	Ditto, with lighting set	£243	0
7 h.p.	**JAMES** Combination	£195	0
8 h.p.	**ROYAL ENFIELD** Combination	£160	0
	Ditto, with lighting set	£182	0
7-9 h.p.	**INDIAN** Comb., shop-soiled	£198	0
5-6 h.p.	**ROVER** Combination	£167	10
3½ h.p.	**ROVER** Combination	£152	10
8 h.p.	**NEW IMPERIAL** Combination	£168	0
4 h.p.	**NORTON,** with de luxe Sidecar	£177	0
3½ h.p.	**NORTON** and Sports Sidecar, with Lucas Magdyno	£192	0
4 h.p.	**TRIUMPH** Combination	£175	0
4¼ h.p.	**JAMES** Combination	£170	0
4¼ h.p.	**B.S.A.,** Model K.2, solo	£107	0
	Ditto, with Sidecar No. 3	£149	0
6-7 h.p.	**B.S.A.** Combination	£175	0
4¼ h.p.	**B.S.A.** Model K Combination	£135	0
4¼ h.p.	**B.S.A.,** Model K, with Cooper Sidecar	£123	0
4¼ h.p.	**HUMBER,** flat twin	£140	0
4 h.p.	**INDIAN SCOUT,** shop-soiled	£132	0
4 h.p.	**TRIUMPH,** 3-speed, chain-cum-belt	£115	0
4 h.p.	**TRIUMPH,** all-chain drive	£125	0
3½ h.p.	**JAMES,** twin solo	£135	0
3 h.p.	**CALTHORPE** Combination, M-L Maglita	110 gns.	
3½ h.p.	**ROVER,** 3-speed, chain drive	£115	0
3½ h.p.	**ROVER,** T.T., single-speed	£90	0
3½ h.p.	**NORTON,** 3-speed, 16.H	£132	0
3½ h.p.	**NORTON,** T.T., single-speed	£98	0
2¾ h.p.	**NEW IMPERIAL,** kick-start	£80	17
2¾ h.p.	**MASSEY-ARRAN,** J.A.P. engine	£90	0
	Ditto, with Blackburne engine and Sturmey gear	95 gns.	
2¾ h.p.	**EDMUND-BLACKBURNE,** 2-sp., kick-start	£98	0
2¾ h.p.	**EDMUND-J.A.P.,** 2-speed	£85	0
2¾ h.p.	**CALTHORPE-J.A.P.,** 2-speed	£73	10
2¾ h.p.	**CALTHORPE,** single-speed	43 gns.	
2¼ h.p.	**ENFIELD,** 2-speed	£65	0
2¼ h.p.	**TRIUMPH,** 2-speed	£70	0
2¼ h.p.	**JAMES,** 2-stroke, 2-speed	£75	0



2¾ h.p. A.J.S. Lightweight.. £105

A FEW 1920 Shop-Soiled Models various makes, Bargain prices. Send for List.

P. J. EVANS

81-91, John Bright St., BIRMINGHAM.

MOTOR CYCLES FOR SALE.

Alldays.

1917-18 Allon, 2-speed, clutch, accessories, tax paid; take 2 anywhere, real bargain, must sell; 39 gns.; after 6.—35, Palliser Rd., West Kensington. [6474

American X.

AMERICAN X 1920 7-9h.p., with Swan sporting sidecar, dynamo lighting, indistinguishable from new; £125.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X4491

AMERICAN X, bought new Dec., 1918, 3-speed, K.S., and Mills-Fulford sidecar, wind screen and hood, been completely overhauled and re-enamelled, and all worn parts replaced, not been run since last August; sacrifice £85, or near offer.—Mann, 42 Wutnell Rd., Blackpool. [6263

Ariel.

JULIANS of Reading have Ariels in Stock. [0533

DAN GUY, Weymouth.—Ariel agent; early delivery dates. [0550

1920 6-7h.p. Ariel Combination, unused; £128.—Butler, Baldock. [5931

1920 3½h.p. Ariel, nearly new condition, licensed; £78.—Butler, Baldock. [5930

CYRIL WILLIAMS for immediate delivery of all model Ariel.—Chapel Ash Depot, Wolverhampton. [X3793

1921 4½h.p. Ariel Combination from stock; £150.—A. J. Young and Co., Ltd., Newmarket. [6792

ARIEL 3½h.p., 1915, A1 condition; exchange lightweight, or sell £40.—Holland, 28, Lonsdale St., Burnley. [6110

ARIEL 3½h.p., just overhauled, new piston, cylinder re-bored, tax paid; £35.—29, Tivoli Rd., Crouch End, N.8. [6515

1920 5-6h.p. Ariel Combination, nice condition, £120; also 1914 T.T. model, bargain, £36.—Ross, 86, High Rd., Lee. [6236

ARIEL.—All models, cash or gradual payments. Spares supplied from stock.—West Central Agency, Wincycle Co., Ltd., 236, High Holborn, W.C.1. [5212

ARIEL 6-7h.p. 1919 Combination, lamps, screen, tax, excellent condition; £115.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6674

ARIELS.—Buy your Ariel from Hirst and Parsons, 374, Grove Green Rd., Leytonstone. Ariels in stock; riding taught free of charge; exchanges. 'Phone: Wanstead 48. [6835

ARIEL 3½h.p. (Nov., 1919), lamps, speedometer, legshields, spares, usual accessories, good condition, licensed; £82, or near; seen any time.—Bunch, Beech Cottage, Yateley, Hants. [6582

ARIEL 3½h.p. actually in stock at new reduced price; also other good reliable cycles, both new and second-hand.—Antoveyors, Ltd., Service Depot, 4-12, Palmer St., S.W.1. [0468

ARIEL 1920 3½h.p. Combination, 1921 sidecar, completely equipped and licensed; £105.—The Layton Garages, 90, High St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [6806

ARIEL Twin Combination, 1914, all-chain, Bosch, Amac, Enfield gear, new tyres, lamps, etc., tax paid, perfect mechanical condition; any trial offered; £65.—Rosini, 23, Rosedale Rd., Richmond. [X4500

3½h.p. Ariel, 3-speed, clutch, completely overhauled and re-enamelled, gear overhauled (cost over £5), new back tyre, wide bars, powerful and reliable, tax paid; £35.—Bernard, Jacques Court, Elham, Canterbury. [6225

ARIEL Service Depot.—Orders now booking for the new all-chain models, which are the Rolls-Royce of motor cycles. All spares stocked. Prompt attention. —F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. Tel.: 325 Cheetham Hill. [5999

ARIEL.—This is the machine for reliability. We are practical riders and gold medal winners with this wonderfully efficient and reliable motor cycle. We can give you immediate delivery from stock. All spares in stock Trade supplied.—Jones' Garage, Muswell Hill, and at Woodside Parade, N. Finchley. [0378

Arno.

ARNO Combination, licensed, perfect condition, 2-speed, free; nearest £45, or exchange with cash for modern mount.—Frodin, Hampton-in-Arden Stonebridge 1 mile), near Birmingham. [X4604

Bat.

1920 6h.p. Bat-Jap Combination, 4,000 miles, F.R.S. lamps, Stewart horn, Easting screen; £135, or nearest offer.—Dumet, Longford, Cannock. [5204

1920 8h.p. Bat-Jap Combination, splendid condition; too powerful for owner; quick sale, £120; any trial.—16, Seldon St., Battersea, London. [6289

BRAND New 6h.p. 3-speed Bat-Jap, spring frame, semi-T.T. handle-bars; makers' list price £160, offered at £120 cash.—The Premier Motor Co., Aston Rd., Birmingham. [X4548

1920 6h.p. Bat Combination, lamps, horn, licence paid, insurance, only run 300 miles, in perfect condition; £150.—Bambers, Ltd., Easthank St., Southport. 'Phone: 607. [X4600

BIS All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. Motor Cycles advertised by private owners are, when desired, marked (P).

MOTOR CYCLES FOR SALE.

Clyno.

MISS DOOLEY.—1915-16-17 5-6h.p. Clynos, clutch, K.S., renovated and complete from £55 each; seen any time during the day.—Please apply to E. Dooley, 33, Killyon Rd., Clapham. [6269

5 6h.p. Clyno Combination, tax paid, recently overhauled, new chains, tyres, lamps, 2 spare wheels, just done fortnight's tour; £95; appointment.—Weeden, 235, Stanstead Rd., Forest Hill, S.E. [6165

CLYNO Combination, 8h.p. J.A.P., 1918, 3-speed, detachable wheels, privately owned, first-class condition, electric light, very fast; £110, bargain.—Seen at Durham Works, South Ealing Station, W.5. Tel.: Mayfair 162. [6319

WANTED, purchasers for any make of new 1921 Clyno motor cycles and combinations, for immediate delivery. Your present machine taken in part exchange; full market value allowed; distance no object.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [0651

CLYNO 5-6h.p. Combination, 1916-17 models, rebuilt, replated, enamelled black, 3 speeds, kick start, foot clutch, new carburetters, magnetos, interchangeable wheels, enclosed chain drive, new sidecars, painted to choice, as new; solo, £75; combinations, £90.—Hearn Bros., 94, Brixton Hill, S.W.2. 'Phone: Brixton 2888. [6274

CLYNO 5-6h.p. Combination, 3-speed, clutch, kick start, new bulbous sidecar body, hood, screen, electric lighting, spare wheel, just completely overhauled, renovated and rebushed at cost over £50, new cylinders, new pistons, in perfect condition throughout, tyres nearly new, any trial; £100.—23, Skelwith St., Hammersmith, W.6. [6787

CLYNO Combination, 1916, 6h.p., 3-speed, splendid condition, overhauled 4 months ago when mechanical lubrication was fitted, complete with electric lighting, wind screen, and full set of spares and tools, usual spare wheel, 3 tyres practically new, enamelling perfect, fine bargain and ready to go anywhere; £105, or nearest offer; owner wants small car.—Middlemiss, 16, Linden Terrace, Whitley Bay. [6160

Connaught.

CONNAUGHT 2½h.p., Amac, E.I.C., lamps, accessories, licence, brand new condition; £35.—63, Solon Rd., Brixton. [6562

Cotton.

COTTON 1921 (New) Triangulated 2-speed 2-stroke, unable to use, list £72; accept 56 gns.—Miss Oakes, 2, College St., Gloucester. [6768

1921 Cotton-Blackburne in stock, fastest time and record for bill 350 class Eastern Valley M.C.C., June 9th.—South Wales Distributer: W. Luther J. Davies, 71, Commercial St., Newport, Mon. 'Phone: 2488. [0641

Coulson.

COULSON-B., late 1920, 2¾h.p., new, unused; any trial; bargain for cash.—John Hall and Co., Warminster, Wilts. [5986

1921 2¾h.p. Coulson B, 2-speed Sturmey, in stock; 97 gns.—Edwards, 50, Harrington Rd., South Kensington. [6781

COULSON-B. 2¾h.p., perfect, equipped, licensed; £55, offer.—Adency, Mary's Hospital School, Paddington, London. [6441

COULSON, 1920, 4h.p. Blackburne, 2-speed sports model, brand new; to clear, £90.—Bartletts, 93, Gt. Portland St., W. [6939

COULSON B 1921 Models in Stock.—Sole Wiltshire Agents, Wessex Motors, Ltd., 60, Catherine St., Salisbury. 'Phone: 72 [5007

COULSON B.—Sole concessionnaires London and 17 Southern counties.—London Motors, 61, Holborn Viaduct, London, E.C.1. [6529

COULSON B.—Most successful of all spring frame machines. We can supply any model from stock; cash or deferred payments; also few shop-soiled on very favourable terms.—London Motors, 61, Holborn Viaduct, London, E.C.1. [6530

COULSON B 4h.p.; 120 gns.; an ideal solo or sidecar mount, as low and handy as a Levis; in stock.—Sole agent for Leeds and 15 miles radius, excluding Bradford, The Headingley Motor and Engineering Co. Ltd., 18, St. Michael's Lane, Leeds. 'Phone: Headingley 480. [0493

COULSON B.—Winner T.T. Junior Race, Brooklands, 21st May, London-Exeter, London-Land's End, London-Edinburgh, 7 gold medals, 4 silver medals, and numerous local awards, holds world's record for 2¾h.p. and sidecar; 2¾h.p. sports model with J.A.P. engine, 90 gns.; ditto, with Blackburne engine, 97 gns.; standard de luxe models from 106 gns. to 120 gns.; sidecar combination, £165; also few shop-soiled at bargain prices. We can supply any of these models immediately either for cash or on deferred payments. Write for "Book of the Coulson."—London Motors, 61, Holborn Viaduct, London, E.C.1. City 4230. [6531

Coventry Eagle.

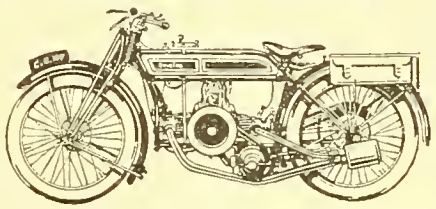
COVENTRY EAGLE, 1915, 2¾h.p. Villiers, tools, excellent condition, little used, take 2 anywhere; £35.—20, Stansfield Rd., Brixton, S.W.9. [6901

50 GNS.—1920 Coventry Eagle, 2¾h.p. J.A.P., countershaft 2-speed, K.S., clutch, all on, licensed, in new condition. 'Phone: City 8575.—Bresler, 67, City Rd., E.C. [6578

ALEXANDER'S

113-115, LOTHIAN RD., EDINBURGH
272-274, GT. WESTERN RD., GLASGOW

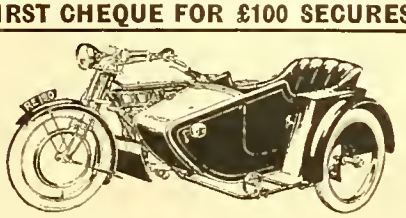
FOR BEST VALUE



THIS WEEK'S UNPRECEDENTED OFFER!

One only. 1920 4 h.p. twin ARMIS, M.A.G. engine, 2-speed, clutch and kick-start, very fast. List price £135

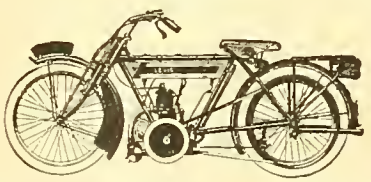
FIRST CHEQUE FOR £100 SECURES.



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NORTON	MATCHLESS
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P. & M.	LEVIS
VELOCETTE	COULSON B.
ZENITH	WILKIN
COVENTRY EAGLE	VERUS
OMEGA	DIAMOND
NEW IMPERIAL	REX
ACME	BAT
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MORGAN RUNABOUTS, G.W.K., CALTHORPE, and DOUGLAS LIGHT CARS.



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CASH, EXCHANGES, AND DEFERRED PAYMENTS.

ALEXANDER'S

MOTOR CYCLES FOR SALE.

Coventry Eagle.

COVENTRY EAGLE 1920 2¾h.p., J.A.P. engine, 2-speed, clutch, kick starter, new condition, little used, lamps, horn, etc., tax and insurance paid; £60, no offers.—Ward, 15, Windmill Way Ruislip, Middlesex. [6776

1920 Coventry Eagle, 2¾h.p. J.A.P., 2-speed Sturmey, K.S., lamps, horn, tools, mileage 1,500, condition guaranteed; £65, or exchange late I.O.M. Rudge with adjustment.—Beeteson, Platts Villas, Endon, Stoke-on-Trent. [X4581

Coventry Victor.

THE Perfect Flat Twin Engine.—Immediate delivery of standard Coventry Victor touring machine, 5-7h.p., 3-speed gear, all-chain drive, £125; also short wheelbase sporting solo machine, guaranteed 65 m.p.h., £135; send for catalogue; agents wanted where not represented.—The Coventry Victor Motor Co., Ltd., Coventry. [0520

Dayton.

£16/10.—Dayton 2-stroke, single gear, good condition. —Harwood, 100, Avenue Rd., Swiss Cottage, N.W.3. [5954

De Luxe.

1921 2¾h.p. De Luxe, 2-stroke, lamps, pillion; £35; exchange higher power; after 6.30.—26a, Manaton Rd., Peckham Rye. [5873

NEW 1921 De Luxe Blackburne, 2¾h.p., 2-speed Sturmey, kick start and clutch, pan saddle, Brampton Biflex forks, and Dunlops, aluminium footboards, luxurious mount; cost £98, accept £68; any trial.—191, Sweetman St., Wolverhampton. [6377

Diamond.

E. KICKHAM for Diamond, sole agent for Bristol and Bath district.—Stokes Croft, Bristol. [3355

CYRIL WILLIAMS for immediate delivery of all models Diamond.—Chapel Ash Depot, Wolverhampton. [X3817

DIAMOND 2-stroke, 2-speed, 1919, all accessories, perfect order; £47.—71, Approach Rd., Victoria Park, E.2. [6301

1920 Diamond-Jap, Enfield gear, hardly ridden, tax, insurance, accessories; £50.—49, South Lambeth Rd., S.W.8. [6737

DIAMOND-VILLIERS, 1920, perfect order and condition, lamps, tax paid; trial given; £32/10. —Clements, 19, Stockwell Park Crescent, S.W.9. [6393

IMMEDIATE Delivery of any Diamond Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0507

DIAMOND, 1920 (November) T.T., ultra violet model, fitted with highly tuned 2½h.p. Singer engine (4-stroke), Enfield 2-speed and clutch, latest Sensspray, Brooks B220 and Palmer cords, in excellent condition throughout, very fast and reliable, smart black and primrose enamelling, fully equipped for the road, including new Cowey speedometer, complete set of tools and spares; £65. Photo; any trial with pleasure after 6 evening.—Rose, Highfield House, Gainsborough. 'Phone: 36. [X4577

Douglas.

DOUGLAS, Douglas, Douglas.

1921 Models in Stock: 4h.p. combination, £170; 4 h.p. solo, £130; 2¾h.p. clutch model, £105; 2¾h.p. 2-speed model, £85; shop-soiled bargains; extended payments if desired; spare parts stocked; repairs.—Douglas specialists, Vivian Hardie and Lane, Ltd., 23 and 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Maynair 6559. [0375

HERBERT ROBINSON, Ltd., 32-35, Green St., Cambridge.—Below.

DOUGLAS 1921 New 2¾h.p., 2-speed, including P. and H. lamps, horn, and licence holder; £85; in stock; exchanges.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles.

DOUGLAS 1921 New 2¾h.p., 3-speed, clutch and kick starter, including P. and H. lamps, horn and licence holder; £105; in stock; exchanges.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles.

DOUGLAS 1921 New 4h.p. Solo, £130; or combination, including P. and H. lamps, horn, licence holder, and sidecar wind screen, £170; exchanges.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles.

DOUGLAS 1920 4h.p., lamps, horn, licence paid, first-class appearance, mechanically sound; £95.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [6256

1920 Douglas 4h.p. for sale.—Scott-Hansen, 61, Evelyn Gardens, S.W.7. [6920

GOURLAY, the great Douglas agent and expert, Fallowfield, Manchester. [6094

1919 Douglas 2¾h.p., fully equipped; £58.—Royal Berks Motors, Reading. [6128

E. KICKHAM for Douglas and spares; trade supplied.—Stokes Croft, Bristol. [3351

NEW 1920 Douglas Combination, shop-soiled; £145. —Cross, Agent, Rotherham. [X4553

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS. 4h.p., 1916, excellent condition, any trial; £65.—Terry, Arcade, Bedford. [X4584

1918 2¾h.p. Douglas, nearly new, tax paid; £38. —66, Church St., Edgware Rd., W.1. [6908

£35.—1913 2¾h.p. Douglas, 2-speed, good running order.—King, Egrove Farm, Oxford. [X4563

DOUGLAS 1920 C.B. Outfit, Lucas electric lamps, perfect; £90.—54, Coval Rd., Mortlake. [X4419

1916 2¾h.p. Douglas, as new; £45.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [6661

2¾h.p. Douglas, 1919, fully equipped; £55.—Braemar, 17, St. Quintin's Av., North Kensington. [6498

SEVERAL 2¾h.p. Douglas machines from £40.—A. J. Young and Co., Ltd., Newmarket. [6797

DOUGLAS 1920 2¾h.p., excellent condition; £70.—50, Leigham Court Rd., Streatham. 'Phone: 413. [6228

4h.p. Douglas Combination, 1918, perfect condition, fully equipped; £85.—8, Sion Rd., Twickenham. [6180

1919 2¾h.p. 2-speed Douglas, fully equipped, perfect; £50.—24, Balliol Rd., North Kensington. [6460

DOUGLAS 1921 4h.p. Solo; £120; T.T. bars, etc., quite new.—Marston, 31, Bridge St., Chester. [6545

£48; 1916 Douglas 4h.p., 3-speed, kick start, makers' colours, splendid order.—156, Stockwell Rd., S.W. [6551

1915 2¾h.p. Douglas, perfect condition, all on, tax paid; £45.—23, St. Margarets Av., Harringay. [6463

CYRIL WILLIAMS for immediate delivery of all models Douglas.—Chapel Ash Depot, Wolverhampton. [X3818

1914 Douglas, 2-speed, all on, tax paid, good condition; trial.—Mansell, Police, Treharris, S. Wales. [5857

DOUGLAS 2¾h.p., 2-speed, with lamps and horn, in stock; £85.—Rivett, 236, High Rd., Leytonstone. [5950

1920 2¾h.p. 3-speed Douglas and accessories, tax paid; £75.—Bounds, 223, High Rd., Kilburn, N.W. [6033

DOUGLAS Combination, 4h.p., late model; £85; like new.—131, Pathfield Rd., Streatham Common, S.W. [6141

1916 2¾h.p. Douglas, 2-speed, complete and in new condition; £40.—156, Stockwell Rd., Brixton, S.W. [6552

DOUGLAS 1917 2¾h.p., 2-speed, perfect condition; 43 gns.—Lamberj, Gorse Yard, St. John St., Angel, E.C. [6924

DOUGLAS, 1918, almost new, fully equipped, licensed; £50.—202, Munster Rd., Fulham, S.W.6. [6116

GIBB, Gloucester, can give immediate delivery Douglas 1921 models and spare parts from stock. —'Phone: 852. [6340

DOUGLAS 1915 2¾h.p., all on, carefully used; bargain, £50.—Rev. Curtin, St. Patrick's, Conway Rd., Plumstead. [5859

DOUGLAS 4h.p. Combination, 1918-19, first-class condition; sell, exchange.—288, Sangley Rd., Catford, S.E. [6397

£50; 2¾h.p. Douglas, 1916, uncrated 1919, all on, tax paid, perfect condition.—1, Melrose Rd., Merton Park, S.W. [6603

2¾h.p. Douglas, 1918, 2-speed, lamps, etc., tax paid, splendid condition; £58/10.—Pellant, Harpenden, Herts. [6293

1915 2¾h.p. Douglas, perfect condition, very fast, all accessories; £40; after 6.—Collios, 69, Argyle Rd., Ealing. [6614

DOUGLAS 2¾h.p., 1914, Bosch, new Amac, fully equipped, fast, licensed, spares; £54.—Edwards, Lanes End, Dartford. [6439

DOUGLAS Combination, 1919, licensed, new bulbous body, fully equipped, very fine lot; £90.—4, Gowan Av., Fulham. [6613

1919 Douglas 4h.p. Combination, perfect, mileage under 3,000, fully equipped, tax paid; £90.—13a, Tavistock Rd., Croydon. [6022

4h.p. Douglas 1917 Combination, lamps, horn, wind screen, discs, tax, speedometer; nearest £75.—82, Doggett Rd., Catford. [6362

1919 Douglas Combination, electric light, hood, screen, Klaxon, as new; price £105.—Cox, 119, King St., Hammersmith. [6358

1920 (August) Douglas Combination, perfect order, completely equipped; £105, or offer.—Payne, Hill Farm, Roydon, Essex. [6318

£40.—Douglas 2¾h.p., 1915-16, tax, lamps, horn, tools, nearly new tyres, splendid condition.—21, Windsor Rd., Denmark Hill. [6734

1920 2¾h.p. Douglas, 3-speed, clutch, K.S., lamps, horn, Binks, tax paid, insurance; 70 gns.—10, Grena Gardens, Richmond. [6304

ALL-ON Douglas Models from Stock; 2¾h.p. 2-speed, £85; 3-speed clutch, £105; combination, £170.—Moffat, Yeovil. 'Phone: 50. [5043

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MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 2¾h.p., 2-speed, T.T., just overhauled, new pistons, very fast; £42.—Spencer, Chester Place, Ashton-under-Lyne. [5922

2¾h.p. Douglas, 1917, perfect condition, good tyres, horn, lamps, tools; £45, or offers.—E. Hart, 3, Deal Rd., Tooting Junction. [5977

4h.p. Douglas Combination, excellent appearance, electric lighting, licence and equipment; £78.—Grose, 1, Bromley Grove, Shortlands. [5874

DOUGLAS 4h.p., 3-speeds, kick-starter, late type, 1917-18, good condition, new tyres and tubes; £55.—3, Ballern Grove, Chiswick. [6341

DOUGLAS 4h.p., 3-speed, not W.D., tax paid; £49. —Newnham Motor Co., 223, Hamersmith Rd., W.6. 'Phone Hammersmith 80. [6681

DOUGLAS 1915 2¾h.p., 2-speed, re-enamelled, licensed; 38 gns.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. [0659

1918 Douglas 2¾h.p., lamps, tools, tax paid, any trial; £37/10.—'Phone: Wanstead 48, or call 374, Grove Green Rd., Leytonstone. [5710

DOUGLAS 2¾h.p., 1914, Bosch, Stewart-Warner Tan-Sad, good condition; £45, or nearest offer.—Birt, 339, Central Markets, E.C.1. [6609

DOUGLAS 2¾h.p., 1918, 2-speed, excellent condition, tax, accessories, only wants seeing; £45.—164, Broadfield Rd., Catford, S.E. [6396

£40.—2¾h.p. Douglas, 2-speed, makers' colours, footboards, lamps, licence, accessories, new condition.—35, Perrers Rd., Hammersmith. [6560

2¾h.p. Douglas; £40; 1917, tax paid, many spares, including tyres.—Ward, 1a, Sternhall Lane, Peckham, S.E.15. New Cross 1778. [6880

F.O.C.H. have several good second-hand Douglas combinations and solos; bargains.—5, Heath St., Hampstead (nr. Hampstead Tube Station). [6080

BRAND New 4h.p. Douglas Combination, never driven, including tools, lamps, pump, horn, and tax paid; £155.—Dudley House, Park Rd., Wembley. [6374

DOUGLAS Motor Cycle, 1916, tax paid for 12 months.—Can be seen 135, Cricklewood Broadway, N.W.2. Privately owned; open to offers. [5898

DOUGLAS, 1919, 2¾h.p., good order; £25 deposit and 6 monthly payments of £7.—Halifax Motor Exchange, 25, Horton St., Halifax. [6220

£90; 1918 4h.p. Douglas combination, practically new sidecar and tyres, perfect mechanical order, licensed.—Neil, 65, Mildmay Grove, London, N. [6643

DOUGLAS 4h.p. 1919 Solo, special sports 'bus, very fast ; £87/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6681

1920 4h.p. Douglas Combination, fully equipped, mileage 1,400, unscratched, perfect; sacrifice £125.—28, Welbeck Rd., Bolsover, Derbyshire. [5890

2¾h.p. Douglas, reconditioned, new tyres, pannier bags, etc.; £45 to clear.—Auto Traders, Ltd., Pugh Engineering Works, Shirley Rd., Addiscombe, Croydon. [5894

DOUGLAS 2¾h.p., 2-speed, perfect, as new, fully equipped, buffer spring forks, licensed; £45, or near; after 6.—9, Gunter Grove, Chelsea, S.W.10. [6447

DOUGLAS 2¾h.p. 2-speed, fully equipped, new lamps, tax paid, perfect condition, tyres new; £47.—Cuckfield, Sneath Av., Golders Green, N.W. [6568

1920 (late) 2¾h.p. Douglas, clutch, kick starter, 3-speed, all on, as new, mileage under 1,000; any trial; what offers —Z., 36, Alexandra Rd., Croydon. [6855

4h.p. Douglas, tax paid, appearance and condition indistinguishable from new; solo, 69 gns.; combination, 85 gns.—Ramsdens, 8, May Bell Av., Blackpool. [6197

DOUGLAS 1918 2¾h.p., 2-speed, enamel, plating and mechanism excellent condition, fully equipped; £48.—30, Crystal Palace Park Rd., Sydenham. [6482

4h.p. Douglas, £59, 1917, or with new bulbous body sidecar £75, completely overhauled.—Ward, 1a, Sternhall Lane, Peckham, S.E.15. New Cross 1778. [6879

DOUGLAS 1918 Lady's Model 2¾h.p., 3-speed, clutch, kick-start, all accessories, perfect condition; £68.—Adams, 15, Varley Rd., Custom House, E.16. [6312

DOUGLAS Combination, late 1919, as new, electric lighting, screen, pillion, luggage grid; £110 or near offer.—Winter, 234, Croxted Rd., Herne Hill, S.E. [5029

1918 2¾h.p. Douglas, 2 speeds, makers' colours, original enamel, lamps, accessories, licence, unscratched, new condition; £55.—63, Solon Rd., Brixton. [6561

DOUGLAS 2¾h.p., 2-speed, new tyres, footboards, leg shields, lamps, tax paid, not W.D.; £42/10. —Urquhart, 371, Earlsfield Rd., Earlsfield (15 min. Waterloo). [6149

1917 4h.p. Douglas Combination, in tip-top running order, lamps, good tyres, overhauled, enamelled and plated; trial allowed; £98.—50, Cotswold Gardens, East Ham. [5980

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS Motor Cycles in Stock, for immediate delivery, 2¾h.p., all on, —£85; 4h.p., £130.—Sole district agent: Pollard, Broomfield Rd. Garages, Chelmsford. [X4590

BRAND New 1921 4h.p. Douglas Combination; makers' price £170; accept £155, fully equipped. —Speechley, 86, Churchfield Rd., Acton, W.3. 'Phone: Chiswick 1902. [6072

DOUGLAS 1919 4h.p. Combination, thoroughly overhauled, all on, appearance and condition as new, licence paid; any trial; £105.—Steer, Station Rd., Midhurst, Sussex. [6231

DOUGLAS Combination, 4h.p., 1920, new back tyre, all lamps, horn, etc., and licensed, in very good condition; £120.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6178

1920 Douglas Combination, licensed 1921, magnificent condition, 600 miles, £150 insurance, electric lighting, special scuttle dashboard; £129/10.—20a, Pitshanger Lane, Ealing. [6922

4h.p. Douglas Combination, late 1918, perfect condition, luxurious sidecar, low mileage, unused 18 months through illness; £90.—4, St. Alban's Place, Islington Green. [6919

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

2¾h.p. Douglas, tax paid, lamps and horn, engine been overhauled, new piston fitted, new cover, ride away; £25; seen after 6.—232, High St., Camden Town. (Pull bell at side.) [6287

DOUGLAS Combination, late 1919, all accessories, lamps, etc., new tyres, 12 months' licence paid, splendid condition; offers.—Apply, 9, St. Thomas Rd., St. Annes-on-Sea. (Evening.) [6011

4h.p. Douglas, 1919, excellent condition throughout, lamps, tools, spares, perfect lubrication, many improvements over standard; £70; tax paid.—81, Drakefell Rd., New Cross, S.E. [6339

DOUGLAS 1920 2¾h.p., 3-speed, completely equipped and in splendid condition; £78/10.—The Layton Garages, 90, High St., Oxford. 'Phone: 581. Tel.: Integrity, Oxford. [6819

DOUGLAS 2¾h.p., 2 speeds, clutch, Bosch mag.; £50; newly renovated, new tyres, saddle, belt, etc., costing £20; tax paid; after 7 o'clock.—67, Newton St., New North Rd., N.1. [6412

SUPER Posh Douglas 2¾h.p., 2-speed, engine No. 31598, indistinguishable from new, new Bosch mag., guaranteed perfect, licensed; 45 gns.—20, Treen Av., Hoggers Corner, Barnes. [6514

DOUGLAS Combination, 4h.p., 1921, only done a few miles, licensed, fitted all lamps, horn, etc., condition perfect; £150.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6172

DOUGLAS, 1915, 2-speed, just overhauled, perfect order, fast, lamps, accessories, tax paid, £47/10; 1915 Douglas frame, perfect, complete, £3/10.—Woodcock, 12, Ampthill St., Norwich. [6635

1915 2¾h.p. Douglas, lamps, horn, Binks carburetter, Tan-Sad, aluminium footboards, licensed, perfect condition; 41 gns.; another one at £37.—Edwards, 50, Harrington Rd., South Kensington. [6780

1919 (late) 4h.p. Douglas and Grindlay Sidecar, hood and screen, horn, licence paid, excellent condition; £105; exchanges entertained.—Bambers, Ltd., Eastbank St., Southport. 'Phone: 607. [X4598

1919 4h.p. Douglas Combination, tax paid, 3-speed, clutch, K.S., 2 generators, 3 lamps, horn, speedometer, spare chain (new), belt, tube, tyres as new; £95, excellent condition.—Penfold, Arundel. Tel.: 32. [6067

IMMEDIATE Delivery of any Douglas Model; cash or deferred payments; book your order now and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0505

DOUGLAS Combination, 4h.p., 1919, special Claudel-Hobson carburetter, winner of many prizes, and absolutely tip-top condition, licensed; £120.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6170

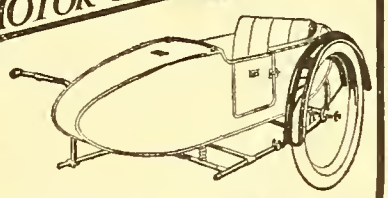
DOUGLAS 1918 2¾h.p., 2-speed, T.T. model, buffer head, new lighting set, horn, tools, etc., new Palmer tyres and tubes, footboards, tax paid, unscratched; £48; exchange.—18, Marlborough Rd., Old Kent Rd., S.E.1. [6895

1920 Douglas 4h.p. Combination, like new, fully insured, overhauled, Binks inverted carburetter, speedometer, wind screen, lamps, spares; lowest £125; without accessories £105; after 5 p.m.—Woodiog, 26, Danehurst St., Fulham. [6229

DOUGLAS Combination, 1921 All-on Model, fitted complete and licensed, Cowey speedometer, mileage under 500, and absolutely indistinguishable from new: £155.—Hewin's Garages, Ltd., The Real Service Firm, Taunton [6175

48 Pounds.—1918 Douglas, 2¾h.p., fully equipped, licensed for year, long exhaust, flexible and fast, tip-top machine.—Seen at Gordon R. Croxford's, East Sheen Garage, The Corner House, East Sheen, S.W.14. 'Phone: 1142 Richmond. [6766

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1921 **CALTHORPE,** J.A.P. Enfield 2-speed gear and kick-starter .. **£77 5**

1921 **WOLF,** Model D., 4 h.p. Blackburne engine, S.A., 3-speed, clutch and kick-starter, Brampton Forks, Amac carburetter, new **£110**

1921 **DIAMOND VILLIERS,** 2¾ h.p. 2-speed, 2-stroke, clutch and kick-starter, new .. .. **78 GNS.**

1921 **WOLF,** Model D. Combination, 4 h.p. Blackburne engine, Sturmey-Archer 3-speed gear box, Burlington sidecar, Easting windscreen, all accessories, tax paid **£145**

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1920 **PRIORY,** 2¾ h.p., 2-stroke, Arden engine, Lamps, Horn, etc. **£50**

1920 **SCOTT,** Sports model, 2-speed, new **£120**

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MOTOR CYCLES FOR SALE.

Douglas

DOUGLAS 4h.p. Combination, late 1919, kick starter, clutch, 3-speed, lamps, horn, tools, Easting, tax paid, mechanism perfect, excellent condition; after 6 p.m.; best offer secures.—Heathfield, Mordeo, near Wimbledon. [6137

NOTICE.—Recently I advertised a 1919 4h.p. Douglas for £85. This machine is genuinely worth £90, but, being compelled to sell, I will accept first offer above 70 gns.; enquiries.—Child, 17, St. George's Av., Bridlington. [6641

DOUGLAS 2¾h.p., 2-speed, engine new 1919, re-plated, re-enamelled electric lamps, mechanical horn, tools, spares, thoroughly sound condition, tax paid, 11 months' insurance; £58; seen appointment.—53, Ruskin Walk, Herne Hill, S.E.24. 'Phone: 652 Brixton. [6763

DOUGLAS Combination, 4h.p., 1918, licensed, insured, excellent condition, first-class running order, Binks carburetter, Lucas lamps, horn, Cameo wind screen, tyres good; any trial or expert examination; £100, or near offer.—Lambert, 110, Studley Rd., West Hartlepool. [6023

ALL 1921 Douglas Models, 2¾h.p., 4h.p., and new improved W.D., at £85, all fully equipped; trade supplied. Extended payments taken at one one-fifth down, remainder in 12 equal monthly payments; exchanges arranged.—Wauchope's, 9, Shoe Lane, Fleet St., London. [4538

WANTED, purchasers for any make of new 1921 Douglas motor cycles and combinations, for immediate delivery. Your present machine taken in part exchange; full market value allowed; distance no object.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [0650

DOUGLAS 4h.p. Combination, 1920 (August), 2 lighting sets (acetylene and electric), Klaxon, speedometer, Tan-Sad, Easting, aluminium legshields, spare wheel complete, tools, many spares, splendid condition, little used; any trial; tax paid; £135, or near offer for quick sale.—Seen evenings after 6, 22, Hythe Rd., N.W.10. [6027

Duzmo.

LEICESTER and Coventry Distributing Agents for Duzmo overhead valve sporting motor cycles; deliveries now commenced; demonstration model on view.—Naylor's Garage, Anstey, Leicester. 'Phone: 52. [2522

Edmund.

GOURLAY, the spring frame Edmund agent, Fallowfield, Manchester. [6093

1921 2¾h.p. Edmund, spring frame, shop-soiled; £90.—Ross, 86, High Rd., Lee. [6241

EDMUND, 2¼h.p. J.A.P., 2-speed, clutch, lamps, horn, speedometer, spring frame, good order; £42. —136, Ravensbury Rd., Earlsfield, London. [6777

Enfield.

JULIANS, of Reading, have 1921 Enfields in stock. [0478

1920 Enfield, 2-stroke, practically new; £46.—45, Pelham Rd., Wimbledon. [6584

ENFIELD 1916 3h.p. Twin, splendid condition; £45. 1, Priory Rd., Kew Green. [6650

1921 Royal Enfield 2-stroke, uncrated; £57/10.—272, Green St., Forest Gate. [5010

1919 3h.p. Twin Enfield; £50.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0341

SHEFFIELD Agent for Royal Enfields, all models in stock.—J. A. Stacey, 12, Ecclesall Rd. [0573

FOR Sale, 1916 Royal Enfield motor cycle, 3h.p., in perfect condition; £45 for cash.—Aldreds', Driffield. [X4349

NEW 1921 Enfield Combination in stock; £160.—Bounds, Garage, 223, High Rd., Kilburn, N.W. [6031

NEW 1921 Enfield Lightweight in stock; £65.—Bounds, Garage, 223, High Rd., Kilburn, N.W. [6032

ENFIELD Combination, 1918, good throughout, fully equipped; £85.—Park 5541.—204, Ladbroke Grove, W.10. [5876

ENFIELD 2¼h.p. 2-stroke, 2-speed, 1921, in stock, £65; kick starter £5 extra.—Rivett, 236, High Rd., Leytonstone. [5951

ENFIELD 6h.p. C.B. Combination, fully equipped, perfect condition; trial, after 6 p.m.—22, Cromer Rd., Tooting, S.W.17. [6406

ENFIELD 1921 Combination, Vickers 8h.p., Magdyno, as new; best offer.—Piano Works, Woodchester, Stroud, Glos. [X3667

NEW 1921 Enfield Combination, 8h.p., in stock; list price £160.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [0621

ROYAL ENFIELD 3½h.p. Twin, 1914-15, in good condition, goes well; £35.—Colonial Motors, 104a, Finchley Rd. Hamp. 7822. [6848

ENFIELD 1914 6h.p. Combination, wind screen, all accessories, splendid condition; £95, or near offer. —Vallance, Newhaven, Sussex. [6029

ENFIELD Twin, speeds, black with gold, perfect condition, fully equipped, tax paid; £35, offers.—152, Meeting House Lane, Peckham. [6921

MOTOR CYCLES FOR SALE.

Enfield.

1921 Enfield Combination, 8h.p., dynamo lighting, spares, tax paid, mileage only 150; £170, or exchange 2-seater.—36, Carleton Rd., N.7. [6620

ENFIELD Combination, 6-8h.p., 1917, J.A.P., spares, speedometer, tax paid, just overhauled; appointment; £98, or offer.—30, Finlay St., Fulham. [5961

ENFIELD 2¼h.p., 2-stroke, 2-speed, Sept., 1920, complete lamps, horn, tool kit, mileage 200, guaranteed, tax paid; bargain, £50.—644, Fulham Rd., S.W.6. [6016

ENFIELD 3h.p. Twin, 1918, and Canoelet sidecar, perfect; £70, including lamps; exchange piano entertained.—Morley, 6, Sussex Place, South Kensington. [5548

ENFIELD 2¼h.p., 1920, 2-speed, only run 600 miles, as new, licence paid 1921; £50, or close offer.—White Box E.P.T., c/o Davies and Co., Finch Lane, E.C.3. [6146

ENFIELD 1916-1917, M.A.G. 3h.p., 2-speed, kick start, in splendid order; £45.—Butterworth's Garage, 64, Mill Lane, Brixton Hill. 'Phone: Streatham 2813. [5426

S.E. London Service Depot.—In stock 8h.p. Enfield combination, £160; tandem sidecar, £164; 2¼ h.p. 2-stroke, £65.—Cleare and Co., 125, High St., Woolwich. [5201

ENFIELD Combination, 6h.p., 1913, splendid running order, newly painted coach sidecar; about £80.—Rev. A. E. Swallow, 423, Blackburn Rd., Haslingden. [6670

50 GNS.—3½h.p. twin Royal Enfield, 1918, perfect condition, lamps speedometer, tools, spare parts, looks and runs like new.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [6073

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Royal Enfield models from stock, combinations and lightweights, from £65; supplied on our easiest of easy payment systems. [4539

1914 Royal Enfield 6h.p. Combination, good condition, Bosch mag., J.A.P. engine, accessories; accept £90, or nearest offer.—I. E. Ewen, 229, West End Lane, N.W.6. Hamp. 2088. [6881

68 Gns.—6h.p Enfield combination, Lucas lamps and horn, speedometer, screen, etc., excellent condition.—Gray and Levin, 5, The Boulevard, Balham, S.W. Tel.: Streatham 2417. [6162

3h.p. T.T. Twin Enfield, 1916, G1970, 2-speed, kick starter, tax paid, new chains, guaranteed perfect; £42/10. Several other bargains. Exchanges.—Write or call, 89, East Hill, Wandsworth, S.W.18. [6422

ENFIELD Brand New but Slightly Shop-soiled 8h.p. Combination, 1921 model, absolutely like new, usual price £160; sacrifice £147/10; inspection invited. Wilkins, Simpson, Opposite Olympia, London. [6234

1915 Enfield 3h.p., 2-speed, new chain, clutch ring, etc., T.T. bars, spare touring bars, excellent condition; all on 40 gns., or near offer.—Doran, Engineer's Office, Albert Dock Extension, N. Woolwich. [6186

ENFIELD 1921 Brand New 8h.p. Combination, just arrived from works, in stock for immediate delivery, no waiting, ready to drive away; £160.—Wilkins, Simpson, opposite Olympia, London. [6039

ENFIELD Combination, 1916, Lucas horn, Lucas head lamp and generator, sidecar lamp, rear lamp, excellent appearance and condition; £85.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [6260

ENFIELD 2¼h.p., 2-stroke, 2-speed, brand new, 1921 model, just arrived from works, in stock for immediate delivery, no waiting; £65; ready to drive away; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [6038

LATE 1914 Enfield-Jap Combination, 6h.p., Bosch mag., lamps, speedometer, screen, new tyres, spares, etc., tax paid, fully insured, guaranteed mechanically perfect, little used during war; £125, or offer.—Phillips, 69, Station Rd., Swindon. [5944

ENFIELDS.—The cheapest twin on the road. We are North London agents, and can supply from stock standard models £160, electric £182, cash, or deferred payments. All spares in stock. Trade supplied.—Jones' Garage, Muswell Hill, and at Woodside Parade, N. Finchley. [0380

WANTED, purchasers for any make of new 1921 Royal Enfield motor cycles and combinations for immediate delivery. Your present machine taken in part exchange; full market value allowed; distance no object.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [0645

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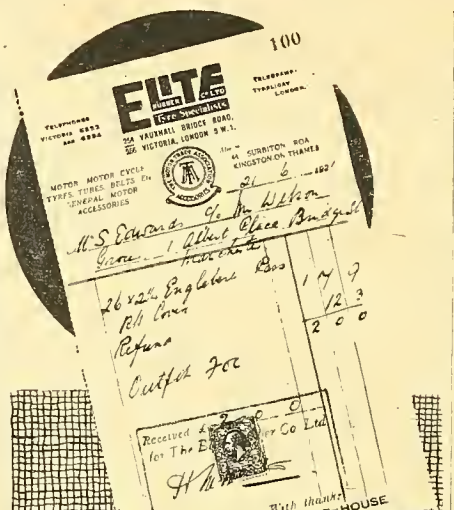
EXCELSIOR 2½h.p., 2-stroke, equipped, nice machine; £29.—17, Heaton Rd., Mitcham. [6453

8h.p. Electric Model Combination, Excelsior, 3-speed, hand and foot clutch, perfect; £110.—H.J., 595, High Rd., Totteham. [5983

BRITISH Excelsior, 4½h.p., Bosch, B. and B., lamps, horn, tax paid, perfect condition, enamel and plating as new; best offers over £30.—Cable, Town Steps, Aldeburgh. [6179

Fafnir.

2¾h.p. Fafnir, B. and B., Eisemann, sacrifice for 24 cash; £23.—14, Hillcrest Rd., Upper Walthamstow. [6311



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FOR Sale, 2¼h.p. F.N., excellent condition, all ready for road.—Apply, G.H., Boltons Library, 8, Knightsbridge, S.W. [6019

F.N. Combinations in Stock; reduced price, £188; call for a trial run.—Grimes and Co., 18, Bruton Place, Bond St., W. Mayfair 4792. [6071

F.N. 1920 7h.p. Combination, hood, screen, electric lighting, Cowey speedometer, 3in. Palmer tyres all round, excellent condition; £155.—Dixon, 172, Brownhill Rd., Catford, S.E. [6054

F.N. Combination, 5-6h.p., 1913, 2-speed, hand clutch, electric lamp, horn, in splendid order; £55.—Butterworth's Garage, 64, Mill Lane, Brixton Hill. 'Phone: Streatham 2813. [5425

AMONG the very best the F.N. lightweight was always pre-eminent. We have a 1921 model absolutely as brand new; price £65; licence paid.—Bunting's Exchange, Wealdstone. [6521

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IMMEDIATE Delivery of any F.N. model; cash or deferred payments; book your order now and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0500

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JULIANS, of Reading, have 1921 Francis-Barnett in stock [0479

1920 Late 2¾h.p. Francis-Barnett, J.A.P. engine, in magnificent condition, 2-speed Sturmey-Archer, kick starter, clutch, accessories, insurance, tax paid; £70.—Saunders, 51, Babington Rd., Streatham, S.W.16. [3728

Grandex.

8h.p. Grandex Combination, nearly new; £100.—Picca, 8, Stephen St., W.1. [6957

Green.

WATER-COOLED Green Motor Cycle, 3½h.p., specially built for speed work, complete with lamps, horn, etc., tax paid; may be seen and tried after 5 p.m.; first £75 secures.—R.D., 4, Edwin Rd., Twickenham. [6265

Haden.

HADEN-PRECISION 2-stroke, 5½h.p., 2-speed, K.S. models in stock; price 75 gns.—T. Williams, 9, Lower Chatham St., Oxford Rd., Manchester. [X4580

Harley-Davidson.

SHEFFIELD Agent for Harley-Davidsons; from £120.—Stacey, 12, Ecclesall Rd. [0577

1921 New Flat Twin Harley, sporting sidecar, £140; also 1920 model, £140.—Ross, 86, High Rd., Lee. [6245

HARLEY Combination, late 1919; £95, or exchange Douglas and cash.—I, Tarver Rd., Walworth. [6317

HARLEY-DAVIDSON New Sports Model, with speedometer, Klaxon, etc.; £140.—Marston, 31, Bridge St., Chester. [6536

HARLEY-DAVIDSON 1920 Electric Model and C.B. sidecar, licensed, speedometer, perfect; £150.—54, Coval Rd., Moitlake. [X4418

HARLEY 7-9h.p., 3-speed countershaft, electric light, luxurious sidecar, wind screen; £90.—King, 60, Lowden Rd., Herne Hill. [6216

HARLEY-DAVIDSON.—All models in stock, new and second-hand.—Sole Agents, Bamber's, Southport, Lancashire. Tel.: 607. [5009

HARLEY-DAVIDSON Combination, 1918, fitted up complete, fine machine, any examination; £110.—Heighton, Elton, Peterborough. [X4415

HARLEY-DAVIDSON 1918 Combination, good appearance and condition; for quick sale £120.—29, Grey St., Higher Openshaw, Manchester. [6420

F.O.C.H. have a late model Harley-Davidson combination; bargain, dynamo, tax paid.—5, Heath St., Hampstead (nr. Hampstead Tube Station). [6085

7-9h.p. Harley Combination, new 1916, stored 1917-19, perfect running order; £87/10, or offer; must sell, buying car.—Lt. Powell, Pinvin, Pershore. [6158

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1920 Harley Flat Twin Combination, 4h.p., electric lighting, Easting, speedometer, perfect, 100 miles' trial; £130, or nearest.—13, Vernon Rd., East Sheen. [6607

HARLEY 7-9h.p. Speed Model, very fast, registered Brooklands, property well-known rider; £108.—Clark, 7, Exhibition Rd., S.W.7. 'Phone: Kens. 4096. [6843

HARLEY Combination, 1918, in excellent condition, beautiful side car, Easting, lamps, tax paid; £115, or lower power part.—76, Dalling Rd., Hammersmith, London. [6383

HARLEY-DAVIDSON 1920 4h.p. Model, with Swan sporting sidecar, electric lighting, excellent condition; £175.—Parker's, Bradshawgate, Bolton; also 245, Deansgate, Manchester. [X4492

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ANY Model Norton delivered to your address, carriage paid, within 24 hours.—The Premier Motor Co., Aston Rd., Birmingham. [0625

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JULIANS of Reading have Norton Model 9 in stock. [0489

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NORTON Motor Cycles.—Can deliver anywhere; early dates.—Kelly, Bachelor's Walk, Dublin. [4029

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NORTON 4h.p. Combination, 1920, Lucas lamps and horn, Watford speedometer, as new; £135.—Longley, Oswestry. [X4099

NORTON.—Sole Walsall agents; exchanges or deferred payments.—Mandes' Motor Mart, Walsall Garage, Walsall. [2421

NORTONS 16H and Big Four, and B.R.S. specials from stock.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X4160

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1921 (March) 3½h.p. Norton, specially tuned machine with Ricardo slipper piston, close ratio gear box, light sprockets and chains, many spares, exceptionally fast machine, mileage about 1,000, condition as new; £120.—Box 4,917 c/o *The Motor Cycle*. [6253

NORTON, 1921, 16H, 3-speed sports model, complete with all accessories and licence, used one week only, a very fast example; owner exchanging for car; price £115.—The Layton Garages, 90, High St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [6814

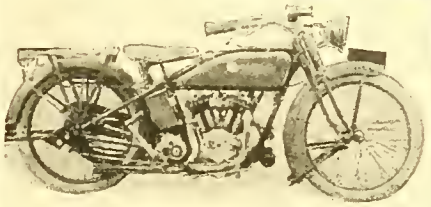
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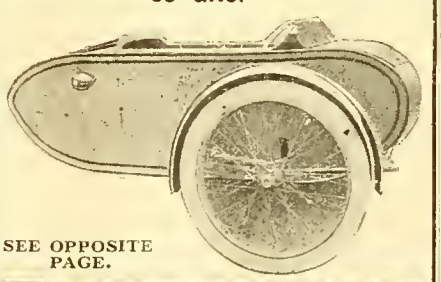
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N.S.U. 3½h.p., 2-speed, overhauled, as new; £25.—J. Vyse, Stanstead Abbotts, Herts. [6048

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N.U.T. 3½h.p., 3-speed, new 1921 model; £126.—Marston, 31, Bridge St., Chester. [6541

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1921 2¾h.p. O.K. Junior; £50/8.—Morriss, 139, Finchley Rd., N.W.3. [5995

1921 O.K., brand new, shop-soiled; £42/10.—Parkers, Station Rd., St. Ives, Hunts. [6774

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£35.—O.K. (late) 2¼h.p., M.A.G., Albion 2-speed gear box, footboards, lamps, licence, new condition.—63, Solon Rd., Brixton. [6564

O.K.-J.A.P. 2¾h.p., 1915, 2-speed, lamp, horn, in lovely order; £28/10.—Butterworth's Garage, 64, Mill Lane, Brixton Hill. 'Phone: Streatham 2813. [5427

Omega.

OMEGA-J.A.P. 2¾h.p., 2-speed, 1919, all spares; cheap.—Cranfield, Lord Roberts Av., Leigh-on-Sea. [6882

39 GNS. Exchange.—1919 Omega-Jap, 2 speeds, tax paid; any examination.—Seabridge (see Exchange). [6625

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OMEGA 1921 Models, J.A.P. engines, £60; 2-speed, £66; 2-speed clutch and starter, £73; deferred payments.—Bartletts, 93, Gt. Portland St., W. [6944

OMEGA 1921 Models, Villiers Mark IV. engine; fixed gear £50, 2-speed gear £58, combination £90; deferred payments.—Bartletts, 93, Gt. Portland St., W. [6943

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P. and M., late type, excellent condition, lamps, etc.; £45.—53, Pelham St., South Kensington. [6572

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P. and M., 3½h.p., 2-speed, 1917, lamps, tools, and accessories, splendid condition; £45.—19, Valnay St., Tooting. [6502

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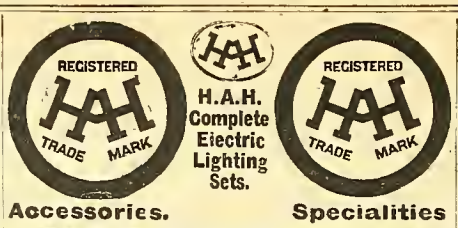
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Large-Sized Model.

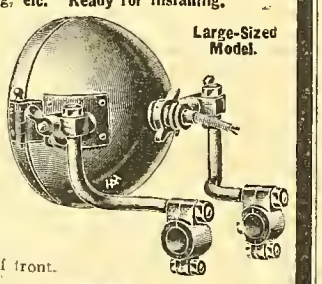
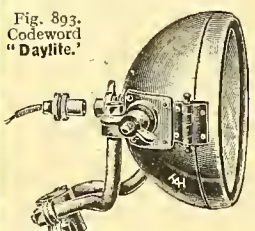


Fig. 893. Codeword "Daylite."



NEW PRICES
Fig. 895 Nickel-plated **60/-** each.
Fig. 893 Black-plated **65/-** each.

OLD PRICES
Fig. 895—Nickel 72/6 each.
Fig. 893—Black 76/6 each.

Medium Size Model. Fig. 881. Best quality finish throughout. Totally insulated holder, with switch and 4-volt bulb, adjustable focus, adjustable brackets, dust and weather-proof front. As illustrated. Fig. 881.

NEW PRICES
Nickel .. **36/-**
Black .. **39/-**
OLD PRICES
Nickel .. 43/-
Black .. 47/-

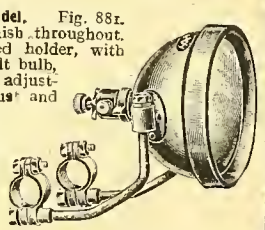


Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. New Price, Black-plated, **40/-** each. Old Price, 55/-

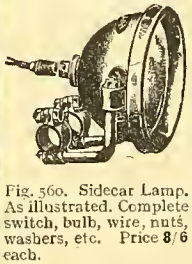
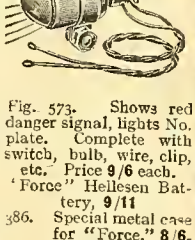


Fig. 560. Sidecar Lamp. As illustrated. Complete switch, bulb, wire, nuts, washers, etc. Price **8/6** each.



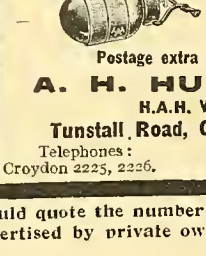


Fig. 573. Shows red danger signal, lights No. plate. Complete with switch, bulb, wire, clip, etc. Price **9/6** each.
"Force" Hellesen Battery, **9/11**
386. Special metal case for "Force," **8/6.**
Complete rear set, **27/6.**

Postage extra on the above.

A. H. HUNT, LTD.,
H.A.H. WORKS,
Tunstall Road, CROYDON, Eng.
Telephones: Croydon 2225, 2226.
Telegrams: "Keyage, Croydon."

MOTOR CYCLES FOR SALE.

Premier.

PREMIER 1915 4h.p. Countershaft, 3-speed, K.S. tax paid; £58, or nearest offer.—Peplow, Clu Salop. [664

3½h.p. Premier Combination, 2-speed, overhaule £65.—Stangoe, 3, Bolckow St., North Skelto Cleveland. [58

PREMIER 2½h.p., good condition, new ring gudgeon pin, and bush; £25/10.—Police Cottag Barkway, Royston, Herts. [588

PREMIER Combination, 7-9h.p., splendid outfi fully equipped; £98, take lower power part.—5 Kenbury St., Camberwell. [647

3½h.p. Premier Combination, 3-speed, clutch, tyre tubes, as new, 3 lamps and 3 generators, hor mirror, Bosch, tax paid; £57.—180, Lincoln Ro Walton, Peterborough. [61

PREMIER 3½h.p. 1916 Combination, 3 speed countershaft, all on, excellent condition, t paid; any trial; £58 lowest.—J. Pearce, Island Co tage, Ufton, Reading, Berks. [640

PREMIER 3½h.p. Coachbuilt Combination, 2-spee perfect condition, recently overhauled, repainte tax and insurance paid; 35 gns.; ride away.—4 Lucerne Rd., Highbury. After 7.30. [648

PREMIER 7-9h.p. 3-speed Countershaft, Bosch mag double-seater sidecar, 3-fold wind screen, ove hauled, powerful machine, guaranteed running orde tax paid; £70 or offer; photo.—2, Mascotte Rd., Pu ney, S.W.15. [676

P.V.

NEW 1921 Spring Frame, P.V., 2½h.p. Villiers, speed, clutch, kick start, climb anything; £ under list.—Lewis, c/o Miss Schofefield, Mirfiel Yorks. [659

THREE 1921 Shop-soiled Motor Cycles, P.V. spri frame, Villiers 2-speed, perfect condition; £6 or with kick start and clutch, £59; first cheques secu these.—Wigfall's, Infirmary Rd., Sheffield. [X442

P.V.-J.A.P. 1913 3½h.p. Twin, spring frame, acce sories, speedometer, excellent appearance, sple did climber, tax paid; £38, near offer.—Seen, Bra ford's Garage, Boundaries Rd., near Balham Statio S.W.12. [636

Quadrant

1920 Quadrant Combination, nice order; £90. Ross, 86, High Rd., Lee, S.E. [623

QUADRANT 4h.p., 3-speed, sound running order £25.—Marston, 31, Bridge St., Chester. [653

1921 Quadrant Combination, new condition, acce sories; £100.—Clifford Wilson, 177, Westminste Bridge Rd., S.E.1. [679

QUADRANT Combination, 1920, 4h.p., 3-speed, a accessories; £90; very small mileage.—Marsto 31, Bridge St., Chester. [653

QUADRANT Combination, 4½h.p., 1914, good co dition; £55, lowest.—Full particulars, Shipton, 4 Pagoda Av., Richmond, Surrey. [657

QUADRANT Sole Agents and Wholesale Distributer London, Southern, and Eastern Counties. A spares stocked. Official repairers.—Clifford Wilso Mfg. Co., 177, Westminster Bridge Rd., S.E.1. Tel Hop. 210. [570

LATE 1920 Quadrant 4½h.p. Combination, splendi condition, Dunlops unpunctured, lamps unuse Eastings, horn, hood, mirror, tax paid; £110, cost £16 (guaranteed faultless).—Cornford, 6, Mitcham Lan Streatham, S.W.16. [607

Radco.

RADCO, 1920, 2-speed; any trial; bargain, £43- 93, Rushmore Rd., Clapton. [650

RADCO-VILLIERS, 2¾h.p., 1916, all on, tax pai perfect; £35, offers.—Sawdon, Bentley, Beverle E. Yorks. [590

Raleigh.

PREMIER Motor Co. for 1921 Raleighs.

WE can deliver to your address within 24 hou the new Raleigh 5-6h.p. flat twin, spring fram chain drive; sole 140 gns., sidecar 176 gns.—So Birmingham agents, The Premier Motor Co., Asto Rd., Birmingham. [062

3h.p. Raleigh Motor Cycle; price £12.—Appl Pickett, Gipsey Bridge. [673

1921 5-6h.p. Raleigh, S.A. 3-speed; £147.—Morri and Co., Ltd., 139, Finchley Rd., N.W.3. [599

RALEIGH 5-6h.p. Flat Twin, spring frame, combi ation, 176 gns.; solo 140 gns.; in stock.—Roger 42, Church Rd., Hendon. [450

RALEIGH Spring Frame Flat Twin; immedia delivery; solo or combinations; exchanges. Newnham Motor Co., 223, Hammersmith Rd., W 'Phone: Hammersmith 80. [667

WE can give delivery of this famous make machine from stock; there is no better quali or finish possible; a perfect machine in every poi and detail; Raleigh 5-6h.p. flat twin solo, 140 gns combination, 176 gns.—G. and J. Dawson, 60 and 6 Regent St., Cambridge. [060

Reading-Standard.

1916 Reading-Standard Combination; £90.—Ros 86, High Rd., Lee. [624

MOTOR CYCLES FOR SALE.

Reading-Standard.

EADING-STANDARD, 1920, dynamo lighting, Henderson touring sidecar, great luggage acity; £165.—Sumner, 70, Camden Mews, N.W.1. [6117

EADING-STANDARD Combination, 1920, 10h.p., small mileage, perfect condition, dynamo lighting; t £265, accept £175.—Viner, Town Malling, Maid ne. [5959

EADING-STANDARD Combination, June, 1920, 10-12h.p., electric lighting, 2 horns, speedometer, S., Easting's wind screen, tax paid, good condition; 50.—Penfold, Arundel. Tel.: 32. [6066

Revere.

EVERE-VILLIERS, 1921, Dunlops (unpunctured), legshields, footboards, mileage 500; £35.—Smith 9, Maryvale Rd., Bournville. [X4608

Rex.

EX 1913 3½h.p., stored 4 years, sound, new tyres, licensed; £34.—6, Moore St., Colne, Lancs. [6665

920 5h.p. Rex Combination, electric lighting, spare wheel, hood, screen; £110.—Ross, 86, High Rd., e, S.E. [6240

EX 3h.p., Dixie mag., B. and B. carburetter; £12, in running order.—45, Culvert Rd., Battersea Park l., London. [6436

0×77½ 4h.p. o.h.v. Rex-Jap, discs, Mabon gear, tax paid; £38; smart appearance.—Price, 71, George's Rd., Leyton. [5924

42.—5-6h.p. Rex coachbuilt combination, with 3-speed gear, clutch, and tree engine, and mag., es good; ride away; tax paid £4.—Box 4,869, c/o e *Motor Cycle*. [5936

EX Combination, 6h.p. twin, 2-speed, handle start, £4 tax paid, lighting set, mechanical rn, etc., only needs seeing; a sacrifice, £45.—alker, 769, Romford Rd., Manor Park, London, E. [6295

EX Twin, with coachbuilt sidecar and new Dunhill chassis, Mabon clutch, variable gear, engine just erhauled, Dunlop belt and tyres as new, lamps, horn, ; £50, or near offer.—33, Melbourne Av., West lling, W.13. (D) [5871

STONISHING Value.—Brand new 8h.p. Rex-Blackburne combination, detachable wheels, spare eel, makers' list price £218; offered at £175 spot sh; only one at this price.—The Premier Motor Co., ton Rd., Birmingham. [X4547

EX-J.A.P. 1913 6h.p., handle start, Mills family sidecar, hood, screen, luggage carrier, all accesries, good order, frequent Sunday runs to South ast, never a breakdown; price £65; license paid.—ans, 1, Arundel Gardens, Notting Hill, W.11. [6467

Roamer.

OAMER-J.A.P. 1914 6h.p. Combination, 2-speed, clutch and handle start, tax paid; £70.—Boatuse, Valentine's Park, Ilford. [6359

Roc.

OC 4h.p., 2 speeds, handle start, B. and B., Bosch, £29; sidecar, £5.—122, Portnall Rd., ddington, W.9. [6388

Rover.

ULIANS of Reading have 75 m.p.h. Rover model in stock. [0585

OVER Combination, 5-6h.p., fitted Lucas 1921 Magdyno lighting; £120.—Also

OVER Combination, 5-6h.p., H.A.H. accumulator lighting set; £105. Both in excellent condition; o be tried any time.—Apply, R. Freeman, High St., ventry. [6064

920 Rover T.T. 3½h.p., single-speed; £85.—A. J. Young and Co., Ltd., Newmarket. [6793

½h.p. T.T. Rover, 1920 engine, h.c. Philipson, beautiful condition; cheap.—37, Eldon Rd., Blackburn. [X4583

920 Rover 3½h.p., 3-speed, 800 miles, lamps, Klaxon, tax paid; £85.—Moxen, Barmer, King's rn. [5337

OVER, T.T., Philipson, 1919 (Sept.), all accessories, very fast; £70, or near offer.—Box 4,951, o *The Motor Cycle*. [6926

OVER 1919-20 5-6h.p. and Swan sidecar, electric lighting; exceptional bargain, £110.—Bartletts, , Gt. Portland St., W. [6946

OVER Coachbuilt Combination, 3½h.p., 1914, 3-speed, clutch, overhauled, tax paid, good condin; £52.—45, St. Albans Rd., Seven Kings. [6326

½h.p. Rover Combination, 1920, mileage 2,500, lamps, Cowey speedometer, horn, tax paid, as w; £135.—Sale, Langley House, Kenilworth. [X4531

OVER, 3½h.p., 1920 touring model, 3 speeds, clutch, kick starter, shop-soiled only, as makers' ecifications; at bargain price of £100 for cash only. See below.

OVER, T.T., Philipson pulley, shop-soiled only, as per makers' specifications; at bargain price of 85 for cash only; 1920 model.—Mebes, 156, Gt. rtland St., W.1. 'Phone: Langham 2230. [6099



EXCHANGES QUOTED

1921 NEW LIGHT CARS.

STANDARD, 11.6 h.p., 4-seater	£610	0
STANDARD, 11.6 h.p., 2-seater	£575	0
AIREDALE, 11.9 h.p., 4-seater	£470	0
AIREDALE, 11.9 h.p., chassis	£400	0
LAGONDA, 11.9 h.p., 4-seater	£420	0
LAGONDA, 11.9 h.p., Coupé	£420	0
CALTHORPE, 2-seater. Reduced price	£420	0
CALTHORPE, 4-seater. Reduced price	£450	0

1921 NEW MOTOR CYCLES.

COVENTRY PREMIER 3-wheeler	£250	0
COULSON-B., 4 h.p., spring frame	£126	0
ROYAL ENFIELD 8 h.p. Combination	£160	0
EDMUND-BLACKBURNE, sp. frame	£98	0
ROYAL RUBY, 2¾ h.p., 2-speed, sports	80 gns.	
NEW IMPERIAL, 8 h.p., and Sidecar	160 gns.	
NEW IMPERIAL, 2½ h.p., c/shaft, K.S.	77 gns.	
SCOTT Combination	£170	0
SCOTT, new Squirrel model	£130	0
BRADBURY, 6 h.p., and Sidecar	£165	0
TRIUMPH, chain drive, and Sidecar	£155	
B.S.A. twin Combination	£175	0
B.S.A. 4¼ h.p. all-chain Combination	£152	10
SUNBEAM, 3½ h.p., new type, Sporting	£152	5
SUNBEAM, 3½ h.p., Touring	£155	8
NORTON Big 4, 3-speed, and Sidecar	£165	0
NORTON, 3½ h.p., single-speed	£98	0
***DOUGLAS,** 2¾ h.p., 2-speed	£85	0
***DOUGLAS,** 2¾ h.p., 3-speed, clutch	£105	0
***DOUGLAS** 4 h.p. Combination	£170	0

Deferred Payments quoted.

*Including lamps, generator, horn, licence-holder.

SECOND-HAND MACHINES.

Guaranteed in Running Order.

NORTON Big Four, 3-speed	£115	0
DOT-J.A.P. 1920 8 h.p. Combination	£145	0
CONNAUGHT, 1921. Tax paid	£45	0
EDMUND, 2¾ h.p., 1920, 300 miles	£69	10
ALLDAYS-ALLON, 1916, 2½ h.p., 2-sp.	£47	10
BROUGH, 1916, 3-speed, countershaft	£65	0
DOUGLAS 1919, 2¾ h.p., 2-sp., tax paid	£65	0
ENFIELD, 1920, 2¼ h.p., 2-sp., tax paid	£57	10
CLYNO, 1920, 2-speed, lightweight	£55	0
MINERVA, twin, spring forks	£29	10
ARIEL, 1920, 3½ h.p., 3-speed, c/shaft	£84	10
VINDEC, 7-9 h.p., 2-speed, F.E.	£42	10
TRIUMPH, 3½ h.p., single gear	£35	0

PASSENGER MACHINES.

MORGAN, 1919, w.-c. Aero	£175	0
MORGAN, 8 h.p., sporting. Tax paid	£115	0
MORGAN, 1915, sporting	£130	0
SCOTT 1920 Combination. Extra good	£135	0
BRADBURY 6 h.p. 1920 Combination	£135	0
ARIEL 3½ h.p. 1920 3-sp. Combination	£99	10
HENDERSON 10 h.p. 4-cylinder Combination, very smart condition	£195	0
HARLEY 1920 Combination, electric	£175	0
HARLEY, 1916, and S/car, very smart	£105	0
INDIAN 3-speed twin Combination	£79	10
READING STANDARD 3-speed Comb.	£100	0
BRADBURY, 3½ h.p., 3-speed, Sidecar	£59	10
TRIUMPH 3-speed 4 h.p. coach Comb.	£75	0
ALECTO 1920 coach Combination	£82	10
BRADBURY, 3½ h.p., 3-sp., countershaft Sturmey, coach Sidecar	£75	0
ENFIELD 1915-16 Combination	£105	0
CHATER-LEA 8 h.p. 3-sp. Combination	£85	0

Deferred Payments Taken.
Cash offers considered for Second-hand Models.

SUNDRIES.

1920 Carburetter, shop-soiled	£2	17 6
New Magnetos for Triumph, Douglas, B.S.A., and other makes	£5	17 6
New Army Knapsacks, 13½×11in.	£0	5 6
New Miller's Lamp Set	£2	4 0
New "Perfection" Sidecar Body	£6	15 0
New Perfection coach Sidecar (shop-soiled only) for Triumph	£19	10 0
Second-hand Douglas Magneto	£1	17 6

MOTOR CYCLES FOR SALE.

Rover

FRANK WHITWORTH, Ltd., of Birmingham, recommends the chain drive 3-speed 3½h.p. Rover at £115 as one of the best value machines in the trade. Delivery from stock. [X4176

3½h.p. Rover, 1919, and canoelet sidecar, excellent condition, lamps, horn, speedometer, only 3,000 miles, two new tyres, tax paid; £95.—Perriman, 41, Grove Rd., Chertsey. [6309

1920 5-6h.p. Rover, lamps, Lucas horn, tools, etc., tax paid, solo and sidecar gears, only ridden solo, perfect, mileage small; 100 gns.—Write, W. Young, 119, Piccadilly, W.1. [6410

1920 (July) 3½h.p. Rover C.S., all-chain, lamps, horn, tools, tax paid, guaranteed perfect; £90.—Holliday Bros., 20, Queen St., Hammersmith, W.6. 'Phone: Hammersmith 1944. [6829

ROVER 1921 6h.p. Combination, electric lighting, Cameo, tax, as new; best offer, or exchange solo and cash.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6673

1917 3½h.p. Countershaft Rover Combination, 3-speed, speedometer, Klaxon, C.A.V. electric lighting throughout, Easting wind screen, date and condition guaranteed; £75.—37, Arlington Rd., Surbiton. [6585

ROVER Combination, 5-6h.p., new in 1919, Sunbeam sidecar, fitted with wind screen, hood, side curtains, aluminium disc wheels, Tan-Sad, saddle, perfectly equipped, excellent condition; £120.—Warde Bros., Ashtead, Surrey. [4791

Royal Ruby.

£35.—1917 2¾h.p. Royal Ruby, new heavy Dunlops, tax paid.—Hurst, Wantage. [6394

ROYAL RUBY Sports Model; 80 gns.; in stock.—John Aldrich and Co., Diss. [0630

1919 8h.p. Royal Ruby Combination, luxurious outfit; £90.—24, Balliol Rd., North Kensington. [6462

1919 8h.p. Royal Ruby Combination, fully equipped, mechanically perfect; £95.—Braemar, 17, St. Quintin's Av., North Kensington. [6496

ROYAL RUBY 3h.p., spring frame, only 30 miles, makers' guarantee, licence, horn; £85, offers.—Write Goold, 9, Victoria Rd., Kensington. [6062

ROYAL RUBY 1919 8h.p. J.A.P. Combination, excellent condition, fully equipped, low mileage; £120, or offer.—129, Ladbroke Rd., W.11. [6103

ROYAL RUBY 8h.p. Combination, 1918, unused, perfect, fully equipped, Dunlop tyres, Millford sidecar; £95.—'Phone: Park 5541.—204, Ladbroke Grove, W.10. [5875

1920 8h.p. Royal Ruby and Sidecar (2-seater at option), lamps, speedometer, horn, Binks carburetter, luxurious outfit, splendid condition, owner buying car.—Digges, 11, Howard Rd., Southampton. [6749

Rudge.

RUDGE Multi, I.O.M. model, brand new 1921; in stock; £85.—Moss, Wem. [X4543

RUDGE Multi 3½h.p., 1921, new; £80.—C.H., 30, Addington Sq., Camberwell, S.E. [5870

1920 3½h.p. Rudge Multi, T.T., nearly new condition, licensed; £75.—Butler, Baldock. [5934

RUDGE, 1921 model, I.O.M., T.T., new, in stock; £85.—Bartletts, 93, Gt. Portland St., W. [6945

3½h.p. Rudge, F.E., good condition, tax paid; £28. Chaplin, Melville Cottages, Rainham, Essex. [5917

£85.—New Rudge Multi, delivery from stock.—Clifford Wilson, 177, Westminster Bridge Rd., S.E.1. [6801

3½h.p. Rudge Multi, 1920 (Nov.), little used, spares, lamps, meter, tools; £80.—Whiting, 5, Bath Rd., Cheltenham. [6024

RUDGE Multi, 1915-16, T.T. racer, lamps, tools, spares, tax paid; £45.—33, Weymouth St., Watford, Herts. [6168

5-6h.p. Rudge Multi Combination, C.B. sidecar, perfect running order, new tyres, belt; 75 gns.—80, Bisbopric, Horsham. [6555

RUDGE Combination, double-seater, N.S.U., handle start, tax paid; £45, or offer.—55, Bathurst Gardens, Kensal Rise. [6446

RUDGE Multi and Rudge Sidecar, tax paid, grand order, this is a bargain; 49 gns.—Ramsdens, 8, May Bell Av., Blackpool. [6201

RUDGE Multi 3½h.p., tank re-enamelled, new wheels, speedometer, fine condition; £45.—Higgs, 42, Shenley Rd., Camberwell. [6375

RUDGE Multi, late 1914, unused during war, hand clutch, all accessories, splendid condition; £45.—Smithfield House, Aldbourne, Wilts. [6594

1920 (Oct.) Rudge Multi, I.O.M. T.T. model, lamps, horn, tax paid, unused since Feb.; £70.—Parkers, Station Rd., St. Ives, Hunts. [6773

3½h.p. Rudge Multi, plate clutch, tank, 1920 colours, tax paid, fast, excellent condition; ride away.—S. Birch, 42, Buckwell St., Desborough. [6685

RUDGE Multi Combination, 3½h.p., speedometer, Lucas lamps, horn, splendid tyres, licensed; £50.—J. Hermitage, 5, Haselrigge Rd., S.W.4. [6378

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B31
Motor Cycles advertised by private owners are, when desired, marked (P).

MOTOR CYCLES FOR SALE.

Rudge.

1921 I.O.M. Rudge, tax paid, insured, ridden 100 miles, lamps, horn, knee grips; accept £85, or near.—168, Wellington Rd., South Hounslow. [6615

£55.—1916 3½h.p. Rudge Multi, handle-bar clutch; kick starter, lamps, accessories, licence, new condition; 2¾h.p. Douglas part.—63, Solon Rd., Brixton. [6563

RUDGE Multi Combination, 5-6h.p., 1920, electric light, etc., excellent condition, insurance and tax paid.—Apply, 2, Isis St., Earlsfield, S.W.18. £100. [5976

1920 3½h.p. Rudge, I.O.M., perfect mechanical condition, lamps, spares; view evening or by appointment; £75.—Davis, Hither Deacons, Elstree, Herts. [6138

RUDGE Combination, 3½h.p. 1913-14, 2 speeds, clutch, fully equipped, sound condition throughout; bargain, £45; trial.—29, Allrop St., Upper Baker St., N.W. [6466

RUDGE Multi 1920 5-6h.p. Combination, speedometer, wind screen, lamps, spares, tools; trial any day till 7 p.m.; £100, or near.—1, Melody Rd., Wandsworth. [5880

RUDGE Multi 5-6h.p., 1920 model, complete with Rudge sidecar, all accessories, wind screen, and tax paid; £95.—P. J. Evans, 81-91, John Bright St., Birmingham. [6208

RUDGE Multi, 1920, 7-9h.p., all accessories, luxurious coachbuilt sidecar, Easting wind screen, excellent condition; £110.—The Spalding Motor Co., Ltd., Spalding. [5927

£65.—1920 3½h.p. Rudge Multi, excellent condition, little used, tax and insurance paid, with lamps, pump, all tools, etc., good tyres and tubes.—30, Queen's Rd., Battersea, London. [6300

RUDGE Combination, late 1920, as new, Easting wind screen, P. and H. lamp set and horn, tax paid and insured; bargain, 105 gns.—Bruton Mews Garage, Ltd., 16-20, South Bruton Mews, W.1. [5897

1920 Rudge Multi, guaranteed as good as new, Lucas lamps, spare belt and tube, Tan-Sad seat, complete set of tools; £80, or exchange with cash difference for Morgan.—Cowper, Eddisbury Lodge, Kelsall, Chester. [6052

3½h.p. Rudge Multi, engine 11935, late model, overhauled, fast, long exhaust, tyres good, clutch, Senspray, C.A.V. lamp, horn, licensed; sell £45, or exchange higher power solo; trial until 7 p.m.—48a, Hawley Rd., Kentish Town, N.W.1. [6152

1920½ Rudge Multi, I.O.M. Lucas horn, Brooks B 170 saddle, brand new F.R.S. Major lamp, tax paid, flat T.T. and upturned touring handle-bars, very small mileage, carefully driven, indistinguishable from brand new, £72; or, fitted with Brooks B 600 latest 20in. cantilever spring saddle (equals spring frame), £77.—Ellocott, 41a, Whitchurch Rd., Cardiff. [6648

Sarolea.

SAROLEA 2-seater Combination, 2 speeds, free engine, K.S., horn, and head light, in running order; £40.—Thompson, 46, Ancona St., Pallion, Sunderland. [6051

Scott.

SCOTT, brand new, unused, sports model; in stock; £125.—Moss, Wem. [X4541

SCOTT, 1913, tyres nearly new, good running order; £22.—Box 737, c/o *The Motor Cycle*. [X4570

SCOTT Combination, 1920, perfect; £130, or nearest offer.—Griffiths, Vicarage, Fishponds, Bristol. [5855

F.O.C.H. have several Scotts, solos and combinations; bargains.—5, Heath St., Hampstead (nr. Hampstead Tube Station). [6084

SCOTT Combination, complete with lamps, just overhauled, licence paid; £65.—Stickland and Rowsell, Engineers, Bridge, Taunton. [6652

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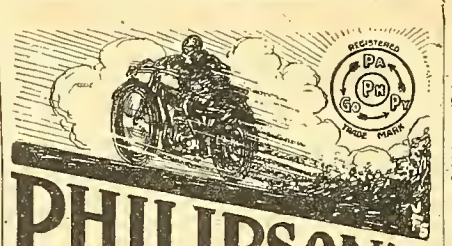
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SCOTT Combination, 1916, good condition; £60, or near offer, or would exchange for solo Rudge, Triumph, or Norton.—Knight, Sewardstone, Chingford. 'Phone: Waltham Cross 211. [6368

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TRIUMPH Combination, 4h.p., 3-speed, Sturmey-Archer countershaft, 1919 model, complete; £85.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6679

1920 Junior Triumph, in splendid condition, P. and H. lamps, No. 120 horn, rear lamp, new tyre, tax paid, all tools; a bargain, £57; as new.—Rhosba Motor Co., Romford. Tel.: 95. [6846

1914 Triumph 4h.p. Combination, 3-speed, lamps, and all accessories, in perfect condition, been stored 5 years; any trial; tax paid; best offer over £60.—T. Bates, Pertenhall, St. Neots, Hants. [6047

1918 W.D. Triumph, overhauled by makers 1920, excellent condition, 1920 Montgomery No. 3 sidecar, lamps, horn, speedometer, tools, many spares; £90.—Capt. Lewis, Drill Hall, Swansea. [5946

1920 Triumph Gloria Combination, Cameo screen, lamps, mileage 3,500, engine 66611, owner-driven, tax paid, insurance till January; £120.—Adams, Fenton, 317, Squires Lane, Finchley, N.3. [6746

1918 and 1917 Triumphs, 3-speed, clutch, K.S., reconditioned and overhauled, excellent condtiion, from £52 in makers' colours; new coachbuilt sidecar, £17.—Edwards, 50, Harrington Rd., South Kensington. [6785

78 GNS. Exchange.—1918 Triumph, 3 speeds, clutch, kick start, very nice roomy sidecar, folding chassis, hood, screen, lamps, leg shields, tax paid, smart; any examination; trial.—Seabridge (see Exchange). [6626

TRIUMPHS.—We are the North London agents, and can give immediate delivery; chain drive, chain-cum-belt, and renovated models.—Jones Garage, Muswell Hill, N.10; and at Woodside Parade, North Finchley. [0382

IMMEDIATE Delivery of any Triumph Model; cash or deferred payments; book your order now, and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0504

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Triumphs, all models in stock, new chain drives, new chain-cum-belts, solos and combinations; immediate delivery; supplied on easiest of easy terms; trade supplied. [4537

LATE 1918 Triumph Combination, 4h.p., unscratched, as new, 1921 Watsonian, all on, tax paid, 50-mile trial; £87; 2¾h.p. Douglas exchange considered.—8, Ambush St., Higher Openshaw, Manchester. [6485

TRIUMPH C.S. Sporting Combination, Mead and Deakin Canoelet sidecar, discs, lamps, etc., new tyres and tubes, new 1920 S.A. gear box, splendid condition; any trial; what offers?—33, Hackford Rd., Brixton, S.W. [6934

1920 T. T. Triumph, 3½h.p., fixed engine, 600 miles only, condition as new; £68 nett for cash, or would take brand new 1921 3h.p. Rover car in exchange with cash adjustment.—Box 4,920, c/o *The Motor Cycle.* [6206

1920 Triumph, 4h.p., 3 speeds, countershaft, polished discs, indistinguishable from new, perfect running, £85; or with new unused 1921 Montgomery sidecar, £115.—35, St. Clement's Mansions, Lillie Rd., Fulham. [6604

TRIUMPH, renovated, new April, 1921, and new Excelsior coachbuilt sidecar, bulbous backed locker, tools, Millers lamps, 2 generators, tax paid, practically new outfit; leaving England July; £120.—Ibbotson, Fillongley, Coventry. [X4143

TRIUMPHS!—Triumphs!—Only a few W.D. machines left, that have been thoroughly overhauled in our own works; from £65.—Triumph Specialists, The Hackford Engineering Co., 33, Hackford Rd., Brixton, S.W.9. [6932

TRIUMPH Model H., mileage 1,600, appearance as new, carefully run in by expert owner, lamps, liberal spares, licensed; any trial or inspection; first reasonable offer over £90 secures.—Competitor, 6, Clarence Crescent, Windsor. [6903

1920 4h.p. T.T. Triumph, perfect condition, tax paid, lamps, and all accessories, spare valves and springs, spare belt, spare long exhaust if wanted, spare plug, also repair outfit; bargain, £85.—S., "Idlehour," Avenue Gardens, Hooley, Surrey. [6140

TRIUMPH Countershaft Combination, brand new tyres and tubes, 1920 S.A. 3-speed gear box, clutch, K.S., etc., new Dunhill sidecar (cost £35), the complete outfit fully equipped; £110, or near offer.—33, Hackford Rd., Brixton, S.W. [6933

TRIUMPH, brand new, but slightly shop-soiled, 1921 model, fitted with all-chain drive, 3-speed, kick starter, hand clutch, usual price £125; sacrifice £112/10; this special offer cannot be repeated.—Wilkins, Simpson, Opposite Olympia, London. [6235

TRIUMPH 4h.p., brand new, chain-drive, 1921 model, just arrived from works, in stock for immediate delivery; £125; secure now at makers' latest reduced price; easy payments arranged.—Wilkins, Simpson, opposite Olympia, London. [6037

MOTOR CYCLES FOR SALE.

Triumph.

1920 (April) Triumph and Montgomery sidecar, large P. and H. lighting set, Bonniksen, Lucas horn, spares, mechanically perfect and condition as new; cost £170.—Offers to Charles, c/o Sadler, 64, Castle St., W.C.2. 1921 Enfield combination wanted. [6442

WANTED, purchasers for any make of new 1921 Triumph motor cycles and combinations, for immediate delivery. Your present machine taken in part exchange; full market value allowed; distance no object.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [0646

TRIUMPH Combination, engine No. 43277, latest gear change, special show model, polished crank case, Ace black discs, Stirling legshields, Terry pillion seat, Lucas lamp and horn, 3in. new tyres, spare chain, belt, valves, piston rings, etc., new Stanford black bulbous back sidecar, Cameo wind screen, cover-all apron, luggage grid, engine recently overhauled by Triumphs; the whole absolutely A1; bought car; £120.—Craddock, 64, Lysways St., Walsall. [X4606

Velocette.

JULIANS, of Reading, have 1921 Velocette in stock. [0486

CYRIL WILLIAMS for immediate delivery of all models Velocette.—Chapel Ash Depot, Wolverhampton. [X3822

1915 Velocette, accessories, several new parts; bargain, £32, must sell.—Lawrence, 86, Hargwyne St., Stockwell, S.W.9. [X4591

1916 2¼h.p. Velocette, 2-speed, all-chain, Bosch, Sensuray, tyre A1, licensed, all on; any trial: £36, no offers.—Penney, Surveyor, Brinscall, Lancs. [X4509

VELOCETTE, 1921, completely equipped, including Lucas accessories and 1921 licence, cost £85, scarcely soiled; an unrepeatable bargain, £65.—The Layton Garages, 90, High St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [6812

1921 Velocette.—Latest models, with new pattern internal expanding front brake, now actually in stock: 2¼h.p. 2-speed £75, 3-speed £85, lady's open frame £78. The aristocrat of the lightweights.—Buy your machine direct from the Velocette Specialists, The Premier Motor Co., Aston Rd., Birmingham. [X4549

Verus.

1920 2¾h.p. Verus-Blackburne, aluminium discs, enamelled black, ridden 250 miles, tax paid; £86.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0656

IMMEDIATE Delivery of any Verus Model; cash or deferred payments; book your order now and avoid disappointment later.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0502

VERUS-BLACKBURNE 1921 2¾h.p., special overhead valve engine, complete equipment, including licence, many spares, a very fine competition model; £85.—The Layton Garages, 90, High St., Oxford. 'Phone: 581. T.A.: Integrity, Oxford. [6810

Villiers.

FOR Sale or Exchange, 2-stroke Villiers (Sun), splendid order; £35. — Horsfield, Overseal, Burton. [X4560

Vindec.

£21; 6h.p. Vindec combination, 2-speed, perfect, any trial.—Willis, 237, Derinton Rd., Tooting, S.W.17. [6336

1919 2¼h.p. 2-stroke Vindec, lamps, tools, in first-class order; £45.—26, Holland Rd., East Ham, E.6. [5981

Wanderer.

£15.—Wanderer 3h.p., 2-speed, good order.—177, Westminster Bridge Rd., S.E.1. [6800

Wilkin.

1921 4h.p. Wilkin, 3-speed Sturmey, brand new; our price £95, list price £130.—Edwards, 50, Harrington Rd., South Kensington. [6782

Williamson

1915 8h.p. Water-cooled Williamson and new sidecar, complete with hood, screen, etc., new tyres, just been completely overhauled; price £120.—The Cboughs Engineering Co., Ltd., Yeovil. [X4345

Wolf.

2½h.p. Wolfe 2-stroke, 2-speed, ride away; £33.—F. Bridle, Beaminster, Dorset. [6334

2¾h.p. Wolf-Jap, guaranteed; bargain, £26.—215, Commercial Rd., Peckham, S.E.15. [6134

WOLF 1¼h.p., C.A.V., B. and B., perfect running order, belt and tyres good, tax paid; £17/10; after 6.30.—66, Dalmeny Av., Norbury, S.W.16. [6517

WOLF-J.A.P. 1921 2¾h.p., 2-speed, kick starter, hand clutch, lamps, horn, coiled only; £42/10.—Butterworth's Garage, 64, Mill Lane, Brixton Hill. Phone: Streatham 2813. [5428

WOLF.—Sole agents for London, South of Thames, and district. We are now fixing sub-agencies, and invite enquiries.—Burlington Motors, Ltd., South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. [0598

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Wooler.

1920 Wooler, fully equipped; 65 gns., or exchange.—61, Jephson Rd., Forest Gate, E. [6736

WOOLER 1920, extra good order, lamps; £65, or offer.—64, Forthbridge Rd., Clapham, S.W.11. [6765

WOOLER, 1921; immediate delivery from stock.—Lockwood's, Commercial Rd., Eastbourne, Sussex agents. [2615

WOOLER, 1920½, lamps, Clayrite horn, footboards, tax paid, excellent condition; £60.—Nelson, Barnsdale, Burneside, Kendal. [6656

1920 Wooler, 2¾h.p., semi-T.T., special engine, condition better than new, appearance as new, accessories, tax paid; £85.—Langford's, 37, Cricklewood Broadway, N.W.2. [6738

WOOLER 2¾h.p. Tourist Model, 1920, shop-soiled only, lamps, Cowey horn, at the bargain price of £87/10 for cash only.—Mebes, 156, Gt. Portland St., W.1. 'Phone: Langham 2230. [6098

£60.—1920 Wooler, Cowey horn, P. and H., footboards, footrests, complete set spares, mileage 1,000, just decarbonised first time; excellent condition throughout, genuine bargain, or exchange countershaft Triumph.—Hurst Lodge, Hadley Rd., Barnet. [6282

Zenith.

JULIANS, of Reading, have Zenith 1921 5h.p. in stock. [0482

DAN GUY, Weymouth.—Zenith agent, early delivery all models. [0556

1921 8h.p. Zenith, model II, K.S.; £144.—Morriss, 139, Finchley Rd., N.W.3. [5994

ZENITH 1913 6h.p., splendid condition; £45, a bargain.—Longney, Oswestry. [X4100

1921 Zenith, sports, all on, tax paid; cash £105.—74, Handcroft Rd., Croydon. [6421

ZENITH 1921 5h.p. Sporting Model, shop-soiled only; £106.—Tippen, Marden, Kent. [6346

ZENITH 3½h.p., excellent condition, all on, Tan-Sad; £35.—17, Heaton Rd., Mitcham. [6452

£35.—4h.p. Zenith, Gradua gear, new tyres, splendid condition.—King, Egrove Farm, Oxford. [X4566

1914 Special 6h.p. Zenith, C.S. gear, £65; also 1915 5h.p. model, £60.—Ross, 86, High Rd., Lee. [6247

ZENITH 1920 Sports Model, 6h.p., condition as new; £95.—P. J. Evans, 81-91, John Bright St., Birmingham. [6210

1914-15 4h.p. Zenith, Bosch mag., perfect, tax paid; must sell; £46.—257, Cavendish Rd., Balham, S.W.11. [6587

ZENITH, £50.—Sidecar or solo, Gradua gear, 6h.p., good condition; any trial; bargain.—Ellum, Pokesdown. [6468

ZENITH, Model C, 1921, shop-soiled only; £110.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [6176

1920 8h.p. Countershaft Zenith Combination, speedometer, electric lights; £135.—53, Brixton Rd., S.W.9. [6890

ZENITH 8h.p. Sporting Combination, licence, all on, beautiful condition; £98.—Burns, Preheo, Dale Rd., Purley. [6475

F.O.C.H. for Zeniths.—New and second-hand machines in stock.—5, Heath St., Hampstead (near Hampstead Tube Station). [6082

1919 Zenith 6h.p., first-class condition, lamps, tools, spare belt; £80, or near offer.—Royal Berks Motors, Reading. [6127

1920 8h.p. Countershaft Zenith, fitted with Henderson sidecar, splendidly equipped, mileage 1,500; £110.—37, Arlington Rd., Surbiton. [6583

T.T. Zenith-Gradua, 5-6h.p. twin, perfect condition, speedometer, lamps, disc wheels, licence paid.—Randall, Garfield Rd., Chingford, Essex. [6057

ZENITH 4h.p., 1915, speedometer, lamps, all on, excellent condition; £45; bargain.—Goad, 122, Maida Vale. 'Phone: Hampstead 1353. [6428

ZENITH 6h.p. Canoelet Combination, all accessories, splendid order; £70; exchange lower power.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E 3155. [6913

SPORTING Zenith, used only 6 weeks, 5h.p., 1920, honestly good 'bus; trial or expert examination; £85.—Gibson, Stanstead, Sutton, Surrey. Tel.: 1105. [6767

1919 8h.p. Clutch Zenith-Milford Combination, completely equipped, engine just overhauled, excellent condition; offers.—Clark, Trinity Hall, Cambridge. [6350

1920 5h.p. Sports Zenith, mileage about 2,500, licence, insurance, tools, spares, accessories; £85.—1, Grosvenor Rd., near Golf Links, Muswell Hill. [6360

90×77½ Twin Zenith Combination, 1915, stored during war, ridden four times since, whole outfit as new; a gift at £85.—Carr, 39, Newman St., W. [6891

1913 Zenith, 6h.p., Gradua, Bosch, B. and B., splendid condition, large C.B. sidecar, fair condition, heavy Dunlops, tax paid; nearest £65.—Box 4,884, c/o *The Motor Cycle*. [6001

MOTOR CYCLES FOR SALE.

Zenith.

8h.p. Sporting Model Zenith, 1920 model, brand new but slightly shop-soiled; £110.—The Laxton Garages, 90, High St., Oxford. 'Phone: 581. Tel.: Integrity, Oxford. [6818

ZENITH 8h.p., 1917, kick start, clutch, Norton coachbuilt sidecar, Easting screen, smart appearance, mechanically sound; £100; appointment.—Parrish, Beacontree Heath, Romford. [6599

ZENITH, late 1920, 8h.p., countershaft, lamps, horn, tax paid, complete with Swan sporting sidecar, absolutely as new, very smart outfit; £145; exchanges.—Goad, 122, Maida Vale. 'Phone: Hampstead 1353. [6424

1919 (Dec.) 8h.p. Specially Built Sports Zenith, in grand condition, new tyres and belt, discs, long brass exhaust, done 80 m.p.h. on Brooklands; cost £140, sacrifice £105.—Apply, 22, Buckland St., New North Rd., N.1. [6886

90 BORE 1921 Brand New Racing Model Zenith, 90 mm. bore o.h.v., J.A.P. engine; a unique offer to those who delight in sheer speed; £146.—Eric Williams, Ltd., The Motor Cycle Depot, Worcester. 'Phone: 495 [6644

ZENITH 8h.p., 1920, clutch, kick start, special Patey sidecar, complete with hood, wind screen, horn, speedometer, tools, etc., tax paid, mileage 1,800, as new; £145.—12, Kendrick Mews, South Kensington Station. Kensington 7276. [6788

1914 3½h.p. Zenith-Gradua Coachbuilt Combination, tax paid, fully equipped, 3 heavy Dunlops, Bosch, B. and B., electric light, just been overhauled, must sell; £52, or would separate.—27, Flaxton Rd., Plumstead, London. [6340

FOR Sale, Zenith 1919 6h.p., delivered 1920, lamps, speedometer, Klaxon, knee-grips, F.E.W. valve attachments, front tyre very good condition, back tyre brand new, Dunlop Magnum oversize; £85.—Rogenhager, R.A.F., Duxford, Cambs. [6365

ZENITH 4-5h.p., clutch and K.S., engine just overhauled by J.A.P. (receipts shown), tyres (Sunstone) and belt almost new, all accessories, speedometer, and spares, condition guaranteed perfect, tax paid; any trial given; price £70.—B., 11, Pleasant Place, Essex Rd., N. After 6 p.m. [6885

Ladies' Motor Cycles.

LADY'S Model Levis, 2¼h.p., new condition; £45.—6, Douglas Rd., Herne Bay. [6693

DOUGLAS, 2-speed, clutch, new tyres, good condition, licensed; £33, snip.—46, Shaw Rd., Blackpool. [X4347

AS a Lady's Motor Cycle, the Ivy is It.—Send for details from the Midland agents, Frank Whitworth, Ltd., Birmingham. [X4180

2¾h.p. Calthorpe-Jap, 2-speed, free engine, excellent condition, almost new; lesson with pleasure; would accept £44.—48, Ditton Rd., Surbiton. [6120

LADY'S Douglas, 2¾h.p., 2-speed, kick start, lamps, horn, good condition, good running order, tax paid; £70.—Hartley, 67, Wigorn Rd., Bearwood, Birmingham. (D) [6637

Miscellaneous.

3h.p. Motor Cycle, new tyres, belt, tax paid; £14.—Sumner, Bridge St., Darwen. [5884

3h.p. Motor Cycle, 2-speed, tax paid; £18.—George, 31, Somerford Grove, Tottenham, London. [6143

5-6h.p. Twin C.B. Combination, Grade, Bosch, B.B., good condition; £55, offers.—Nicholson, 59, Highbury Quadrant, London, N. [6413

BARGAINS.—New O.K.'s, Ariels, Harleys, Omegas, Quadrants; exchanges entertained. — Booths Motories, Halifax.

BARGAINS.—New 4½h.p. Quadrant and sidecar, £125; new 7h.p. Ariel combination.—Booths Motories, Halifax

BARGAINS.—1920 Indian Combination, dynamo lighting, screen, £145/10; G.W.K. light car, detachable wheels, £155/10.—Booths Motories, Halifax.

BARGAINS.—8h.p. Matchless combination, countershaft gear, £49/10; 4½h.p. James, 3-speed, chain drive, £39/15.—Booths Motories, Halifax.

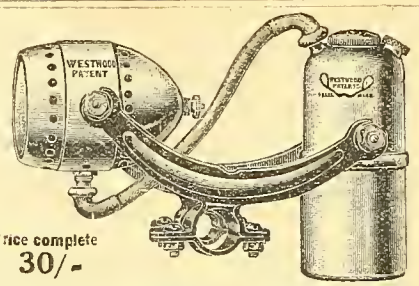
BARGAINS.—7-9h.p. Indian, 2-speed, £29/10; 6h.p. Chater-Lea and sidecar, £30/10. — Booths Motories, Halifax.

BARGAINS.—3h.p. Enfield lightweight, 2-speed, £35/10; 3½h.p. Triumph, £26/10; 3½h.p. Ariel, £35/10; J.E.S. motor set on cycle, £17/10.—Booths Motories, Halifax.

BARGAINS. — 3½h.p. 1914 P. and M., £49/10; nearly new 1921 2-speed Omega, £51/10; 1920 O.K., £35/10; 1920 Scott, £87/10.—Booths Motories, Halifax

BARGAINS.—4h.p. Douglas, 3-speed, £59/10; 1915 2¾h.p. Douglas, £37/10; new 1921 Rudge Multi, £85.—Booths Motories, Halifax.

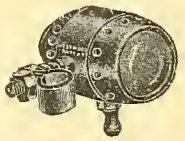
BARGAINS.—Shop-soiled 1920 models: 2¾h.p. O.K., £43/10; ditto 2-speed, £54/10; 2¾h.p. Omega-Jap, 2-speed, £67/10; Harley-Davidson and sidecar, £189/10: 6h.p. Ariel combination, £149/10; exchanges entertained. Pay us a visit.—Booths Motories, Portland Place, Halifax. Tel.: 1062. [6195



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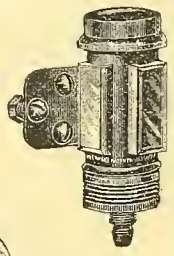
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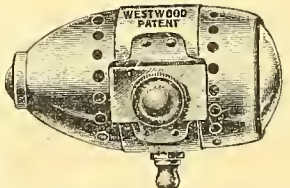
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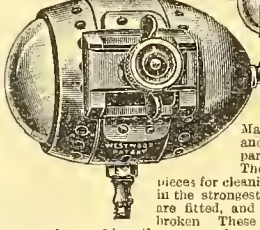




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Miscellaneous.

AUTO-WHEEL, perfect, tax paid, £9/10; F.N. 2¼ h.p., 2-speed, free engine, perfect condition, ride to purchaser 30 miles.—6, Ruskin Rd., Crewe. [5937

COMBINATION, twin M.A.G., 3 speeds, countershaft, hood, screen, kick start, £33; Douglas 2¾h.p., 2-speed clutch, splendid order, £27.—Clarendon Works, Hunpage Rd., Bordesley Green, Birmingham. [X4530

VICTORY Garage, Victory Garage.—Triumphs, Douglases, Clynos, Indians, Nortons, Zeniths, all at bargain prices; accessories, tyres, tubes, machines overhauled and tuned.—Write or call, 2b, Denmark Rd., Camberwell. [6302

A1 Opportunity.—Exceptional bargains in shop-soiled motor cycles and combinations for cash or the easiest of easy terms, no extra charge.—Write, 'phone, or call at Wauchope's, Shoe Lane, London. [4535

3½h.p. Ariel Combination, 1921 model, condition as new, all in, has not done 500 miles, any trial, mechanical or otherwise; also a 2¼h.p. New Hudson lightweight, 1920 model; ill-health reason of selling.—Apply, A. W. Sutton, Newsagent and Confectioner, High St., Sandy, Beds. [6075

F.O.C.H. for second-hand cycles, combinations, and runabouts at bargain prices; exchanges arranged; any new motor cycle combination or car supplied, cash or easy payments. — Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [6087

FOR Sale, motor cycle, ridden and finished in the 1921 Junior Tourist Trophy Races, in perfect mechanical condition, and complete with spares, tools, etc., licensed, fine machine for hill-climbs or competition work, machine guaranteed to be in top-hole condition, with excellent finish; accept best offer over £85; photo and details on application; carriage paid to any part of England.—Box 4,885, c/o *The Motor Cycle*. [6002

BATCHELOR'S Bargains.—1920 Metro-Tyler, 2-speed, tax paid, £45; 1919 Douglas, 2-speed, accessories, tax paid, £55; 1916 Douglas, accessories, tax paid, £45; 1918 8h.p. Clyno combination, accessories, £90; 1920 P. and M., tax paid, accessories, £90; 1920 New Hudson, 2-speed, brand new, £55; 1920 Sun, 2-speed, kick start, brand new, £55; 1920 Sparkbrook, 2-speed, brand new, £56; 1916 Enfield 3h.p., 2-speed, tax paid, £40; 1921 4h.p. Bradbury, chain drive, and Montgomery sidecar, brand new lot, £125; 1921 4h.p. Trinmph and Montgomery sidecar, brand new, £140; 1921 Clyno 8h.p., spring frame combination, brand new, £175; 1921 8h.p. Chater-Lea combination, brand new, £160; 1921 Douglas, all on, 2¾h.p. model, £85; 1921 Zenith sports model, kick start, £130.—Batchelor, 36, Clarence St., Kingston-on-Thames. [6727

MOTOR ATTACHMENTS.

AUTO Wheel, excellent condition; bargain, 10 gns. —4, Albert Bridge Rd., Battersea. [6136

GENUINE Wall Auto-Wheel, complete, splendid condition; £12/10.—Murrays, 37a, Charles St., Hatton Garden, Holborn. [X4503

1921 Young Engine Attachment, accessories, and bicycle complete; cost £30, accept £20.—Gray's Garage, Watford. [5974

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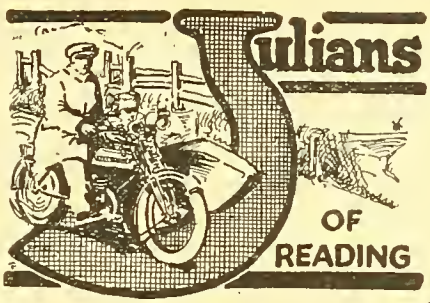
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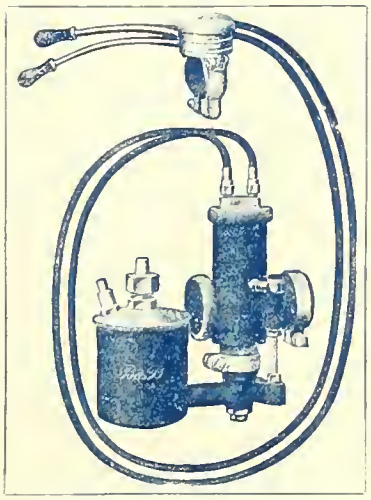
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